

Interactive comment on “Development and calibration of a global hydrological model for integrated assessment modeling” by Tingju Zhu et al.

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Given the length of time it is taking to secure a second review and given the positive nature of the first and my own initial impression of the manuscript, I have decided to move to a decision with one review along with another direct from myself as handling editor.

The paper is generally very well written with very few typos, I did not pick out any further to those already pointed out by the reviewer- except a question as to what is meant by the mm/a units for runoff – mm/year I assume? Please replace with something clearer.

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There is a pressing need for computationally efficient models with this level of process detail and spatial representation to aid impact assessment and scenario analysis, so I concur this is a worthy contribution.

The extreme negative values (-3000 for IGHM and >9000 for WGHM) in Figure 2 are concerning – can you explain these? And discuss a little more the issues that might happen when you have a combination of open water and terrestrial land within a grid, particularly in arid conditions; lack of lateral transfers might be causing some artefacts here. It would be much preferable to split Figure 2 into one which gives the actual runoff values rather than runoff- evap, and additionally show the evap as an additional figure.

Interactive comment on Geosci. Model Dev. Discuss., <https://doi.org/10.5194/gmd-2017-216>, 2017.

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