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).

RC1: 'Comment on egusphere-2025-4136', Anonymous Referee #1, 20 Dec 2025

This article provides a method for estimating the maximum volume that can be released during a GLOF.

I agree that lakes typically do not completely drain, so this method would be helpful to estimate a more realistic flood volume.

- the data suggest that complete lake drainages are rare, however, we would like to clarify that our method does not specifically focuses on complete or partial drainages (the difference which is largely controlled by lake bathymetry), and can be use for both

-Why do you assume that the crest is at the center of the moraine?

- the method is designed for moraine-dammed lakes with surface outflow, therefore, the lowest point of the crest is where the outflow is located (frequently but not necessarily in the center of the moraine) and its elevation is equal to the lake level elevation

- this will be further clarified in the revised version of the paper

-How do you justify using a specific slope for calculating the PFV? For example, for Galong Go, considering an angle of 0 degrees, we will have a breach that goes from the crest to the toe, so that we would have a breach of 50 meters (5073-5023m). This would give us, assuming the lake area is constant, a volume of 50x5630000 = 28.150.000 m3. So it seems that a significant factor is the width of the moraine. If we have a narrow moraine, a breach at 3 degrees will be close to 0 degrees, but if you have a wide moraine, as in this example, the breach height decreases. The same holds for all the examples in Table III.

- indeed, the use of a constant slope of the breached channel threshold makes PFV reduction larger for lakes with wider dams

So, how does the width of the moraine correlate with the angles in the table from Supplement I: The list of analysed events, measured and calculated characteristics?

- this is an interesting idea, we'll explore whether there is any correlation between dam width and slope of breached channel

- How certain or defensible is conclusion two from this work, considering that your GLOF sample used is small? It seems like a reasonable guess more than a conclusion derived

from the results. It is important to note that the range of angles in the supplementary table is considerable.

- our conclusion two is defensible based on empirical evidence; to our knowledge, our study is the first attempt to systematically look at slope of the breached channel as an indicator of PFV, partly building on ideas from Fujita et al. (2013) study

- It would be good to mention how the volumes were calculated in the previous calculations. For example, Gepan Gath and Luding have similar configurations and PFV. However, Fujita et al.'s (2013) estimate was much closer (85.6%) than Worni et al.'s (2013) (37.8%) to the revised PFV. My guess is that the difference between Fujita et al. (2013) and this method is within the error of the methods.

- this information will be added in revised Table 1