We thank the reviewers for their time and their feedback on the latest version of the manuscript and have provided responses to each of the comments below.

Reviewer 1 Comments Response

General comments

The authors have responded satisfactorily to most of my comments. Especially the third product, MUR25, is now better integrated into the overall flow of the manuscript. I think the manuscript can be accepted with minor revisions as stated below.

Thank you for your time, feedback, and suggestions. We have addressed each of them below.

Minor Revisions

- I think you might have misunderstood my comment "Line 81: Please add some more statistics about the availability of the buoys and lidars", which I would like to clarify: You state "There are periods of missing data for all buoys and lidars.", which is not very specific. Considering the statistics you show in e.g. Figure 3, it would be good to know, how the data availability is for each site within the study period June and July. For each of the events, you indeed highlight the availability for each lidar, but it would be good to see the overall data availability (e.g. 80% data availability for buoy 1 in June and July). This could be added to Table 1.

Table 1 has been updated with information about the percentage of data available at each lidar during the 2-month study period.

- Line 179 - 181: Did you apply linear interpolation? Please add.

We have noted that linear interpolation was used with the remotely sensed products (Line 179).

- Line 187 - 189: Why is the assessment for MUR25 only done for July 2020 and not for June, i.e., why do you need a separate Table 5 instead of adding MUR25 to Figure 3 to evaluate the performance for the entire study period?

When the manuscript was initially drafted, after evaluating SST performance we determined that MUR25 was a poor enough product to be dropped altogether from the wind forecasting analysis. Unfortunately, the WRF output was purged by our HPC team despite it being saved in what we had thought was a protected storage space. Because the SST validation metrics were calculated using the WRF output of SST, we can't do any further analysis on those data. What is

presented in the paper is what was originally done, and we kept it in because we hope it may be of use to others.

- Data availability: Having namelists directly accessible greatly reduces the barrier to reproduce the study and obtain details of your set-up. Thus, please add them as appendix or in an external repository, such as zenodo.

We have uploaded the namelist for the simulations to zenodo and listed the URL under the Data Availability section of the manuscript.

Technical corrections:

- Figure 1: is the border of (a) the area for domain 1? If not, could you add it to the figure? The rectangle marked with d02 in (a) does not completely agree with the extent of (b) according to the coastline, although according to the caption both represent the extent of d02. Please clarify. What does "The Atlantic Shores location is the site of both a buoy and a lidar." in the caption refer to? "Atlantic Shores" is the name of one site, but in total there are three sites with both lidar and buoy according to the map.

We have clarified in the figure caption that the more detailed map of the region (b) is a subset of the d02 domain showed in (a). We have also changed to caption to note that the NYSERDA sites also contain both a buoy and a lidar.

- Table 3: "Faily" -> replace with "Daily". Consider to add another row to the table highlighting that SSTs in MUR25 and OSTIA correspond to "foundation temperatures", while SSTs in GOES-16 correspond to "surface temperatures". This would help to see all differences between the different SST products at one glance.

Thank you for catching this typo; it has been fixed. We have also added as suggested another row to Table 3 listing the type of ocean temperature in each dataset.

- Line 114: I think the reference should be placed after 0.25°.

We have updated this sentence to include the reference after 0.25°.

- Line 232: Could you highlight "Rhode Island" on the map for any reader not familiar with US East coast geography?

This is a very good point. Figure 1 has been updated with state acronyms. Additionally, the reference in the text now states “…including a region planned for development just south of Rhode Island (Fig. 1, marked by "RI”) ...”

- Figure A1: Explain in the caption what G and O refer to. Although it is mentioned in the text above the figure, readers should be able to understand the figure from the figure and caption alone.

The captions for these figures have been updated with a statement about what G and O refer to.

- Figure 9 and similar figures (also in the appendix): Why is the range of the EMD between 0 and 3? There do not seem to be EMD values greater than 2, so the color scale could be re-scaled to show more variability. Please add units to bias and RMSE in all heatmap-figures.

All wind speed heatmaps have been updated with an updated EMD color range of 0 to 2, and units have been added to all heatmaps and relevant plots and tables.

Reviewer 2 Comments Response

General Comments:

The authors answered my comments well and made the corrections I pointed out. After adding the namelists as an appendix, I believe the manuscript is ready to be published in the WES journal.

We thank you for your time and feedback on our manuscript, and have uploaded the namelist to a zenodo archive so that others may be able to access it.