

The Cryosphere Discuss., author comment AC4
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Reply on RC4

Michelle L. Maclennan et al.

Author comment on "Climatology and surface impacts of atmospheric rivers on West Antarctica" by Michelle L. Maclennan et al., The Cryosphere Discuss.,
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The authors would like to thank the reviewer for providing comments and feedback that help to improve the content and clarity of the manuscript. In response to comments about the goal of the investigations in the introduction (which are similar to feedback provided by the other two reviewers), we have revised the last two paragraphs of the introduction to place our work in the context of previous Antarctic AR studies, highlight the gap in the existing research, and note how our study provides a key link between large-scale AR patterns over West Antarctica and localized impacts over Thwaites Glacier. Similarly, we have revised the first paragraph of the discussions and conclusion to emphasize that the combination of observation and reanalyses enables us to discuss how AR impacts may become exacerbated in a future climate. We have decided to keep the discussion and conclusions section combined, because it enables us to integrate the most important findings of this study with a discussion on how our results relate to previous studies on Antarctic ARs and how they depend on our choice of methodology. We have attached our responses as a pdf.

Please also note the supplement to this comment:

<https://tc.copernicus.org/preprints/tc-2022-101/tc-2022-101-AC4-supplement.pdf>