

Response to comments by Reviewer #1

This reviewer recommended acceptance of the manuscript as is.

We sincerely thank the reviewer for the positive assessment and support of our work.

Response to comments by Reviewer #2

We would like to thank the reviewer for the helpful comments on the paper. Please find below our responses to the comments.

Thank you to the authors for addressing my previous comments to this paper, I now believe this manuscript can be submitted subject to a couple of technical corrections:

Figure 4 caption- change Bellingshausen Seas to sea.

Thank you for your comment. We have corrected Bellingshausen Seas to Bellingshausen Sea as suggested.

Thank you for your justification in using a UNet in this study. Please add a line or two in the discussion and conclusion section to reflect that an important future bit of work is comparing model forecast performance across different Antarctic regions and during extreme events using other forms of ML, including generative models.

Thank you for your comment. As recommended, we have added statements in the Discussion and Conclusion section as follows:

“An important direction for future work will be to systematically compare model forecast performance across different Antarctic regions and during extreme events, using alternative ML approaches, including generative models.”