

Comments to the Author:

Dear Authors

thank you very much for the submission of your manuscript to ESSD, for the replies to the reviews of your paper and for the revision of your manuscript. We consider M*D10A1GL06 and the related ESSD manuscript as a distinct and useful data publication for the High Mountain Asian region. We require minor revision and edits in the manuscript text and figures.

Response: We thank the editor for the time to review our manuscript and suggest important changes for improved readability. We thoroughly revise the manuscript and do the necessary changes in the text and language. We do hope that the revision will satisfy the editor.

Formal Requirements

In general

i) please let check the language, there are still minor issues, specifically in some of the new paragraphs, and specifically in the abstract. E.g. 'The pixels with values 200, ,, indicate .. and has a ...', or The data associated with this paper are available for the end-users mainly useful for observation and ... or on p.5 the typo 'could cover'

Response: Thank you for highlighting the minor issues. The manuscript is revised significantly for language improvement. The highlighted sentences are revised and improved. The typo is corrected.

ii) please spell out all abbreviations, when abbreviations first appear, e.g. NDSI

Response: All the abbreviations are now given in full form including NDSI on the first appearance.

iii) important: please enhance the quality in all of your figures and exchange every figure: the text part, e.g. in the legends, is always hard to read.

Response: Text and legend of figures 3-6 are enhanced. Legend names and axes labels are also improved.

iv) M*D10A1GL06 is a well-chosen term for your product, please use it much more frequently, e.g., please use it in the abstract and in the conclusion, and throughout your manuscript text, please also describe in method the produced files, e.g. such as the name of the product file MOYD10A1GL06_Maximum_Snow_Extent_2002289

Response: The product name M*D10A1GL06 is now used in the abstract, method, and conclusion. The product name is now also explained in the method section as suggested: "The product in this paper was named merging the names of original products e.g. combining Terra product (MOD10A1_Maximum_Snow_Extent_2002289) and Aqua product (MYD10A1_Maximum_Snow_Extent_2002289) merged with RGI06 (GL06) and named as MOYD10A1GL06_Maximum_Snow_Extent_2002289 in the daily improved snow product (M*D10A1GL06)."

v) please highlight in your abstract and conclusion the improvement of your product in a quantitative way, e.g. statements such as 'The effect of SZA was reduced by merging of daily Terra and Aqua products with snow if the pixel is snow in both the products while giving 0.5 weight if the pixel is snow in one of the Terra or Aqua. This criterion reduces 6.2% of the overestimation in the daily composite snow product.'

Response: the effect of SZA and cloud cover is now highlighted in the abstract and conclusion. In abstract, it is given as "On average, the M*D10A1GL06 product reduces 39.1% of uncertainty compared to MOYDGL06* product due to cloud cover (underestimation) and sensor limitations mainly larger solar zenith angle (SZA) (overestimation) of 32.9% and 6.2%, respectively."

vi) please put the information on the 500 m spatial resolution in the abstract and conclusion.

Response: The information about the MODIS snow including spatial resolution is now given in the abstract and conclusion as suggested.

Text

p.3, L36 Also, the daily MODIS contains - change to: the daily MODIS product contains

p.5 The could cover

Response: the daily MODIS contains is changed to the daily MODIS product contains

Figures

important: please enhance the quality in all of your figures and exchange every figure: the text part,

e.g. in the legends is always hard to read.

Response: quality of the figures 3-6 are now enhanced including the legend and text

Improvements in figure captions, e.g. figure caption 3: name MOD10a and MYD10a- similar to figure caption 2; Similarly, also for figure captions 4,5. Figure caption 6, please add more details in the figure caption-

Response: Figure 3 caption is revised and made similar to figure 2. Figure 6 caption is revised and more details are added as suggested.

Figures 4, 5: please harmonize the x axes, e.g., you could show the single year names below the x-axes in Figure 4 similar to Figure 5

Response: Figure 4 caption is made similar to Figure 5. The legend and text in both figures are enhanced for better readability.