

CGD SEMINAR



DATE: Tuesday, 7 November 2017

TIME: 11 a.m.

LOCATION: NCAR, 1850 Table Mesa Drive
Mesa Lab, Main Seminar Room

TITLE: Do we need large ensembles?

SPEAKER: Ben Sanderson, NCAR

ABSTRACT:

The prevalence of large initial condition ensembles of climate simulations has changed our understanding of climate projections over the last decade. Internal variability confounds our ability to be confident in observed and modeled trends from individual climate simulations and our capacity to estimate the feedback and response parameters of the real world. Yet, large ensembles are expensive and time-consuming to produce and there are many situations where large ensembles from a particular CMIP model variant are not available. In these cases, it is useful to consider what information can be extracted from a single model realization - can we predict the underlying forced trajectory of a climate simulation from a single case, and can we estimate the trend uncertainty? In this seminar, we outline a methodology for 'ensemble inflation', a technique which can isolate the relationship between input climate forcing and spatial patterns of model response. Using this technique, we can produce estimates of ensemble spread, alternative scenario realizations and single forcing responses. We consider the potential applications, and limitations of the technique for impact analysis and climate change detection and attribution.

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

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