

***Interactive comment on “Modeling extreme precipitation over East China with a global variable-resolution modeling framework (MPASv5.2): Impacts of resolution and physics” by Chun Zhao et al.***

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We thank the reviewer for a detailed review of the paper. To take advantage of the interactive nature of GMDD, we here provide some quick feedback to clarify some issues raised in the review. In the revised manuscript, we will add more analysis and discussion about the physical meaning of the results and the comparison with previous studies. The tests of statistical significance will also be added and discussed.

One concern from the reviewer is about the selection of the event. We agree that

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one event cannot represent all the cases. This study is just a starting point of using the global variable-resolution framework for investigating the modeling of extreme precipitation over East China. We actually acknowledged the limitation in the summary part as “Furthermore, more events of heavy precipitation over East China should be investigated in the future to more systematically evaluate the MPAS variable-resolution modeling framework and the impacts of resolution and physical parameterizations.”

This study selected one heavy precipitation event in summer over East China (Yangtze River Delta Region). Most of heavy precipitation events over East China occurred in summer, so we focused on the events in summer instead of other seasons. The event we selected in this study was reported as one of the most influenced precipitation events occurred in summer of 2012 over East China. Due to the computational limitation (particularly for the convection-permitting scale of 4 km), we only run one set of experiments with different physics and resolutions. The discussion of statistical significance will be added in the revised manuscript.

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