Geoscientific
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Discussions

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comment

Interactive comment on "A General Lake Model (GLM 2.4) for linking with high-frequency sensor data from the Global Lake Ecological Observatory Network (GLEON)" *by* Matthew R. Hipsey et al.

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Dear Editor & Reviewers,

We thank you for the opportunity for our paper to be considered for publication in GMD, and are very grateful for the comments received during the discussion phase of the paper. We have found the comments very detailed and insightful and they will guide us to significantly improve the next version of the manuscript which we will upload in due course.

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Discussion paper

We have already provided specific replies back to each of the reviewer comments in the discussion forum in order to describe how we will revise the manuscript. Whist there are numerous changes required, we list a summary of the main issues identified as:

1. *Numerous issues associated with mistakes in the notation and units of several equations, plus the ambiguous use of some symbols;*
2. *Lack of context/justification for the adoption of some of approaches/equations in the model description sub-sections (eg. surface mixing and inflows);*
3. *A long and potentially hard to navigate structure;*
4. *Issues with figure readability and axis labels;*
5. *Numerous typographical and minor editorial issues, plus some errors with reference citations and the formatting consistency in the reference list;*
6. *Requirement for a DOI to be included for the code-base.*

The obvious issues with mistakes in the notation and units initially noted by R1 led to the development of a "*preliminary revision*" that was uploaded to the discussion forum (dated 8th Jan). This revision includes significant changes to Section 2 of the paper and primarily addresses Item 1 above, but also many of the issues relevant to Items 2-5 are already resolved in this upload.

Following the discussion comments, a fully revised paper that builds on changes in the preliminary revision is under development to address the outstanding issues. The proposed major change relates to a re-worked introduction to better introduce the need for the model and explain the structure of the paper. A few remaining notation/equation issues remain (following further reflection on R2 and R3 comments), and some improved descriptions of selected algorithms is required. Additional improvements to several of the conceptual figures and simulation results have also been suggested. Please refer to the individual responses for specific details.

The comments have also led to slight code adjustments, and so the model version will be updated accordingly on GitHub to match the updated paper version, in order to ensure the paper and code DOI are consistent.

We thank you again for the significant time and effort that have gone into the discussion.

Kind Regards
Matthew Hipsey, on behalf of all co-authors.

Interactive comment on Geosci. Model Dev. Discuss., https://doi.org/10.5194/gmd-2017-257, 2017.