

Interactive comment on “The influence of internal variability on Earth’s energy balance framework and implications for estimating climate sensitivity” by Andrew E. Dessler et al.

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The main question in my mind is whether GCM’s are skillful for the kind of tropical temperatures (500 hPa) being used here to correlate with energy imbalances.

A recent paper (Zhoa et al 2016) shows that tropical convection sub grid model parameters have a strong influence on model ECS and that there are no obvious constraints to set those parameters. Another shows that diurnal cloudiness errors in models have a significant influence on insolation at the surface. There are also recent papers showing that adding convective aggregation to a model significantly reduces ECS. And yet another showing that some of these changes affect the vertical temperature gradient

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in the tropics.

GCM's are rather good at predicting Rossby waves. It would seem however that other measures of skill, particularly in the tropics are not as firmly established.

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