

Editor report: tc-2021-215

Dear authors,

Thank you for your thorough response to reviews and amended manuscript. I am happy to recommend publication subject to the final minor amendments listed below.

Abstract

The true novelty of this manuscript lies in the study area. Therefore I suggest that rather than the rather bland opening statement, the abstract opens with something in the following format:

‘The Tibetan Plateau is important because.... There is little data available..... The snowpack supplies water and potentially nutrients to xxx downstream systems.’

This makes the in situ dynamics on the plateau the subject, not the nutrient export story, which, while fascinating, is not really the central feature of your study.

Introduction

I suggest that the introduction also opens with a sentence similar to that suggested above to get your readers interested. Perhaps the paragraph beginning L70 would be better to lead with? I would also recommend highlighting the difference between papers that are on other cryosphere systems (e.g. Arctic glaciers) vs. those more local to your study site. I recommend this strategy to demonstrate that this is a problem that has received insufficient attention in the literature, and thus justify your study.

In the introduction, it would also be worth highlighting when papers are quantifying snowpack exports vs. whole glacier system exports. Again, it might be that there are few snow studies to highlight, in which case: your study is ever more important.

L72: ‘Glacier melting increases the discharge of microorganisms and nutrients in meltwater into downstream aquatic ecosystems (Kohler et al., 2020), which substantially impacts the bacterial community and biogeochemical processes (Liu et al., 2021)’.

The way this sentence is structured makes it seem that the Kohler paper is discussing export from Tibetan Plateau systems – it is not. Please make clear that the Liu paper is directly applicable to your study area, whereas the Kohler paper is about potentially similar processes occurring in Arctic systems.

L324: add ‘with time’ i.e. ‘showed a weak increasing trend over time in the surface snow’

L387: suggest replacing ‘the present study’ with ‘this study’

Thank you for your contribution to The Cryosphere.

Dr Liz Bagshaw