Comment on Hallgren et al

Anonymous Referee #1

Referee comment on "The smoother the better? A comparison of six post-processing methods to improve short-term offshore wind power forecasts in the Baltic Sea" by Christoffer Hallgren et al., Wind Energ. Sci. Discuss., https://doi.org/10.5194/wes-2021-31-RC1, 2021

This manuscript shows a methodology to test six frequent post-processing methods to improve off-shore wind speed and wind power forecasting nearby a Finnish island in the Baltic Sea. The methodology and procedure are very well explained, with sufficient detail to potentially be reproduced. The research question is clearly formulated, showing a well-defined structure and an interesting goal.

Similarly testing at other locations is found as potential interesting future work. In any case, this paper may serve as a robust guideline for future tests, for instance with other NWP models.

The authors seem to have done a great effort to present a comprehensive work, with a wide range of data analysis. Nonetheless, in some particular cases, it looks like that maybe adding so much complexity does not benefit the forecasting skill and in the end the improvements are darkened by the drawbacks.

Although this is a research paper, I wonder how feasible it would be to implement this methodology for operative forecast purposes. In addition to this, many potential weaknesses are already raised (and discussed) by the authors themselves in Section 5. Apart from that, I will just pose a few minor queries and issues:

- Why are the months of the year grouped this way?

- Regarding the wind direction analysis, it is stated that the RF method didn't improve the forecast for easterly and northwesterly flows. The authors apparently justify this fact based on the lower amount of data from these non-predominant directions. Is it then expected an improvement using a larger training period?

- Lines 386-387. Please justify this statement.

- Maybe it is worth saying what AROME (or HARMONIE-AROME) states for in the acronyms list, instead of just mentioning it is the model used.

- Would this analysis significantly change if data from several years ago were considered?