

The Cryosphere Discuss., referee comment RC1
<https://doi.org/10.5194/tc-2021-197-RC1>, 2021
© Author(s) 2021. This work is distributed under
the Creative Commons Attribution 4.0 License.

Comment on tc-2021-197

Anonymous Referee #1

Referee comment on "Towards ice-thickness inversion: an evaluation of global digital elevation models (DEMs) in the glacierized Tibetan Plateau" by Wenfeng Chen et al., The Cryosphere Discuss., <https://doi.org/10.5194/tc-2021-197-RC1>, 2021

My detailed comments on the manuscript can be found in the attached annotated pdf. The manuscript discusses a relevant topic (accuracy of different DEMs on the Tibetan Plateau and impact on ice thickness reconstruction) and overall I find that the methods are robust and useful conclusions are drawn. I do have quite a few comments (see attachment), most prominently related to 1) the way differences are calculated [I suggest to subtract the ICESat-2 data from the DEM datasets rather than the other way around; this would avoid a lot of confusion], 2) the large number of figures [some suggestions for removing figures are given], 3) clarification or explanation [in many places details about the methods and presented figures and tables are missing; additionally, numerous textual revisions may help to clarify the content], 4) transferability of results to other regions [some discussion/speculation on how the presented findings on DEM and ice thickness comparison may translate to other mountainous regions would be interesting to add].

Please also note the supplement to this comment:

<https://tc.copernicus.org/preprints/tc-2021-197/tc-2021-197-RC1-supplement.pdf>