Presented By:
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Environmental Engineering
Seminar Series

Friday, May 30th 2014
McDonnell Douglas Auditorium (MDEA)
1:30PM-2:20PM

Developing a Physical Understanding of Regional Climate Change

I will present results from an ongoing study of climate change in the Los Angeles region. Using a combination of dynamical and statistical downscaling techniques, the region's climate is projected under "mitigation" and "business-as-usual" forcing scenarios. Two time slices are examined, mid-21st century and end-of century. All global climate models associated with the CMIP5 archive are downscaled. The project is an opportunity to address a number of general questions related to the science of climate change at the regional scale.

These include: Can regional climate projections be trusted, and what information about regional scale change really is latent in the GCM projections? How can one downscale multiple models and multiple time slices efficiently so as to have conventional estimates of ensemble-mean outcomes and associated uncertainties? Given the generally higher levels of natural variability at the regional scale, how significant is climate change at the scales where climate change adaptation actually occurs?
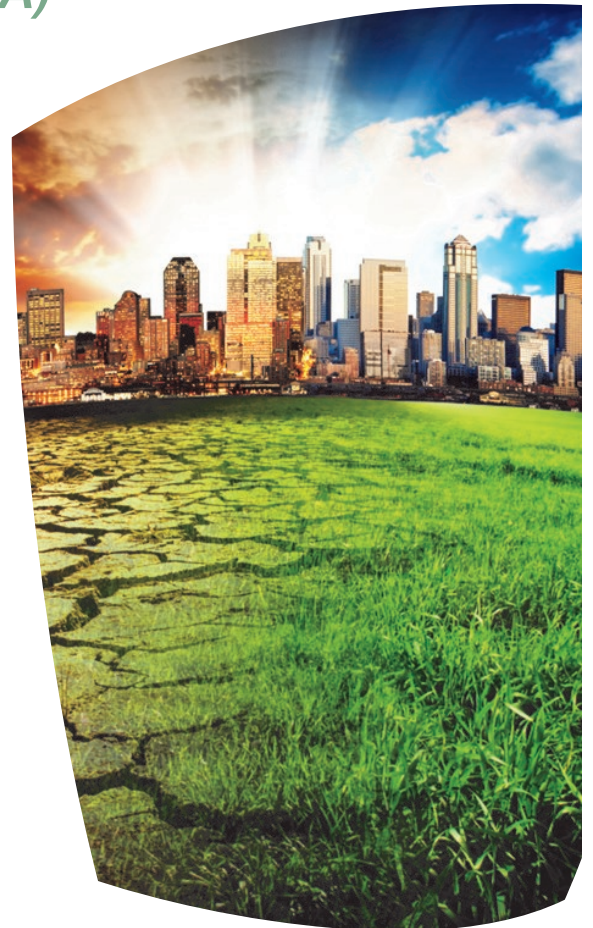
Speaker Bio
Alex Hall studies the climate system from both regional and global perspectives. He has experience in multi-model analysis of climate simulations, and comparing output from these experiments to *in situ* and remote sensing data. At the global scale, he studies processes determining the climate system's response to increases in greenhouse gases. At the regional scale, he has been active in the development and integration of regional climate models. He uses these simulations to examine mesoscale climate dynamics and interactions among earth-system components that are crucial for simulating and understanding regional climate but are largely unrepresented in current global climate models. This research also has applications in the areas of climate impacts, water resources, renewable energy, and conservation.