Idealised framework to prescribe sea surface temperatures to investigate the atmospheric circulation response

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Response to Reviewers

We thank the Editor and both Reviewers for reading through our revised manuscript. We have addressed the remaining minor comments, as detailed below. Reviewer comments are reproduced in grey boxes, followed by our responses. We should mention that we reported an erroneous value for the tropical rate of change of the SST gradient, α. In our results we have used $\alpha = 0.0157°$C, and not $\alpha = 0.024°$C. The updated value for α was then consistently used in constructing the SST profile, so it is purely a nominal error. We sincerely apologise for the confusion.

Response to Akira Kuwano-Yoshida

General comments

> The manuscript has been carefully and thoroughly revised in accordance with the reviewers' comments. However, since a few typographical errors, grammatical issues, and terminology inconsistencies remain, I recommend a minor revision.

We thank Akira again for having agreed to review our work a second time, and for spotting any typos that went unnoticed.

Specific comments

> Line 121 (Subject-verb agreement) Current: 'Analytically, the SST gradient profiles is prescribed by' Correction: 'SST gradient profile is' (or 'profiles are').

We have changed 'profiles' to 'profile'.

> Line 186 (Redundant preposition): Current: 'the maximum wind speed of in the subtropical jet core' Correction: 'the maximum wind speed in the subtropical jet core' (Remove 'of').

We have removed 'of'.

> Line 187 (Duplicated verb): Current: 'This is most likely is due to' Correction: 'This is most likely due to' (Remove the duplicate 'is').

We have removed the second 'is'.

> Line 237 (Typo in word): Current: '(marks in Fig. 5c)' Correction: '(markers in Fig. 5c)' (To stay consistent with 'markers' used elsewhere in the text, e.g., Line 184, 191).

We have changed 'marks' to 'markers' as suggested.

> Line 261 (Missing trailing period): Current: 'in the cold climate experiments (M24.5, F45-5)' Correction: '(M24.5, F45-5).' (Add a period at the end of the paragraph).

We have added a period at the end.

> There is a mix of "storm-track activity", "storm track activity", and "storm tracks activity" throughout the manuscript. Please unify these to a consistent singular form (e.g., storm-track activity).

We have changed any instance of 'storm tracks activity/behaviour/variability' to 'storm-track activity/behaviour/variability'. When outside of compound nouns, we have kept 'storm tracks' (e.g., '...fronts exert a strong influence on storm tracks and westerly jets...').