Response to Reviewer:
Atmospheric Blocking Representation in Storm-Resolving Climate Models under Historical and Future Forcing

We thank the reviewer for their careful review and constructive feedback, which has helped improve the manuscript. In the following, we address the remaining comment. As in the previous response document, we have highlighted in blue the specific changes made in response to each comment. Unless otherwise noted, figure and line numbers refer to the original manuscript.

Reviewer 2

Assessment

I thank the authors for addressing my comments from the second round of review and revising the manuscript accordingly. The paper has significantly improved. The presentation of the results, as well as the discussion in the context of the existing literature, is now substantially stronger. Additionally, the section on future blocking trends is sufficiently justified, and its careful interpretation is well highlighted. There is only **one remaining concern that prevents the manuscript from being accepted in Weather and Climate Dynamics** in its current state.

This concern was already raised in the previous review: in lines 123–129 of the revised manuscript, the authors still include a paragraph in the data section that motivates the use of km-scale models. The mentioned capabilities of km-scale models do not have a distinct relation to the methodology and, therefore, do not belong in the data section. This section should be solely dedicated to introducing the datasets, models, and methodological design employed throughout the study. I strongly recommend moving this paragraph to the Introduction, which would enhance the manuscript in two ways: first, because this is the primary motivation for assessing km-scale models, it will strengthen the Introduction; second, it will remove misplaced content from the data section, keeping it strictly focused on data and methodology.

We thank the reviewer for this final comment and for the positive assessment of the revised manuscript. We agree that the paragraph discussing the scientific motivation for using kilometre-scale models is more appropriately placed in the Introduction than in the Data and Methods section. Following the reviewer's recommendation, we have moved the paragraph previously located in lines 123–129 to the Introduction, where it now complements the discussion of the potential advantages of storm-resolving climate models and provides additional context for the motivation of this study. The Data and Methods section has consequently been streamlined to focus exclusively on the datasets, model configurations, and methodological framework employed in the analysis.