Response to comments by Reviewer #2：

We would like to take this opportunity to gratefully thank the reviewer for his/her constructive comments and recommendations. An item-by-item, point-by-point response to the interesting comments raised by the reviewer follows.

1. **This study reviews the existing methodologies of cloud removal from optical remote sensing based snow cover data. The focus is given to MODIS snow cover data, which is becoming valuable due to prolonged time series. There has been published several methods focusing on cloud elimination from MODIS data and this manuscript summarizes those existing approaches very well. Thus, it can be of interest to a wider audience interested in snow research. The study was initially submitted to WRR, where I was assigned as a reviewer as well. The comments given then are well considered in this version of the manuscript. The review of existing methods on cloud removal is well structured and easy to read. Only, the connection to UAV in the chapter "future directions“ may be irrelevant as they do not provide continuous observation of snow cover that can be used for cloud removal. Moreover, UAVs and satellites observe at different scales, which can be hardly combined. Rather, I suggest to include some text about the potential of Sentinel product in providing snow cover data with higher spatial resolution in the future. Considering my previous comments and significant improvement of the manuscript, I suggest it for publication in HESS after a minor revision, considering comments below.**

Response: We are very grateful to the Reviewer for taking your valuable time to read this manuscript. We truly appreciate this chance to gain your insight and views on these issues. Thank you very much for your comments. According to your suggestions, we've amended the relevant parts in the revised manuscript. The introduction of Sentinel has been added to our revised version.

2. **The title of the manuscript does not really reflect the content. The manuscript is about cloud removal approaches and not about the generation of continuous snow cover product. Also, authors can specifically mention the word MODIS in the title as most (if not all) methods use MODIS data for cloud removal.**

Response: Thanks for your suggestion. We have changed the title into "The recent developments in cloud removal approaches of MODIS snow cover product".

3. **The authors are encouraged to address some words about the potential application of Sentinel product in generating snow cover maps and its advantages and drawbacks with regard to MODIS. This can be discussed in the "future directions" and "conclusions and discussion" chapter.**

Response: Thanks for your constructive comments. We have added the description on Sentinel product to the future direction. In the framework of the multi-source fusion, the microwave-based observation with a higher spatial resolution than AMSR-E should make a difference, especially the Sentinel series. For example, Sentinel-1 SAR is with the spatial resolution of 20m, which will significantly improve the fusion accuracy of MODIS snow cover product. Additionally, the optical observations of Sentinel series, e.g., Sertinel-2 Multispectral Instrument (MSI) and Sentinel-3 Sea Land Surface Temperature Radiometer (SLSTR), also have the potential in providing snow cover product with higher spatial resolution in the future.

4. **Insert a tab separation while listing references in brackets in the text.**

Response: We have inserted a blank space into the reference lists in the brackets.

Last but not least, we gratefully thank the reviewer again for his/her very interesting comments and suggestions, which greatly helped us to improve the technical quality and presentation of our manuscript.