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September 13, 2021

Christoph Müller
Topical Editor
Geoscientific Model Development

Dear Christoph,

I appreciate the opportunity to improve my manuscript *Parallel gridded simulation framework for DSSAT-CSM (version 4.7.5.21) using MPI and NetCDF* in light of reviewer comments.

Reviewer 1 judged the manuscript to be lacking in novelty. However, as you helpfully pointed out in the discussion, “The exact documentation of model versions – along with the published source code – serve the scientific objectives of transparency and reproducibility.” I agree with this perspective and, as such, I believe the manuscript to be within scope of the journal as a development and technical paper (https://www.geoscientific-model-development.net/about/manuscript_types.html).

Reviewer 2 deemed the manuscript “suitable for publication as-is” and raised several questions about continuity with official releases and maintainability to which I responded in the discussion. I did not think that revisions to the manuscript were necessary for these points.

Reviewer 3 was largely positive about the manuscript, but did raise several points regarding important caveats that should be highlighted when discussing the speedup of execution time when comparing the text-based and parallel gridded (NetCDF) versions of DSSAT-CSM. The reviewer also suggested that some more comments might be added to highlight the tradeoff between optimization and portability/generalizability. I have revised the manuscript to incorporate these helpful suggestions.

In summary, I have fixed several typographical errors, updated several details, and revised the manuscript in response to reviewer comments. Specifically, I have:

- Fixed citation formatting for several citations in the introduction
- Updated DSSAT-CSM download numbers and number of countries based on recent correspondence
- Changed denotation of the model versions in Fig. 5 and in the text of Section 4.2
- Added a paragraph to Section 4.2 to address caveats regarding the influence of R on the slower speed for the text input version vis-a-vis the parallel gridded version
- Added a paragraph to Section 4.2 to provide some more general comments about the limitations of parallelization/optimization of code with respect to its applicability to other use cases

I believe this version of the manuscript fully addresses all reviewer comments and is suitable for

publication. Please let me know if any further changes are necessary.

Best regards,

Phil Alderman