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Natural Hazards and Earth System Sciences
Discussions

Interactive comment on "The XWS open access catalogue of extreme European windstorms from 1979–2012" *by* J. F. Roberts et al.

J. F. Roberts et al.

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Dear Dr Haylock,

Thank you very much for your comments. Responses to your comments, along with our proposed changes, are detailed below:

1. We would hope that the current frequency of every 24 hours is sufficient to limit significant deviations of the cyclone track and intensity from observations, although it is certainly worth looking into in more detail for future work. In the final manuscript we will add:

Page 2026, line 16, after "...quite far into the domain before reinitialisation.": "There is

also the possibility that even once a cyclone has been correctly initialised, its track and intensity could deviate from observations over the next 24 hours."

Page 2030, line 23, after "...being close to continental Europe.": "Increasing the reinitialisation frequency (currently every 24 hours) may also reduce model biases, although this would increase computational expense."

2. It would certainly be good to look into an index that incorporates duration in the future, if possible. We will add to the final manuscript: Page 2021, line 14 (end of Section 3.1): "It should be noted that all of the indices investigated here are a function of gust or wind speed and area only. Duration of high winds and gusts may also relate to storm damage, so incorporation of this into the indices could be investigated in the future."

If you have a reference showing the effect of duration on storm damage please let us know, and we can put it in here.

3. In section 2.2.2, we will add: Page 2017, line 17, after "using the similarity relation of Panofsky et al. (1977).": "There are several other techniques available for estimating wind gusts, as described in Sheridan (2011). A commonly used alternative method for predicting gusts is to use the maximum wind speed at the vertical levels from which momentum may be transported to the surface (e.g. Brasseur, 2001). This method is argued to be more physically based, although it is not clear if the method adds a significant improvement to the gust estimates (Sheridan 2011). In addition, in Section 4.1 it is found that the model bias probably arises from bias in the underlying winds rather than the gust parameterisation."

Typos/Technical corrections: These have been noted and will be corrected in the final manuscript.

Interactive comment on Nat. Hazards Earth Syst. Sci. Discuss., 2, 2011, 2014.