

Dear Dr. Yackel, reviewers and editorial team,

thank you very much for your constructive remarks and for your time and effort which helped us improving our manuscript and study.

We are happy and appreciate that our manuscript is now deemed ready for publication.

We also want to respond to the final suggestion of reviewer #2:

RACMO is forced by reanalyses, however, in our opinion this is not condition enough to categorize it as a reanalysis product. We follow the terminology of the providers (Noël et al., 2019, <https://doi.org/10.1126/sciadv.aaw0123>) and call it a polar-adapted regional climate model in our manuscript. For this reason, we did not revise this section.

The final version is now uploaded, in which we took the liberty to correct some last technical errors and add two lines regarding organizational requirements:

- 1) We corrected the wrong text font in line 172-180 from "caption" to "normal".
- 2) Due to our automated generation of the plots, statistical values in the low decimals were not represented properly which led to figures including "r = 1.00" and "p = 0.00". We corrected Fig. 4, C1, C2, C3, C4, C5, D2 to "r > 0.99" and "p < 0.01" to realistically represent these values.
- 3) We removed the empty line in the References in line 652.
- 4) We updated the Author contributions in line 541-542 and added "All authors contributed suggestions to the manuscript."
- 5) We added "The authors acknowledge the financial support by the University of Graz." to the Acknowledgements at line 546.

Thank you very much!

On behalf of the author team,

Christoph Posch