

The upstream-downstream mechanism of North Atlantic and Mediterranean cyclones in semi-idealized simulations

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Final author comments

We would like to thank the anonymous reviewer and Florian Pantillon for their constructive comments, suggestions and remarks that helped us to improve the manuscript. Below are our detailed [replies \(in blue\)](#) to the individual comments (in black).

[We would like to thank both Reviewers for carefully reading our manuscript and the fruitful comments they provided. Most comments have been incorporated.](#)

REVIEW 2

The authors satisfactorily addressed my previous main concerns: they clarified the nature of the connection of North Atlantic and Mediterranean cyclones, performed experiments with the microphysics and convection parameterization switched off to quantify the role of warm conveyor belts, compared the amplitude of the perturbations to the actual variability for each season, and removed unnecessary mentions to experiments with SPPT perturbations.

However, while I appreciate the effort, I am surprised that the additional work described in the response to the reviewers is not mentioned in the revision, especially the performed experiments concerning the role of WCBs. I understand the authors may not want to extend the paper with an additional figure but I expect the results to be mentioned, as WCBs are a key ingredient in the chain of events that leads to Mediterranean cyclogenesis and as such are referred to in the abstract.

[We now include the dry-sensitivity experiments in the Appendix](#)

Minor comment

I think there is a confusion between trends and absolute values of SST when referring to Shaltout and Omstedt (2014). The Mediterranean SST is definitely lower in spring than in autumn, e.g., see <http://www.ceam.es/ceamet/SST/SST-climatology.html>

[Indeed, there was a misunderstanding. We now removed the reference and corrected our statement in the text.](#)

Typos

1. 383 and and

[Removed as suggested.](#)

1. 422 the weaker the diabatic forcing (no is)

Removed as suggested.

1. 448 This suggests that (no comma)

Removed as suggested.