



## **Model cloud feedbacks and climate sensitivity: where do uncertainties come from ?**

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The radiative response of tropical clouds to global warming exhibits a large spread among climate models, and this constitutes a major source of uncertainty for climate sensitivity estimates. To better interpret the origin of that uncertainty, we analyze the sensitivity of the tropical cloud radiative forcing to a change in sea surface temperature that is simulated by 15 AR4 coupled models simulating climate change and current interannual variability. We show that it is in regimes of large-scale subsidence that the model results (1) differ the most in climate change and (2) disagree the most with observations in the current climate. This suggests that the simulation of the sensitivity of marine boundary layer clouds to changing environmental conditions constitutes, currently, the main source of uncertainty in tropical cloud feedbacks simulated by general circulation models.