

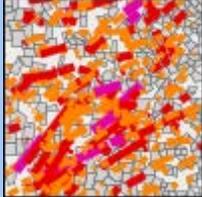


THE CLIMATE OBSERVER

A publication of the Midwestern Regional Climate Center

May 2016

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Extended Range Tornado Prediction

Dr. Victor Gensini, Associate Professor of Meteorology, College of DuPage

Anticipating tornadoes is a challenging task due to the small spatial and temporal scales of tornadoes. It is well known that most tornadoes are short lived (<10 min.) and have a relatively small path, but the damage footprint they leave behind can have major impacts on society. A research team lead by Dr. Victor Gensini of the College of DuPage in Glen Ellyn, IL may have hit on an important link between jet stream level wind configurations and tornado activity levels across the United States. The main premise behind the research stems from high and low angular momentum periods, associated with Earth's jet streams. When these jet stream patterns exhibit a meridional (low angular momentum) configuration, tornado activity is favored across the U.S. in the boreal spring.



Tornado near Dacoma, OK in 2012. Photographer: Dr. Victor Gensini

The research team consists of five scientists: Dr. David Gold, Dr. John Allen, Dr. Brad Barrett, Prof. Paul Sirvatka, and Al Marinaro (who was coauthor on the initial study with Dr. Gensini and a former intern at the Midwestern Regional Climate Center during the summer of 2014). Their article can be found in a recent issue of [Monthly Weather Review](#), published by the American Meteorological Society.

On the Road:

- IL** - Calumet Stormwater Collaborative
- MD** - National Weather Service Climate Services
- IL** - Chicago Conservation Corps Training
- IN** - Indiana Silver Jackets Meeting
- IL** - Revitalizing our Ravines Workshop



Extended Range Tornado Activity Forecasts (ERTAF) team members

The research team meets every Sunday evening to issue forecasts for tornadoes two-to-three weeks in advance. At this lead-time, it is nearly impossible with current technology and understanding to pinpoint where/when tornadoes will occur. Rather, the team is focused on anticipating the frequency of tornadoes relative to a climatological baseline. Their forecasts fall into binned categories of Below Average, Average, or Above Average depending on what the team analyzes in the upper-level jet stream patterns. So far, the team has shown some skill in their forecasts relative to climatology, a testament to how far the science of forecasting and understanding of tornadoes has come in the past 30 years. These forecasts are available through the research team's homepage at <http://weather.cod.edu/~vgensini/ertaf/>.

As of Sunday, May 1st, the week 2 forecast for May 8-14 shows medium confidence for Below Average tornado activity during the week and the week 3 forecast (May 15-21) shows low confidence for Average tornado activity. Dr. Gensini was recently interviewed about this research by [Dr. Marshall Shepherd](#) on The Weather Channel's [Wx Geeks](#) show in late April.

For more information on this article or the [ERTAF](#) please contact Dr. Victor Gensini via email at gensiniv@cod.edu.

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Save the Date! Great Lakes Adaptation Forum is October 5-7, 2016



The 2016 Great Lakes Adaptation Forum will take place October 5-7, 2016, in Ann Arbor, Michigan, co-hosted by the [Great Lakes Integrated Sciences and Assessments Center](#) (GLISA), [Northeast Climate Science Center](#), and the [Midwestern](#) and

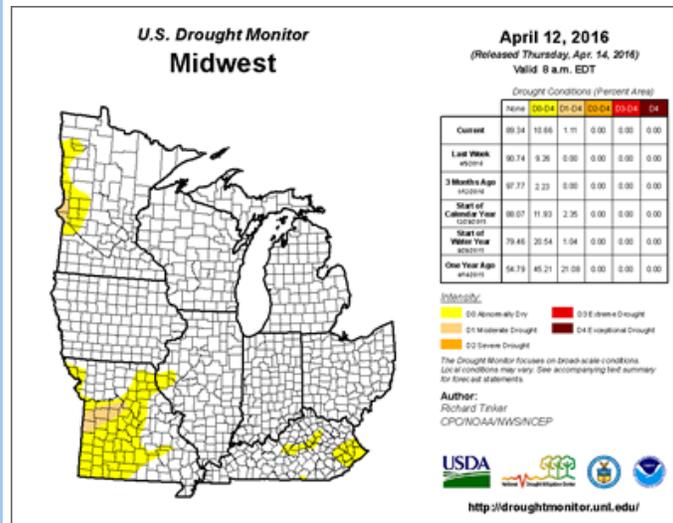
[Northeast](#) Regional Climate Centers. The 2016 Great Lakes Adaptation Forum will bring together researchers and practitioners from across the Great Lakes Region of Canada and the United States for three days of sharing climate adaptation solutions and products in an engaged learning program. The 2016 Forum will feature high-energy and exciting sessions, including ignite sessions, grow-as-you-go working groups, hands-on trainings, as well as presentations and panel discussions.

The theme of the 2016 Great Lakes Adaptation Forum, *A Network of Networks*, reflects the opportunity and challenge we face advancing climate research and adaptation implementation in the region. As climate change adaptation efforts are taken up across a diversity of sectors and disciplines including health, agricultural, urban planning and tribes, the need to share practices across and within our areas of expertise is more necessary than ever. Identifying how knowledge about climate change is transferred from research to practice; integrated into policies and management; and how adaptation actions are evaluated for success is enhanced through shared learning.

GLISA will announce the call for presentations in early May. To learn more about the Great Lakes Adaptation Forum or if you would like to be added to the announcements list, please contact GLISA (glisa-info@umich.edu).

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Midwest Climate at a Glance



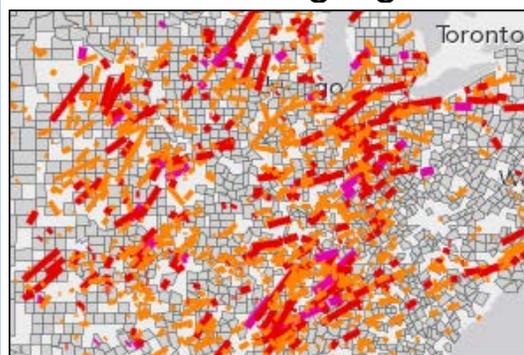
A wet December in the Midwest set up the region for a lack of drought conditions in the first three months of 2016. All drought was removed from the region in the US Drought Monitor as of the January 5th release. The region remained free of drought for 14 straight

weeks, through the April 5th release. Small areas of drought were introduced to western Missouri and Minnesota in the April 12th release of the US Drought Monitor. The 14 week period with no Midwest drought was the longest such period in the history of the US Drought Monitor, which began in the year 2000.

The lack of drought was good for the region, though January to March is a time when drought impacts are relatively less important. The beginning of the growing season will deserve more attention as we monitor drought through the spring and summer of this year. [Read more...](#)

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MRCC Product Highlight

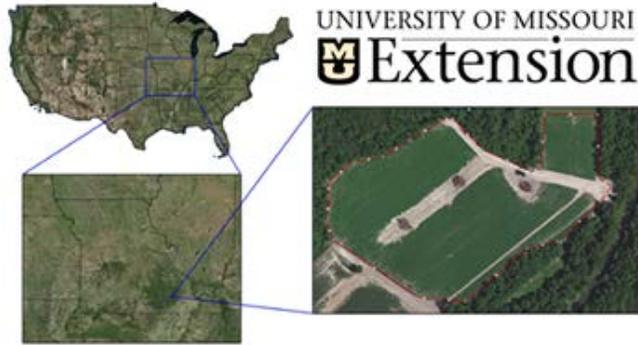


Have you ever wondered what tornadoes have gone through your area in the past? The one-of-a-kind [Tornado Tracks Tool](#) from the Midwestern Regional Climate Center allows you to search historical tornado tracks from 1950 to 2015 using an interactive and easy-to-use GIS

format. You can filter tornadoes by magnitude (F/EF0-F/EF5), by year range, or by zooming in or out to view a certain area. By clicking on a county, you will be provided a complete tornado track map for that county from 1950-2015. If you click on a specific tornado track, a window will provide additional information about that tornado (i.e. magnitude, date, time, injuries, fatalities, length, and width).

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Climate Cool Tool



Would you like to assess the physical, environmental, and cultural characteristics of your land? The [Ag Site Assessment Tool](#) from the University of Missouri Extension allows you to do just that for any location in the contiguous United

States. The data layers that are available include soils, streams, wetlands and ponds, floodplains, karst geology, threatened and endangered species, a climate summary and more. The website has a link to a helpful webinar on how to use AgSite.

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MRCC On The Road



Chicago, IL (May 6) - Calumet Stormwater Collaborative

Beth Hall will be representing the MRCC at this south Chicago monthly forum concerned with fundamental challenges to managing stormwater.

Silver Spring, MD (May 9-13) - National Weather Service

Climate Services

Beth Hall will be representing the Regional Climate Centers at the National Weather Service's Climate Services meeting. This meeting will have representatives from local weather forecasting offices, regional offices, national offices and key partnering agencies and programs.

Chicago, IL (May 11) - Chicago Conservation Corps (C3) Training

Molly Woloszyn will be presenting to C3 volunteers about climate change in the Chicagoland region at C3's Spring Energy Workshop, which is based out of the Peggy Notebaert Nature Museum.

Indianapolis, IN (May 19) - Indiana Silver Jackets Meeting

Olivia Kellner and Molly Woloszyn are giving a presentation about the MRCC and our flood-related projects at the Indiana Silver Jackets Meeting.

Chicago, IL (June 1-2) – Revitalizing Our Ravines Workshop

Molly Woloszyn will facilitate the [Community Workshop](#) on June 1st at the Chicago Botanic Garden, as well as participate in the smaller workshop on June 2nd. This event is hosted by Alliance for the Great Lakes, the Chicago Botanic Garden, Openlands, and The Field Museum.

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Have something to share as a feature article in an upcoming *The Climate Observer* issue, or interested in being contacted for an article interview? [Please let us know!](#)

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The MRCC is a partner in a national climate service program that includes the [NOAA National Centers for Environmental Information](#), [Regional Climate Centers](#), and [State Climate Offices](#).



MRCC is based at the Illinois State Water Survey, a division of the Prairie Research Institute

at University of Illinois Urbana-Champaign.
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