

We thank the reviewer for the careful reading of the revised manuscript and for the helpful minor comments. We have addressed all points raised below and made corresponding clarifications and revisions in the manuscript.

Line 129: localized weather forecasting [YRD1km cannot provide that because it is a downscaled dataset from ERA5]

Response: Thank you for this clarification. We have revised the manuscript to remove “localized weather forecasting” and now explicitly describe YRD1km as supporting high-resolution diagnostic and event-based analyses of wind field structures, which more accurately reflects the nature and intended use of the dataset.

Line 213: "four day period from 1-4 June 2022" and other mentions of verification periods throughout the text ---> (e.g. Line 285, Line 321, Line 339, Line 397); the verification periods for the different "studies" do feel distinct and somewhat arbitrary, not to mention confusing for the reader. Suggest adding a Table or a list in point-form of the different verification studies, and their time periods, so that the reader can understand how long and when each verification took place (and ideally, why that was chosen)

Response: Thank you for this helpful comment. We have clarified in the manuscript that the evaluation periods were selected to capture representative synoptic and mesoscale variability for distinct validation objectives, rather than being chosen arbitrarily.

Specifically, a continuous four-day period (1–4 June 2022) was used for controlled experiments, including nudging sensitivity tests, land-use impact assessment, and independent validation, to enable clear attribution of performance differences under consistent meteorological conditions. For overall dataset evaluation, longer periods were intentionally adopted: a one-week window (1–7 June 2022) for spatial validation and the full month of June 2022 for temporal performance analysis.

Together, these complementary evaluation periods provide a coherent and hierarchical assessment of YRD1km performance across process-level, spatial, and temporal scales.

Line 499: unclear what dataset Figure 9 is plotted from

Response: Thank you for this helpful comment. We have revised the main text to explicitly state that the precipitation shown in Figure 9 is derived from the China Multi-Source Merged Precipitation Analysis (CMPAS) dataset developed by the China Meteorological Administration.