

Interactive comment on “Evaluation of a Unique Approach to High-Resolution Climate Modelling using the Model for Prediction Across Scales (MPAS) version 5.1” by Allison C. Michaelis et al.

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Received and published: 15 May 2019

I am writing as an executive editor of GMD to highlight several issues with the code availability section which needs to be remedied in the revised manuscript.

Configuration files, run scripts, and analysis scripts are missing

The code and data availability section refers to MPAS, and to various data sets. However this is insufficient to allow the reader to reproduce the results in the manuscript. For this, the reader needs the configuration files or run scripts used to run each ex-

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periment, and any scripts which were used to post process or analyse the model data. The exact version of these should be persistently and publicly archived (for example on Zenodo) and cited from the manuscript.

Code is on GitHub

The reference to the MPAS code used is on GitHub. This is both impermanent, as MPAS might move off GitHub in the future, and fails to identify the exact version of the code which was used (the model text refers to version 5.1, but was this the 5.1 release, or just a version of the master branch taken when 5.1 was the release number?) To remedy this, the exact version of MPAS used should be publicly and persistently archived. Since MPAS is developed on GitHub, the GitHub-Zenodo integration may be the easiest way to accomplish this. See: <https://guides.github.com/activities/citable-code/>.

Similar issues apply to Tempest Extremes.

Result data is insufficiently identified

The result data is only available "on request". If at all possible, this data should be persistently and publicly archived so that the reader who wishes to investigate a result in the paper can do so directly. However, if this is not possible for licence reasons or because of the data volume, the data needs to be sufficiently precisely identified that it will still be retrievable if the authors have moved on from the host institution.

0.1 Input data is insufficiently identified and incorrectly cited

The external data sets used are incorrectly cited, and in some cases poorly identified. Specifically:

1. ERA-Interim data. The NCAR data archive provides DOIs for this data, and even tells you what to write in the bibliography. Please cite this in accordance with their instructions.
2. TRMM data. Similarly, there is a data citation tab which tells you how to cite this data correctly.
3. PRISM appear not to have precise data citation instructions, however they do have a precise convention for identifying the exact data set(s) used.

General form of citations

Citations for code and data should be in the form of references in the manuscript bibliography, which are cited from the code and data availability section. See the best practice section in: https://www.geoscientific-model-development.net/about/code_and_data_policy.html

Interactive comment on Geosci. Model Dev. Discuss., <https://doi.org/10.5194/gmd-2019-34>, 2019.

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