

In this study, the authors reveal the current progress and challenges of glacial lake outburst flood research in recent five years (2017-2021) launched from the first GLOF conference (7-9 July 2021, online). This analysis was based on the collections of 570 peer-reviewed GLOF studies published in 2017-2021 (Web of Science and Scopus databases). Four thematic areas related with GLOFs were summarized. This study is interesting and this manuscript was presented well. I recommend this manuscript was to publish in NHESS with the further improvement of the suggested comments below.

We would like to thank Guoqing Zhang for his review to our manuscript and overall positive evaluation of it. Below we provide our point-by-point replies (in blue).

Major comments:

1) The papers published in 2021 were collected fully? The number of papers in 2021 is smaller than 2020, the search was performed in March 2022. Some papers published in 2021 have a delay to update, especially after March 2022. I suggest the authors to update the number of papers published in 2021. In addition, some papers in Discussion/Preprint status were included in the statistics? The status of these papers can be changed and this could affect the final results.

Yes, we built the database in March 2022, which means that not all papers published in 2021 were already loaded in Scopus and WOS databases. In the revised version of the manuscript, we will update the 2022 numbers and subsequent interpretations accordingly.

2) How about the current progress by different countries? The reader could be interesting the trend of leader authors from the different countries, especially in high mountain regions from the developing countries status?

The geography of GLOF research (both geography of institutes / authors of GLOF research as well as geographical focus of GLOF research papers) are addressed in section 3.4. In the revised version of the manuscript, more attention will be paid to stats of GLOF research papers published by the authors from developing countries, as suggested.

3) The description of statistics of published papers is clear. However, the key finding of this study is the current progress and challenges of GLOF. At present, these are mainly described in text. It is possible to add some schematic diagrams to display these directly?

Current progress and challenges in GLOF research are summarized in Table 2 and further elaborated in individual sub-sections of Section 4. A schematic diagram will be considered for the revised version of the manuscript.

Specific comments:

1) Table 1. The classifications of four thematic areas are considered in Table 1?

In fact, we do not strictly assign each paper to one or more thematic areas (these were rather used in the GLOF conference), therefore it is not mentioned in Table 1. It will be clarified in the revised version of the manuscript.

2) Figure 1 need to be improved for publication.

The quality of the figure will be checked.

3) Table 2 need to be redesigned for readable. This table is too long, and sources can be separated in a new column.

We will consider splitting this table into 4 separate tables, according to 4 thematic areas addressed in the paper.

4) Page 17, L300: "(e.g., Aggarwal et al., 2017; Muneeb et al., 2021)" suggested references here: doi: 10.3389/feart.2021.775195

Suggested references will be cited there.

5) Page 17, L305: please decrease the number of papers cited at one place. You can separate it at several places. Others need similar corrections.

Will be edited accordingly and checked throughout the manuscript.

6) Page 17, L315: "On local scale, a recent trend goes toward better understanding of controls, preconditions, triggers of, and interactions during individual GLOFs (Carrivick et al., 2017; Blauvelt et al., 2020; Vilca et al., 2021)," suggested references here: doi: 10.5194/tc-15-4145-2021; doi: 10.1017/jog.2019.13

Suggested references will be cited here.

7) Page 19, L360: Allen et al., 2016; Schwanghart et al., 2016; Allen et al., 2019 -> Allen et al., 2016, 2019; Schwanghart et al., 2016. Others need similar corrections.

Will be edited accordingly.

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Thank you again for reviewing our manuscript!

On behalf of the collective of authors

Adam Emmer