

Plenary and lunch: Michigan's changing climate

- [Dr. Julie Winkler](#), Geography, MSU
- [Dr. Jeff Andresen](#), Geography, MSU

SESSION ABSTRACT

Global average temperatures have risen approximately 1.5°F since 1850. Mean temperatures in the Great Lakes region have also risen, but the changes are strongly seasonal, as much of the recent warming in our region has occurred at night and during the winter season with little or no change in other seasons. Annual precipitation totals in Michigan rose steadily since the 1930' s but have leveled off during the past decade. Ice cover amount and duration in the region have decreased in recent decades and the seasonal spring warm-up is occurring earlier. Climate theory and recent research results strongly suggest that global temperatures in the future will rise due to increasing atmospheric trace gas emissions. In the Great Lakes region, the majority of current future climate projections suggest warmer and possibly wetter conditions in the future. This presentation will cover some of the knowns and unknowns regarding climate change in our region as well as some possible impacts.

PRESENTER BIOSKETCHES

Dr. Julie Winkler

Julie Winkler is a professor of Geography at Michigan State University. She received a Bachelor of Science degree in Geography from the University of North Dakota, and a M.A. and Ph.D. in Geography both from the University of Minnesota. Professor Winkler's teaching responsibilities include introductory meteorology, weather analysis and forecasting, advanced quantitative methods, and physical geography seminar. Professor Winkler is interested in many aspects of geography and climatology including synoptic and applied climatology, regional climate change, and climate scenario development. Current and past research topics include heavy precipitation, nocturnal thunderstorms, low-level wind maxima, airflow within midlatitude cyclones, wildland fire risk, and the possible impacts of potential future climate change. Much of Professor Winkler's research has focused on the Central Plains and Great Lakes region of the United States.

Dr. Jeff Andresen

Jeff Andresen is an associate professor with Michigan State University's Department of Geography and the State Climatologist for Michigan. He obtained a Bachelor of Science degree from Northern Illinois University in the field of meteorology, and M.S. and Ph.D. degrees from Purdue University in the field of agricultural meteorology/climatology. Dr. Andresen has professional experience as an agricultural meteorologist with the National Weather Service and with the USDA's World Agricultural Outlook Board in Washington, D.C., where he was involved in international crop/weather impact assessment and production estimation. He currently serves as director of the Michigan Climatological Resources Program and associated extension/outreach activities, including administration of the Michigan Automated Weather Network (MAWN), a network of automated weather stations designed to provide quality, detailed weather data to the state's agricultural industry over the Internet. The primary focus of Andresen's research has been the influence of weather and climate on agriculture, especially within Michigan and the Great Lakes Region.