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Comment

Interactive comment on “Moraine-dammed lake failures in Patagonia and assessment of outburst susceptibility in the Baker Basin” by P. Iribarren Anacona et al.

Anonymous Referee #3

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This is an interesting review of GLOFs and lake failures in a region that has not had such a review before. I have read the reviews of the other referees and agree with much that they have said. I would add a few short points, however.

It is clear that lake size/area is not related to hydrostatic pressure. This is only concerned with water depth, and the authors have not made the case that water depth over moraines is a precursor for moraine failure. The moraine dams rise above the lake level and water depth decreases towards the moraine location so water depth is never high over most large moraines in Patagonia. This is a crucial point to address.

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I would also have liked to see some more discussion on lake depth because this may be important. There are some data from Warren (1991); Warren et al (2001) Aniya (1999) and Harrison et al (2007) I think this should be reported. Increasing lake size may play a role in increasing the likelihood of a rock or ice fall into the lake, but it may also serve to damp down any impact. So it is not clear that lake size can uncritically be used to assess failure. More discussion of this point needs to be made.

Likely failure is also affected by ice content in moraines, and as far as I know there are no ice-cored moraines in Northern Patagonia (there may be some near the SPI).

Overall, I would say that the paper can be published with moderate revision.

Interactive comment on Nat. Hazards Earth Syst. Sci. Discuss., 2, 4765, 2014.

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