



Climate and Energy Decision Making

Sponsored Seminar

Dr. Liz Moyer

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Presenting on:

“Capturing Climate Change for Policy Analysis”



April 9, 2012

12 noon

(Lunch served at 11:50 am)

129 Baker Conference Room
Department of Engineering and Public Policy

Seminar Abstract: Existing policy analysis tools used in the evaluation of the cost of climate change in U.S. regulatory law contain only primitive representations of the climate impacts being evaluated. A large part of the integrated assessment community is now moving to the opposite end of the spectrum of complexity of climate representation, merging economic models with full general circulation models (GCMs) of atmospheres and oceans, whose computational demands preclude sensitivity analysis. In order to both remove computational barriers and facilitate exploration of climate impacts, we have developed tools for statistical emulation of climate model output. We show that forecasts of annual mean climate, temperature and precipitation for arbitrary CO₂ trajectories can be reproduced to within model uncertainty with a simple function fit to a library of precomputed GCM runs. The results both enable a publicly available tool and suggest that extension to providing full conditional simulations of impact-relevant climate variables is a feasible near-term goal.

Speaker Bio: Liz Moyer is an assistant professor of atmospheric sciences at the University of Chicago and a co-director of U. Chicago's Center for Robust Decision-Making on Climate and Energy Policy (RDCEP), which has a central goal of producing open-source modeling tools for energy policy analysis. She divides her time between research on atmospheric water vapor (the largest single GHG), on climate dynamics, and on energy policy. She received a PhD in Planetary Science from Caltech, with an intervening year working on integrated assessment models of the economic effects of global change. During a postdoc at Harvard University she designed and built instrumentation for atmospheric measurements that flew on NASA's high-altitude research aircraft. She teaches classes in atmospheric thermodynamics and energy tech.

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