

# Discussion: is the paleo climate pattern effect a 'red herring'?

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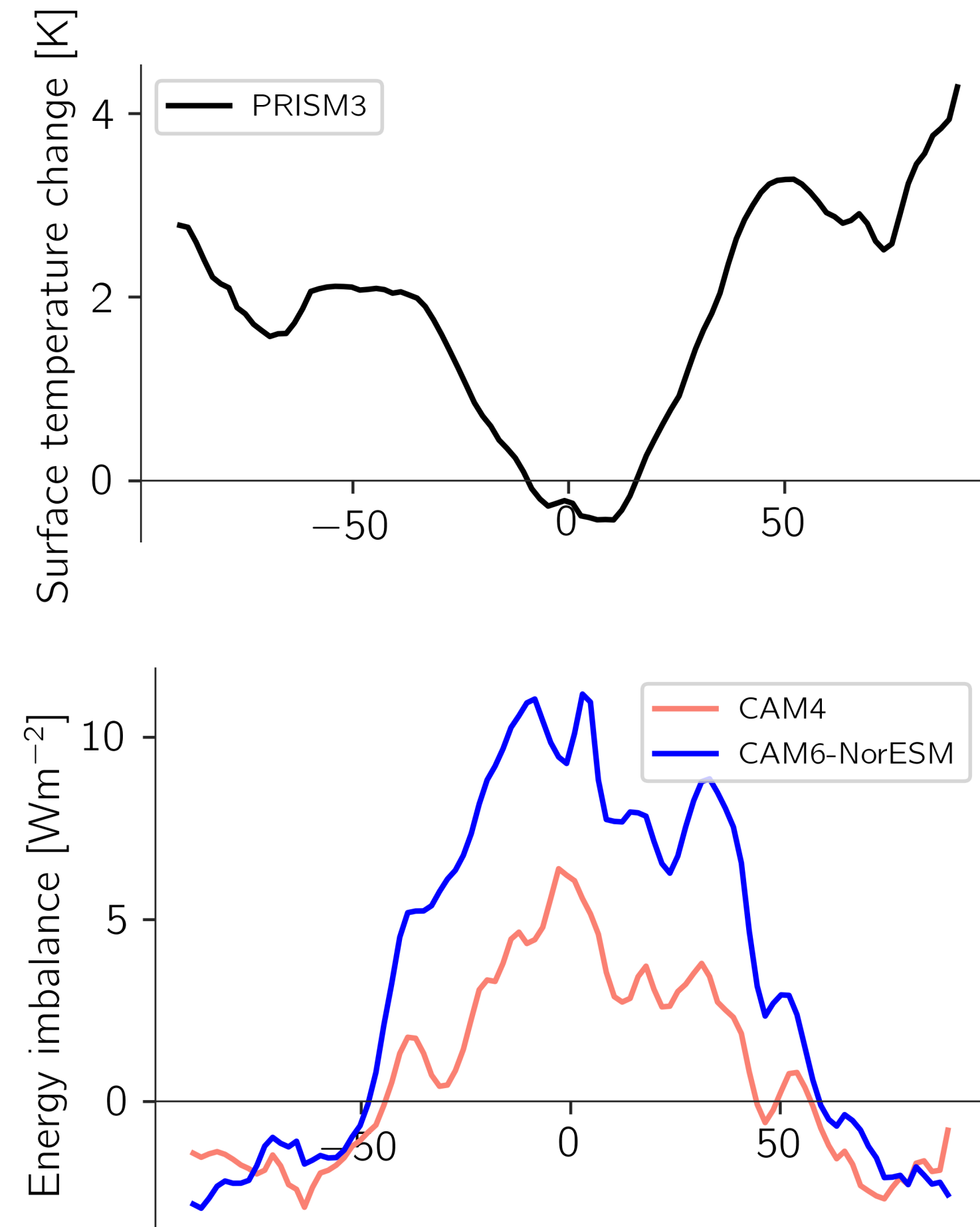
Models produce large pattern effects on Pliocene climate reconstructed SSTs, implying very large model-warming, and hence, very low climate sensitivity

But:

1. Reconstructed pattern could be wrong
2. Modelled feedback could be wrong

Or a combination of 1 and 2

*Newer Pliocene reconstructions show patterns that look more like climate models, but the underlying data-assimilation methods use modelled patterns*



- A common approach to estimate pattern effects is to prescribe SST in models, while keeping everything else constant
- Runs with two models on top of the PRISM3 Pliocene reconstruction results in positive radiation balance, despite global warming
- Global means are 1.9 and 5.5 Wm<sup>-2</sup> for the two models
- This extra warming adds on top of forcing from CO<sub>2</sub> to result in a high biased representation of the Pliocene
- In case of CAM6-NorESM the global warming is about 8 K
- If believed to be true, this would imply Equilibrium Climate Sensitivity should be very small (1-2 K)

*A red herring is something which distracts from an important question*

