

The following lecture (tomorrow) is part of the 2009 Statistical Sciences Seminar Series (CCS-6).

Speaker: Stephan R. Sain, Geophysical Statistics Project, National Center for Atmospheric Research

Date: Wednesday, January 21

Time: 10-11 a.m.

Location: San Ildefonso Room, Research Library Study Center

Title: A Spatial Analysis of Regional Climate Model Ensembles

Abstract:

The North American Regional Climate Change Assessment Program (NARCCAP) seeks to examine the uncertainty in the output of regional climate models and projections of future climate and climate change. At the heart of the program is an ambitious experiment that seeks to use a number of regional climate models (RCMs) with boundary conditions supplied by different atmosphere-ocean general circulation models (GCMs) to produce a wide range of model output over North America. Our goal within this program is to develop statistical methodology to analyze this model output and assess and quantify the sources of uncertainty. To that end, we are developing a Bayesian hierarchical framework that is based upon a multivariate spatial model. This allows us to capture the complex distribution of the spatial fields produced by these regional climate models. Case studies will be presented based on an ensemble of regional climate model output over the western United States as well as an initial analysis of NCEP-driven regional model output associated with NARCCAP.