



Regional characteristics of wind storms over Europe in an ensemble of climate change simulations

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An objective method is applied to an ensemble of climate change simulations with the ECHAM5 MPIOM coupled model, which identifies and tracks extreme wind fields and matches them to the responsible cyclone. Storm strength is determined using a storm severity index (SSI) based on the exceedance of the local 98th percentile of wind speed, the affected area and the duration of an event. The study investigates wind storms affecting western, central and eastern Europe and the associated cyclones.

The strength of the storms (in terms of the SSI) is similar for the three European regions. The simulations show an increase in the number of storms affecting Europe during the second half of the 21st century, this trend is especially pronounced over eastern Europe. It is shown that the increase over Eastern Europe is partly owed to an increase in the wind storm duration of events developing further west, which consequently reach the region. In addition the number of extreme wind events developing directly over Eastern Europe increases.