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Hydrology and Earth System Sciences
Discussions

Interactive comment on "Examining cross-scale influences of forcing resolutions in a hillslope-resolving, integrated hydrologic model" *by* Miguel A. Aguayo et al.

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Regarding the first comment and recommendation made, we will take the recommendation of making the objectives straightforward and try to narrow them into specific objectives. Also, we will improve paragraphs structure and some vague expressions by taking out parenthesis in the middle in some identified long sentences and rewriting such long sentences into short ones.

Regarding the second comment, Parflow uses Newton–Krylov-multigrid solvers, and it is fully explained in Jones, J. E., & Woodward, C. S. (2001) as cited in the manuscript. However, we will clarify the methods and the basis of the model calculation as sug-

gested.

Also, we agree that it is important to mention the parameterization schemes used in WRF that generated the initial conditions for this set of experiments and also incorporate a description of how the model equations are used in this study. We will incorporate the above mentioned in an updated version of the manuscript.

Regarding verify the method, calibration of the parameters, and obtaining a more compatible diagram for Soil moisture, we agree Parflow model needs more calibration, and as it is explained in responses to referee #1, it has many more parameters that can be adjusted. However, a multiple parameter calibration for Parflow is still a computational challenge. The results for this work should be seen as numerical experiments designed to assess scale issues in hydrologic modeling, and it is not intended to match observations to assess model performance regarding observational data.

For the last comment made, we will highlight that this is a methodology paper, we will consider all the minor comments suggested improving the manuscript, and we will definitely reduce the abstract to the usual size.

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