

Interactive comment on “Development of the Community Water Model (CWatM v1.04) A high-resolution hydrological model for global and regional assessment of integrated water resources management” by Peter Burek et al.

Anonymous Referee #2

Received and published: 19 October 2019

Overall the paper was well structured and easy to follow. The paper did a good job of explaining the main concepts of the model and the key equations used while pointing the interested reader to the more detailed model documentation for further analysis. With a model like this where the science is not being advanced in itself it is challenging to highlight the novelty of the work, however, the authors do a good job of showing the utility of such a framework which allows modular integration with other sectors and climate models. Combined with the ability to work on various spatial resolutions down to 30 arc sec makes this a very promising tool. The particular challenge of dealing with

C1

shared storage water bodies (groundwater, reservoirs, and lakes) while dealing with variable spatial scales and time periods is also a very difficult challenge that has been addressed in the paper. The analysis examples are relevant and useful for current and future issues and overall I believe the model has a lot of potential and recommend the paper for publication.

The model was easy to install and the example run solved without issues using the .exe version. The full data set was available for download at <https://zenodo.org/record/3361560#.XapscehKhPY> but did not include soil data and so gave an error that the “/cwatmdata/landsurface/soil/percolationImp.nc’ file could not be found with a trial run of the Rhine example using the global dataset. I would also recommend adding more details about the climate data (as given in the meteo_wfdei_rhine_README.txt file) on the main tutorial webpage.

Interactive comment on Geosci. Model Dev. Discuss., <https://doi.org/10.5194/gmd-2019-214>, 2019.

C2