

# What We Know about Geoengineering from Climate Models (and What We Don't)



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### Abstract

The term “geoengineering” describes a set of technologies designed to deliberately offset some of the climate effects of anthropogenic CO<sub>2</sub> emissions. In this talk, I go through the results of climate model simulations of geoengineering. In particular, I focus on results from the Geoengineering Model Intercomparison Project (GeoMIP), a worldwide effort to coordinate climate model simulations of geoengineering across multiple models. There are many processes in the climate system that are well represented in climate models, giving us confidence that some of the conclusions one can make about the potential effects of geoengineering are likely valid, even if those models simulate geoengineering in a highly idealized way. However, there are a substantial number of uncertainties in whether these models can represent more complex processes, such as stratospheric circulation or aerosol microphysical growth, that severely limits the knowledge that can be gained from geoengineering simulations. I conclude with a discussion of some recent work that offers a path toward managing uncertainties in the climate response to geoengineering, which is a necessary step toward understanding what geoengineering can do and what it can't do.

Date: **Thursday, January 28, 2016**

Time: 3:15PM refreshments; 3:30PM seminar

**Mesa Lab Main Seminar Room 132**

Live chat: <http://www.fin.ucar.edu/it/mms/ml-live-chat1.htm>

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