

Review of **The value of ASCAT soil moisture and MODIS snow cover data for calibrating a conceptual hydrologic model** by Tong et al.

The revised manuscript of Tong et al, that deals with different calibration strategies based on runoff, soil moisture and snow cover, shows many improvements compared to the previous version. I am happy the authors looked at their tables critically and moved a substantial amount of figures and tables to the supplement.

However, I would like to clarify one of my comments in the previous round, as I think the authors misunderstood here and moved it a bit to the other extreme. The authors moved Tables 7 and 8 (now S2 and S3) to the supplement, but I found these actually interesting and suggested to use one of these tables to make a similar figure as Figures 5,6 or 8. Now, the paragraph on page 20 is solely about the supplementary material, but some information on that in the main manuscript would be nice. I was also mainly referring to Tables 4 and 5 (in the new version of the manuscript) as these show data that is also displayed in the figures, that are therefore redundant and act more as background information which is more suitable for the Supplement. These are also more suggestions from my side that, in my view, could improve the manuscript, but I leave this a bit to the authors.

I have the feeling the text also improved a lot (I believe the tracked changes version does not contain all changes), but think there are still some unclarities in the manuscript. For example, referencing the subfigures with labels from a-z (please see also the HESS guidelines for subfigures) and referring to the exact subfigures would probably help a lot already in discussing the different panels. See also my minor comments for more specific issues.

I believe these comments are rather minor, and mainly textual. I hope the authors find them useful again, and look forward to a final version of the manuscript.

Minor comments

P1.L27. Model parameters estimation methods → model parameter estimation methods

P2.L41. Models has been improved → models improved.

P2.L51. Volumes. (Zhang et al., 2009). → Volumes (Zhang et al., 2009).

P2.L53. Which efficiency?

P3.L65. (Kim et al. 2020) but → (Kim et al. 2020), but

P3.L66. Nonetheless there → Nonetheless, there

P3.L83-84. to compare ... calibration variants → this sounds a bit confusing to me, could you rephrase?

P3.L86 which → that

P4.L95. data product.. → data product.

P4.L119-120. Pixels classified...or snow free → and vice versa, correct?

P5.L141 maps which → maps, which

P5.L144. Why are these numbers different? Are the 208 a subset of the 213? Before, only 213 is mentioned (P4.L122).

P6.L158. Storage coefficient → storage coefficients

P8.L202. Why should SWE be bigger than 10mm?

P11.L256-257. The SSC ... $W_q < 0.3$. → You mean compared to the calibration or the other variant?

P11.L273 proportion of day → proportion of days?

P13.L293. Alpine catchment → Alpine catchments?

P13.L301. Are the soil moisture data used here actually the same as for the calibration? So remotely sensed soil moisture?

P15.L336-337. In contrast the → In contrast, the

P15.L338. Tr, Ts, Tm → Figure 7 only has meltT, is that Tm?

P17-18.L377-388. I would suggest to give the subpanels in Figure 9 letters a-f and add these references in the text. Please also be specific which model efficiency you discuss (O_q, O_{SM}, O_{SC}). This paragraph is currently a bit confusing occasionally.

P20.L427. There is no Figure 11 anymore.

P20. This page is now only about supplementary material. Why not add one figure with the p-values?