

Response to Topical Editor Dr. Xin Li:

We thank Topical Editor Dr. Xin Li again for handling this manuscript. We have revised the manuscript according to the editor's comments. Please see detailed information in the following point-to-point responses.

There are several comments as follows:

1. Since you have put the data at the National Tibetan Plateau/Third Pole Environment Data Center, you are welcome to cite the relevant introduction papers into the articles as: <https://doi.org/10.1175/BAMS-D-21-0004.1> and <https://doi.org/10.1175/BAMS-D-19-0280.1>

Response: We have added citations in “Section 1 Introduction”:

Currently, snow cover products derived from optical remote sensing data present high accuracy (Hao et al., 2021), but snow depth products show significant uncertainties.

...Previous studies also demonstrated that current snow depth data sets and snow water equivalent data sets show significant inconsistencies and uncertainties, which limit their applications in climate change projections and hydrological processes simulations (Xiao et al., 2020; Zhang et al., 2021; Shao et al., 2022)....

2. Since the research is related to snow, it is suggested that the author may reference relevant articles in the special issue , such as <https://doi.org/10.5194/essd-13-4711-2021>, and <https://doi.org/10.5194/essd-14-795-2022>

Response: We have added citations in “Section 7 Data availability”:

The GSnow-CHINA v1.0 data set is archived and available at National Tibetan Plateau/Third Pole Environment Data Center (Li et al., 2020; Pan et al., 2021) via <https://doi.org/10.11888/Cryos.tpdc.271839> (Wan et al., 2021).