Hydrology and Earth System Sciences Discussions

Hydrol. Earth Syst. Sci. Discuss., referee comment RC2
https://doi.org/10.5194/hess-2022-350-RC2, 2022

Comment on hess-2022-350

Anonymous Referee #2

Referee comment on "Investigating the performance of Genetic Particle Filter in snow data assimilation across snow climates" by Yuanhong You et al., Hydrol. Earth Syst. Sci. Discuss., https://doi.org/10.5194/hess-2022-350-RC2, 2022

Snow depth simulation is difficult in land surface models and the data assimilation for snow depth is of importance for cold regions hydrology and energy balance modeling. This manuscript tried to propose a new data assimilation scheme for the land surface model. I read it with high interest but did not find out the logic of this manuscript. Therefore I cannot give too positive evaluation at the current stage, I would suggest a thorough revision before it can be considered for publication in the journals.

first, the language is quite poor and the writing is difficult to understand especially in the introduction and results and discussion parts. I can't understand the importance of this work except from my own understanding of the cold regions modeling and data assimilation...

second, some of the references are not shown in the references part even they are put in the main text. This is awful and I feel that the preparation for this work was not serious and also not strictly following the journal's rules...

besides, the results and discussion are quite awful in writing, as I can't find out the useful information from this work concluded by the authors. This is a quite pity issue even the meaningful work was conducted...

given the above mentioned issues, I feel that the detailed comments are not necessary if the authors don't make a thorough revision on the whole story telling logic.

therefore, I suggest a rejection this turn and a chance for resubmission with a clear outline that focuses on the most interesting part of the work would be a good suggestion

from my side. Sorry for being not too positive this time given the current version of the manuscript.