

Resolution dependence of interlinked Southern Ocean biases in global coupled HadGEM3 models.

Authors' response to reviewers (second round)

Reviewer 2 makes two further points:

1. Using a scaling analysis it appears that the biharmonic viscosity coefficient is somewhat high in the 1/12 degree model compared to the ¼ deg model, and she suggests that a reduction in the coefficient might (counter-intuitively) reduce the strength of the ASC. This is an interesting point and we look forward to reading about her experience in the upcoming paper. We haven't commented on this in the revised manuscript (partly because her paper is not available to reference yet).
2. She requests an explanation of why we chose to validate SST against satellite data rather than against the EN4.1 reanalysis used for the subsurface temperature fields. We have added a sentence to the caption of Fig 6 and also made the point that near-surface temperature anomalies against the satellite data and against EN4.1 are quite similar.
3. We have made the minor corrections/improvements that she suggests.

We have checked the figures against the online colour blindness checker and think that the figures (particularly the timeseries in Fig 7) are sufficiently decipherable under the different conditions.