

Wind Energ. Sci. Discuss., referee comment RC2
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Comment on wes-2021-33

Anonymous Referee #2

Referee comment on "Assessing boundary condition and parametric uncertainty in numerical-weather-prediction-modeled, long-term offshore wind speed through machine learning and analog ensemble" by Nicola Bodini et al., Wind Energ. Sci. Discuss., <https://doi.org/10.5194/wes-2021-33-RC2>, 2021

The manuscript by Bodini et al. on "Assessing Boundary Condition and Parametric Uncertainty in Numerical-Weather-Prediction-Modelled, Long-Term Offshore Wind speed Through Machine Learning and Analog Ensemble" focusses on comparing two different methods on how to extrapolate the ensemble uncertainty of a short (one year time) series to a long time series for the wind conditions along the coast of California. The study is generally well written, figures are selected meaningfully and readable. However, I have a number of minor comments to be taking into account before I can recommend publication in Wind Energy Science.

Minor Comments:

- Line 28: Northern Europe is typically referred to as Scandinavia. I guess you rather mean central Europe here?

- Line 43: "a continuous, in space and time" I suggest: an in space and time continuous

- Line 76: "prohibitive, and innovative and more computationally" remove the "and" before innovative

- Line 103: "The 15 WRF ensemble members" I strongly recommend to create a table here with one row per one of the 16 members and then the settings in the columns. It is hard to read and understand here.

- Line 131: "mean hourly wind speed" How did you compile the mean hourly wind speed? How many timesteps have you written out from the WRF runs to compute the average?

Line 147: "the WRF across-ensemble standard deviation" what is the across-ensemble standard deviation. Is this the standard deviation from the ensemble members?

Line 156-157: Can you explain why you used both the standard deviation from preceding 2 and 6 hours and how these time intervals were selected?

Line 161: "However, we found that including all the features" can you explain how you found this? And did you try further features?

Table 2: It is quite difficult to read column two. Maybe it helps to add a small empty row after each row?

Table 4: I think you should at least try to explain why there is no weight on the inverse Obukhov length but a strong weight on shear.

Line 230 and Line 303-304: "Applying the bias correction proposed in" So, if this would likely reduced the AnEn bias, why didn't you do it? This should at least be explained.

Figures 6 and 8: There should be a space between caption text and unit.

Line 279-280: "For each atmospheric stability class, the values shown are the" Maybe an active sentence is better here, e.g. for each atmospheric stability class, we show....

Line 293 and the whole Conclusions section: I suggest to replace Weather Research and Forecasting or the abbreviation WRF by "mesoscale" everywhere in the conclusion, because the results and conclusions should in principle be valid to any mesoscale ensemble dataset, shouldn't they?

Line 319: "deployed in the California OCS very recently" I guess you mean this buoy?
<https://a2e.energy.gov/data/buoy/lidar.z06.00>
Maybe its worth referencing the dataset (including the doi) here.

References: The references are vastly incomplete. Every journal paper should have a doi and every technical report a link or other accessibility information.