

Reviewer comments appear in **black** and author responses in **blue**.

Dear authors,

You have addressed the reviewer comment very well and the article has improved by the review process.

I only have two comments that I would like to be addressed/fixed before publication:

1) FSS is used in the abstract without explanation. It is first spelled out in the introduction. Either use 'freezing sea spray' in the abstract or introduce the acronym there. It's generally preferable to avoid acronyms in the abstract for clarity. Additionally, please check that all acronyms are correctly introduced.

Thank you for pointing this out. We have clarified on line 19 that the data set is used to assess freezing sea spray events and have replaced the acronym "FSS" with "freezing sea spray" on line 24.

2) Regarding the thresholds used to define FSS conditions: have these thresholds been validated? If so, it would be helpful to reference that validation in the text. If not, could you briefly discuss how the lack of validation might impact your results?

We have provided a brief discussion of how our lack of validation impacts the results in Appendix B, to further explain motivation for the sensitivity analysis, on new lines 527-532:

"Although these thresholds were derived from observations aboard ships, the observations are sparse and have not been validated in the mid-Atlantic. Using higher air and sea surface temperature thresholds may cause an overestimation of the number of freezing hours when mid-Atlantic waters are more saline, for example, during periods with higher evaporation rates. Further, large water droplets have a higher chance of becoming runoff instead of freezing. Thus, our results may overestimate the number of icing hours where significant wave breaking and bubble bursting occur and underestimate the number of icing hours in calmer waters."