

Earth Syst. Sci. Data Discuss., author comment AC4
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Comment on **essd-2021-470**

Youjiang Shen et al.

Author comment on "High-resolution water level and storage variation datasets for 338 reservoirs in China during 2010–2021" by Youjiang Shen et al., Earth Syst. Sci. Data Discuss., <https://doi.org/10.5194/essd-2021-470-AC4>, 2022

We have carefully studied all comments and made corrections/changes as suggested. **We performed strict data quality control to eliminate any potentially problematic data points, and data version 2 is expected to be released as the final dataset within the next three days.**

Here, we briefly summarize the improvements to our dataset, taking into account the minor and moderate issues raised by the reviewers.

- For water levels, we added six satellite altimeters (previously one with four satellite altimeters) in this version and provided two modes, standard rate and high rate. For the high rate, we need to eliminate the systematic bias between satellites. The biases are removed using two methods, as detailed in comment AC3, to address the issues raised by Reviewer 2.
- For water area, we added a section to describe the accuracy assessment to evaluate our area dataset based on in situ water levels in 93 reservoirs and our generated altimetric water levels (standard rate and high rate) to address the issue raised by reviewer 2.
- For water storage variation, we added DEM-based estimates, so that we provide two types of storage change, i.e., using satellite-based water levels and water area, and using satellite-based water area and DEM-based curves. The storage changes are validated against in situ storage changes for 93 reservoirs, addressing the issues raised by reviewer 1. (Please note the major issue raised by reviewer 1 why we have negative values for storage variation dataset, because he incorrectly assumes that we provide storage data.)

At a later stage, a revised manuscript with adjustments based on all comments will be provided, pending editorial decision.