

Comparison of equilibrium climate sensitivity estimates from slab ocean, 150-year, and longer simulations

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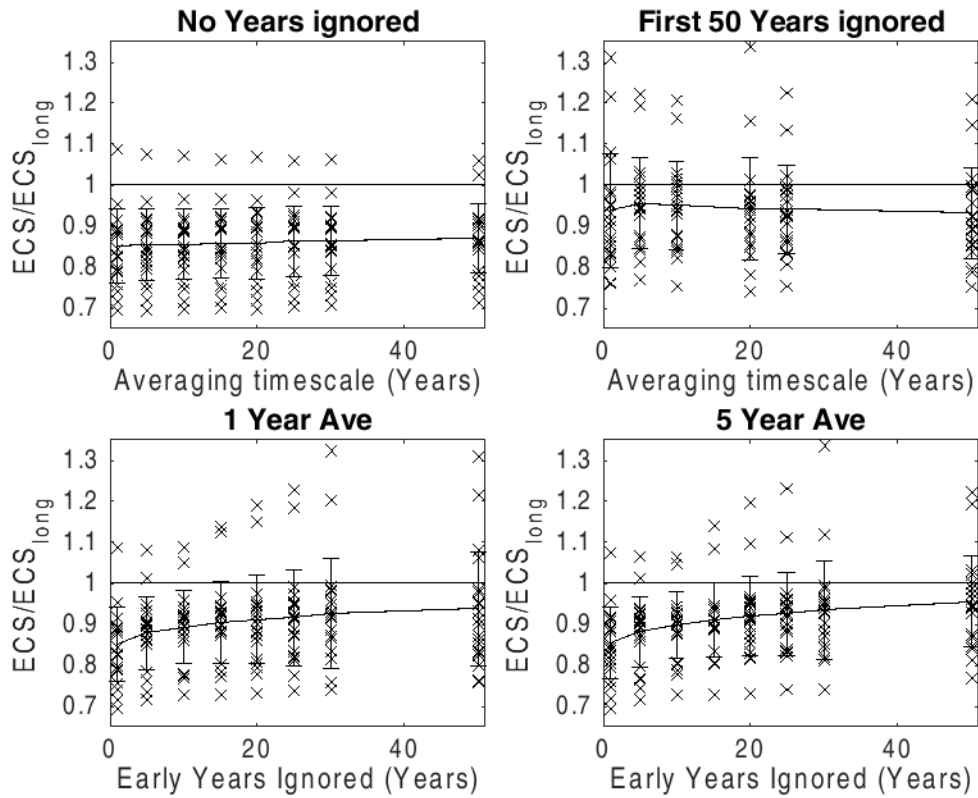
Introduction

Text S1 provides a description of the sensitivity studies conducted with different averaging bins and initial years ignored in the Equilibrium Climate Sensitivity (ECS) estimation. Figure S1 shows the results of these tests in graphical form.

Text S1

We conducted a suite of sensitivity studies varying both the averaging windows from 1 to 50 years, and length of initial simulation ignored from 0 to 50 years (Figure S1). We found little advantage to increasing the averaging window without ignoring an initial segment (Figure S1; Upper Left Panel). In contrast we found that including an averaging window of 5 years filtered out most of the interannual variability when the first 50 years of simulation was excluded. Further, we found that fidelity declined slightly as the averaging window increased beyond 5 years (Figure S1, Upper Right Panel). We attribute this slight loss in fidelity as an effective decrease in the span along the x-axis from 95 years with the 5-year window to 50 years with the 50-year window. Overall, we found that analysis of 150-year simulation results largely

converged with analysis of 300-year simulation when the first 50 years were excluded both with an averaging window of 1 year (Figure S1, Lower Left Panel) slightly more so with an averaging window of 5 years (Figure S1, Lower Right Panel)



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Figure S1: Comparison of the ratio of each ECS to the long ECS for each model across the axis of averaging timescale from 1 to 50 years ignoring no early years (upper left), and ignoring the first 50 years (upper right), and across number of early years ignored with an averaging timescale of 1 year (lower left) and 5 years (lower right).