

Comments by A. Vieli:

p. 13 line 11 and elsewhere where units are given: I find this bracket around the '=' a bit odd but I know what it stands for. Why not say $\text{dflux} [\text{in } \text{m}^3\text{m}^{-1}\dots]$

Agreed and done.

p. 16 line 2 after appendix A, I would add a reference to Fig 13.

I referenced both Appendix A and B here. I was not exactly sure of the location because the page numbers and line # don't match my version of the manuscript.

Comments by A. Rowan:

P3, 43–45: the statement about the differing responses of Himalayan glaciers needs to be explained more clearly. As written it implies that their behaviour is somewhat random in response to similar trend in mass balance change, whereas advancing glaciers may be the result of surging, or this point could relate to those found in the Karakoram that are advancing due to increased winter snowfall and slightly positive mass balances. Reference to Gardelle et al., 2012, Nature Geosci; Bolch et al., 2012, Science; and Kaab et al., 2012, Nature, could be useful here to explain these differences.

It is worth noting many debris covered glaciers are still advancing or are stationary despite the negative trend in glacier mass balance across most of High Asia. 10 -50 % of glaciers have stationary or advancing termini in portions outside of the Karakoram.

Please see the box plots in Scherler et al., 2011a (Figures 1 and 2) and also the supplemental of Bolch et al., 2012 table S4. Debris is clearly effecting the terminal response of these glaciers and we do not have a full grasp on what is causing these differences from glacier to glacier. I think the paragraph is largely good as it stands, though I do add the Bolch and Kaab references as you suggest and highlight the importance of largely coherent surface lowering across the Himalaya.

In addition, I have the following minor remarks:

P. 3, L. 34: Please check if the reference should be Scherler et al. 2011b instead of 2001a. I added 2011b as well to this citation as 2011a does touch on this topic with figure 3a.

this was remedied.

P. 4, L. 82: Should be Rowan et al. (2015).

Corrected

P. 8, L. 174ff and especially in the Discussion section (P. 25, L. 606ff):
Please add also proglacial lakes. Debris-covered glaciers are prone for the development not only of supraglacial lakes but also proglacial lakes (e.g. Imja lake developed from expanding supraglacial lakes) which enhances melt and lead to stronger recession/mass loss

This was added.

References:

Conway and Rasmussen and Kayashta et al.: Please provide correct and consistent references (IAHS Publication 264) and include page ranges.

This was changed.

Table 1 and elsewhere:

I would find "hd" more intuitive for "debris thickness" than "h"

'h' is for the 'characteristic debris thickness' and 'h_debris' is for 'debris thickness.' This edit would require changing a number of figures. We also prefer h* because it is consistent with other drafts ours that will soon be submitted.*

Please add the information on P. 11, L. 232ff that debris could also stem from the lateral moraines especially when the glacier surface lowers (see e.g. Hambrey et al. 2008, QSR).

It is fully fine that you do not consider but just for completeness and because debris from moraines can be of higher importance with ongoing glacier mass loss.

This was added.