

Simulating the Spatial-Temporal Patterns of Anthropogenic Climate Change A Workshop in the Bridging Disciplines, Bridging Scale Series

[Los Alamos Institute for Advanced Studies](#)
[LANL Center for Nonlinear Studies](#)
[New Mexico EPSCoR](#)

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Dates: July 20-22 in Santa Fe Room at [La Fonda Hotel](#) in Santa Fe, NM

Over the last several decades climate system models have been the primary tool used to understand the environmental impacts of anthropogenic climate change. Now these same models are faced with a new and substantially more complicated mission: to provide information of sufficient spatial and temporal resolution to support the wide spectrum of policy initiatives that will be developed to address anthropogenic climate change at the local, regional and national scale. This workshop will focus on the challenge of providing policy-relevant knowledge of anthropogenic climate change through numerical simulation.

Different methodologies are being advanced to obtain the requisite regional climate information needed to develop and evaluate policy alternatives: dynamic downscaling with limited-area simulations, empirical statistical downscaling, quasi-uniform global climate modeling, and variable-resolution global climate modeling. During the workshop, we will evaluate each approach in terms of its current ability to “add value” to the regional climate change knowledge base. In particular, we will examine the current challenges preventing the method from reaching its full potential as well as the future outlook for the method’s ability to contribute to regional climate change science. Moreover, we will explore the characterization of uncertainty in regional climate change projections. In order to focus the discussion, we will emphasize applications for climate change impacts on water resources over North America.

Two major outcomes of this workshop are expected. First, the workshop findings will be summarized in a white paper and presented to the DOE Climate Change Prediction Program for consideration in future program development activities. Second, the workshop white paper will be expanded into a review article discussing the merits of the various approaches in simulating the regional spatial-temporal patterns of anthropogenic climate change.

Funding is in place to conduct workshops in the Bridging Disciplines, Bridging Scales Series once per year for the next five years. Over the duration of the activity, we hope to build connections between regional climate change science and systems closely linked to socio-economic function, such as water availability, ecosystem services, and energy production.

Travel funds are available. Please contact [T. Ringler](#) or [S. Rauscher](#) for details.