

Interactive comment on “The most similar predictor – on selecting measurement locations for wind resource assessment” by Andreas Bechmann et al.

Andreas Bechmann et al.

andh@dtu.dk

Received and published: 27 August 2020

Dear referee

Thank you for the comments; they help improve the manuscript, and I appreciate it highly.

Q: 1. Have the paper reviewed by a technical writer to correct typos and improve fluency

A: The fluency of the paper has been improved in the revised manuscript

Q: 2. Lambda and L parameters have been set a priori based on Clerc et al., 2012.

[Printer-friendly version](#)

[Discussion paper](#)



Are you suggesting they can be used universally for all sites and flow conditions?

A: Lambda and L have not been re-calibrated in this work, but are kept to their original values. In Clerc et al., 2012, the expression is used for estimating energy yield uncertainty for which an accurate calibration may be necessary. For the application of determining the most similar predictor, I believe and suggest, that a precise calibration is less critical.

Q: 3. Consider using a generic power curve to compare the performance of each approach.

A: This is a good idea. However, as the prediction heights and wind speeds vary between the sites, choosing a single power curve representative for all sites is not trivial. The error on the predicted energy yield will depend significantly on the rated power and rated wind speed of the chosen generator.

Q: 4. The overall tone is very much oriented towards data analysis and processing. It would be good to add more wind resource assessment flavour to it. Especially in Section 3.2 (Fig. 5) where you focus on just 2 sites.

A: Fig 5 is the results of more than 33 million predictions, but the text is not very clear on this and has been revised. We are trying to keep the tone towards data analysis, to emphasis that the flow modelling and data is identical for all simulations. The paper attempts to demonstrate that it is a minimal change in the statistical post-processing of results that leads to considerable improvements.

Q: 5. In the conclusion, you state that your method is "expected to work well for weather models". What is the basis for this claim? If this is just a "teaser" for future work, rephrase appropriately.

A: The statement has been rephrased, also following referee #2. The statement was meant as a new hypothesis to prove; a challenge. Choosing the most similar mast location and choosing the most similar WRF result point seems quite comparable. When

[Printer-friendly version](#)

[Discussion paper](#)



downscaling WRF results and interpolating them from the WRF-calculation grid to a result-point, it is common to use the nearest WRF-point or to make a distance-weighted average using the four surrounding grid-points. This is very similar to how resource assessment is done with met masts. I would not be surprised if the "most similar" WRF point were a better approach.

Interactive comment on Wind Energ. Sci. Discuss., <https://doi.org/10.5194/wes-2020-82>, 2020.

Printer-friendly version

Discussion paper

