



Date:

Thursday, March 25, 2010

Time:

8:30 a.m. – 9:00 a.m.

Presenter:

“Observations of Recent Climate Change Across Wisconsin”

Christopher Kucharik
Professor, University of Wisconsin-Madison

Trends in meteorological and ecological variables were calculated across the state of Wisconsin from 1950-2006 to quantify recent patterns of climate change. In summary, annual average nighttime low temperatures have increased by 0.6 to 2.2°C, whereas the annual average daytime high temperatures have warmed by 0.3 to 0.6°C. Annual average precipitation has increased by 50-100 mm in the central and southern portions of the state – about a 10-15% increase, while precipitation across the far northern portion of the state appears to have declined by 20-60 mm since 1950, with the most pronounced decrease occurring during summer. On a seasonal basis, warming temperatures are more pronounced during winter and springtime, and nighttime temperatures are warming faster than daytime high temperatures. Some cooling trends in daytime high temperatures were observed during late summer and fall, particularly in the northeast and far southwest portions of the state. We calculated that the length of the growing season has increased by 5 to 20 days, with the greatest change in the central and northern part of Wisconsin. The annual number of days each year with low temperatures less than 0°F (-17.8°C) has diminished substantially, while the number of days each year with highs greater than 90°F (32.2°C) has remained relatively constant. A slight shift northward of the ecological “Tension Zone” was also documented. This study supports the idea that regional studies of climate change are needed to best understand how adaptation may be necessary in different localized areas.

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Presenter Biography

Dr. Chris Kucharik

Dr. Chris Kucharik is an Assistant Professor at UW-Madison in the Department of Agronomy and The Nelson Institute Center for Sustainability and the Global Environment. He is a faculty affiliate with the Agroecology program, the Department of Atmospheric and Oceanic Sciences, and Limnology and Marine Sciences. He previously earned a B.S. (1992) and a Ph.D. (1997) in Atmospheric and Oceanic Sciences from UW-Madison. His work focuses on integrating field observations and numerical models of natural and managed ecosystems to better understand the influence of changing climate and land management on ecosystem services. His research has been supported previously by a variety of private interests and federal programs, including NASA, the U.S. Dept. of Energy, Madison Gas and Electric, S.C. Johnson Inc., and Wisconsin Focus on Energy. He has been instrumental in documenting recent climate change across Wisconsin as well as the carbon sequestration potential associated with improved agricultural land management. He recently served on an Agriculture and Forestry subcommittee for Governor Doyle's Task Force on Global Warming, is a member of the Science Council for the Wisconsin Initiative on Climate Change Impacts (WICCI), and is part of the Great Lakes Bioenergy Research Center (GLBRC) – focusing on sustainability issues related to bioenergy production.