We thank the reviewer for their comprehensive and constructive comments on our work. Below, we respond to their comments in blue font and describe how we will address these comments in the revised manuscript in black font. References to specific lines refer to the initial manuscript.

#Referee 2

R2C1: The paper describes a new global inventory on GLOFs that is claimed to more than double the number of reported GLOFs in a previous global inventory.

The topic is extremely acute as global deglaciation has brought about skyrocketing number of new glacial lakes and increase in potential danger.

R2A1: We thank the reviewer for highlighting the relevance of our work.

General Comments:

R2C2: Brief examination on such underreported regions as Caucasus, Tajikistan, Kyrgyzstan, Afghanistan shows that authors put real effort in registering as many GLOFs as it is possible. But still some of known cases for Caucasus and Central Asia are not presented in the database because they were reported in Russian language publications**.** Just a brief example: more than 30 GLOF locations in Kyrgyzstan is reported here: http://ru.mes.kg/Kniga/book_rus078.html

Мониторинг, прогнозирование опасных процессов и явлений на территории Кыргызской Республики (Изд. 18-е с изм. и доп.), Б.: МЧС КР, 2021 - 819 с.

Monitoring, forecast of dangerous processes and phenomena in Kyrgyzstan Republic (18th Edition). Bishkek: MCHS KR, 2021 – 819 p. (in Russian)

While in the presented inventory includes 17 locations in Kyrgyzstan.

That is probably out of the scope of the paper to work with sources in local languages, but still this problem and potential perspective for development needs to be mentioned and discussed.

Some of additional cases for the Caucasus can be found here:
https://link.springer.com/article/10.1134/S009780782207003X

R2A2: We thank the reviewer for pointing out the missing cases in the Caucasus and Central Asia. We contacted local native speakers to help us adding these GLOFs to our database. We are currently identifying the exact location of the source lakes, as they are largely mentioned by their local names, rather than by coordinates. We would be thankful if the reviewer could provide us more detail on the source coordinates of these lakes, for example by using the submission form on our website that we have recently added (see our reply **R1A3** to reviewer #1). Those cases will be archived soon under a new version (3.1) on the same DOI on Zenodo.

We will also add information on underlying languages of our references to the method section. We would like to refer the reviewer to our reply **R1A2**, which we copy here for convenience:

R1A2: We will further add information on the underlying languages of our resources (L75): *"We have compiled GLOFs from literature sources written in English, Russian, German, Spanish, Icelandic, and Chinese. Sources not written entirely in English must include at least an abstract and keywords in English to meet our search criteria. We were also supported by 14 local researchers who reviewed our compilation and contributed additional cases with their local knowledge (see Acknowledgements).*

With their help, we were able to substantially expand the previously available catalogue of GLOFs, especially in Iceland and Central Asia (Carrivick and Tweed, 2016)."

Specific Comments:

The paper overall is well written and well-illustrated, anyway there are still some points that need improvement or correction:

R2C3: Not all study regions are plotted on Fig.1

R2A3: We will adjust the figure accordingly:

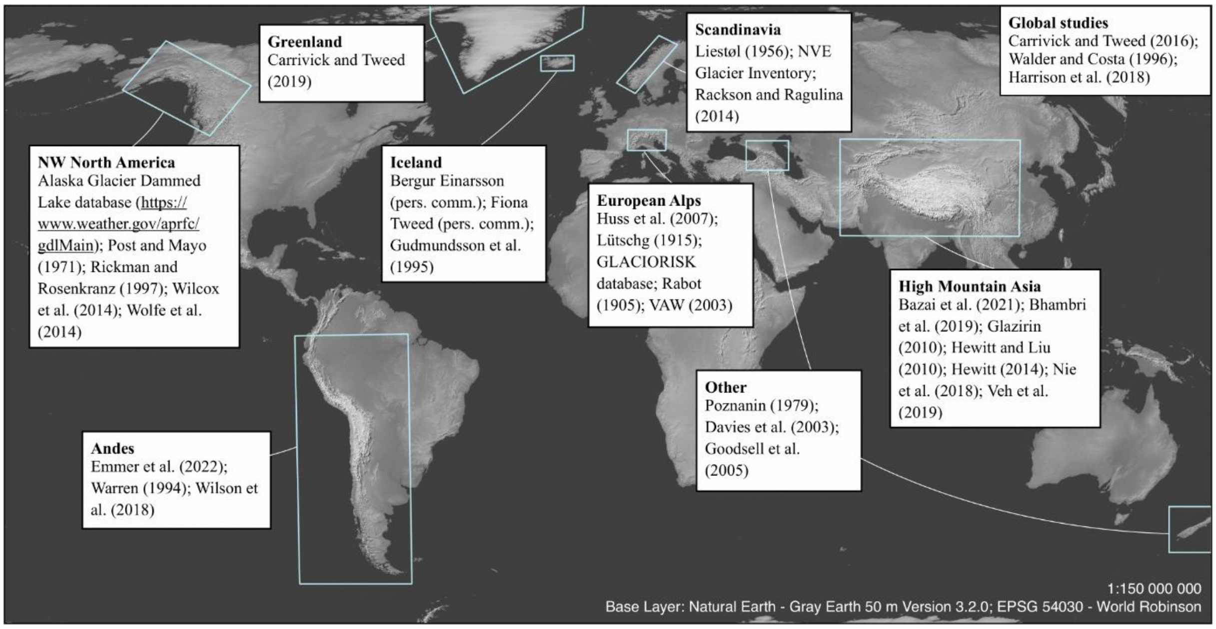

Figure 1 with added study region 'Other' (New Zealand/ Caucasus).

R2C4: It is not clear if data on area before (Ab) and after the GLOF (Aa) was reported in the literature was it included in the database. Or all values in the database are based on performed analysis based on satellite imagery.

R2A4: We manually mapped the areas before and after the GLOF (Ab and Aa) from satellite images unless stated otherwise in our manuscript (L143-144): *"We also included in our database the lake outlines from 11 GLOFs mapped by Bazai et al. (2021) in the Karakoram, and nine GLOFs mapped by Eide (2021) in Scandinavia."*

R2C5: The database would benefit from adding mapped glacial lakes outlines before and after the GLOF

R2A5: We are currently compiling more data on lake areas before and after the outburst to foster a more complete dataset. We will publish the lake polygons before and after the GLOF on the current DOI on Zenodo once this is achieved.

R2C6: The authors mention source types in Methods section of the paper, but there is no such field in the database. Including it would benefit the database.

R2A6: We thank the reviewer for pointing this out. We categorized the single sources in our citation manager. Users can derive the underlying source type from citations in the reference column. Resources cited in other databases, including their language (if not English), are indicated in this column (L166-170): *"Finally, we listed all sources from which we extracted information on GLOFs. We highlighted earlier published information that was cited in more recent publications by linking them with "CITED IN", independent of the accessibility to the cited source. If we had access to a cited reference, we always searched for the original source to validate the provided information. If a publication provided multiple sources for an event (e.g. in data tables), the cited references were connected with an "&" operator."*

R2C7: For some regions (for ex. Caucasus) approach to sorting the event is not clear (not date of the event). Please check that.

R2A7: We thank the reviewer for pointing this out. We will adjust the order accordingly and upload the updated database file on the Zenodo repository (see screenshot below). In the study region 'Other', which includes GLOFs from two spatially separated regions, we decided to sort the entries first by country (i.e., Caucasus, New Zealand), then by Date, to maintain an order consistent with the other sheets.

ID	Major_RGI_	Mountain_r	Country	Glacier	RGI_Glacier	RGI_Glacier	Lake	Lake_type	Longitude	Latitude	River	Date	Date_Min	Date_Max	Mecha
runni	RGI region in	Major	Source	Name of the	Glacier Id	Glacier area	Name of the	Material of	X coordinate	Y coordinate	Major river	Reported	Earliest	Latest	Mechar
		e.g.	e.g. Pakistan	e.g. Baltoro		km²	e.g. Baltoro	e.g ice,	XX.XX°	XX.XX°	e.g. Indus	YYYY-MM-	YYYY-MM-	YYYY-MM-	(e.g.
1	Caucasus,	Greater	Russia	Birdzhalychir	RGI60-12.01	20,98		unknown	42,530	43,394	Malka	1909-08-02			unknow
5	Caucasus,	Greater	Russia	Bashkara	RGI60-12.00	3,66	Bashkara	moraine	42,725	43,209	Baksan,	1958			overtop
6	Caucasus,	Greater	Russia	Bashkara	RGI60-12.00	3,66	Bashkara	moraine	42,725	43,209	Baksan,	1959			overtop
12	Caucasus,	Greater	Russia	unknown			Kakhab-	water pocket	46,554	42,220	Sulak	1969-08-28			englaci
13	Caucasus,	Greater	Russia	unknown			Kakhab-	water pocket	46,554	42,220	Sulak	1971-07	1971-07-01	1971-07-31	englaci
14	Caucasus,	Greater	Russia	unknown			Kakhab-	water pocket	46,554	42,220	Sulak	1974-08-02			englaci
15	Caucasus,	Greater	Russia	unknown			Kakhab-	water pocket	46,554	42,220	Sulak	1974-08-06			englaci
16	Caucasus,	Greater	Russia	unknown			Kakhab-	water pocket	46,554	42,220	Sulak	1975-07-14			englaci
17	Caucasus,	Greater	Russia	unknown			Kakhab-	water pocket	46,554	42,220	Sulak	1975-07-24			englaci
8	Caucasus,	Greater	Russia	Malyi Azau	RGI60-12.00	11,81	Malyi Azau	moraine	42,447	43,284	Baksan,	1978-07-19			overtop
2	Caucasus,	Greater	Russia	Birdzhalychir	RGI60-12.01	20,98		moraine	42,531	43,372	Malka	1993	1993-06-01	1993-10-31	overtop
3	Caucasus,	Greater	Russia	Birdzhalychir	RGI60-12.01	20,98		ice	42,531	43,372	Malka	2003	2003-06-01	2003-11-24	overtop
4	Caucasus,	Greater	Russia	Birdzhalychir	RGI60-12.01	20,98		ice	42,531	43,372	Malka	2006-08-11			overtop
10	Caucasus,	Greater	Russia	Rakyt				water pocket	43,159	43,180	Chegem,	2007-08-02			englaci
11	Caucasus,	Greater	Russia	Passionaria	RGI60-12.01	0,149		water pocket	43,903	42,764	Ardon, Terek	2007-08-02			englaci
9	Caucasus,	Greater	Russia	Malyi Azau	RGI60-12.00	11,81	Malyi Azau	moraine	42,447	43,284	Baksan,	2011-11-08			overtop
7	Caucasus,	Greater	Russia	Bashkara	RGI60-12.00	3,66	Bashkara	water pocket	42,725	43,209	Baksan,	2017-09-01			overtop
18	New Zealand	Southern	New Zealand	Franz Josef	RGI60-18.02	33,11		ice	170,172	-43,443	Waiho		1920	1940	breach
19	New Zealand	Southern	New Zealand	Franz Josef	RGI60-18.02	33,11		unknown	170,172	-43,443	Waiho	1949-02			unknow
20	New Zealand	New Zealand	New Zealand	Mangaturutu	RGI60-18.00	1,18	Mount	ice/sediment	175,564	-39,281	Whangaehu	1953-12-24			breach
21	New Zealand	Southern	New Zealand	Franz Josef	RGI60-18.02	33,11		unknown	170,172	-43,443	Waiho	1965-12-19			unknow
22	New Zealand	Southern	New Zealand	Franz Josef	RGI60-18.02	33,11		ice	170,172	-43,443	Waiho	1967-01			breach
23	New Zealand	Southern	New Zealand	Franz Josef	RGI60-18.02	33,11		water pocket	170,172	-43,443	Waiho	1967-03			sub-/
24	New Zealand	Southern	New Zealand	Franz Josef	RGI60-18.02	33,11		supraglacial	170,172	-43,443	Waiho	1981-06-02			overtop
25	New Zealand	Southern	New Zealand	Maud Glacier	RGI60-18.02	10,336	unknown	moraine	170,500	-43,476	Godley	1992-05-03			unknow
26	New Zealand	Southern	New Zealand	Maud Glacier	RGI60-18.02	10,336	unknown	moraine	170,500	-43,476	Godley	1992-09-16			unknow
27	New Zealand	Southern	New Zealand	Franz Josef	RGI60-18.02	33,11		water pocket	170,172	-43,443	Waiho	1993-09			sub-/
28	New Zealand	Southern	New Zealand	Franz Josef	RGI60-18.02	33,11		unknown	170,172	-43,443	Waiho	1994-01			unknow
29	New Zealand	Southern	New Zealand	Franz Josef	RGI60-18.02	33,11		water pocket	170,172	-43,443	Waiho	1995-12-13			sub-/
30	New Zealand	Southern	New Zealand	Franz Josef	RGI60-18.02	33,11		water pocket	170,172	-43,443	Waiho	1997-05			sub-/
31	New Zealand	Southern	New Zealand	Franz Josef	RGI60-18.02	33,11		water pocket	170,172	-43,443	Waiho	1998-02			sub-/
32	New Zealand	Southern	New Zealand	Franz Josef	RGI60-18.02	33,11		unknown	170,172	-43,443	Waiho	1998-03			unknow
33	New Zealand	Southern	New Zealand	Franz Josef	RGI60-18.02	33,11		supraglacial	170,172	-43,443	Waiho	2003-02-14	2003-02-14	2003-03-05	unknow
34	New Zealand	Southern	New Zealand	Fox Glacier	RGI60-18.02	34,72		supraglacial	170,087	-43,501	Fox	2007-01-12			unknow

Screenshot of adjusted database file.

R2C8: Fields from reported_impacts to reported_fatalities include letters (u/x/a) and figures. It needs to be transcribed in the text. It is also not the best idea to use both character and numeric data in one filed.

R2A8: We will add this information in L159: *"If available, we also documented the number of damaged features of each category. Where information on GLOF impacts was vague, we distinguished between features that were damaged (x) or only affected (a) without structural damage, for example by covering a road with debris. When damage was reported without information on the affected features, the cases are marked with a 'u' (unknown) in the reported impacts parameter."*

R2C9: What is a location identifier in the base?

R2A9: We are unsure which topic or text passage this comment refers to.

R2C10: It would be useful to have information on total number of fatalities, destroyed buildings etc. (globally and regionally)

R2A10: We will add to our manuscripts (L241): *"According to our database, 44 GLOFs have killed at least 3,636 people. Most fatalities (n = 3,093) were reported in HMA; Iceland only had few (n = 7) and Scandinavia and Greenland had no reported fatalities. We note that quantifying the absolute amount of damage and the absolute number of fatalities from individual GLOFs can be prone to both over- and underestimations. For example, GLOFs may coincide with monsoonal flash floods (Allen et al., 2016), and it remains difficult to distinguish the contribution of either type of flooding to observed damage. Landslides from undercut hillslopes may occur with a time lag to the outburst flood (Cook et al., 2018), so these damages may not be included in the initial estimate of damages. Many references therefore resorted to reporting only, if at all, the overall presence or absence of losses and damages."*

We will also add more information on regional differences in GLOF impacts to the manuscript as follows: *(L241-249): "Flood damages are mentioned for 404 GLOFs. Almost half of the GLOFs with reported damages were associated with ice-dammed lakes (49%), followed by moraine-dammed lakes (20%), and water pockets (17%) (**Fig. 8**). (…) The majority of GLOFs with reported damages occurred in HMA (34%), the European Alps (27%), and NW North America (22%). Hardly any societal impacts from GLOFs were reported in Greenland according to our database. (…) The most commonly reported impacts were destroyed bridges (n = 248), economic losses (n = 127), and damaged or debris covered roads (n = 104). (…) High Mountain Asia had at least 122 destroyed bridges, about half of the bridges that were globally reported to be destroyed by GLOFs. (…) Most GLOFs that caused economic losses or damage to bridges, buildings and roads, originated from ice-dammed lakes (**Fig. 8**). (…) In HMA, Scandinavia, Iceland, the Andes, and the European Alps, economic losses most commonly include agricultural damage, for instance the loss of crops, farmland, and cattle. In contrast, in the Pacific NW, economic losses mainly affect the touristic sector, for instance flooding or destruction of campgrounds. (…) Our data contain 44 deadly GLOFs, 29 of them with a reported number of victims, six known to have killed more than 100 people each. Many sources remained vague or offered estimates about the number of fatalities (e.g. Fushimi, 1985; Fort, 2015), mostly due to missing information. At least 33 GLOFs caused damage to utilities, for example by cutting off or shortening the local water supply, destroying pipes, or causing damage to hydropower plants. Most of the GLOFs that caused damage to utilities originated from moraine-dammed lakes (**Fig. 8**)"*

References:

Allen, S. K., Rastner, P., Arora, M., Huggel, C., and Stoffel, M.: Lake outburst and debris flow disaster at Kedarnath, June 2013: hydrometeorological triggering and topographic predisposition, Landslides, 13, 1479–1491, https://doi.org/10.1007/s10346-015-0584-3, 2016.

Cook, K. L., Andermann, C., Gimbert, F., Adhikari, B. R., and Hovius, N.: Glacial lake outburst floods as drivers of fluvial erosion in the Himalaya, Science, 362, 53–57, https://doi.org/10.1126/science.aat4981, 2018.

Emmer, A.: GLOFs in the WOS: bibliometrics, geographies and global trends of research on glacial lake outburst floods (Web of Science, 1979–2016), Nat. Hazards Earth Syst. Sci., 18, 813–827, https://doi.org/10.5194/nhess-18-813-2018, 2018.

Emmer, A., Allen, S. K., Carey, M., Frey, H., Huggel, C., Korup, O., Mergili, M., Sattar, A., Veh, G., Chen, T. Y., Cook, S. J., Correas-Gonzalez, M., Das, S., Diaz Moreno, A., Drenkhan, F., Fischer, M., Immerzeel, W. W., Izagirre, E., Joshi, R. C., Kougkoulos, I., Kuyakanon Knapp, R., Li, D., Majeed, U., Matti, S., Moulton, H., Nick, F., Piroton, V., Rashid, I., Reza, M., Ribeiro de Figueiredo, A., Riveros, C., Shrestha, F., Shrestha, M., Steiner, J., Walker-Crawford, N., Wood, J. L., and Yde, J. C.: Progress and challenges in glacial lake outburst flood research (2017–2021): a research community perspective, Nat. Hazards Earth Syst. Sci., 22, 3041–3061, https://doi.org/10.5194/nhess-22-3041-2022, 2022.