December 7, 2015

Please find below a summary of changes made in from the latest (November, 2015) review by our editor, Dr. Vieli. Changes are marked in ***bold italics.*** We again wish to express our sincere thanks for all the edits and constructive comments we have received over the course of the peer-review process.

Sincerely,

Matthew Chernos, M. Koppes, and R.D. Moore

Edits:

Line 25: '…within THIS decade…???
"within ten years"

Line 87: not sure if the term 'calving systems' exists and is clear, I would rewrite this as 'In systems of calving glaciers…' or 'In calving glacier systems…'
"The long-term retreat of calving glaciers has been found to follow a step-like pattern in which periods of stability are followed by a dramatic retreat, "

Line 92/93: 'terminus is already used in line above, replace with 'front'
" In many cases, flotation is achieved through thinning near the terminus due to successive years of high melt rates. Flotation can also be achieved by frontal retreat into deeper parts of a proglacial lake or fjord. "

Line 94: delete 'terminus', retreat implicitly refers to terminus (and 'terminus is used in line above)
see above.

Line 95 to 99: the authors may have misunderstood the request from the editor to explain the dynamical behaviour related to bed topography better. I think this sentence on long-term evolution related to erosion can be deleted.
OK — have removed.

Line 114-119: i think 'below the ELA' is currently in wrong place, should it not be: 'We use 'surface melt' to refer to….through melting below the ELA,…'
"***Here we define `ablation' as the process by which ice is lost from the glacier, both by calving and surface melt below the ELA (Cogley et al., 2011), and do not include snow and firn losses. We use `surface melt' to refer to all net ablation of glacial ice through melting at the surface below the ELA, and assume ablation of snow is not significant, and is not counted."***

line 297: I would add (K) in this line after 'shortwave'.
have added (K) here, and removed in line 301. ("…where S and D are the direct and diffuse components, respectively, of incident shortwave

radiation , and α is the albedo of ice."

Line 553: '….ablation volume BELOW THE ELA of …'

added.

Line 597: slightly awkward formulation: do you mean '…was additionally run with a constant…'

"In order to test the sensitivity of our sensible heat flux calculations using flow path lengths, two additional model runs were performed: one with a constant temperature lapse rate (–6 °C km^{-1}), and another with a spatially constant windspeed (taken from Glacier AWS)."

Line 656: I struggle to understand this sentence, '… but within one standard deviation of the mean(…), while the standard deviation was 0.018…'. what does the second 'standard variation' refer to? std of what?

"Surface melt in 2013 was above the 30-year average, but within one standard deviation of the mean ($\bar{x}$ = 0.107 km^3a^{-1}, s = 0.018 km^3a^{-1})."

Line 762: '…negligible annual VALUE to …'.

"…almost negligible annual value to a flux…"

Line 792: delete the 'are' before 'have been'.

"done."

Line 830: '…is calculated as 268… WHICH IS within…'

"…the modelled calving rate (U_C) for Bridge Glacier is calculated as 268 ma^{-1}, which is within 13 ma^{-1} of the rate we observed in 2013."

line 904/905: '… glaciers's annual ablation BELOW THE ELA'.

"…the calving flux only accounted for between 10 and 25% of the glacier's annual ablation below the ELA."

Figure 5 caption: '…map distance per year' : do you mean 'velocity or displacement in m/yr at scale of map'?

"velocity in m/r=yr at scale of map".