Reply on CC1
Junzhi Liu et al.

Author 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-12-2075 and https://doi.org/10.5194/essd-12-2459, 2020

Thanks for the comments.

Firstly, we do not think this dataset can be reproduced with freely accessible codes due to the following reasons: This dataset is lake oriented, while the CAMELS dataset and the watershed delineation code you mentioned are river oriented. There are many terminal lakes and nested catchments on the Tibetan Plateau (shown in Fig. 3 of our manuscript), which makes existing code not applicable. Therefore, in this study, we developed an algorithm that can delineate the upstream catchment of lakes and meanwhile can construct the upstream and downstream relationships among lakes/lake-catchments.

Secondly, lakes are widely spread on the Tibetan Plateau (TP) with a total lake area exceeding 50,000 km², accounting for more than half of the total lake area in China. However, there has been no dataset of lake-catchment characteristics in this region to date. This study constructed the first dataset of lake-catchment characteristics on the TP, which makes our study novel. This dataset provides exciting opportunities for lake studies in a spatially-explicit context and promotes the development of landscape limnology on the TP.

Thirdly, as the comments mentioned, there have been several related papers published in ESSD (e.g. essd-12-2075 and essd-12-2459) in recent two years. I also notice that these papers have many citations. These facts highlighted that 1) the topic of this manuscript is highly relevant to the readers of ESSD, 2) the editors and reviewers of these published papers acknowledge the importance of such contributions, and 3) the related datasets are urgently needed by the community as can be seen from the high citations. Therefore, as the first dataset of lake-catchment characteristics on the TP, our dataset will have important contribution to the hydrology and limnology community.