

Virtual ACOM Seminar

Stratospheric aerosol geoengineering: understanding and reducing modeling uncertainties

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Date: Monday, April 11th, 2021, 3:30pm – 4:30pm

Link: <https://operations.ucar.edu/live-acom>

ABSTRACT

Past explosive volcanic eruptions have shown that large SO₂ injections in the stratosphere have a temporary cooling effect on our planet's temperatures. This has led some to propose artificial injections of SO₂ to ameliorate some of the effects of climate change, as a supplement to emission reduction. Numerous climate models have analyzed the potential impacts that this would have, finding some broad areas of agreement but also highlighting large inter-model differences from the simulation of the aerosol cloud downstream to regional climate changes. By looking at current multi-model intercomparisons as part of the Geoengineering Model Intercomparison Project (GeoMIP), and some large ensembles produced with CESM1 and CESM2 WACCM, some insight can be drawn about areas of future model improvements, and about how to interpret and communicate current results around Stratospheric aerosol geoengineering.