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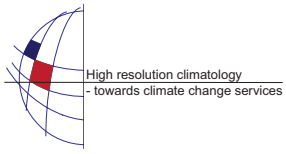

2. Wind speed change in central Europe: the projections based on regional climate models

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This work presents dynamically downscaled near-surface wind speed fields and examines the impact of climate changes on wind speed across central Europe. The analysis is based on regional model simulation (5 RCM simulations taken from the project PRUDENCE and CLM regional climate model from M&D group) forced by IPCC emission scenario SRES – A2. Each model provided data from two 30-year simulations: a control run under present day climate conditions for the period 1961-90 and a simulation under conditions projected for the period 2021-2050. The research domain covered region from 42°N to 62°N and from 6°E to 36°E.

The model ensemble shows a possible increase in future mean wind speed during winter season, especially over zonal belt from North German to North Poland where the future mean wind speed is 0.4 m/s higher than in the control period. The projected climate change in summer over most research domain shows a decrease of mean wind speed (about 0.2 m/s). The Jutland Peninsula and North German is the region with the highest simulated wind speed. The simulated changes are more pronounced in 95th percentile than in the mean. In winter, the values of the 95th percentile will increase over the North German, Jutland Peninsula and North Poland but the highest change is projected over east coast of Baltic Sea (1m/s).