Applying Numerical Weather Prediction Models to the Production of New European Wind Atlas: Sensitivity studies of the wind climate to the planetary boundary layer parametrization

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Reliable and precise information about the wind speed climate is crucial for the development of wind energy. Meteorological processes in the mesoscale (2 – 200 km) can be represented using Numerical Weather Prediction (NWP) models such as the Weather Research and Forecast model (WRF), but before their application for creating wind energy atlases, their results and sensitivity to modelling parameters should be investigated. Here the WRF model wind speed results for the year 2015 for the Baltic Sea region are investigated, and the effect of the planetary boundary layer parametrization scheme is analyzed.

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