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Stratosphere/troposphere coupling and surface climate

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The key role of stratospheric processes in surface climate change

In this lecture, I will review current ideas regarding the influence of stratospheric dynamical processes on surface climate. The talk will focus on the observational and model evidence that stratospheric processes have and will play a key role in climate change at Earth's surface. I will review the ability of current climate models (including those from CCMVal2 and CMIP5) to simulate observed stratospheric climate change. And I will argue that 1) stratospheric processes are likely to play a fundamental role in future surface climate change but that 2) the CMIP5 simulations do a relatively poor job of simulating observed stratospheric climate change.