Earth Syst. Sci. Data Discuss., community comment CC2
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Reply on AC1

abc Peter

Community comment on "A dataset of lake-catchment characteristics for the Tibetan Plateau" by Junzhi Liu et al., Earth Syst. Sci. Data Discuss., https://doi.org/10.5194/essd-2022-124-CC2, 2022

Thank you for the authors' clarifications. I appreciate your efforts to develop a lake-scale dataset, but still have concerns about the novelty.

Firstly, I agree that collecting all valuable variables is useful for hydrological applications, such as CAMLES-type datasets (e.g., CMALES-BR, CAMLES-AUS, CAMLES-GB, LamaH-CE, and CCAM), which have been published ESSD. Please note that all these datasets are prepared with catchment attributes including streamflow! The reason why these publications are probably highly cited can be attributed to their streamflow data for hydrological applications. See the google scholar citations. The basic framework of these datasets is simple, i.e., deriving the catchment shapefiles and extract catchment attributes (soil, land cover, climate, topography, and geology) from various datasets, that's why I attribute your dataset to a CAMLES-type dataset. It is quite strange that your paper does not cite any CAMLES-type papers, which your paper follows the same structure of.

From the authors' responses , we could see the point that authors constructed the first dataset of lake-catchment characteristics on the TP, and claimed to develop an algorithm that can delineate the upstream catchment of lakes, which make their study novel. However, it is not clear where the uniqueness and novelty of your database are, the new methodology of catchment delineation from a lake-oriented approach? or the first kind of dataset on the TP? If the former one, we would like to see a new methodology; unfortunately, we cannot find it in the manuscript. People could not see any literature review of catchment delineation, comparison of these approaches or yours. It seems like a collection of catchment-based variables using already published algorithms and procedures, without any novel and unique data like streamflow or any new advanced approach of catchment lineation. If the latter one, the first doesn't work all the time.

Let's see the introduction and main content of this paper, authors exaggerated that such tasks are time-consuming and needs to be automatically processed. I don't think so and believe that authors fail to acknowledge many published papers to address these issues. People could upload the shapefiles and extract catchment-based attributes in a few days, thanks to the GEE. Catchment shapefiles can be automatically processed or obtained from the freely accessible codes or existing databases.

See the refences below:

Gorelick, Noel, et al. "Google Earth Engine: Planetary-scale geospatial analysis for everyone." Remote sensing of Environment 202 (2017): 18-27.

Liu K., et al. “Automatic watershed delineation in the Tibetan endorheic basin: A lake-oriented approach based on digital elevation models”, Geomorphology, 358, 107127, 370 https://doi.org/10.1016/j.geomorph.2020.107127, 2020.

Xie J, et al. Rapid watershed delineation using an automatic outlet relocation algorithm[J]. Water Resources Research, 2022: e2021WR031129.

Lehner B, Roth A, Huber M, et al. HydroSHEDS v2. 0-Refined global river network and catchment delineations from TanDEM-X elevation data[C]. EGU General Assembly Conference Abstracts. 2021: EGU21-9277.

Interestingly, two similar studies (mentioned in the introduction) were published in “Gigascience” and “Freshwater Science”, which could be a choice for this paper.

For above reasons, I do not support its publication in the ESSD. Anyway, I still look forward to seeing the reviewers’ comments and editor’s decision.