

Wind Energ. Sci. Discuss., referee comment RC2
<https://doi.org/10.5194/wes-2022-39-RC2>, 2022
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Comment on wes-2022-39

Anonymous Referee #2

Referee comment on "Gaussian mixture models for the optimal sparse sampling of offshore wind resource" by Robin Marcille et al., Wind Energ. Sci. Discuss.,
<https://doi.org/10.5194/wes-2022-39-RC2>, 2022

Reviewers' comments

- (1) According to the current situation of vigorously developing renewable energy, this article proposes a novel, effective and practical method for wind farm reconstruction and optimization of the optimal sensor network, both for the evaluation of offshore wind resources and the development of offshore wind energy. It has very important theoretical value and practical significance.
- (2) The three locations selected by the author in the article are very representative. At the same time, as the focus of wind power development in France at present and in the future, the research results made by the author will have good reference significance.
- (3) The author proposes four methods for selecting the position and number of sensors in the article, and at the same time gives a detailed introduction to these four methods, with concise language and clear organization.

revise opinion

- (1) An explanation should be given at the end of the Introduction as to why the three regions of Normandy, South Brittany and the Bay of Lions in the Mediterranean were chosen.
- (2) The GMM method is good at reconstructing the weather situation while discarding points of high variability that may be associated with extreme events. How did you come to this conclusion?
- (3) The author deleted a part of the data in the dataset, why did they delete them, and what are the criteria for deletion?
- (4) "Although the clustering itself may find the best of 5 clusters for the Mediterranean, this may result in a higher reconstruction error than the other regions." Why does this result?
- (5) When testing the sensitivity of the method, an area 20 km from the coast was excluded, why choose 20 km instead of other ranges.