

Responses to Revision#1 of Manuscript tc-2018-82

Responses to Editor's Comments

1. P4.15 parenthesis not closed

Response: Agreed.

Action: Corrected.

2. P5.8 delete space before comma.

Response: Agreed.

Action: Corrected.

3. Are all table necessary in the main article? Think if some (Table 3 and 4 in particular) could be moved to the supplement.

Response: Agreed.

Action: Moved.

4. P20.13. "least absolute residual regression" does not sound familiar to me. Double check.

Response: least absolute residual regression was used to highlight the accuracy of the SD change estimates once outliers due to icy/smooth snow were discounted.

Action: added reference to algorithm used (<https://www.mathworks.com/help/stats/robustfit.html>).

5. Figure 10a. Y-axis title should be "change"

Response: Agreed.

Action: Corrected.

6. P27.17 "users of" (I think)

Response: Agreed.

Action: Corrected.

7. P33.4 isolated coma to be removed.

Response: We did not find an isolated comma, but found an extra period after Ambio. I think the confusion is that the title of the article has an Oxford comma before the and.

Action: Corrected the extra period.

8. That said, anonymous Referee #2 is right in suggesting that a shortened version of the manuscript would have more impact on its readers. I understand this come rather late in the review process and I do not want to condition publication to the 25% shortening suggested by reviewer #2. However, when doing a final check (some typos remain), I recommend that you try to make the text sharper.

Response: Agreed.

Action: The following edits were applied to the abstract, introduction and methods to reduce the length of these sectiond from 21 pages to 17 pages:

Removed four sentences from the introduction between 2.13 to 3.11 regarding other approaches for in-situ snow depth monitoring (there is still a list with references of these methods.)

Shortened the rationale of our GCP target selection on 8.3 to 8.8.

Moved details on GCP targets from 8.19 to 9.5 to Supplementary Material S1.

Moved details on GCP targets from 10.4 to 10.20 to Supplementary Material S2.

Moved 11.25 to 11.27 discussing flight duration to Supplementary Material S3.

Combined sentences at 16.3 to 16.4.

Moved 18.7 to 18.10 discussing failed missions to Supplementary Material S6.

Response to Comments from Reviewer #1

9. As is this paper is very long and it should be further focused on the key findings revolving around the 2 research questions and much of the methodological and supporting details moved to the supplement.

From the manuscript types considered by The Cryosphere it states "Research articles report substantial and original scientific results within the journal's scope. Generally, these are expected to be within 12 journal pages, have appropriate figures and/or tables, a maximum of 80 references, and an abstract of 150–250 words." There is always a difference between the submitted manuscript and type set version but I believe that this article is well in excess of these guidelines

Response: Agreed.

Action: See response to comment #8.

Response to Comments from Reviewer #1

There were no comments requiring action.