NATIONAL WEATHER SERVICE
GREEN BAY

PACKERLAND WEATHER NEWS

Winter 2024/2025
Volume 22

CONSOLIDATION OF COLD WEATHER PRODUCTS & CRITERIA CHANGES

BY: PHIL KURIMSKI, LEAD METEOROLOGIST

The National Weather Service is simplifying its suite of cold weather products to improve public messaging and provide better decision-making services. Below is a summary of the changes:

Extreme Cold Consolidation and Renaming

Current		Upcoming
Extreme Cold Watch Wind Chill Watch	Consolidated to →	Extreme Cold Watch
Extreme Cold Warning Wind Chill Warning	Consolidated to →	Extreme Cold Warning
Wind Chill Advisory	Replaced with →	Cold Weather Advisory

Freeze Consolidation

Current		Upcoming
Hard Freeze Watch Freeze Watch	Consolidated to →	Freeze Watch
Hard Freeze Warning Freeze Warning	Consolidated to →	Freeze Warning

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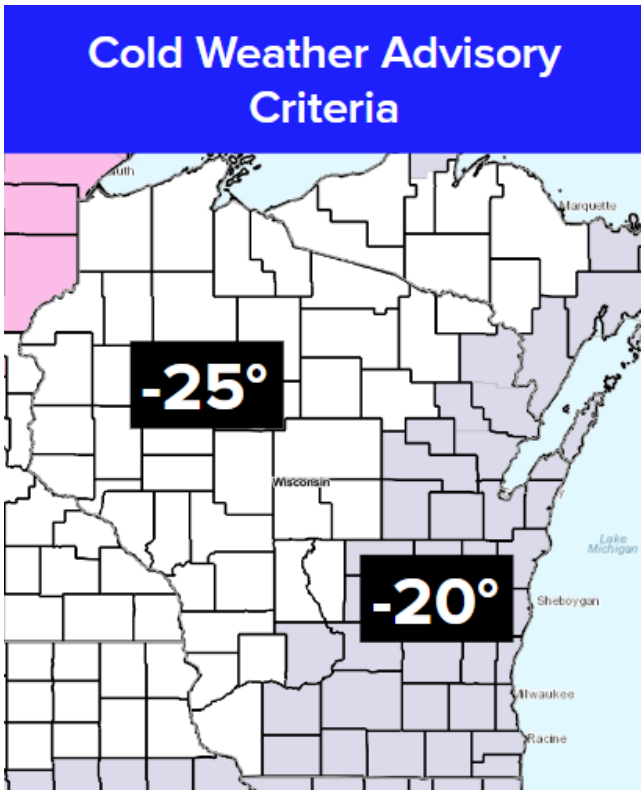
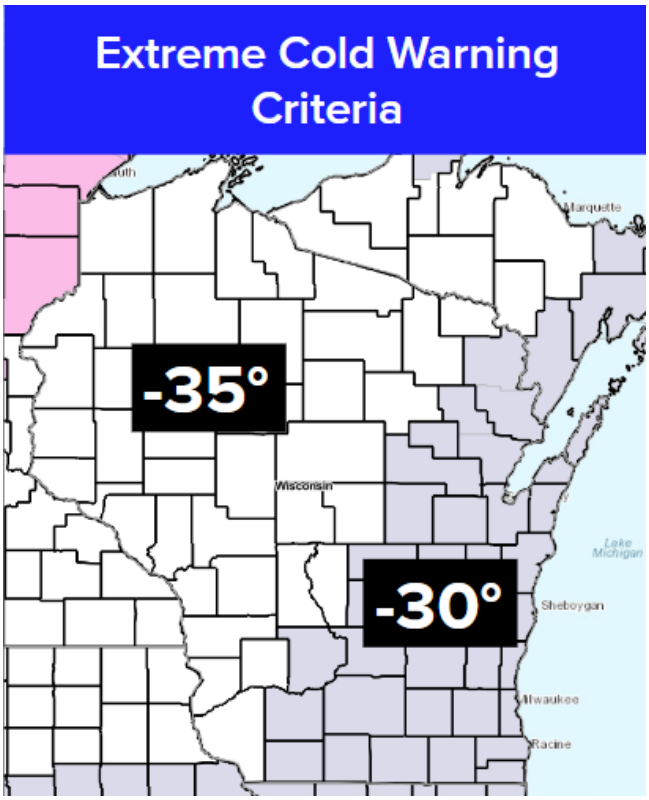
Inside this issue:

The goal of this consolidation is to unify terms across the United States, as different parts of the country were using different products and terminology in their cold weather products. This consolidation will also allow for clearer Watch/Warning/Advisory maps on our website.

Part of this realignment also took a look at the current criteria for issuing these products. Previously, criteria was mainly based on the County Warning Area (CWA) boundaries of individual National Weather Service offices. Although the new criteria splits our CWA boundaries, they better align with climatology, are adjusted for impacts, and achieve greater consistency. In Wisconsin, the state is generally divided from west to east, with eastern and southern Wisconsin having higher criteria values and northern and western Wisconsin with lower criteria values, as these areas generally observe colder temperatures and wind chill values. The graphics below show the new criteria.





Remember to visit www.weather.gov/grb for the latest watches, warnings, statements, and forecasts.

WINTER 2024-25 OUTLOOK: WEAK LA NIÑA EXPECTED TO CONTINUE

BY: ROY ECKBERG, METEOROLOGIST

Last winter, a strong El Niño prevailed, resulting in the mildest winter on record across northeast Wisconsin. For the rest of this winter (January and February), there is a 59% chance that the weak La Niña conditions will prevail. In consecutive winters, flipping from El Niño to La Niña conditions does occur from time to time.

The warmer or cooler than normal waters of the Equatorial Pacific Ocean between Hawaii and Central America can impact winter temperatures, precipitation, and snowfall. Unlike a strong El Niño event, which most likely leads to above normal temperatures (see graphic below) and below normal snowfall across much of the area, temperatures, precipitation, and snowfall during a La Niña winter can be highly variable from event to event.

Looking at a recent study of La Niña winters, Green Bay exhibited distinct temperature and snowfall trends. For temperatures, there was nearly a 70% occurrence of a warmer than normal fall (Sep-Nov), including this past fall. By January, it was pretty much a coin flip if temperatures were going to be warmer or colder than normal for the month. By late winter and early spring, it is likely that February and March would on average end up colder than normal. For snowfall, it is likely to be above average for the entire winter, but there can be a lot of variability in snowfall amounts from event to event. A La Niña winter has brought five of the top ten snowiest winters on records (out of 25 events). However, it should be noted if the storm track sets up south of the area for the majority of the winter, snowfall for the season could end up well below normal.

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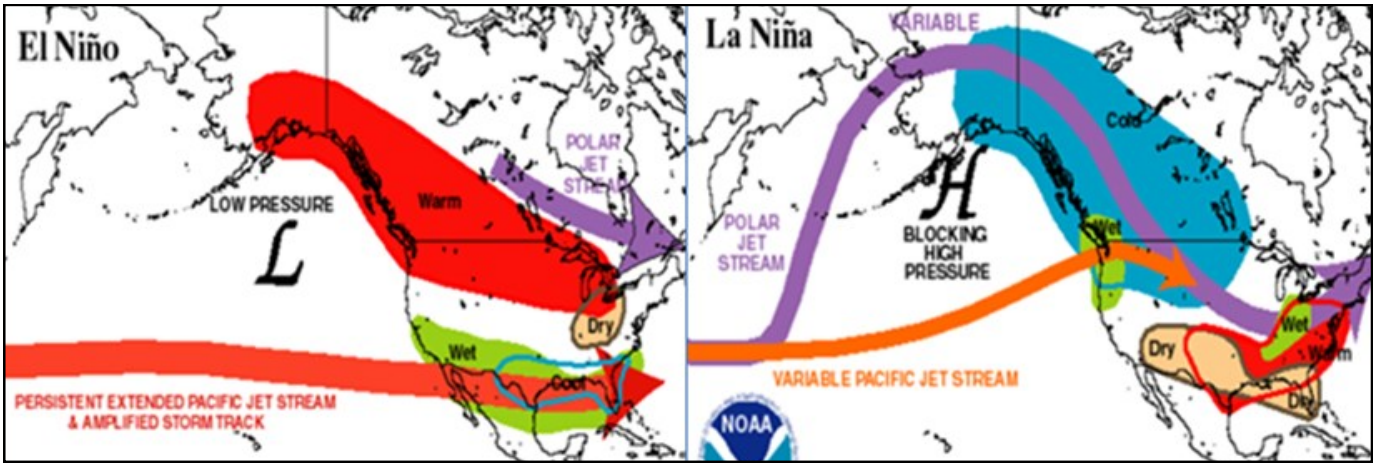
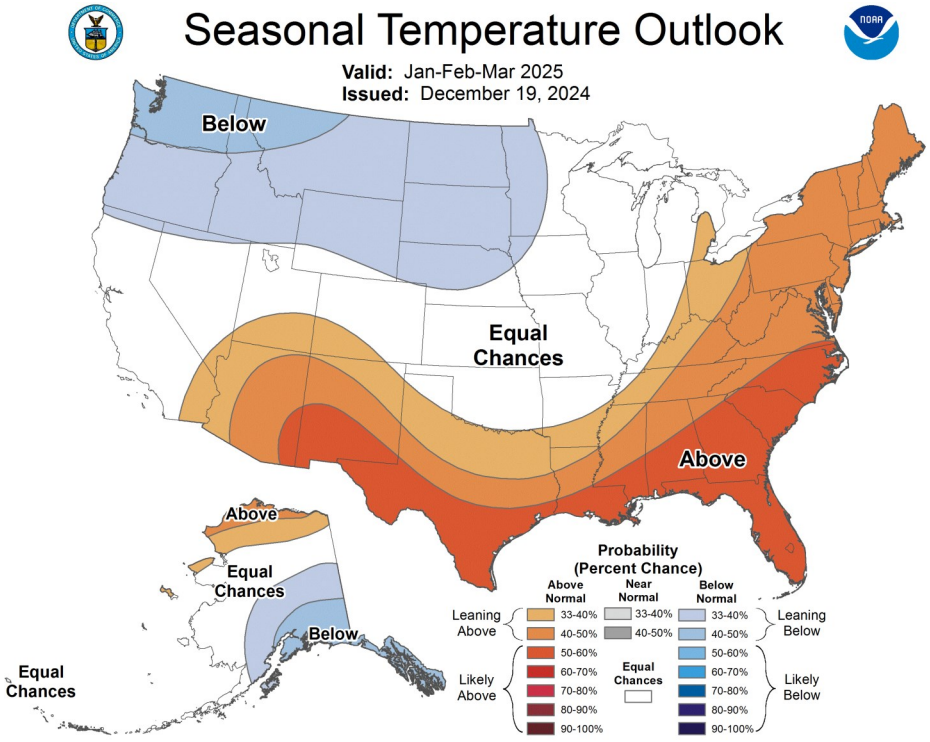


Typical El Niño Pattern *Typical La Niña Pattern*

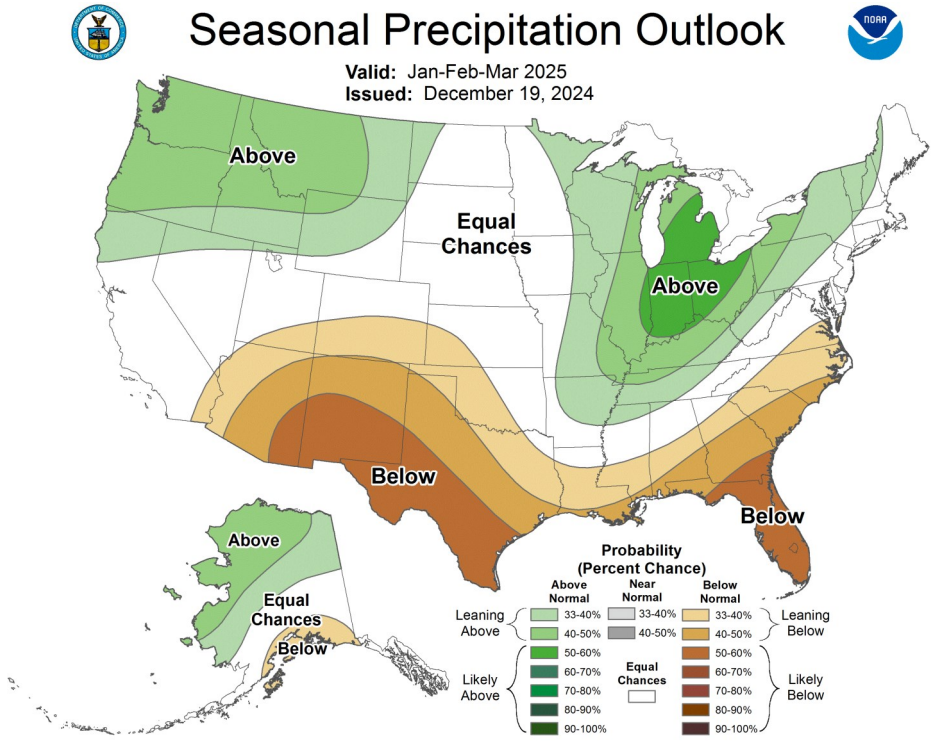
You can find more weekly, monthly, and seasonal weather forecasts here: ***www.cpc.ncep.noaa.gov/***

There are no clear trends in the climate models for above, near, or below normal temperatures across Wisconsin for the rest of the winter into early spring (Jan-Mar). There are greater chances for above normal temperatures across the southern and eastern United States with greater chances for below normal temperatures across the northern Plains into the Pacific Northwest. The climate models were indicating a greater chance for above normal precipitation across Wisconsin and the rest of the Great Lakes region, as well as the northwest portion of the United States. There are greater chances for below normal precipitation across the southern United States.



Temperature Outlook

(Climate Prediction Center)



Precipitation Outlook

(Climate Prediction Center)

HISTORIC POLAR PLUNGE: FEBRUARY 27-28, 2024

BY: ROY ECKBERG, METEOROLOGIST

The historic polar plunge of February 27-28, 2024 will go down as one of the greatest 24-hour temperature changes in documented history across northeast Wisconsin.

The winter of 2023-24 was the warmest winter on record across northeast Wisconsin, smashing the previous warmest winter on record by 1 to 3 degrees, due to the presence of a strong El Niño over the equatorial Pacific Ocean. Along with the mild winter temperatures, drought conditions continued through much of the winter as precipitation and snowfall amounts were well below normal. The combination of the mild temperatures and below normal precipitation led to little snow cover during February. A dry air mass, lack of cloud and snow cover, and lack of soil moisture all contributed to the exceptionally mild temperatures across eastern Wisconsin.

On February 25, mild Pacific air surged across the area, peaking on the 27th, ahead of a strong arctic cold front. Temperatures on the 27th climbed into the 70s in the Green Bay forecast area (22 counties in north-central and northeast Wisconsin) for the first time during the month of February, and during the meteorological winter (December 1 to February 28/29). The previous record for both events was 69°F at the Wautoma Municipal Airport on February 22, 2017. Some of the warmest high temperatures on the 27th were across central and northeast Wisconsin, including: 74°F at Waupaca Municipal Airport, 73°F at Oshkosh Wittman Regional Airport and the Waupaca Cooperative Observer (COOP) site, 72°F at Appleton International Airport, Shawano Municipal Airport, Stevens Point Municipal Airport, and at the New London and Oshkosh COOP sites. Southerly winds and lake fog kept the immediate lakeshore areas considerably cooler than inland locations. High temperatures along the bay and lake occurred during the evening, as winds veered to the southwest, and then west with the passage of the cold front. High temperatures along the lakeshore were only in the 40s and 50s, with Washington Island only warming to 41°F.

While temperatures were in the 60s to mid 70s away from the Bay of Green Bay and Lake Michigan mid-afternoon on the 27th, the first signs of the cold front were seen at Arbor Vitae, as the temperature fell from 62°F at 3 pm to 43°F at 4 pm. The greatest temperature range across the area was 34° at 5 pm with a reading of 35°F in Arbor Vitae and 69°F in Shawano.

By 6 pm, the first snowflakes were seen at Ironwood, Michigan, and by 7 pm light snow moved into Vilas County. The light snow continued to overspread the area during the evening, reaching Green Bay and the Fox Valley around midnight. The light snow continued overnight with totals of 1 to 3 inches at many locations. After being in the 60s and 70s the previous day, temperatures overnight fell into the single digits and teens above zero by sunrise. Wind chill readings ranged from -5°F to -15°F across central and north-central Wisconsin to around 0°F across the Fox Valley and lake shore, as winds were from the northwest at 15 to 30 mph, with gusts to around 40. Temperatures by mid-morning of the 28th were 40 to 64 degrees colder than the previous afternoon. The greatest temperature drop was 64° in Marshfield and Wisconsin Rapids. Daytime high temperatures on the 28th were only in the teens to lower 20s. The warmth of yesterday was a distant memory!

3 Hourly Temperatures on February 27-28

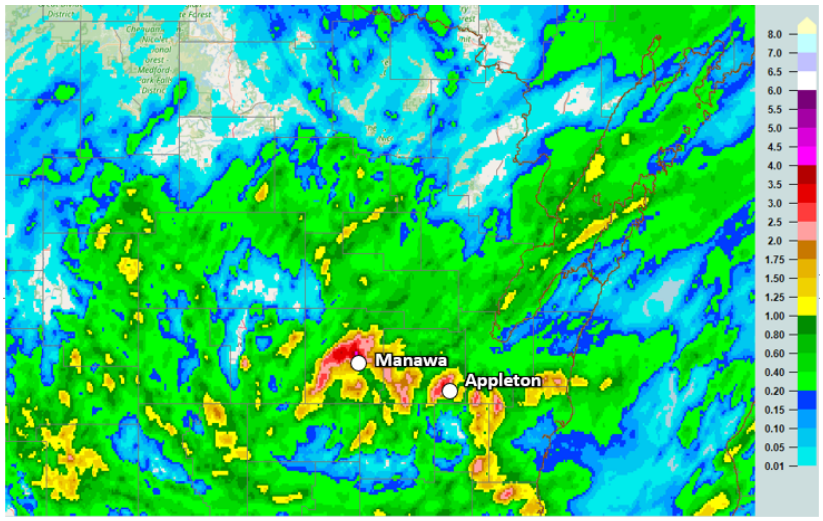
	February 27			February 28			
City	3pm	6pm	9pm	12am	3am	6am	9am
Antigo	62	52	32	20	12	9	8
Appleton	72	59	54	36	25	18	16
Arbor Vitae	62	34	24	12	8	6	6
Green Bay	70	61	54	37	23	17	16
Kewaunee	38	42	49	39	26	17	15
Manitowoc	54	44	57	41	27	18	16
Marinette	51	42	45	29	16	11	14
Marshfield	64	50	32	19	10	8	7
Merrill	65	46	32	19	11	9	8
Oconto	58	45	49	32	17	14	15
Oshkosh	72	63	52	39	25	16	15
Rhinelander	64	37	28	15	9	8	7
Shawano	70	63	45	32	21	16	16
Stevens Point	71	57	41	29	16	12	12
Sturgeon Bay	51	45	44	32	20	13	14
Tomahawk	65	38	29	16	10	8	7
Washington Island	40	37	34	25	17	11	13
Waupaca	73	62	48	34	22	15	15
Wausau	66	55	36	22	13	10	10
Wisconsin Rapids	68	56	40	26	14	10	9
Color Key:	<20F	20-29F	30-39F	40-49F	50-59F	60-69F	>=70F

MANAWA FLASH FLOOD EVENT-JULY 5, 2024

BY: JASON ALUMBAUGH, LEAD METEOROLOGIST

It is hard to believe that despite a very dry finish to the summer, late August into September, the early part of summer, from June into early August, was abnormally wet across the region.

One of the many days where heavy rain and flooding occurred over much of northeast WI was Friday, July 5th. Significant flooding occurred over portions of the area, including in northern portions of the city of Appleton, where widespread street and residential flooding occurred. And this was certainly a day that residents in the city of Manawa in Waupaca County won't soon forget.



24 - Hour Rainfall Estimate for July 5, 2024

The day started off with a low pressure system over the area with building instability and moisture. These factors led to slow moving showers and thunderstorms quickly breaking out around daybreak across much of northeast Wisconsin. The showers and storms continued to expand in coverage through late morning. Specifically, a cluster of showers and storms that formed over Waupaca County with very heavy rain becoming nearly stationary and centered over Manawa. In Manawa, the first drops of rain began falling shortly after 7 am that morning, but the rain became so intense that by 10:30 am, several motorists were already being rescued, as rising water trapped them in their vehicles. By the time the rain tapered off around 12:30 pm, 5.7 inches of rain was observed at a weather station in Manawa, with a majority of this rain falling from 9 am to 11 am. To put this into perspective, based on rainfall reports of 5+ inches in approximately 4 hours, this event equates to a return interval of 500 years or the same as a 1 in 500 (0.2%) chance of this extent of an event occurring in any given year.

The heavy rain, coupled with the impacts from around another 6 inches of rain falling across the area over the previous two weeks, led to failure of the Manawa Dam due to water overtopping the dam. This led to local law enforcement going door-to-door, conducting evacuations of residences and businesses in Manawa as well as downstream along the Little Wolf River into the town of Royalton. Once the dam failed, the Manawa Mill Pond was mostly emptied.

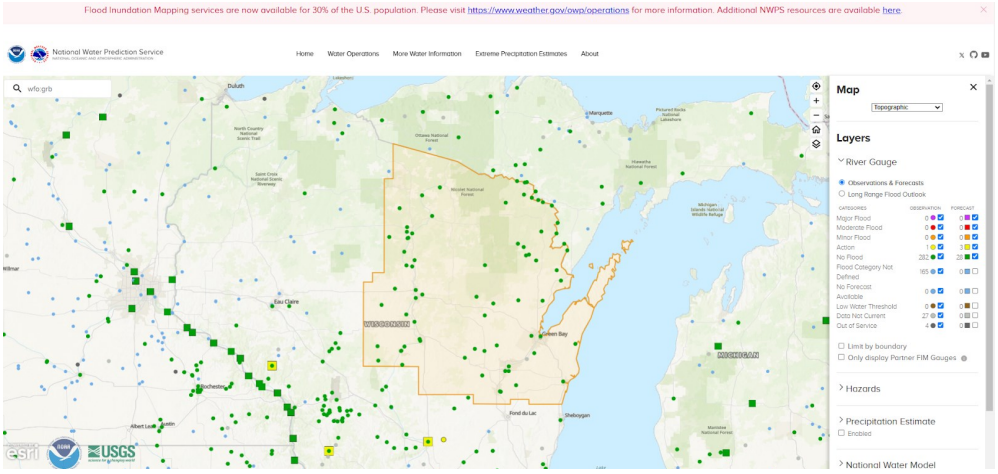
NWS Green Bay provided multiple products and services ahead of and during this heavy rain event to local, state, and federal partners, along with the public. Briefings were provided to the partners earlier in the week and multiple posts were sent out through social media to partners and the public highlighting the potential for heavy rain and flooding.

Manawa Dam failure
Credit: Waupaca Co. Emergency Management

Flash Flood Warnings were issued for Waupaca County starting at 10:24 am, including a Flash Flood Emergency that was issued at 11:37 am. As the event was ongoing, NWS Green Bay was in near-constant contact with the Waupaca County Emergency Manager regarding the dam failure. Through this communication, NWS Green Bay issued a Flash Flood Warning at 12:37 pm for imminent dam failure with around 45 minutes of lead time prior to actual dam failure. Additionally, NWS Green Bay coordinated with the North Central River Forecast Center in Chanhassen, MN, to obtain a forecast for expected flow down the Little Wolf River due to the dam failure. With this information, NWS Green Bay communicated the expected flow to the Waupaca and Outagamie County Emergency Management. This event drew significant national media attention. Staff at NWS Green Bay fielded phone calls from the Washington Post, the New York Times, and USA Today.

NEW RIVER OBSERVATION AND FORECAST WEBSITE

BY: JASON ALUMBAUGH, LEAD METEOROLOGIST

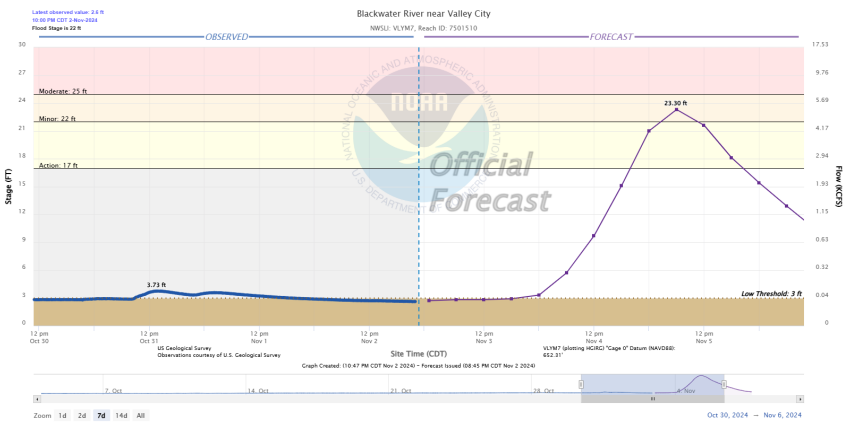


NWPS display over WI. Notice how the NWS Green Bay area is highlighted for quick reference.

A big change occurred this spring in the National Weather Service in terms of displaying water resource information, including river observations and forecasts. The Advanced Hydrologic Prediction Services (AHPS) web page, which has been running since the late 1990s, was replaced by a new and greatly improved platform, National Water Prediction Service (NWPS). You can find the new NWPS page here: https://water.noaa.gov/.

One of the primary key features of NWPS is the ability to display one seamless map rather than the different static views that were utilized in AHPS (national, regional, and local views). The new structure is more versatile and configurable to help find only the specific area and information you need. You can also overlay layers onto the map including NWS hazards for hydrologic and/or weather, as well as precipitation estimates over a period of time of your choosing.

The hydrographs have changed as well, with users now being able to obtain the most up-to-date information in a much shorter period of time, as NWPS incorporates a new dynamic display of river gage information, meaning the hydrograph is generated immediately upon request so you see the most recent observations and forecasts. This is an improvement, as the frequency that hydrographs were generated on AHPS could cause a lag time in seeing important updates. Another improvement with NWPS is you can now view data for the hydrograph as far back as 30 days, rather than 7 days. This allows for analyzing trends and patterns that are crucial for better understanding water resource management, flood forecasting, and environmental monitoring.



NWPS hydrograph showing observations and forecast for a point. This hydrograph shows the upcoming rise to minor flood stage.

Another feature that is now available on NWPS is the National Water Model (NWM), providing forecasts down to the scale of individual river gages and stream reaches. This model data provides initial guidance values for all rivers and streams in the nation. As one zooms in, more of the network is accessible. Flood inundation mapping is also available on NWPS with 30% of the US population covered at this time. By the end of 2026, the entire country, including the state of Wisconsin, will have flood inundation mapping available.

Additionally, the NWPS page allows you to save direct URLs for specific areas of interest (e.g. NWS Green Bay forecast area or the state of Wisconsin), allowing users to have quick access to the information they are in need of. We are excited about all the new features that NWPS has to offer. Check it out if you have not already.

For more information on NWPS, please visit:
https://storymaps.arcgis.com/stories/fce72e9168a7402dbfc49fc5b49cee2e
https://www.weather.gov/media/owp/oh/docs/NWPS_Overview_Flyer_V10.pdf
https://www.weather.gov/media/wrn/Water-Resources-Factsheet.pdf

2024 COOP AWARDS!

100 YEARS
STURGEON BAY
INSTITUTIONAL AWARD

Dan Kielar (left) and
Linda Mohr (right)

40 YEARS
STRATFORD

PICTURE NOT AVAILABLE

Donald Zuelke

25 YEARS
GREEN BAY
BOTANICAL GARDENS
INSTITUTIONAL AWARD

PICTURE NOT AVAILABLE

David Barkow

15 YEARS
LAC VIEUX DESERT

Jim and Rochelle Argoudelis
(Rochelle not pictured)

THANK YOU COOP/UCOOP/COCORAHS OBSERVERS!

BY: SCOTT CULTICE, OBSERVATION PROGRAM LEADER & SCOTT BERSCHBACK, LEAD METEOROLOGIST

Happy 2025!

Everyone at NWS Green Bay would like to personally thank each of you for your dedicated snow measuring through the years! Your timely and accurate measurements allow us to provide better service to our partners and the public, and in some cases, take immediate life-saving action. Your observations also help provide important data for research that leads to advances in life-saving technology.

As we push through another winter season, you can find many helpful reminders on measuring snow/ice and water equivalent here:

Slide Shows: https://www.cocorahs.org/Content.aspx?page=training_slideshows

Videos: https://www.youtube.com/user/cocorahs

Have a healthy and safe 2025! If you have any questions, please send us an e-mail or give us a call. Thanks again!

WANT TO BECOME A WEATHER OBSERVER?

For information on COOPs, CoCoRaHS, and SKYWARN, please visit: https://www.weather.gov/about/observations

For information on mPING please visit: https://www.weather.gov/ppg/tt_2

NWS ELECTRONIC TECHNICIANS PROVIDE UNSUNG SUPPORT TO THE MISSION

BY: GUS KAISER, METEOROLOGIST

Our Electronic Technicians (ETs) have many responsibilities, one of which is performing scheduled and unscheduled maintenance on Automated Surface Observation System (ASOS) equipment (pictured on the left) located at six airports across our county warning area. Each ASOS site has multiple pieces of equipment lined up along a track that measure weather elements such as ambient air temperature, dew point temperature, wind speed and direction, sea -level pressure, visibility, precipitation accumulation, and present weather information (i.e. type and intensity of rain, snow, or freezing rain). The observations ASOS sites capture is crucial to airport operations, as well as providing ground truth to forecasters for any ongoing weather phenomena. These observations are also ingested into many numerical weather prediction models as a starting point for the model's equations to work off of.

With how important these ASOS observations are, it is important they are well kept and functioning properly. For this reason, our ETs visit each site on a quarterly basis to perform calibrations and any necessary preventive maintenance. Each site visit lasts several hours and includes thoroughly checking each piece of equipment for any potential issues (i.e. broken/damaged parts, spider web build up, animal or insect nests). Once a piece of equipment is checked and in good working condition, calibrations can be performed to ensure observations are accurate. For example, to calibrate the wind speed and direction sensor, the 10-meter pole on which the sensor sits is lowered to the ground. A cover is then placed over the sensor to block any wind. This should result in the sensor reporting a wind speed of zero knots. If the sensor passes this test, it is ready to go.

ASOS sites are also visited on an as-needed basis when it is suspected that the equipment is not reporting properly. For instance, there are times when the present weather sensor reports rain when skies are clear. This does not make meteorological sense. In this case, an ET would either visit the site to see what is going on or remotely sign in to investigate any errors. In this particular example, the likely culprit is a spider web that is between the transmitter and receiver on the present weather sensor. Another issue that came up this past fall was the visibility disappearing one morning at the Green Bay ASOS. When the ETs visited the site, they discovered mice had chewed through part of the fiber cable that connected the visibility sensor to the transmitter. After several hours of work, including running all new fiber optic cable, the visibility sensor was restored that afternoon.

Here at NWS Green Bay, we are lucky to have a great technical staff that keep all of our equipment running 24/7, so we can provide the most up-to-date and accurate weather information to our partners and anyone who calls central or northeast Wisconsin home.

Automated Rain Gauge

Present Weather Sensor

Data Collection Package (DCP)

WEATHERING RETIREMENT

FORMER WCM JEFF LAST REMINISCES ABOUT HIS CAREER IN THE NWS

BY: JEFF LAST, FORMER NWS GREEN BAY WARNING COORDINATION METEOROLOGIST

Have you sometimes wondered what former National Weather Service staff have been up to since leaving the NWS? In this new column, we'll catch up with retired NWS employees and find out how they are "Weathering Retirement." The first contribution is from long-time Warning Coordination Meteorologist Jeff Last, who retired in September 2019.

It's hard to believe, but it's been just over five years since I retired from the National Weather Service after a nearly 33-year career with the agency. The last 25 years were spent at NWS Green Bay as the office's first Warning Coordination Meteorologist (WCM). As WCM, I managed forecast and warning programs, public outreach, and built relationships with emergency managers and the media, all in an effort to promote weather safety and awareness.

Since retiring, my wife, Jill, and I moved from Green Bay (ironically, during a snowstorm) to a suburb of Orlando, Florida, fittingly named Winter Garden. My wife's work as a senior project manager specializing in resort and hotel renovations made central Florida the perfect location to continue her career, not to mention my interest in tropical meteorology (and slight obsession with everything Walt Disney World and Universal).

Jeff and his wife Jill at EPCOT in Walt Disney World Resort

What Do I Miss Most About NWS Green Bay:

In addition to missing the chance to work alongside the outstanding meteorologists at the NWS Green Bay office and the broadcast media in northeast Wisconsin, I truly miss speaking to the public about the weather. From teaching storm spotter training sessions to visiting schools, the opportunity to connect with the citizens of northeast Wisconsin was one of the most rewarding parts of my career.

Additionally, I miss the occasional snowstorm, although I can't say the same for the clean-up afterwards or the bitter cold and wind that usually follow.

What Do I Miss Least About NWS Green Bay:

There is very little that I didn't enjoy about my job as WCM. However, it was becoming difficult to keep up with the many new tools that NWS meteorologists used in their day-to-day forecasts. And because I had to occasionally fill in as a forecaster, I often found myself playing catch-up with the young and talented meteorologists at our office. I was happy to follow their example (and stay out of their way)!

Most Memorable Event:

There were so many! I worked during tornado outbreaks, blizzards, and flood events. What probably stands out the most was the severe weather events of July 19 and 20, 2019, my last summer in northeast Wisconsin. On July 19, severe thunderstorms produced numerous wind gusts over 70 mph (and some up to 100 mph) which created large swaths of damage across the north-central and northeast part of the state. The next day (July 20), I went out to survey damage across the area. New thunderstorms developed, and I was caught in the middle of a tornado-warned storm as I was investigating damage from the previous day. I had to seek shelter briefly before continuing my damage survey. That was the day the storms chased me!

What Am I Doing During Retirement?

Although I retired from the NWS, my love for meteorology and computers keeps me busy. I provide occasional weather consulting, test beta versions of mobile applications for app developers, and am testing a new artificial intelligence (AI) system being developed by a large computer and internet-related company. I'm also a daily weather observer for the CoCoRaHS network (station FL-OR-62). Since moving to Florida, I've experienced three tropical cyclones, including Hurricane Milton in October 2024. At our house, winds frequently gusted over 70 mph during a six hour period at the height of the storm, and more than 10 inches of rain fell.

And when I get free time, you'll probably find me at one of the Disney World or Universal theme parks or visiting one of the dozens of beaches within a couple hours drive of our home.

TASOS KALLAS RETIRES FROM NWS GREEN BAY

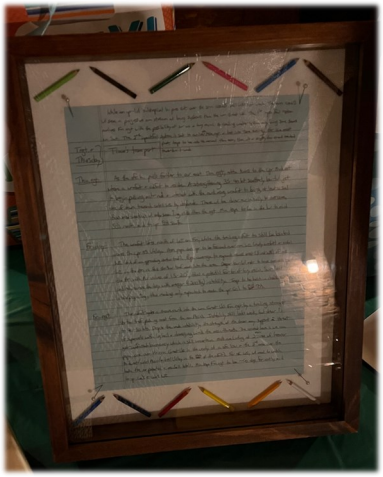
BY: REBECCA KRUK, METEOROLOGIST

After 36 years and 6 months of federal government service, Anastasios "Tasos" Kallas retired from the National Weather Service in late June.

Kallas' passion for meteorology began at a young age while visiting family in North Dakota watching storms from miles away move across the Plains. Being from the Chicagoland area, Kallas obtained his Bachelor's of Science in Meteorology from Northern Illinois University. He later pursued his Master's of Science in Meteorology from St. Louis University.

Tasos started his National Weather Service (NWS) career in January 1988 as a Meteorologist Intern at the former Lansing, Michigan Weather Service Office. To his surprise, 1988 turned out to have one the driest stretches of weather in, not only Michigan's history, but North America's. In Lansing, less than an inch of rain fell in the month of May and June combined, causing grass to turn into straw.

After 4 years, Kallas left the Lansing office and started at the Houston, Texas Weather Forecast Office in January 1992 as a General Forecaster. Within his first year, he experienced the infamous Hurricane Andrew, a category 5 hurricane that devastated the Bahamas, Florida, and Louisiana in August 1992. Days before the hurricane made landfall, there was a signal the Houston area was in the projected path, which resulted in the process of having to evacuate the office. Fortunately, the hurricane turned north into Louisiana and avoided any serious impacts to southeast Texas. Later that same year, he dealt with two EF-4 tornadoes occurring at the same time around the Houston area with only the Principal User Processor (PUP) at their disposal. (A simple forerunner to our current way of displaying radar data.)



Tasos's last hand-written Area Forecast Discussion

Following 3 years in the southern U.S., Kallas relocated back to the north, joining the Green Bay Weather Forecast Office team as a General Forecaster in December 1994. Throughout his time at NWS Green Bay, Tasos was part of many significant and challenging weather events. In addition to enduring countless snowstorms, two events that particularly stood out to him were the EF-3 tornado that struck Door County in 1998, and the June 7, 2007 tornado and extreme hail event. The latter produced hail of 5.5" in diameter and 5 tornadoes, including an EF-3 that stayed on the ground for at least 40 miles and reached widths of over ½ mile at times.

Looking back on his NWS career, one of his favorite aspects of meteorology was the challenge of trying to outpredict the models in temperature forecasting. As he put it, "I did above normal, but still got my butt kicked many a times." However, there are two things he'll miss most: First, the people he worked with over the years–a dedicated, knowledgeable group who worked tirelessly to deliver the best forecast possible; and second, the challenge of forecasting, trying to guess what Mother Nature would throw his way and working to determine the outcome. He also noted, "one thing I will not miss are the early morning winter balloon launches in sub-zero temperatures."

Specially designed retirement cookies

Since retiring, Tasos has taken a part-time job as a noon-duty supervisor at an elementary school, where he tries to keep the kids under control after lunch–a task he admits is "not easy". He and his family plan to stay in the Green Bay area, but have aspirations of taking an Alaskan cruise and visiting his relatives in Greece. We wish Tasos the very best in retirement, and thank him for his many years of dedicated service at NWS Green Bay.

GENE BRUSKY RETIRES FROM NWS GREEN BAY

BY: REBECCA KRUK, METEOROLOGIST

After 36 years and nearly 8 months of federal government service, Gene Brusky retired from the National Weather Service in mid-June.

Born and raised in the local Green Bay area, Brusky developed an insatiable curiosity about weather at a young age from climbing onto the roof of his childhood home to observe clouds pass by, to watching the Green Bay Packers and Dallas Cowboys play in the extreme cold of the famous 1967 Ice Bowl. He even became an avid weather observer as a kid. Overall, it was the aesthetics and beauty of weather phenomena that enticed him to pursue a career in meteorology.

Brusky obtained both his Bachelor's and Master's of Science degree in Atmospheric Science from the University of Wisconsin-Milwaukee before attaining a job in the National Weather Service (NWS) as a Meteorologist Intern at the Green Bay NWS in 1987. But, throughout his schooling, Brusky kept busy as a Radio Weather Broadcaster at Weathertime Inc in Madison, interning as a volunteer at WTMJ-TV in Milwaukee, and teaching science at a private high school in East Milwaukee.

After a few years as a Meteorologist Intern, Brusky took the knowledge he gained and combined it with his love for teaching others and became a Senior Meteorologist Instructor at the NWS Training Center in Kansas City, Missouri in 1990. Brusky learned of a new NWS office opening in Green Bay with a perfectly suited new position targeting passionate meteorologists wanting to teach others and help the agency advance into the millennium and in 1993, Brusky moved back to Green Bay and became the first Science and Operations Officer (SOO) at the current Green Bay National Weather Service office.

Throughout his time in Green Bay and as the Green Bay SOO, Brusky experienced an abundance of significant weather events. Two of the most memorable to him being an intense early winter cyclone on November 10, 1975, which led to the sinking of the Edmund Fitzgerald, and the Northern WI Blowdown on July 19, 2019, that rivaled the historic July 4, 1977 Independence Day Derecho.

Reflecting on his time in the NWS, Brusky explained, "being a NWS SOO was incredibly rewarding. It was a career-long learning experience where I could expand my knowledge in a profession that I was passionate about since childhood, while at the same time, given countless opportunities to teach and mentor others both within and outside the NWS." He shared how fortunate he was to work for the NWS during a time of remarkable advancements in meteorology, including the evolution of model ensembles, probabilistic data, GOES Next, and the operational implementation of Doppler Radar. He also emphasized that what made his NWS career a truly rewarding experience was the opportunity to help forecasters leverage these new tools, implement innovative forecasting and warning techniques, and work alongside the dedicated NWS Green Bay team during high-impact severe weather events.

Gene and his family plan to stay in the Green Bay area, but they also look forward to traveling around the county and to Europe, including Italy. Brusky also plans to continue pursuing his life-long passion for music, with hopes of someday playing guitar in a local blues band. We wish Gene the very best in retirement, and thank him for his many years of dedicated service at NWS Green Bay.

Gifts and specially made retirement cookies

NWS GREEN BAY WELCOMES 5 NEW STAFF MEMBERS!

BY: SCOTT BERSCHBACK, LEAD METEOROLOGIST

Keith Flewelling

Keith Flewelling joined our office as an Electronic Technician in early January from NWS Pocatello, Idaho. He started his NWS career in March of 2020 at NWS Fairbanks, Alaska. Before joining the NWS, he joined the US Army at age 40 and served 8 years active duty, where he worked on troubleshooting software and hardware, providing field support and systems maintenance for various IT and communication systems.

Keith grew up in Dover-Foxcroft, Maine. He graduated from the University of Maine with two degrees: a Bachelor of Science in Parks and Recreation Management and an Associate Degree in Legal Technology. He also received an Associate Degree in Electronics Technology from Cochise College, Arizona. He is also a former Master Maine Guide and Whitewater Rafting Guide. His favorite activity is fly fishing rivers and streams and being outside exploring with the family. He and his family spent the past summer exploring Door County, and their favorite activity is swimming at Whitefish Dunes State Park.

WELCOME!

Jason Alumbaugh

Jason Alumbaugh joined us in late January as a Lead Meteorologist. He came from NWS Buffalo, New York, where he was a Lead Forecaster from 2019-2024. But he is no stranger to the Great Lakes region, working at NWS Marquette from 1999-2019. He served as aviation, marine, and fire weather program leaders at his previous offices and is now serving as hydrology program leader here at NWS Green Bay.

Jason grew up in Kansas City, Missouri, and graduated from Iowa State University with a Bachelor of Science in Atmospheric Sciences. He is excited to be back in the Midwest, with many more chances to visit family in Wisconsin and Upper Michigan, along with cheering on the Packers and not being the only one around wearing a Packers hat! He is a drummer and has played drums in church worship bands over the years and enjoys playing softball and golf. He and his wife also had a horse and showed him at horse shows. His favorite quote is, "He who aims for nothing will hit it everytime" (Zig Ziglar).

Jordan Forslund

Jordan joined the office in August as our Administrative Support Assistant. He came from the Department of Veteran Affairs, where he was an Admin Assistant. He has considerable experience with logistical organization and the execution and coordination of administrative support. He has also served in the U.S. Army Wisconsin National Guard for several years.

Jordan was born and raised in Marinette, Wisconsin, has lived in Wisconsin his entire life, and wants to stay in the state. He studied Law Enforcement at NWTC. His main interests include his wife and 3 year old daughter. One of his favorite hobbies is Model Railroading (Trains). He belongs to Train Clubs and goes to shows in Wisconsin and in other states.

Derek Jaeger

Derek Jaeger joined us in late August as an Electronic Technician. He came from the South Dakota Air National Guard, where he was an Electronic Warfare Systems Supervisor with the South Dakota Air National Guard. He also served in the Navy, where he was an Aerographer's Mate, regularly providing weather and oceanographic information/forecasts to ships in multiple areas of responsibility.

Derek was born and raised in Goodwin, South Dakota. He holds a Masters in Business Administration from the University of Sioux Falls, a Bachelor of Science in Agronomy and a Bachelor of Science in Sociology from South Dakota State University. He is looking forward to taking advantage of the numerous outdoor recreation opportunities in Wisconsin and spending time with his family, fishing, hunting, hiking, boating, and golfing. One fun fact about Derek is that two years ago he got the opportunity to ride in an F-16.

WELCOME!

Jeff Makowski

Jeff Makowski joined the office in October as the Science and Operations Officer (SOO). He comes to us from NWS La Crosse where he was a Lead Meteorologist for 8 years. He also spent 4.5 years at NWS Grand Forks as a Meteorologist.

Jeff was born and raised in Milwaukee. He has a Bachelor of Science in Atmospheric and Oceanic Science from UW-Madison and a Master of Science in Meteorology from the University of Oklahoma. He is looking forward to exploring area trails, visiting Door County, and maybe going to a Packers game. He enjoys being outdoors (hiking, running, biking), exploring new places, and reading.

DIDYOU KNOW???

We are on X and Facebook. Check us out!

@NWSGreenBay NWSGreenBay

NWS GREEN BAY PROVIDES WEATHER SUPPORT TO CORE PARTNERS DURING EAA AIRVENTURE

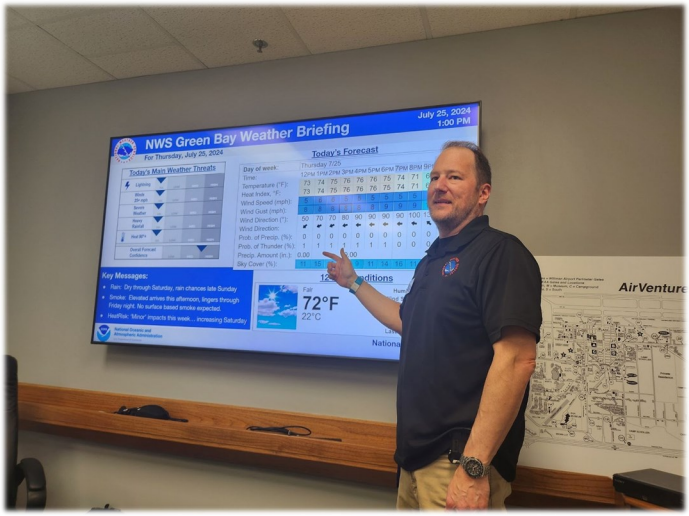
BY: RICH MAMROSH, LEAD METEOROLOGIST

Meteorologists from NWS Green Bay, along with other NWS offices, provided decision support at EAA AirVenture in Oshkosh last July to keep the nearly 700,000 attendees safe.

The support starts almost a week before the event begins, as NWS Green Bay meteorologists begin providing specific aviation forecasts for the nearly 10,000 pilots flying to Oshkosh. These forecasts inform pilots of expected cloud height, visibility, wind speed and direction, and low-level wind shear in the vicinity of Oshkosh.

Once the event begins, NWS Green Bay provides onsite meteorologists to provide Impact-based Decision Support Services (IDSS) for public safety at AirVenture. The onsite support includes providing a formal weather briefing to representatives from Winnebago County Emergency Management, Winnebago County Sheriff's Department, FAA Air Traffic Control, and others. These weather briefings help our partners ensure the safety of pilots and spectators on the grounds. Meteorologists at the NWS Center Weather Service Unit in Aurora, Illinois, provide the FAA with advisories for icing, turbulence, and thunderstorms.

The NWS also provides learning opportunities at AirVenture, including aviation weather presentations to pilots, and interviews on EAA Radio. Meteorologists from the Aviation Weather Center in Kansas City staff an interactive booth in the Federal Pavilion, with assistance from several local NWS offices.



LOOKING AHEAD!

Looking ahead in 2025, NWS Green Bay will provide weather support for the NFL Draft, which will be held in Green Bay from April 24-26. As we know, the weather in late April can range from a winter storm to severe thunderstorms. Our office will be working closely with NFL personnel, county/state officials, and local emergency management to ensure public safety, no matter what kind of weather Mother Nature decides to bring to the region.

NWS GREEN BAY GIVES BACK TO THE COMMUNITY

BY: SCOTT BERSCHBACK, LEAD METEOROLOGIST

Employees at the National Weather Service office in Green Bay gave back to the community this year by participating in a variety of programs. We hope everyone had a happy and healthy holiday season!

Adopt-A-Family

NWS Green Bay adopted a small family during the holiday season, purchasing 55 items, including clothing, sports equipment, games/toys, books, and several gift cards and household/hygiene items.

Food Drive

NWS Green Bay staff has collected food items for the past several years, donating to different food pantries across northeast WI. This year, we collected 123 non-perishable food items, weighing 132 pounds. The food was donated to a food pantry in Manitowoc County.

Adopt-A-Highway

NWS Green Bay participated in the Wisconsin Adopt-a-Highway program. The office adopted a park and ride parking lot near the Freedom, WI exit along Interstate 41 in 2018. Employees volunteer their time to participate in the clean ups, which were conducted in April, August, and October. Our efforts have since expanded to include a "Kwik Trip Tidy Up", which aims to remove trash that blows over to the office from the neighboring gas station property. The August cleanup occurred on one of the hottest days of the year, when heat indices were near 100 degrees. Some extra drinking water was definitely needed! We plan to stay involved with the Adopt-A-Highway program for many years to come!

ADOPT·A·HIGHWAY

2024 WEATHER REWIND: JANUARY-JUNE

January
A winter storm on January 11-12 brought about a foot of snow and near blizzard conditions to portions of northeast Wisconsin. A cold spell followed from January 14-21 and brought the only subzero temperatures of the season to the Fox Valley. Mild temperatures caused an unusually low snowpack towards the end of the month which impacted the winter tourism industry statewide.

February
The first two documented Wisconsin February tornadoes occurred in southern Wisconsin on February 8. Meanwhile, record warmth on February 27 brought the first 70° reading during February [and meteorological winter (Dec-Feb)] to northeast Wisconsin. Then, by late evening it was snowing. Temperatures the morning of February 28 were 50°-64° colder than the previous afternoon.

March
Northeast Wisconsin experienced the warmest winter (Dec-Feb) on record. Appleton averaged 30.1°, shattering the old record by nearly 3° (27° set in 1997-98). Green Bay averaged 30.7° (previous record of 27.7° in 2001-02). At Rhinelander, the average winter temperature was 25.5°, breaking the record by 1° (24.5F set in 1997-98). At Wausau, the average winter temperature was 28.6°, breaking the record by 1.7° (26.9° set in 1997-98).

April
Below normal precipitation during the winter into early spring resulted in Abnormally Dry (D0) to Moderate Drought (D1) conditions developing across the area. Several rounds of rain and snow resulted in improvement, with only locations north of Merrill-Antigo-Wausaukee line and Waushara County still designated in drought at the end of the month.

May
Above normal precipitation continued into May. Rainfall totals for the month ranged from 4 to 10 inches. The Brillion COOP site recorded 9.88 inches of rain - the most for any site in northeast Wisconsin. The wet soils impacted spring farming operations. The severe weather season started off very active, with five tornadoes on May 21: 3 in Marathon County, 1 in Outagamie County, and 1 in Door County.

June
The above normal rainfall pattern continued during the month. Rainfall totals for the month ranged from 4 to 10 inches, with the highest total of the month at 9.48 inches reported four miles east of Forestville. At Brillion, 9.08 inches was recorded resulting in a two-month (May-June) total of 18.94 inches.

2024 WEATHER REWIND: JULY-DECEMBER

July
5.69 inches of rain in 4 hours resulted in a breach of the Manawa Dam. Rushing water on the north side of the dam started eroding the soil, resulting in the breach. Local residents were urged to evacuate, while residents of a nearby nursing home were evacuated. Rainfall for the month averaged at or above normal, but was highly dependent on where thunderstorms set up.

August
Turn up the heat! The hottest day of the year occurred on the August 26 when temperatures reached the upper 80s to middle 90s. At the same time, afternoon dewpoints climbed into the middle to upper 70s. This is more typical of Florida than Wisconsin. The combination of the heat and humidity resulted in the heat index reaching 96°- 107°.

September
Except for a cool stretch during the first week of the month, most days in September averaged above normal resulting in one of the top 10 warmest Septembers on record. Rainfall was scarce with totals less than an inch at many locations across northern Wisconsin. Drought conditions expanded and worsened at the end of the month due to the prolonged dry spell.

October
October ended up warmer than normal, with an average temperature 4° to 6° above normal. Below normal precipitation was observed through October 28 which led to expanding Moderate (D1) and Severe Drought (D2) conditions across much of the area except central Wisconsin. Beneficial rainfall returned October 29-30 which brought much needed moisture; this led to improving drought conditions.

November
Above normal temperatures continued through much of November. A change in the weather pattern brought below normal temperatures from November 26-30. Despite the cold spell at the end of the month, the Fall (Sep-Nov) ended up as one of the top 10 warmest on record. Above normal precipitation across much of the area brought an end to the drought conditions across central and east-central Wisconsin, although Moderate Drought (D1) continued across the north.

December
The change to a colder than normal pattern that began in late November continued through the middle of the month, except for a brief period of mild air from December 8-10. For many, the first significant snowfall of the season occurred December 19-20, when 4 to 9 inches of snow fell across central and east-central Wisconsin, with the highest totals near Lake Michigan. For the month, the average temperature was generally within a half degree of normal.


5 Things to Know
about Winter Weather Forecasts
1
Snow or ice totals can vary greatly over short distances
A heavy snow band may form, dropping more snow in one location while significantly less snow falls just a few miles away.
Rhinelander 16.9"
Green Bay 9.1"
Madison 0.4"
29°
2
Winter forecasts can change frequently
Forecasts may change as new model data becomes available. Always check weather.gov for the latest information.
3
Focus more on the winter storm's impacts
Don't focus too much on exact numbers, and consider the full range of possibilities.
Warning
Watch
Advisory
4
Know your winter weather terminology
If a Watch is issued, get prepared for hazardous weather. If a Warning or Advisory is issued, take action – hazardous weather is occurring or will occur soon.
5
Rely on a dependable source for weather info
Choose your information sources wisely, and follow a name or organization you know and trust.
For more information on winter weather safety, visit:
weather.gov/winter

WEATHER PHOBIAS
WORD SEARCH

J O D O U A P O K P T F F M W C L S
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ANABLEPHOBIA: FEAR OF LOOKING UP OR OF THE SKY FALLING

ANCRAOPHOBIA: FEAR OF WIND

ASTRAPHOBIA: FEAR OF THUNDER AND LIGHTNING

CHIONOPHOBIA: FEAR OF SNOW

HELIOPHOBIA: FEAR OF THE SUN

HOMICHLOPHOBIA: FEAR OF FOG

LILAPSOPHOBIA: FEAR OF TORNADOES OR HURRICANES

NEPHOPHOBIA: FEAR OF CLOUDS

OMBROPHOBIA: FEAR OF RAIN

THERMOPHOBIA: FEAR OF HEAT

NATIONAL WEATHER SERVICE
GREEN BAY

2485 South Point Road
Green Bay, WI 54313
Phone: 920-494-2363

www.weather.gov/grb

NWSGreenBay

@NWSGreenBay