We thank Surendra Adhikari for his positive and careful review. We will consider very carefully all his small comments and suggestions if we are allowed to revise the paper while we address some main points below.

We would like to follow your suggested layout but we would argue that the present section 5 presents an alternative derivation of the linearized equation for the volume response time as well as relating our model to Jóhannesson's. The suggested reorganization would help us address the contradiction he notes at 253.3.

With reference to Adhikari's comment on the definition of the volume response time (his 2nd paragraph), we consider a step change in the mass balance so that the glacier volume changes asymptotically to a new equilibrium. Our volume response time, τ, is not the time the glacier takes to get to equilibrium but is the e-folding time. We will clarify this point.

With reference to your comments on Eq. (13), which shows the model equation written in conventional linear response form involving a time scale, we want to derive the response time for the full nonlinear model Eq. (11) and we do this using the device of the new variable Y. We think the full equation is of interest. Note first that the geometric factor that determines how the volume response time depends on glacier size is the depth-range ratio, D_0/R_0, which is the middle term of the linearized response time in Eq. (15). D_0/R_0 scales as $A_0^{\gamma-1-\eta}$ (page 257.23) and this index turns up in the index of the last term of the full response time in Eq. (14) as γ-1-η/γ. This index governs how the response time changes with different glacier sizes (see text on page 257 and Table 5). We will clarify this link in any paper revision. Note that the simpler form of the model equation suggested by Adhikari is the heuristic model used by Wigley and Raper (1995).

Re: 254.22. We think that non-linear regression of altitude range on area gives a better fit to the larger glaciers because the root-mean-square (RMS) errors are given their full weight. When logarithms are taken the weights are reduced by the corresponding orders of magnitude. The influence of any observation on the regression line is related to the "distance" between the observation and the regression line. Taking logarithms will disproportionately reduce the "distances" for cases with the largest values. This might allow the (numerous) very small glaciers to have undue influence in determining the position of the best-fit line, to the detriment of its fit to the (fewer) larger glaciers. The effect is exacerbated by the uneven distribution of the observations. If the fit of the regression to the observations were perfect, with zero RMS error, the fit using both methods would be the same.

Wigley, T.M.L. and S.C.B. Raper, 1995. A heuristic model for sea level rise due to the melting of small glaciers. Geophys. Res. Lett. 22(10),2749-2752.