

We thank the Editor for posting the manuscript “A comparison of different methods of evaluating glacier response characteristics: application to glacier AX010, Nepal Himalaya” for open discussions on TCD, and reviewers/commentators for their comments and suggestions. The reviewers make many good points and brought to our attention some major omissions on our part. Noting the following key points, we wish to withdraw this manuscript from further consideration for *The Cryosphere*:

- i. This manuscript was essentially intended as a review paper that compiles some of the available analytical/numerical methods to estimate the glacier response time. The physics of each method is self explained by the physical parameters appearing in the corresponding equations (and details can always be found in the respective references within the manuscript). We have attempted to discuss the different methods and assess their strengths, weaknesses, physical basis, and compare the response time estimates for the geometry of a real glacier, to help summarize and sort out what can be a confusing array of estimates and options in the glaciological literature. However, we completely overlooked a key paper by Leysinger Vieli and Gudmundsson which has this express purpose. Furthermore the study by Leysinger Vieli and Gudmundsson admittedly does this evaluation in more depth than our study, employing a more sophisticated and appropriate numerical model for glacier dynamics. We are embarrassed to have been unaware of this prior study, but are delighted to discover it.
  
- ii. The second part of this manuscript comprises new ideas: our attempt to illustrate the ambiguities associated with the concept of glacier reaction time and to introduce a new, formal method of estimating or thinking about glacier reaction time, based on idealized (sinusoidal) climate forcing. Judging from the reviews, we were apparently unsuccessful in our attempt to clarify and simplify the idea of glacier reaction time. We think our idea as merit, but we admit the fact that the estimation of reaction time for our field site is based on the coarse sampling of length records (9 data points for 26 years), and much better records are available for testing and developing this idea. Furthermore, the numerical model that we employ to test the idea is too simple and

coarse to properly address this question – at minimum, a moving grid model that follows the precise terminus position is needed to tackle this properly.

We have some ideas to explore this further but will regroup and approach this question from a more sophisticated framework in future work.

Many thanks,

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