National Weather Service Quad Cities IA/IL/MO

Spring 2024
Volume 1, Issue 2

The Riverbend Reader

Message from the MIC

As we enter into Spring, we are reminded that a late season bout of winter weather is possible! So far this year we have had tornadoes, large hail, strong winds, major Winter Storms, some river flooding and ice jams. I continue to appreciate all of us that live and work in this part of the country with the diverse weather that we see on a routine basis.

Our office will continue to look at ways to improve communications and products and services to our partners, public and those that we serve. This summer we will also be hosting two student volunteers to see if a career in the National Weather Service is calling them.

Rest assured, you have a highly talented team dedicated to the mission of protection of life and property and enhancement of the national economy. If you have any comments or questions, feel free to reach out to me at the office at (563) 386-3976.

Inside This Issue:

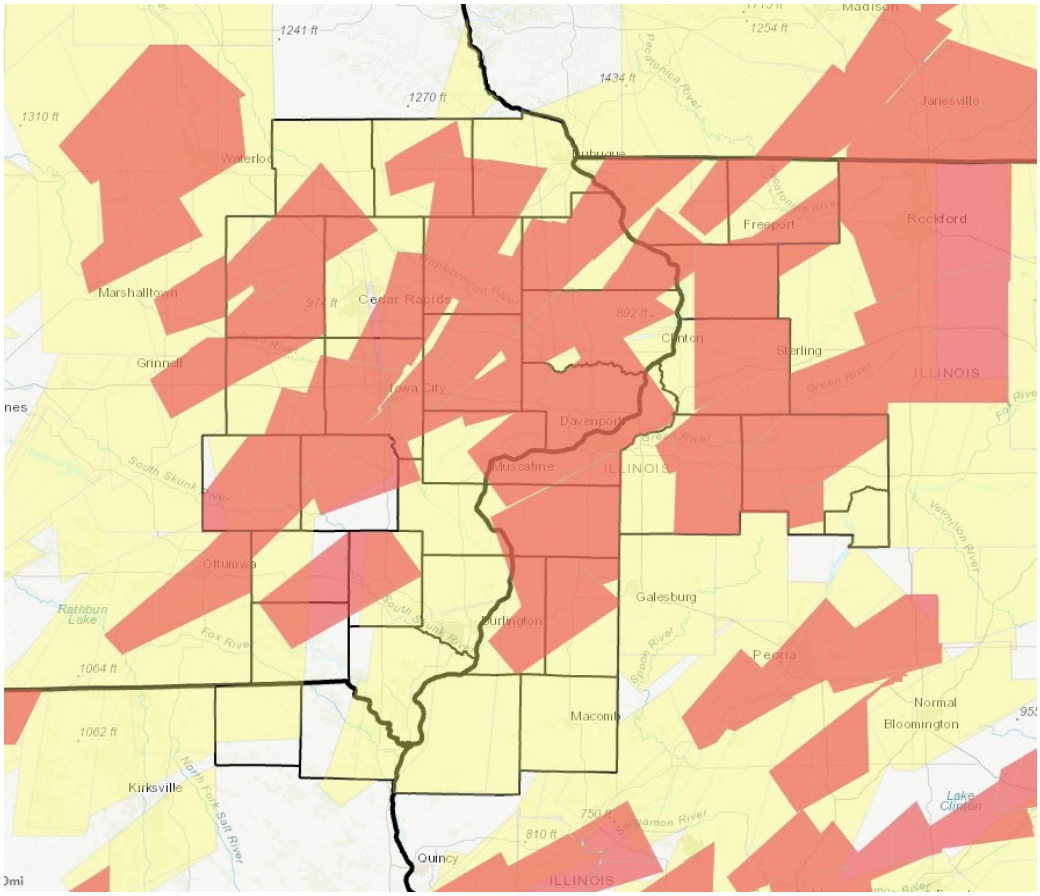
Snowfall image taken at the office on April 2, 2024

The Riverbend Reader is a quarterly publication of the National Weather Service office in the Quad Cities

1 Year Anniversary of the March 31, 2023 Historic Tornado Outbreak

Mike McClure

Easter Sunday this year marked the 1 year anniversary of the historic March 31, 2023 tornado outbreak. A total of 29 tornadoes occurred in the Davenport NWS service area making it the largest tornado outbreak for the County Warning Area (CWA). This was a part of an outbreak that saw 147 tornadoes across the country making it the 3rd largest on record, as only the 2011 Super Outbreak (359 tornadoes) and the 1974 Super Outbreak (148 tornadoes) saw more tornadoes confirmed in the U.S.



Map showing the tornado warnings (red) and severe thunderstorm warnings (yellow) issued on March 31, 2023. The counties outlined in black are the 36 counties which make up the NWS Davenport CWA.

Here's a list of links containing more information and research about the historic tornado outbreak from March 31,2023

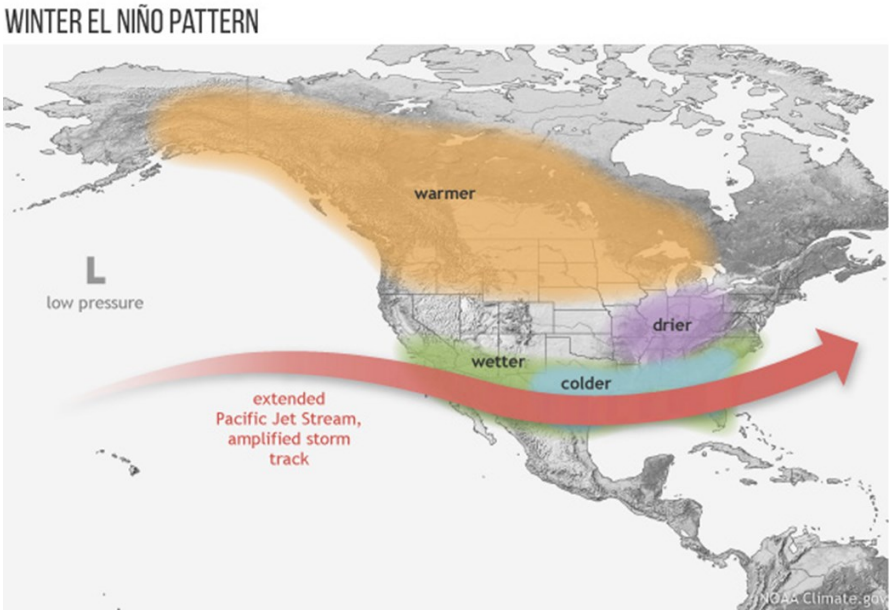
NWS Quad Cities event write-up
NWS Quad Cities StoryMap
March 31, 2023 Tornado Outbreak Presentation
Science-to-Service Methods During a Violent Tornado in Southeast Iowa During the Historic Tornado Outbreak
Early Season Historic Tornado Outbreak

We at the National Weather Service in the Quad Cities want to express our sympathy for all those that were affected by this historic tornado outbreak. Many thanks to our broadcast media partners, Emergency Management, and storm spotters who work together with us at the NWS to keep everyone informed and safe ahead of the storms!

2023-2024 Winter in Review

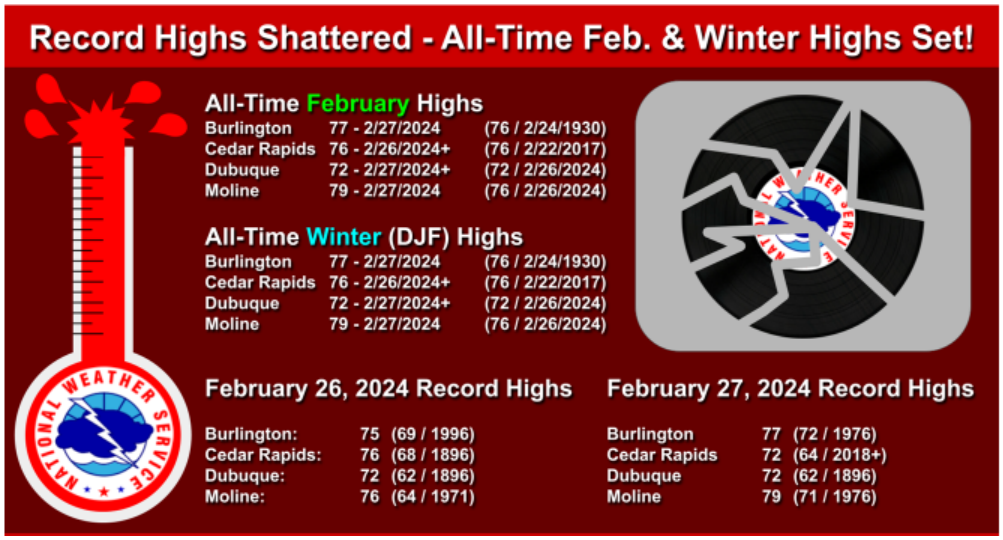
John Haase

The winter was highlighted by the strongest El Niño since 2015-16. El Niño is a warming of the ocean surface, or above-average sea surface temperatures (SST), in the central and eastern tropical Pacific Ocean. Over Indonesia, rainfall tends to become reduced while rainfall increases over the central and eastern tropical Pacific Ocean. The low -level surface winds, which normally blow from east to west along the equator ("easterly winds"), instead weaken or, in some cases, start blowing the other direction (from west to east or "westerly winds"). In general, the warmer the ocean temperature anomalies, the stronger the El Niño.



Typical winter weather pattern across North America during an El Niño.

This global pattern brought mild and dry conditions to the area for much of the winter. In fact, February and the meteorological winter (December, January, and February) was the warmest on record dating back to 1870 when official observations began.



Infographic from NWS Quad Cities on the record highs set in February and winter.

2023-2024 Winter in Review

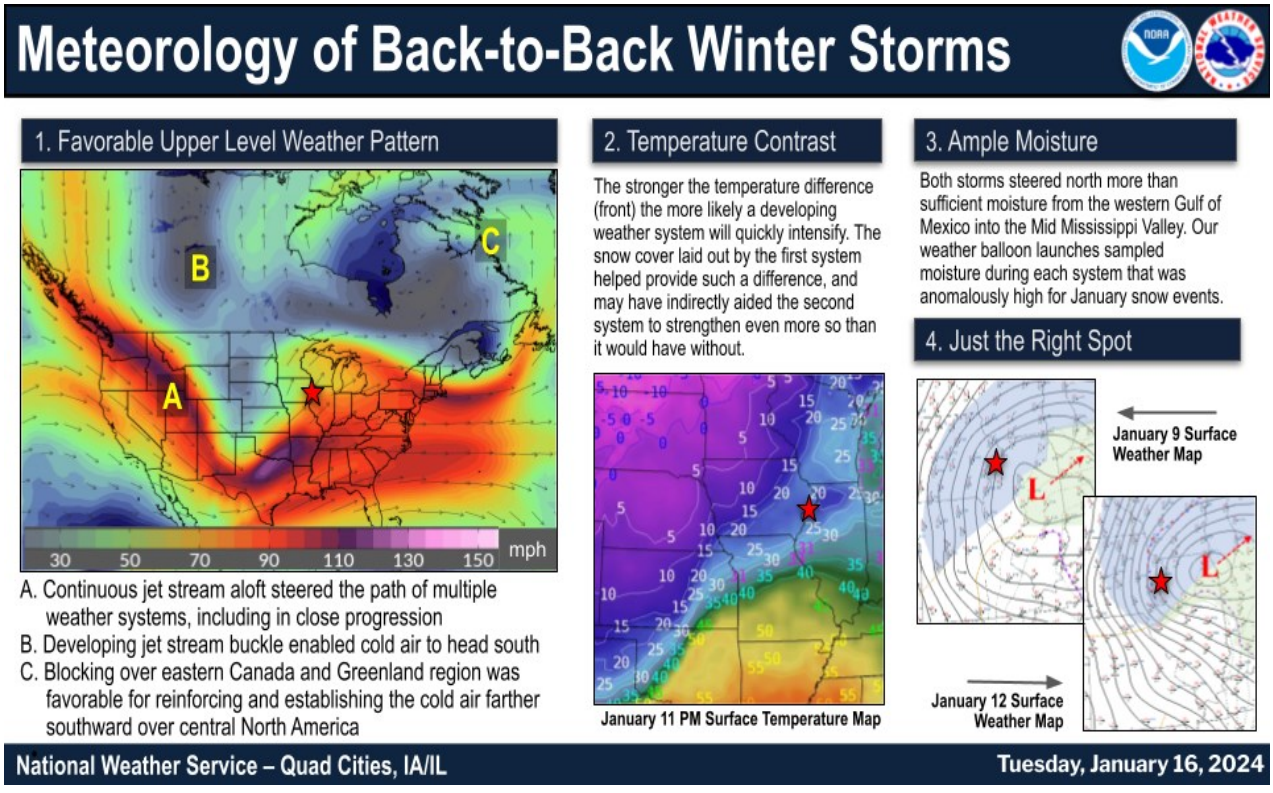
(Continued from page 3)

Despite much of the winter being mild there was a two week stretch of brutal cold and snow about the middle of January, as El Niño decided to take a vacation. Here is a recap of the two significant snowstorms in January:

Twin snowstorms occurred on January 9 and again on January 12. Remarkably, these two storm systems had nearly the identical track, intensity, and snowfall amounts. A whopping 25 to 30 inches of snow had fallen after these storm systems, which turned out to be the most snow ever recorded in such a short period of time dating back to 1870.

Snowstorm #1: A strong winter storm brought heavy wet snow and gusty north winds to eastern Iowa, northwest Illinois, and northeast Missouri on Tuesday January 9. Snowfall amounts between 6 and 10 inches were common, with higher totals of 11 to 15 inches falling mainly in Dubuque, Jones, Linn, and Johnson counties in Iowa. Several accidents occurred on area roads, with a long backup/delay observed on I-80 Tuesday evening near Iowa City. In addition, strong north winds over 30 mph were common with this storm.

Snowstorm #2: A significant winter storm brought heavy snow and near blizzard conditions across all of Eastern Iowa, northwest Illinois and northeast Missouri on Friday January 12. Snowfall amounts between 7 and 15 inches were common, with the higher end of the snowfall totals mainly from the Quad Cities to Fairfield, Iowa. Numerous accidents occurred on area roads, with several long backups/delays observed on Interstate 80 during the day and overnight. In addition, strong northwest winds of 30 to 50 mph were observed Friday evening, leading to large drifts, and blowing/drifting snow.



Infographic from NWS Quad Cities on the meteorology behind the back-to-back winter storms.

2023-2024 Winter in Review

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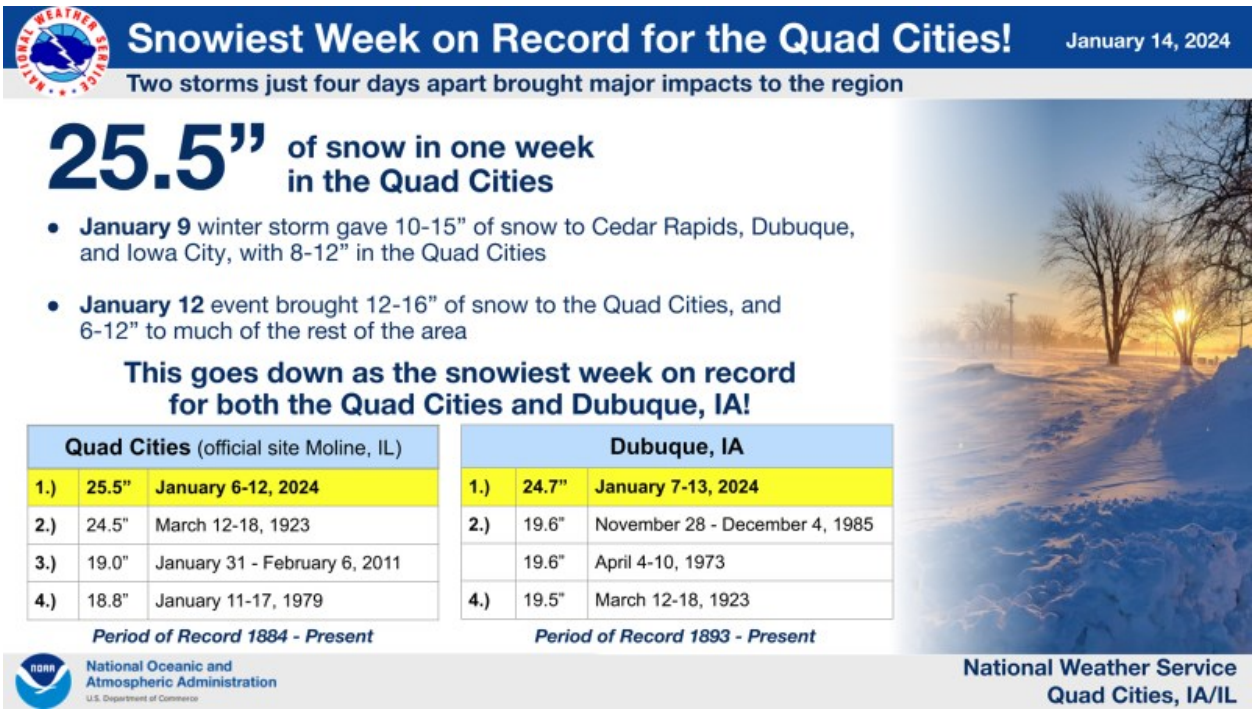


Infographic from NWS Quad Cities on the record breaking snowfall from the back-to-back winter storms.

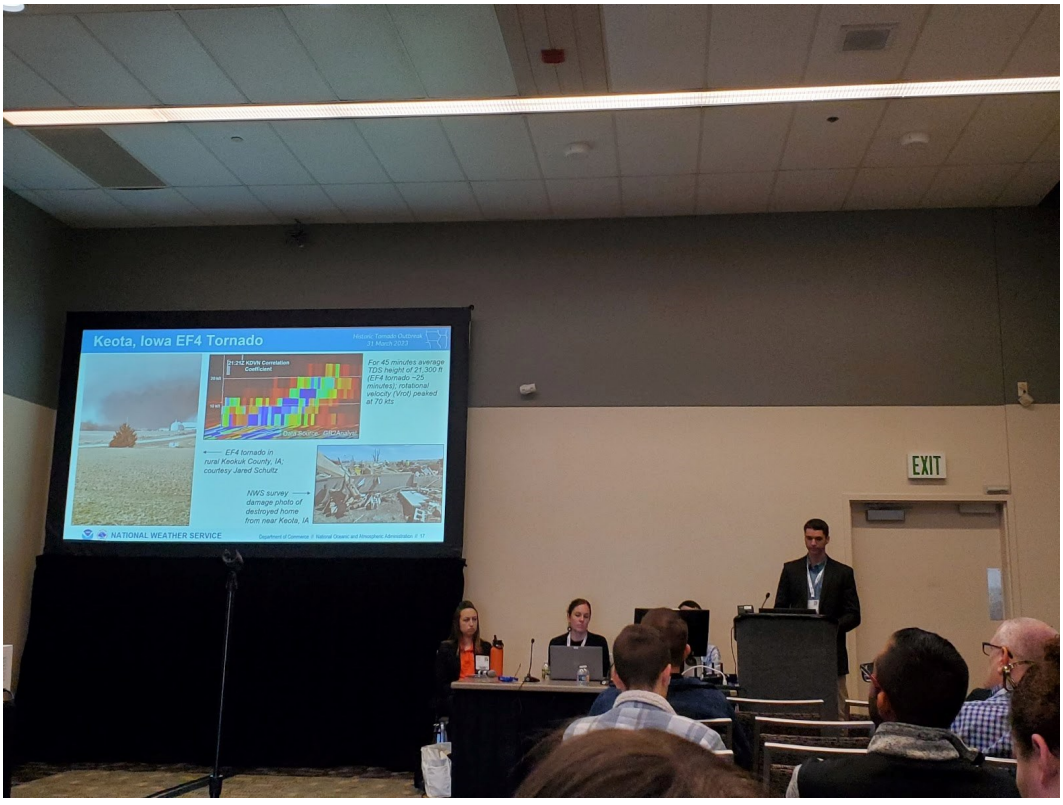
Parking lot at the National Weather Service Quad Cities on January 13 in the aftermath of the two snowstorms.

NWS Quad Cities Takes Science & Service on the Road

Matt Friedlein

The NWS Quad Cities team has been on the road a fair amount in 2024! This includes day-to-day local activities, such as our electronics technicians conducting important maintenance on NWS observation platforms at area airports and NOAA Weather Radio transmitters, or seasonal outreach, community engagement, or storm spotter training talks by our Warning Coordination Meteorologist (WCM) Rich Kinney and other staff. A few other times we have recently been on the road and are quite proud of are listed below!

In late January, NWS Quad Cities was represented by Lead Forecaster Zach Uttech at the American Meteorological Society (AMS) national conference in Baltimore, Maryland. This gathering was attended by over 7,000 people, including scientists from all over the globe, and included nearly 600 presentations, several concurrently in different large conference halls. Zach presented the office's research into the event described earlier in the newsletter, the March 31, 2023 tornado outbreak. Shared at that conference by him were numbers from the event, visualizing the volatile environmental parameter space that day, an in-depth look at the supercell that produced the Keota, IA area EF4 tornado, and a summary of services provided by our office before and during the event. Zach and other staff's research on this event can be found under the "Research and More" tab on our **March 31, 2023 event review page**.



Senior Meteorologist Zach Uttech presenting at the AMS meeting in Baltimore, Maryland

Another scientific conference on the regional level that three NWS Quad Cities staff attended in late March were the Severe Storms and Doppler Radar Conference in Ankeny, IA. Science and Operations Officer (SOO) Matt Friedlein and Forecasters Dave Cousins and TJ Gunkel also shared the March 31, 2023 outbreak as well as the significant large hail

NWS Quad Cities Takes Science & Service on the Road

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and damaging wind event in and near the Quad Cities on April 4, 2023. These staff discussed the science aspect of these high impact events, including incorporating the latest published research when diagnosing these events. Their work can be found on our **April 4-5, 2023 event review page** under the "Research and More" tab. These talks were attended by over 200 people, including many meteorology students. Matt also had the opportunity to attend a mentoring session talking with dozens of students about career opportunities in meteorology and how to ensure they sharpen the diverse skill sets needed in the position in 2024.

Speaking of students, during February NWS Quad Cities staff along with NWS Central Illinois personnel visited the Meteorology Department at Western Illinois University (WIU), in Macomb. WIU alumni staff from our office, including WCM Rich Kinney and Meteorologist Tim Gross, attended and spoke about career opportunities in meteorology. SOO Matt Friedlein also presented to an Atmospheric Dynamics class about some of the science behind the March 31, 2023 outbreak. More on NWS student opportunities including at NWS Quad Cities can be found on this **3-page handout**.

Students from WIU. In the back row from left NWS Meteorologists: Tim Gross, Nicole Albano, Ed Shimon, Ryan Knutsvig, Matt Friedlein, and Rich Kinney.

Finally, a unique opportunity that WCM Rich Kinney and Meteorologist Peter Speck had in early April was to attend the Quad Cities Regional Disaster Conference at the Waterfront Convention Center in Bettendorf, Iowa. The conference has a focus on responding, managing and recovering from large-scale disasters and featured emergency management officials, first responders, businesses and nonprofits, community partners and elected officials.

NWS Quad Cities Hosts Media Workshop

Mike McClure

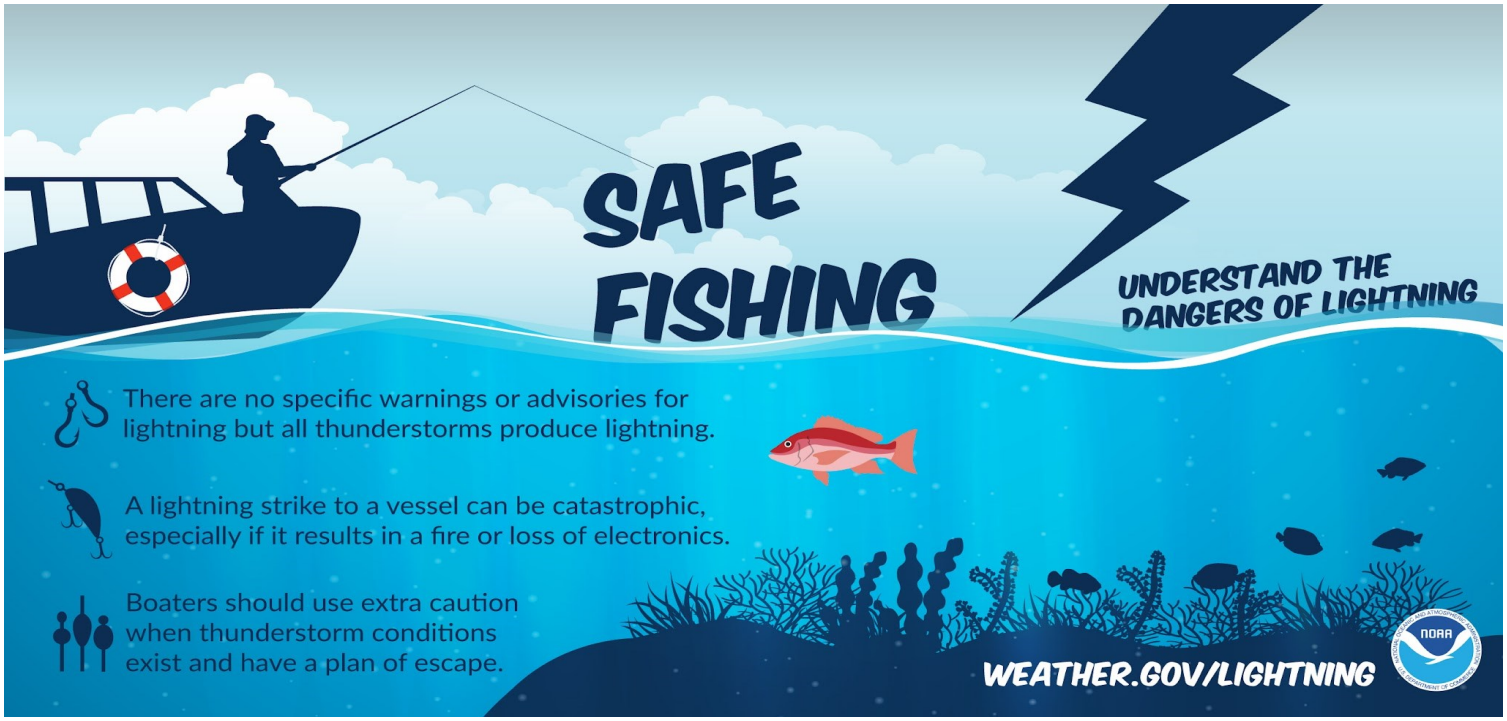
On Saturday, March 16, 2024 we welcomed our broadcast core partners to our office for a spring media workshop, as together we prepared for the severe thunderstorm season. We had 11 attend (2 virtually). Many topics were discussed including severe weather operations, hydrology, blizzard climatology, and we covered research of the March 31, 2023 tornado outbreak and the historic tornadoes of February 8, 2024 (first tornadoes ever recorded in Wisconsin in the month of February). We had a lot of great dialogue, questions and feedback. The collaboration and cooperation with broadcast partners is so vital to make sure that the public is well-informed and weather ready! A big **THANK YOU** goes out to all of our media partners!

The broadcast media is a part of the Weather, Water, and Climate Enterprise, also known as the Weather Enterprise for short, which is comprised of three main sectors that contribute to the science of weather and weather forecasting -- academia, government, and America's Weather Industry. Each sector plays a critical role in understanding, observing, forecasting, and helping warn our communities of danger; and plays a big part toward building a Weather-Ready Nation!

The Weather Enterprise

Severe Weather Preparedness

Severe Weather Preparedness



Staying Safe on the Golf Course

WHEN LIGHTNING THREATENS

- Seek shelter inside a building or vehicle
- Avoid open high ground or isolated trees
- Avoid water (lakes, ponds)
- Avoid electrical devices
- Do not lean on concrete walls

Employee Spotlight

Matt Wilson

Service Hydrologist

Hey! I am Matt Wilson and I have been a Hydrologist with the NWS since June of 2018. I started out at the Missouri Basin River Forecast Center, forecasting everything from the small Missouri tributaries between Gavin's Point Dam and Kansas City, to all of the Missouri tributaries in both Dakotas, as well as parts of Wyoming and Nebraska. I also did the South Platte River and water supply for the city of Denver.

I have been the Senior Service Hydrologist in Davenport, Iowa since December 2022. Since I have been here we have had ice jam flooding, as well as snowmelt flooding that led to crests that were the 3rd highest on record. Currently I am getting prepared to spend almost a month in April and May in Fairbanks, AK helping them with their snowmelt and river ice break up season. I also am an active participant in severe weather operations and plan on getting certified to do upper air launches after I return from Alaska later this year.

Prior to working for the NWS, I spent 7 years in the Army as a linguist, Korean and French, and 3 years as a Department of the Army contracted counter-terrorism analyst. In my military time I was stationed in Texas, Arizona, Alaska, and California. I did 1 military deployment to Iraq from 2008-2009 and an 18 month civilian deployment to Afghanistan from 2011-2013. In 2013, I went back to school at Appalachian State University in Boone, NC where I got a BS in Quantitative Geosciences from the Department of Geology and a Minor in Mathematics. I did graduate school at Virginia Tech where I focused on Hydrogeology and Numerical Modeling. After I left school, I worked in environmental consulting as a groundwater hydrologist and modeler for clean-up projects at retail and industrial petroleum sites from the Virgin Islands to California, including a few Superfund sites.

I was raised near Winston-Salem, NC on what was my family's dairy farm. I met my wife Rachel, while we were both in the Army and stationed in Monterey, CA learning French. At the end of April our son, James, will be turning 3 and in May our daughter, Charlotte, will be turning 13! When I am not working at the office, I enjoy traveling, trying new restaurants and recipes, coaching my kid's sports teams, and looking at rocks (I am a geologist!). I am also an avid sports fan and participant, everything from football and hockey to lawn darts and curling!

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Follow NWS Quad Cities!

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