

We would like to express our thanks to Koji Fujita (community comment) and the two Anonymous Referees for providing constructive comments and suggestions to our study. We provide our point-by-point replies and detail a revision plan for our study below (in blue color).

CC1: 'Comment on egusphere-2025-4136', Koji Fujita, 20 Nov 2025

Dear authors,

This study estimates the potential flood volume (PFV) of glacial lakes from the angle of the post-GLOF flow path. Although it does not evaluate the outburst potential itself, I believe it provides useful information. As a researcher who has conducted similar prior research, I offer several comments that I hope will be helpful.

- thank you for your insights, Prof. Fujita, we acknowledge your previous work and appreciate your comments

The fact that the angle of the post-GLOF flow path is small was shown in Figure 6 of Fujita et al. (2013), so I would appreciate it if this could also be mentioned in the manuscript. The difference in PFV estimates ultimately stems from the choice of threshold: 10° in Fujita et al. (2013) and 3° in this study, so it would be good to refer to this point in the discussion.

- we'll refer to Fujita et al. (2013) study where relevant (especially in Intro and Discussion sections)

I believe the Supplement figure represents an important result of this study, so it should be included in the main manuscript. It should also be discussed what characteristics glacial lakes with large angles maintained even after outburst tend to have.

- the number of figures in the brief communication paper is limited; we'll reconsider which are the most important to be included in the main text and which could possibly go to supplement

I have some objections regarding the method shown in Figure 1D and Equations 1 & 2. What can actually be measured from satellite data is the “horizontal distance”, not the “slope distance”; therefore, “d” should be treated as the horizontal distance, and the angle should be calculated using the arctangent (Equation 1). In addition, Equation 2 should be computed using the tangent.

- the measurements in Google Earth can provide both horizontal as well as ground (slope) distance

- this will be clarified in the methodology

In estimating the PFV shown in Figure 2, the calculations use the moraine crest, but glacial lakes are not necessarily filled with water up to the top of the moraine. Therefore, it would be better to use the lakeshore, which is easier to identify in satellite imagery.

- we focus on moraine-dammed lakes with surface outflow, therefore, moraine crest elevation at the outlet is equal to pre-GLOF lake level elevation

The moraine toe boundary is not clearly identifiable for all glacial lakes. The impact of uncertainty in determining the toe position on the PFV should be evaluated.

- we acknowledge the subjectivity involved in determining the moraine toe and this point will further be elaborated in discussion section

Regarding the PFV re-evaluated in Table 1, Fujita et al. (2013) assessed PFV for many glacial lakes and also provided their location information in the Supplement. Therefore, PFV should be evaluated for a larger number of glacial lakes.

- agreed, we'll re-evaluate more previous estimates in revised version of the study