

Interactive comment on “Comment on “Using multiple observationally-based constraints to estimate climate sensitivity” by J. D. Annan and J. C. Hargreaves, Geophys. Res. Lett., 33, L06704, doi:10.1029/2005GL025259, 2006” by S. V. Henriksson et al.

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Our sensitivity analysis in the previous comment examined the quantitative effect of some of the assumptions in AH06 on its main result. We wish to point out here that Annan in his comments has so far not commented on the issue of dependence between ocean heat uptake in the 20th century and volcanic cooling constraints nor on the issue of the volcanic cooling constraint completely neglecting radiative forcing uncertainty.

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Therefore we see our first sensitivity calculation erasing the volcanic cooling constraint to be a highly relevant quantitative test illustrating rather the overconfidence than the robustness of the main result of AH06.

Combining information of present-day climate with information of the LGM involves more subjective choices than combining the 20th century warming and volcanic cooling constraints. In our second sensitivity calculation changing the LGM constraint we have simply shown that the end result depends largely on the subjective choices made. While the derivation of the LGM constraint in AH06 is done citing peer-reviewed studies, the mean, shape and width of pdfs in the intermediate stages of the derivation are chosen subjectively without using any systematic methodology.

We have not at any stage stated an opinion saying that subsequent research reinforces the result of AH06.

Interactive comment on Clim. Past Discuss., 5, 2343, 2009.

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