

Interactive comment on “Reconciling high altitude precipitation in the upper Indus Basin with glacier mass balances and runoff” by W. W. Immerzeel et al.

Anonymous Referee #1

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The paper estimates indirectly precipitation by discharge, glacier mass balance and actual evapotranspiration for the Upper Indus Basin. Considering the absence of stations at high altitudes, this work is very interesting. The conclusion is that the current precipitation estimates (with land stations and remote sensing) are strongly underestimated. Although the topic is of prime importance, I have many perplexity that the paper could be published without:

i) re-writing completely the method section. Currently it is too much hermetic. I am not be able to follow exactly what has been done. I have more doubts than answers. Please provide more details in particularly connected with the uncertainty of data. Please sep-

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arate sections for precipitation, evapotranspiration, mass balance, equations. . . Please provide supplement information file.

ii) re-writing completely the results and discussion section. Even results and discussion are too much condensated. In general I would like to be more convinced by authors about the findings. I strongly suggest to present detailed tables and/or graphs in which the terms of the water balance are presented as estimation and uncertainty. If it was possible this new analysis should be subdivided for main elevation bands and regions. Furthermore previous estimations (by many other authors) need to be presented and discussed (the authors know well the literature) In general it needs to be clear and convincing how/why the present work overcomes the previous ones. In conclusion I suggest an in-depth analysis of the glacier mass storage that is less convincing than the other analysis.

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