

The Cryosphere Discuss., author comment AC2
<https://doi.org/10.5194/tc-2021-200-AC2>, 2021
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Reply on RC2

Benjamin Aubrey Robson et al.

Author comment on "Glacier and rock glacier changes since the 1950s in the La Laguna catchment, Chile" by Benjamin Aubrey Robson et al., The Cryosphere Discuss.,
<https://doi.org/10.5194/tc-2021-200-AC2>, 2021

Dear reviewer,

Many thanks for your constructive comments. We have followed your suggestions and list our responses in the table below. Thanks for taking the time to review our paper and for giving us positive feedback.

Best regards,

Benjamin Robson (on behalf of the authors)

Reviewer comment

Our response

line 14: consider 'rapidly' instead of 'strongly'

This has now been changed

line 15: 'less investigated' is comparative
please add to this sentence to complete it.

This has now been changed

Line 19: it is unclear which glacier you are referring to at this point.

We now make it clear that we are referring to Tapado Glacier

Line 21: suggest that 'strong' not be used as We have changed 'strong' to 'increased' a modifier as it is a bit loose.

Line 23: remove 'in the region' as it is repetitive from the last sentence.

This has now been changed

Line 35: Better if this paragraph was a bit longer.

Thanks for the suggestion, we have added a sentence

Line 40-42: It is not clear why this needs to be an either or situation.

We agree that a combination of both theories for rock glacier formation is most likely, but here we just present both schools of thought from the literature.

Line 45: would add an e.g, here as the citation list is not exhaustive

This has now been changed

Line 55: The citations are not in the correct order starting with oldest and progressing to youngest. Correction should be applied throughout.

Thanks for pointing this out. We have corrected it

Line 82. maybe use 'agricultural production' 'worth' instead of 'of'. Also correct typo associated with

This has now been changed

Figure 1. The blue stars are hard to read in this figure and the red stars overlap. Consider a white outline of the markers? Caption: Correct typos 'Location of the La Laguna catchment and of landforms studies in this paper. Three landforms that will be discussed' in the text are highlighted in (A).

We have substantially edited the symbology of this figure so hope it is more readable now. Unfortunately at this scale the red markers do overlap, this is because the location of the mass balance data is approximately the same from year to year, but has a slight shift.

Table 1: 'For the imagery that were used to produce DEMs, the RMSE values for the Ground Control Points and Tie Points are shown.' You can remove 'that were'

This has now been changed

Line 109: 'The data were''

This has now been changed

Line 127: 'over' to 'on'

This has now been changed

Line 132: can cut 'for this area'

This has now been changed

Table 2. Would be helpful to signify in the figure by the bottom row is in italics.

We have removed the italics

Figure 3. It is difficult to read these lines.

This has now been changed

Figure 4. y-axis needs a label.

Thanks for spotting this, this has now been fixed

Line 351. Remove 'as'

This has now been changed

Figure 8. A-A' (etc.) should be labeled in Figure 1.

We have added these laels

Line 398. need a '.' here.

This has now been changed

Line 448. remove 'as'

This has now been changed

Line 467. Additionally Anderson et al., 2018 We have adapted this sentence and added point simply to climate warming as a cause this reference of the transition between debris-covered and rock glaciers

Line 496. would be helpful to cite who has We have added in some references here used this approach in the past.