

Point to point reply (in red) to T. Mölg

I would like to make a quick comment on the monsoon-mass balance relation, which the authors chose as one main theme (in particular, Section 5.1). In this regard, we presented a dedicated, glacier-wide study based on three years (Mölg et al., 2012), which the authors are using in their paper but not in the specific context of monsoon impacts on Zhadang Glacier (they only cite the more general (and point-study) of Zhang and co-workers). In addition, we recently extended this analysis to a decade (Mölg et al., 2014), which the authors might want to consider in their monsoon discussion.

Thanks for this constructive comment and providing your latest paper. A couple of sentence is added in the discussion section as:

“Mölg et al. (2012) analyzed the impact of ISM on Zhadang Glacier using their fully distributed SEB/mass balance model between 2009 and 2011 and concluded that the timing of monsoon onset leaves a clear footprint on the glacier via the albedo effect. Recently Mölg et al. (2014) extended this analysis at decadal scale and said that the intensity of ISM onset together with MLW dynamics are important in determining the annual mass balance of Zhadang Glacier. ”

Further, the first sentence in Section 5.1 is a clone of the first sentence in the introduction of Mölg et al. (2012). The authors should therefore put it in quotation marks, or (which I prefer) simply find their own wording. Not a big deal, but should be corrected.

I hope the new reference is helpful!

Done.

The sentence

“Changes in the Asian monsoon climate and associated glacier responses have become predominant topics of climate research in the High Mountain Asia (e.g., Mölg et al., 2012).”

is replaced with

“The impact of ISM has already been analyzed on Tibetan glaciers (e.g., Fujita and Ageta, 2000; Yang et al., 2011; Mölg et al., 2012 & 2014) but not well understood in the Himalaya.”

References

Fujita, K. and Ageta, Y.: Effect of summer accumulation on glacier mass balance on the Tibetan Plateau revealed by mass-balance model, *Journal of Glaciology*, 46, 153, 244-253, 2000.

Mölg, T., Maussion, F., Yang, W., and Scherer, D.: The footprint of Asian monsoon dynamics in the mass and energy balance of a Tibetan glacier, *The Cryosphere*, 6, 1445-1461, doi:10.5194/tc-6-1445-2012, 2012.

Mölg, T., Maussion, F., and Scherer, D.: Mid-latitude westerlies as a driver of glacier variability in monsoonal High Asia, *Nature Climate Change*, 4, 68-73, 2014