The Cryosphere Discussions

The Cryosphere Discuss., author comment AC1
https://doi.org/10.5194/tc-2021-172-AC1, 2021

Reply on RC1

Zacharie Barrou Dumont et al.

Author comment on "Brief communication: Evaluation of the snow cover detection in the Copernicus High Resolution Snow & Ice Monitoring Service" by Zacharie Barrou Dumont et al., The Cryosphere Discuss., https://doi.org/10.5194/tc-2021-172-AC1, 2021

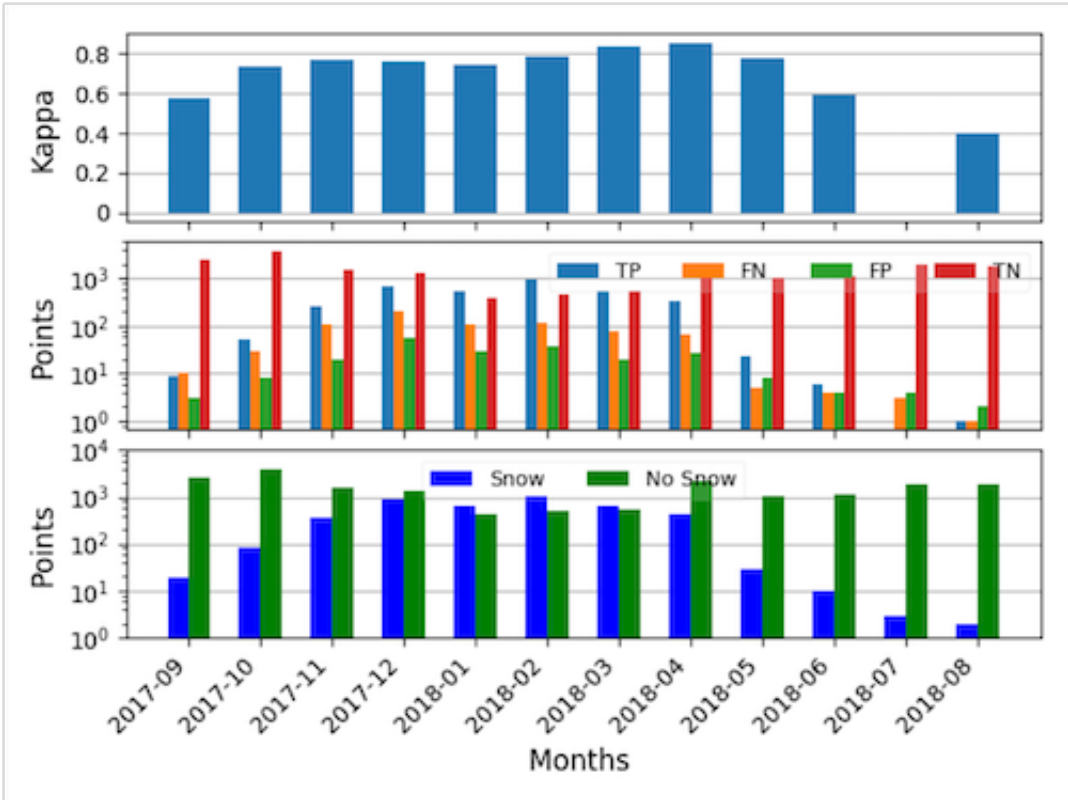
We wish to thank the reviewer for its time spent to evaluate our work and the useful comments on our manuscript. We provide a point-by-point response below

- L84: In the section of the Metrics, the definition of the (overall) accuracy ((TP+TN)/(TP+FP+FN+TN)) should also be added.

We will add this definition.

- L104: "the number of false negatives is highest in December while the accuracy increases every month from January to April." It is interesting, but 1) "the data" means the data of Finland and Norway ? or the data of all the European countries studied ? 2) What is the cause of the behavior of FN? If possible, please add the figure for the data by month to this report.

The data refers to all european countries. In the Discussion section (L115) we attribute the behavior of the FN to the lack of direct solar radiation. We agree that it would be useful to show this figure of the results by month (figure shown below). We will see if we can incorporate it in the main text otherwise as a supplementary figure.



- L108: In the study of Gascoin et al. (2019) the occurrence of false snow detection (i.e., FP) in some large clouds was identified as an issue to be addressed in a future release. However, the FP evaluated in this study seems not to be large compared with FN as shown in Fig. 2. Does this mean that the cloud detection using the MAJA software were improved to eliminate large icy clouds? Or originally the performance of the MAJA is good enough to eliminate icy clouds? The authors may address this issue in the text.

We agree and we were also somewhat surprised by this result. In the past two years there has been a few minor updates in MAJA which may have marginally contributed to reduce this issue of false snow detection in clouds. This study indeed suggests that the FP issue may not be the main issue to focus on to improve the product accuracy. We will add a comment about this in the main text.