

Dear Editor,

We would like to thank you and both reviewers for taking the time to review our work and for all the valuable comments that have helped us to improve our manuscript.

Below, we address the final technical comment (in blue with track changes below). In addition, we have updated our Data availability statement and provided the DOI to the now publicly available main output data.

Technical correction:

I do have one last minor comment that I would like to see addressed in the final paper. In Figure 14, the caption states: liquid clouds (water vapour path). The term in brackets should be (cloud) liquid water path, as the water vapour path includes the water in the atmosphere that is not condensed into a cloud instead of the total amount of water in the form of liquid cloud.

Thank you for your attention to detail. We have updated Figure 14 and the corresponding values in Section 3.6.1 to show the Liquid Water Path instead of Water Vapour Path; this does not alter our findings.

By 2300 the increase relative to the 1990-2019 reference period in both solid and liquid clouds together is ~~7338~~ % higher ~~(not shown here)~~ and the LWD increase is 5.8 % higher for the 2wC simulation than for the 1wC and 0wC simulations, compared over the same retreating ice mask (Fig. 14).

By 2300, as a result of the climate forcing, the amount of liquid clouds over the retreating ice sheet increases ~~remarkably~~ by ~~+283-2017~~ to ~~2871313~~ % for the 1wC or 0wC and 2wC simulation, respectively, while the amount of solid clouds increases by only +55 to 58 % in all simulations.

By 3000 the amount of liquid and solid clouds increase by ~~+529-4198~~ % and +85 %, respectively, compared to the start of the simulations.

Figure 14: Percentual increase in solid clouds (ice water path) ~~and;~~ liquid clouds (~~liquid~~ water vapour path) ~~and the sum of both~~ (a), percentual increase in longwave downward (LWD) radiation (b), and multiplication factor of runoff (c) with respect to the 30 year mean at the start of the simulations (1990–2019).