

Dear Editor,

We are sending the corrections of the manuscript entitled “Incorporating InSAR kinematics into rock glacier inventories: Insights from eleven regions worldwide” (tc-2021-342). We have made the following main changes.

- According to the remarks from the preceding review file validation, we added the copyright statement at figure 11 and 3
- According to the second round of corrections by the reviewers and Editor, we accepted their suggestions and we clearly introduced abbreviations consistently throughout the manuscript. We have also made technical corrections suggested from reviewer 2, explained in the reply below.

### **Reply to reviewer 2**

We would like to thank Dr. Blöthe for his second round of constructive comments, which we believe have further refined the paper. In our corrections, we have accepted all of the reviewer's suggestions. Our replies and changes to the original manuscript are embedded in the reviewer's comments (in blue colour). The new/modified text that will be included in the revised manuscript is shown here in *italic*.

### **General comments**

I would suggest that the authors check the use of abbreviations for consistency throughout the manuscript. In the technical comments, I listed some specific locations on this, but I soon realized that I was a bit confused as to when the term rock glacier refers to a rock glacier unit which seems to be abbreviated by RoG. Might I suggest altering the statement of L144-145 to; “Hereafter the abbreviation RoG is used to refer to a rock glacier unit, [...]” or something similar?

We checked the abbreviations, and we replaced the terms rock glacier, rock glacier inventory and moving area with RoG, RoGI and MA, respectively. We also reduced the confusion between rock glacier and rock glacier unit by systematically using RoG for the rock glacier unit. We also modified the sentence at L144-145 as suggested.

### **Specific comments**

L32: Here the authors could add “[...], applying a manual and semi-automated approach.” at the end of the sentence, as this information is not included in the abstract so far.

Comment accepted. Following the reviewer's suggestion, we modified the sentence.

L315: Would it be possible to give a threshold value here that specifies when the heterogeneities are considered to be “too large”?

To address the reviewer's concern, we have clarified this sentence: “[...] (iii) the heterogeneities of MAs cover more than half of the RoG surface.”

### **Technical corrections:**

L26: “however makes” instead of “makes however”?

Comment accepted. We have rewritten with “*however makes*”.

L142: rock glacier inventory has been abbreviated as RoGI before...

Comment accepted. According to general comments, we checked the abbreviations, and we systematically replaced the terms rock glacier inventory with RoGI.

L145: I am confused... is RoG the abbreviation for rock glacier or rock glacier unit? Here you say that whenever the term rock glacier is used, it refers to a rock glacier unit, but the abbreviation is not used consistently in the text...

Comment accepted. According to general comments, we reduced the confusion between rock glacier and rock glacier unit by systematically using RoG for the rock glacier unit. We modified the sentence at L144-145 as suggested in general comments.

L165: Here you introduce the abbreviation MA for moving areas, but are not using the abbreviation consistently in the remaining text.

Comment accepted. According to general comments, we checked the abbreviations, and we replaced the term moving area with MA.

L540: regional extent?

Comment accepted. We have replaced "region extent" with "regional extent".

L563: velocities instead of "velocity rates"? This is the only instance that the term "velocity rates" is used in the manuscript

Comment accepted. We have replaced "velocity rates" with "velocities".