Hydrol. Earth Syst. Sci. Discuss., https://doi.org/10.5194/hess-2018-167-RC1, 2018 © Author(s) 2018. This work is distributed under the Creative Commons Attribution 4.0 License.



## Interactive comment on "Recent evolution and associated hydrological dynamics of a vanishing Tropical Andean glacier: Glaciar de Conejeras, Colombia" by E. Morán-Tejeda et al.

## **Anonymous Referee #1**

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This paper presented glacier dynamics of a Colombian glacier, which is close to extinction. In general, the results are well presented and the paper, of course, fits well into a series of articles published recently (e.g. Rabatel et al. 2017). I do recommend publication of this paper after some minor revisions, such as adding a few references. I believe that proof reading by a native English speaker would be an advantage.

It is notable that the authors tried to give some attention to volcanic activities; more or less similar to that occurring in Mexico (even though not exactly belong to "tropical" glaciers).

A 57% reduction in the last three decades is comparable to the Peruvian and Bolivian

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glaciers in the eastern cordilleras. However, as the authors mentioned, it is highly dependent on size and altitude (and many more).

References Granados, H.D., Miranda, P.J., Nunez, G.C., Alzate, B.P., Mothes, P., Roa, H.M., Correa, B.E.C., Ramos, J.C., 2015. Hazards at ice-clad volcanoes: phenomena, processes, and example from Mexico, Colombia, Ecuador, and Chile. In: Haeberli, W., Whiteman, C., Shroder, J.F. (Eds.), Chapter 17, Snow and Ice-related Hazards. Risks and Disasters, pp. 607-646

Morris, J.N., Poole, A.J., Klein, A.G., 2006. Retreat of tropical glaciers in Colombia and Venezuela from 1984 to 2004 as measured from ASTER and Landsat images. In: Proceedings of the 63rd Eastern Snow Conference, Newark, Delaware, USA, 181-191.

Rekowsky, I.C., 2016. Variações de área das geleiras da Colômbia e da Venezuela entre 1985e 2015, com dados de sensoriamento. MSc Dissertation. Federal University of Rio Grande do Sul (UFRGS), Brazil.

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