We thank Carlos Martin for his very careful assessment of our manuscript. We have modified the manuscript following his suggestions. See our detailed responses below in blue.

The paper is, in general, clear and well written. The authors have managed to make the paper accessible for non-specialist in climate modelling and I have enjoyed reading it. However I have a few minor comments that I would like the authors to consider before uploading the manuscript.

- I had to google a few times for maps of the Amundsen Sea Embayment to follow the discussion about the different basins. The paper would benefit from a location map with location labels. Perhaps the map could show the extent of the regional model and the area that is considered in the study.

  - We have added more labels to the maps presented in our manuscript (Fig. 3a,c and Fig. 10a,c).

- There are a couple of important concepts that are not clear to me: 'perfect model test' and 'increase in snowfall above the Clapeyron rate'. Please consider rewriting PP 7 L1-12 and PP 12 L1-11.

  - We have added a sentence to clarify the perfect-model approach: "i.e. assuming that the future is perfectly known by considering that a given projection is true". It is also further described in the following sentences. We did not add anything about the Clausius-Clapeyron rate as it is explained a few sentences ahead: "The saturation water vapour pressure increases with air temperature, at a rate of 7.1±0.1 % $°C^{-1}$ in the 0-10°C range (Clausius-Clapeyron relation)".

- Sometimes is natural to justify a method right after it has been described but most people don't read papers in order and we like finding the discussions in their section. Please consider reallocating the discussion about your projection method to the discussion (PP8-L4 to PP9 L8).

  - We have followed the editor's advice, and we have moved our 3rd section into the Discussion (after the presentation of our results). For clarity, we have divided the Discussion section into two subsections:
    - 4.1 Modelling and methodological limitations
    - 4.2 Extrapolation to other climate perturbations