Comment on hess-2022-183
Anonymous Referee #2

Referee comment on "Future snow changes and their impact on the upstream runoff in Salween" by Chenhao Chai et al., Hydrol. Earth Syst. Sci. Discuss., https://doi.org/10.5194/hess-2022-183-RC2, 2022

In this study, Chai et al. simulated future snow changes and their impacts on the upstream runoff in Salween. This is an important study for water resources in future. Overall, this study explained well. However, there are still some questions needing to be clarified.

- The abbreviation of US easily confused readers as United states.
- ERA5 precipitation was better than that of CMFD. How about other CMFD variables compared to ERA5?
- How about the consistency using variables from different dataset to force the model?
- There were too many kinds of data in section 3.2. Suggest to give subtitles to make them clear.
- The discharge was partly the result of the snow change. Why was the discharge evaluated before snow and temperature?
- The LST RMSE between Modis and the simulation was high as 6.11 K in the day. The bias and RMSE in winter night was higher than that shown in Figure 3b. Is the precision of the simulation acceptable? Could you improve the simulation? As you said, the difference was caused by CMFD data. How about results using other forcing data, such as ERA5 that has better precipitation data than CMFD?
- The title of 4.2.1 was too vague.
- Temperature and precipitation were directly from SSP126 and SSP585 dataset. Should they appear before the simulated discharge in section 4.2?
- How about the significance level of the trend of each analyzed variable?
- What’s your novelty compared to others’ studies?
- Some paragraphs were too long. Some errors, such as “would be ere more” in Line 500. Maybe it’s better to to ask a native English speaker to polish the English before acceptation.