Review on the manuscript "**Extreme winds over Europe in the ENSEMBLES regional climate models**" by S. D. Outten and I. Esau (doi:10.5194/acpd-13-1179-2013)

The study examines projected changes in extreme winds over Europe in an ensemble of regional climate simulations from the ENSEMBLES project. The ensemble includes four simulations at about 25km resolution: two AOGCMs - BCM and ECHAM5 are downscaled by two RCMs – DMI-HIRHAM5 and SMHI-RCA3 each under the SRES A1B scenario. The wind extremes are expressed in terms of 50-yr return values using the peaks-over-threshold (POT) method. It is found for the 2070-2099 period that the projected changes in the 50-yr return wind are less than 2 m s-1 over most of Europe while the uncertainties in the estimated wind extremes are large than the projected change. The study also shows, confirming earlier works, that the largest source of uncertainties in the estimated wind extremes from climate model simulations is inter-model spread.

The manuscript is well and clearly written and easy readable. I recommend the manuscript for publication in Atmospheric Chemistry and Physics after some revisions.

Comments

Still, there are some confusion about definition of climate projections and climate predictions in scientific literature. It would recommend to use "projections/projected" instead of "predictions/predicted" when we are talking about climate change scenarios at the end of the century. Climate predictions mostly refer to an attempt to predict/forecast the state of the Earth climate system over next few years/decades including both natural and forced signals using initialisation from observations. Future climate projections over several decades/centuries only deal with a forced signal using prescribed future scenarios while natural variability is completely random.

In Introduction I would recommend to include more references to studies on projected wind extremes over Europe. See a list below for example, where many other references can be found.

Donat, M. G., Leckebusch, G. C., Wild, S., and Ulbrich, U.: Future changes in European winter storm losses and extreme wind speeds inferred from GCM and RCM multi-model simulations, Nat. Hazards Earth Syst. Sci., 11, 1351-1370, doi:10.5194/nhess-11-1351-2011, 2011.

Palutikof, J. P., Brabson, B. B., Lister, D. H. and Adcock, S. T. 1999. A review of methods to calculate extreme wind speeds. Met. Apps, 6: 119–132. doi: 10.1017/S1350482799001103

Leckebusch, G.C, Koffi B, Ulbrich U, Pinto J.G., Spangehl T., Zacharias S., 2006.
Analysis of frequency and intensity of European winter storm events from a multi-model perspective, at synoptic and regional scales, Clim. Res., v. 31, 59–74.

Pryor, s. C. and Schoof, J. T. 2010. Importance of the SRES in projections of climate change impacts on near-surface wind regimes. Meteorologische Zeitschrift Band 19 Heft 3, p. 267 – 274.

Rockel, B. and Woth, K. 2007. Extremes of near-surface wind speed over Europe and their future changes as estimated from an ensemble of RCM simulations, 2007. Climatic Change v. 81, pp. 267-280.

p.1182, l.10 "*It also does not provide confidence intervals for the estimated return values (Perrin, 2006).*"

I think that Perrin et al. meant that the method does not provide the analytical confidence intervals. However, the confidence intervals can be estimated by parametric/non-parametric bootstrapping for example.

p.1185, l.15-20 "*While this approach guaranteed a minimum of 30 exceedances for each of the 30 yr samples, it yielded between approximately 50 and 300 exceedances, representing the top 0.5% to 2.7% of wind events at each grid point.*"

Does this mean that sample size is varying from one grid point to another and consequently uncertainties in the estimated 50-yr return values are influenced by different sample size?

p. 1186, top "*The de-clustering meant that there was at least 24 h between any two exceedances, thereby ensuring their independence*"

Is the 24-hr period enough to separate two dependent events? It is very likely that two extreme wind events separated by 24 hours are related to the same storm passing so they are not independent.

Figure 2 is too small and very difficult to read.

p. 1189, l.5-10 "*Hence the climate change signal for extreme winds in these RCM downscalings is indistinguishable from the noise associated with the uncertainties of estimating a 50 yr event."*

It has already been shown in many studies mentioned in the manuscript that natural variability is an important factor for wind extremes. Difference in wind extremes found between two periods, even if it is significant, might have nothing common with the climate change signal but represents just random natural variability, interdecadal for example. It would be good to discuss this issue as well.

p. 1189 l.20-25 "*It is one of the few locations where the predicted change is greater than the uncertainty."*

Again, as previous comment it might be not the projected climate change but natural variability. To investigate what is really seen in Fig. 2 for this region one can use 30-yr moving estimate of the wind extremes over a smaller region resulting in a transient signal from which it's much easier to detect: the climate change or natural variability.