

I do not think the increase in discharge due to increased snow melt (processes) is a major conclusion. Suggesting that it partially offsets reductions in discharge is misleading. It seems that if you added up the increases during colder parts of the year with the decreases during warmer parts, they would equal 0 and changes in snow melt (processes) would not have much impact?

Abstract: This is still confusing to understand what was done in this study. I highly recommend using the term snowmelt throughout the paper as a simple and consistent replacement for “snow processes” or “snow dynamics”.

L1-6: “... how temperature-driven changes in evaporation and snow processes influence the discharge”. Fourth sentence: “... observed changes could be explained by the changes induced by snow, evaporation and precipitation”. I would try to make these sentences consistent. Mention specifically in the first sentence which parameters influenced discharge. Further, there are many snow processes, I would just mention the ones in your model that effect discharge (i.e. snowmelt (including glacier melt)). I am confused with attributing some changes in discharge to snow and precipitation. Snow is precipitation, so is it included in precipitation? Or do you mean liquid precipitation?

L6: Changes in precipitation explained more of observed changes in discharge than changes in snow or evaporation, but in the title and throughout the paper you focus on evaporation and snow processes. Why are changes in precipitation left out of the title and not mentioned throughout the paper when changes in snow processes and evaporation are?

L7: Higher temperatures led to earlier snowmelt (faster winter snowmelt rates) and less available snowpack to melt later in spring, when it historically melts.

L16: Need a reference for “potentially higher snowmelt rates”. Perhaps you are talking about an increase in winter snowmelt rates? (“Melt trends portend widespread declines in snow water resources”)

L17-18: This new sentence comes off out of place without additional context.

L20: “Water towers” were defined earlier “Mountains of the world, water towers for humanity: Typology, mapping, and global significance”. Also, add “to” between important and have.

L26: Wouldn't only melted snow affect discharge?

L50: I am more of a fan of using the term “snowmelt” compared to “snow processes”

L64: Delete “upstream of the basin”.

L149-150: How do you separate temperature effects on ET or snow processes? Wouldn't changing the temperature affect both processes at the same time? Are you only changing temperature during the winter/summer and attributing that to only affecting snow/ET?

L244: What do you mean by snow and evaporation are threshold processes?

L246: add “periods” between ‘the’ and ‘during’

L248: "Partially offset" seems like a stretch for the Jan-Feb period. The black line barely deviates from the orange line.

L266: Switch "changed" to "change"

L324: Can you differentiate between snow melt and ice melt?

L330-331: Can this be explained with your data? Yes, the blue line in Fig. 5a is often barely above the dashed black line, but I would not rely on it too much. This statement is misleading if you cannot differentiate between snow and glacier melt and presents a potential false hope.