



Shareholders Report 2025



**National Weather Service
Louisville, Kentucky**



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During a Season of Change, The Mission Continues

Ryan Sharp,
Science and Operations Officer

Wow! 2025 was a year filled with lots of weather and transitions at the National Weather Service (NWS) Louisville (LMK) office! After just over 20 years of leading the LMK office, Meteorologist in Charge (MIC) John Gordon retired from the agency at the end of February. In all, LMK lost 6 employees to retirement or moving to another job. We lost a lot of experience but maintained a strong core of people ready to get us through 2025 and into 2026 (see more on page 17). We also will be onboarding at least four new meteorologists, a new MIC, plus a new embedded meteorologist position at the Kentucky State Emergency Operations Center in 2026.

2025 will be known for several big-time weather events. We had historic flooding (page 4) in both mid February and then again with a longer-term event in early April that also brought severe weather. With the latter storms, early on April 3 the city of Louisville experienced its strongest tornado damage (EF3 eastside) since an F4 hit on April 3, 1974 (page 8-9)! In May, the long-track EF4 tornado that hit Somerset and London developed in our forecast area down in Russell County (page 10).

Outside of the severe weather, 2025 got off to a bang with a powerful winter storm that impacted the region January 5-6. The ice and snow left behind that system lingered for several days as cold Arctic air kept it in place. That storm was well forecast for many days ahead of it, giving decision makers the tools they needed to position resources ahead of it (page 14). The 2025-26 winter got off to an early start with Louisville's 4th snowiest December on record!

Our office continues to provide not only weather information for those broad-scale events, but forecasters continue providing more targeted decision support services. We provided support at several Kentucky Derby events, concert series, and other larger-scale events in our area. This year's Kentucky Oaks featured a risk for severe weather. Forecasters used several tools to give lead time ahead of a severe-warned storm impacting Louisville. Heat impacted the two weekend concerts series in Louisville in September, and our forecasters provided guidance to the organizers to help them plan for mitigating the heat.

Our top goals for 2026 include continuing to improve our tornado warning decision making as well as supporting more events with decision support services. We had a couple of scholar students work during the summer of 2025, and they came up with tangible ways we can work to get our forecasts and warning/headline products the "last mile", to more users. We hope to implement their ideas during this new year (page 16).

For 154 years, we have remained committed to serving the people of southern Indiana and central Kentucky with passion and purpose. As astute public servants, LMK's core foundation is exceptional customer service. I hope you find that our activities in this Report demonstrate that sort of stewardship. The NWS costs each American a little over \$4 in 2025. I welcome your suggestions on how the Louisville NWS office can be an even better investment for you.

I am grateful to Forecaster/Editor Chase Graham for compiling this Shareholders Report, and to Warning Coordination Meteorologist Michael Kochasic for his thorough review of it.

Historic Late Winter and Spring Flooding in the Ohio Valley

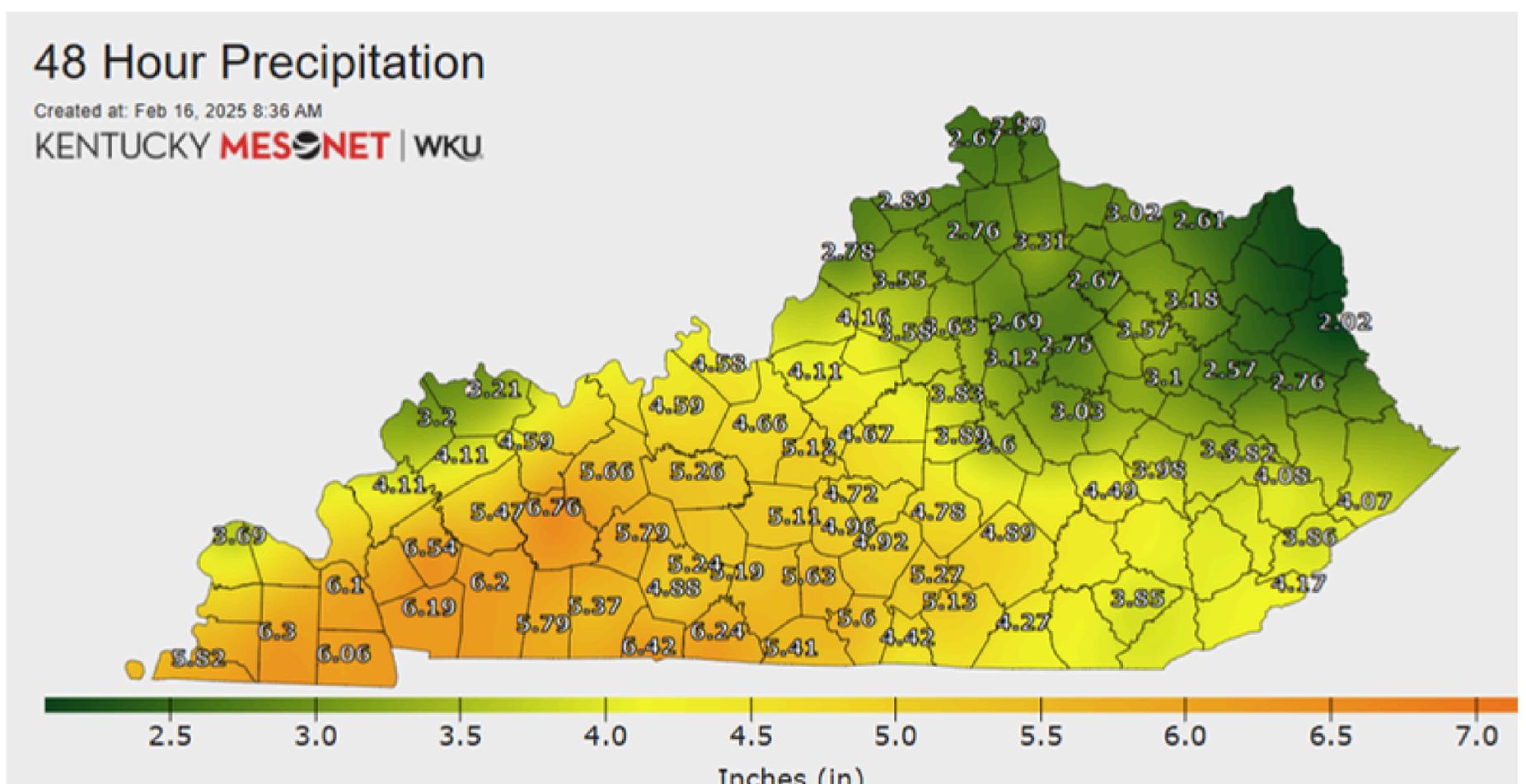
Andrea Schoettmer,
Senior Service Hydrologist

Introduction

The late winter and early spring months are typically when the Ohio Valley has its greatest risk for excessive rainfall and flooding, and 2025 was certainly no exception. Two separate historic flooding events impacted the lower and middle Ohio Valley between mid-February and mid-April 2025, resulting in numerous flash flood, areal flood, and river flood warnings across the NWS Louisville and surrounding Hydrological Service Areas. During both events, National Weather Service meteorologists and hydrologists worked closely with local, state, and federal partners, providing meteorological and hydrological decision support services to ensure an efficient and timely emergency response.

February 2025

From the late evening hours on February 14th through midday on February 16th, a strong low pressure system and cold front moved across the Tennessee and Ohio Valleys. A broad band of moderate to locally heavy rain set up along a warm front overnight February 14th into the 15th, bringing an initial wave of rain to southwestern and south central Kentucky. As the warm front lifted north during the day on the 15th, heavier rain spread into northern Kentucky and southern Indiana. A brief decrease in rainfall occurred across south central Kentucky; however, heavy rain and thunderstorms returned during the evening hours ahead of the cold front. Light to moderate rain continued for several hours early in the morning on February 16th before cold air rushing in behind the front changed precipitation over to a quick burst of snow resulting in light accumulations across much of the area. In total, between 2 and 7 inches of rain fell over the two day stretch, with the heaviest rain amounts occurring across south central and southwestern Kentucky.



Kentucky Mesonet 48 Hour Precipitation Totals - Valid 2/14/25 - 2/16/25

Historic Late Winter and Spring Flooding in the Ohio Valley

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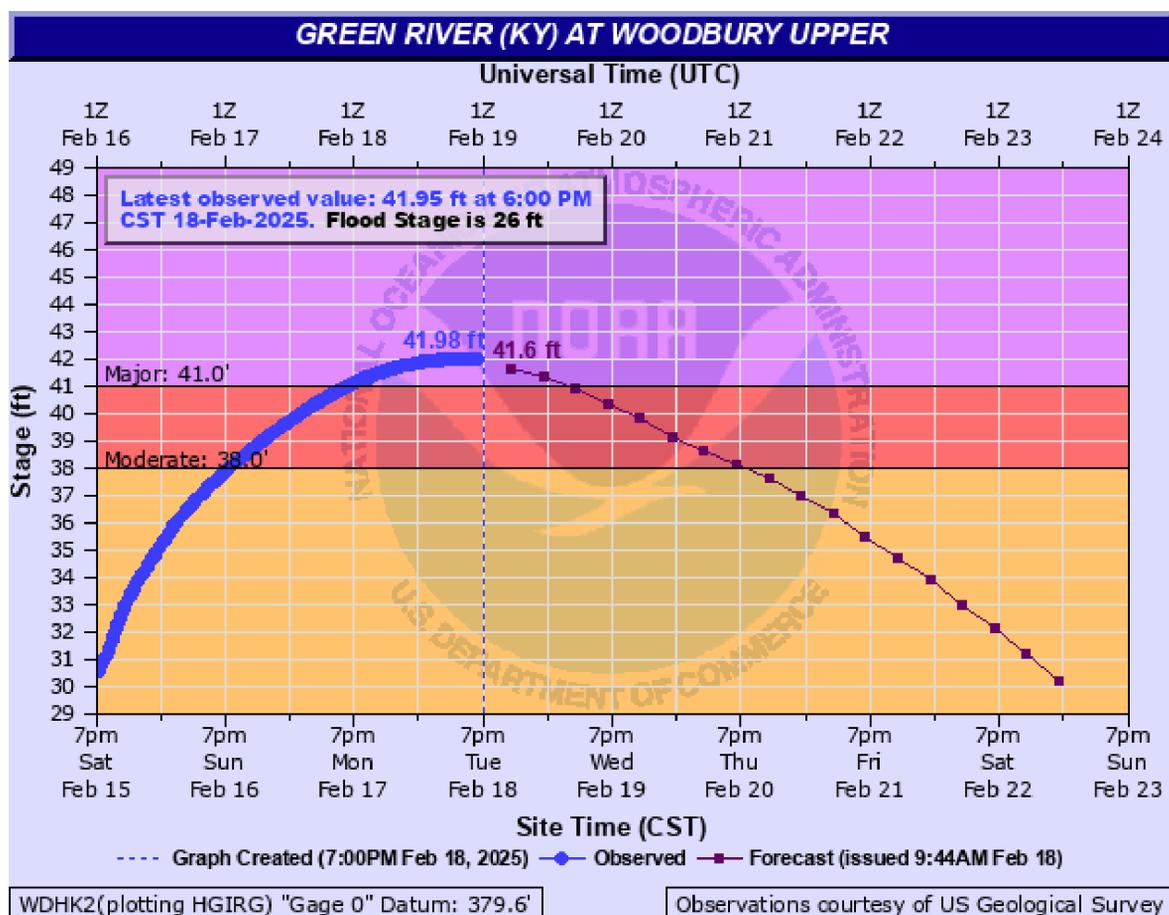
As a result of the heavy precipitation, many area rivers and streams overflowed their banks, with major flooding being observed on the Green, Kentucky, and Rolling Fork Rivers. In addition to river flooding, areal flooding and flash flooding were also observed during the heavier rain rates, and Flash Flood Warnings were issued for every county within the NWS Louisville area of responsibility at some point during the February 14th-16th time period.

The impacts from areal flooding and river flooding were widespread: across Kentucky, there were 10 confirmed flood fatalities with over 1000 water rescues performed. Over 40,000 people across the Commonwealth lost power, with some municipal water systems becoming compromised as a result of flooding. Other infrastructure impacts were felt as over 300 roads were closed across the region, including a portion of Interstate 69 in western Kentucky which was closed due to a mudslide.

NWS Louisville forecasters began briefing the potential for significant flooding in the Area Forecast Discussion over a week in advance, with a steady

stream of partner emails and other briefings being delivered leading up to and continuing through the event. When the heavy rainfall and flooding began to overspread the area, NWS Louisville decision support continued via on-site briefings to the Kentucky Emergency Operations Center staff as well as Governor Beshear.

The February 2025 floods were a first major test of the NWS Flood Inundation Mapping (FIM) tools, which shows expected inundation due to river flooding based on both meteorological and hydrological inputs. The provision of FIM briefings to local, state, and federal emergency management partners aided in rescue and recovery efforts, especially in eastern Kentucky, where multiple evacuations were undertaken as a result of NWS FIM briefings. While there were many instances of FIM correctly predicting the inundation levels, the February 2025 floods gave NWS meteorologists and hydrologists a prime opportunity to assess where the initial version of FIM was overinundating and underinundating, with FIM reviews taking place in the weeks and months following the late winter flood. These FIM reviews have and will continue to be used to make improvements to future versions of Flood Inundation Maps.



Hydrograph on the Green River at Woodbury, KY (Butler Co.)

Historic Late Winter and Spring Flooding in the Ohio Valley

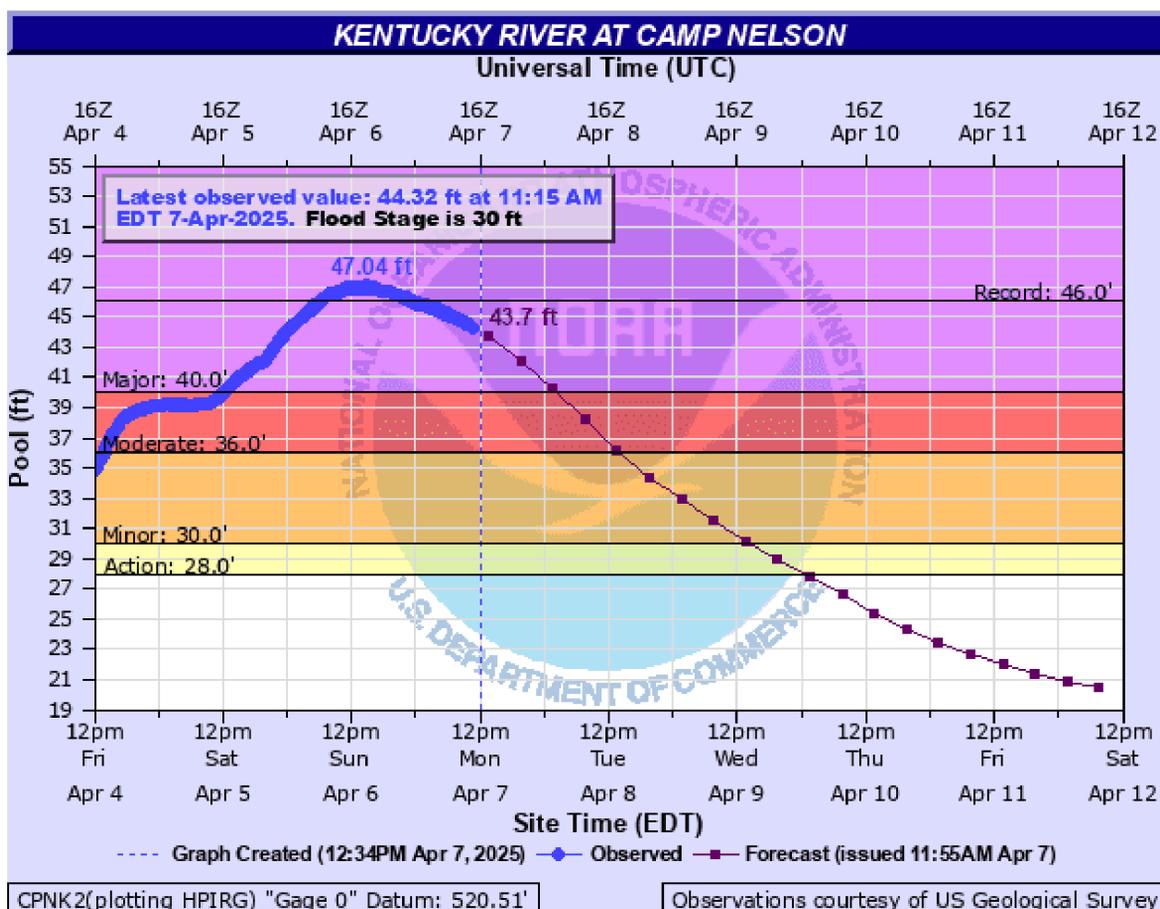
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April 2025

An extremely active period of weather kicked off on March 30th, 2025 with a regional severe weather event (see article on page 8) and continued April 2nd through April 6th as multiple rounds of heavy rain moved across the lower Ohio Valley. In addition to the widespread flooding detailed below, there were several rounds of severe thunderstorms which produced damaging wind gusts, hail, and tornadoes. The culprit for the active weather was a deep upper trough over the western CONUS which very slowly moved to the east during the five day period. Deep southwesterly flow ahead of the upper trough brought rich Gulf moisture up into the Ohio Valley, with multiple waves of low pressure moving across the region along a quasi-stationary front. Over the course of roughly five days, many areas across Kentucky and southern Indiana received over 7 inches of rain, with a narrower swath over western and central Kentucky receiving between 10 and 15 inches of rain.



Flooding at Buffalo Trace Distillery in Frankfort.
Image Credit: Franklin County Police Department



Hydrograph showing the record crest on the Kentucky River at Camp Nelson (Jessamine/Garrard Co.)

As with the February heavy rainfall event, as the waves of heavy showers and thunderstorms moved across the area, numerous flash flood and areal flood warnings were issued by National Weather Service offices across the region. Between the afternoon of April 3rd and the evening of April 5th, 25 Flash Flood Warnings were issued by the NWS Louisville, covering at least a portion of all 59 counties in the county warning area. By the end of the heavy rainfall event, the primary flooding concern transitioned to river flooding as smaller streams and basins drained into the main river systems across Kentucky and Indiana.

Historic Late Winter and Spring Flooding in the Ohio Valley

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Numerous river forecast sites on the Green, Kentucky, Rolling Fork, and Ohio Rivers reached moderate flood stage or above, with historic river crests observed on the Kentucky and Green Rivers. The Kentucky River at Camp Nelson set a new preliminary record crest of 47.04 ft. on April 6th, exceeding the previous record crest by over 1 foot, and the Kentucky River at Frankfort preliminary crest of 48.27 ft on April 7th came in a close second to the 1978 Flood crest (48.47 ft on December 10th). While most of the smaller streams fell out of flood within a few days of the end of the heavy rainfall ending, locations along the Ohio River remained in flood until April 14th, with NWS Louisville remaining in flood operations for nearly two weeks.

Widespread impacts were again felt during the April floods across the region. In Kentucky, there were 7 confirmed flood fatalities along with over 90 water rescues and 200 evacuations. Numerous power outages and several water system failures occurred as a result of the severe weather and flooding. Over 500 roads were closed, including portions of I-65, I-69, I-71, I-165, I-169, and the Gene Snyder Freeway in Louisville.

NWS Louisville forecasters provided briefings to partners for several days leading up to and continuing through the multiple rounds of severe weather and flooding. As the threat of river flooding increased, FIM Impact-based Decision Support Services (IDSS) were provided to emergency managers and other core partners. A noteworthy implementation of FIM IDSS during the April floods occurred as a near-record crest moved down the Kentucky River toward the city of Frankfort on April 6th-7th. Based on NWS Louisville FIM briefings, sandbags were used to protect the city of Frankfort's communications building and other



Flooding from the Rolling Fork in Boston, KY.
Image Credit: Nelson County EMA

resources within the city, resulting in a more efficient deployment of flood mitigation resources. Additionally, the city of Frankfort conducted numerous evacuations and enacted a mandatory curfew April 6th and 7th based on the NWS river forecasts and FIM. State office buildings were closed on April 7th as well due to the historic flood. Other FIM briefings were provided to emergency managers for communities along area rivers, including Madison, Indiana, Lockport, Kentucky (Henry County), and Dundee, Kentucky (Ohio County). As a result of the expected flood impacts on the Ohio River, Thunder over Louisville was cancelled for the first time in the history of the event. After the flooding subsided, FIM maps were also used to help compile the Presidential Disaster Declaration for the state of Kentucky.

From the preparation and forecasting leading up to the February and April 2025 floods, to the provision of updated briefings and FIM IDSS during the event, to FIM reviews and flood surveys after the floods, NWS Louisville meteorologists and hydrologists spent many hours in 2025 providing flood services to our partners and the public.

Severe Weather in 2025: March 30th-31st

Chase Graham,
Meteorologist

A very active six to ten day stretch of weather across the Ohio Valley kicked off during the evening hours on March 30th as a cold front approached the region from the west. Ahead of the front, temperatures warmed into the low-to-mid 70s with dewpoints rising into the low-to-mid 60s, providing fuel for thunderstorms to develop. Scattered thunderstorm cells developed to the northwest of the region during the afternoon hours, quickly growing upscale into a series of Quasi-Linear Convective Systems (QLCS) which would move through southern Indiana and central Kentucky during the mid-to-late evening and early overnight hours March 30th into the 31st.



Tornado Damage to a Barn in Harned, KY.
(Breckinridge Co.)

As convection initially moved into southern Indiana, damaging straight-line winds and near-severe level hail were the main severe hazards produced by the line of storms. However, as the line of storms approached the I-65 corridor, the section of the line between the Western Kentucky Parkway and I-64 took on a more favorable orientation for spin-up tornadoes to develop. Between 9:15 and 10:30 pm EDT, five tornadoes touched down across central Kentucky, with the hardest-hit areas being Meade, northern Hardin, Bullitt, and southern Jefferson County. All five tornadoes received an EF-1 rating, with maximum wind speeds between 90 and 105 mph. While QLCS tornadoes are typically short-lived and weak, the strongest of the five tornadoes

remained on the ground for over 31 miles as it tracked across Meade, northern Hardin, and southern Bullitt County. Another memorable moment from this night was that NWS Louisville staff briefly had to shelter in place as the Fairdale/Southern Jefferson County tornado tracked toward the office, with NWS Paducah taking over warning operations for about 10 minutes while the threat passed. Fortunately, the tornado lifted a few miles before reaching the office, and NWS Louisville staff were able to resume warning operations. The QLCS continued to produce scattered severe wind gusts and minor wind damage as it pushed into the Bluegrass, with the lines of severe storms exiting the region shortly after midnight on March 31st.

Severe Weather in 2025: April 2nd-6th

Samantha Wilson,
Meteorologist

On the night of April 2nd, 2025, a cold front approached the lower Ohio Valley, where numerous supercells tracked eastward and occasionally formed QLCSs with bowing segments. Storms lasted through the evening and into the morning hours as the cold front began to stall over the lower Ohio Valley. These storms left behind a wake of damage in many counties in southern Indiana and central Kentucky. Over the next few days, waves of showers and storms rode along the cold front bringing lots of rain which led to widespread flooding through April 6th. Later, this flooding turned into historic and near-record breaking river flooding along many river basins.

Severe Weather in 2025:

April 2nd-6th

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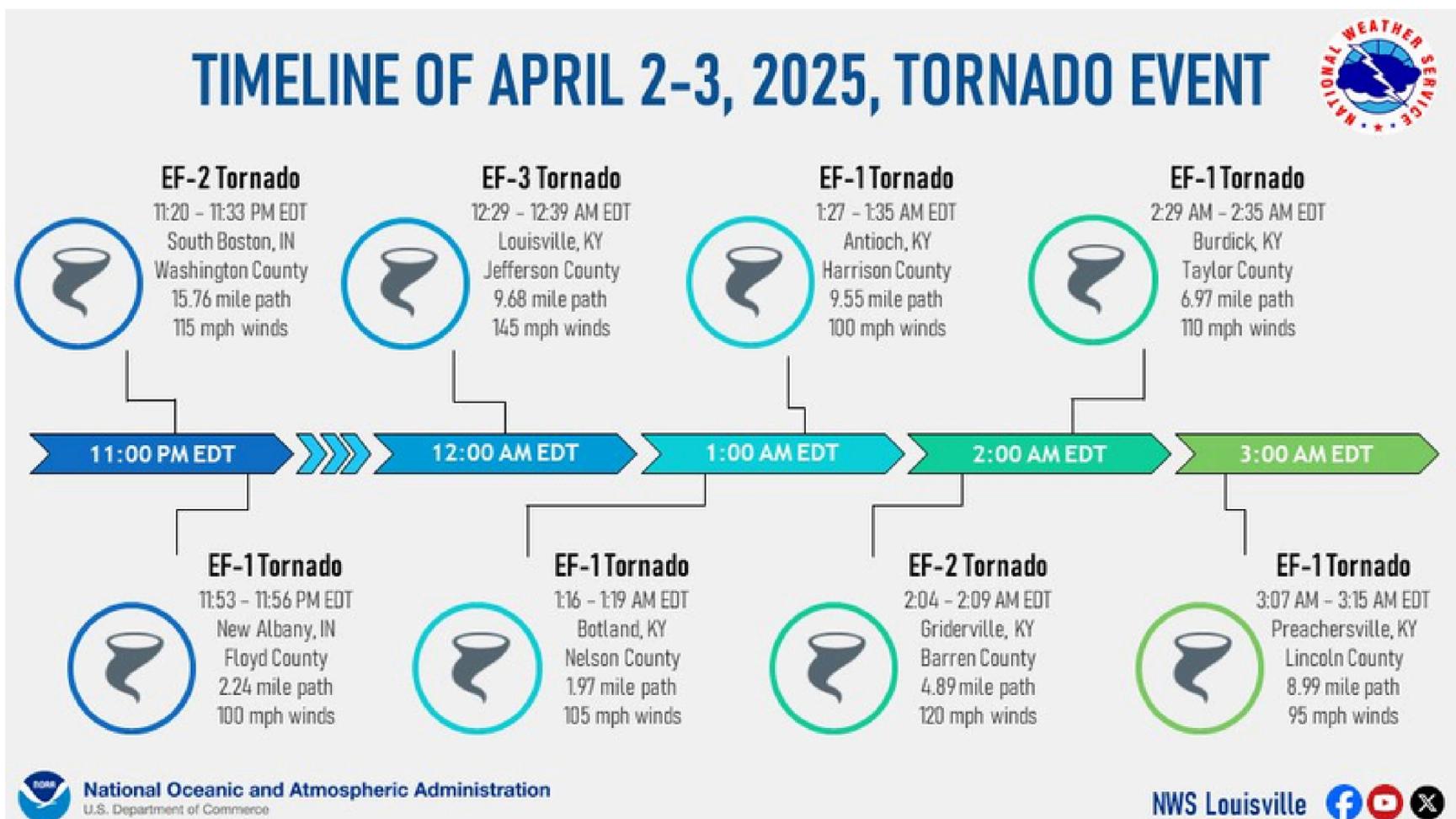
Between 11 PM on April 2nd and 4 AM on April 3rd, eight tornadoes touched down across central Kentucky and southern Indiana, including one EF-3, two EF-2s, and five EF-1s. The lone EF-3 tornado touched down in Jeffersontown, KY, tracking for roughly nine and a half miles across east central Jefferson County. The most extensive damage occurred approximately 1 mile northeast of the middle of Jeffersontown, where several metal buildings collapsed as a result of the tornado's winds. The two EF-2 tornadoes which touched down in Washington County, IN, and Barren County, KY largely impacted rural areas and were both associated with breaks in the



A mobile home destroyed by an EF-2 tornado in Washington Co., IN.

larger line of storms. Just like a few nights earlier, the tornadoes were on the stronger side and were relatively long-lasting for QLCS spin-ups. Again, the tornadoes hit close to home for NWS forecasters, with several forecasters residing within a mile the tornado tracks. One meteorologist recounted: "It was a surreal moment, when I issued an update to the tornado warning, knowing it may potentially hit my home. I passed the radar off to another forecaster, so that I could call my husband, although he had already texted me a picture of him and the dogs secured in the basement shelter area, so I was relieved."

While there would be additional strong to severe storms producing wind damage and even one spin-up tornado over the next three days, the vast majority of the severe weather across Kentucky and Indiana would end by sunrise on April 3rd as the cold front stalled over the region.



A timeline of the tornadoes which impacted southern Indiana and central Kentucky during the nighttime on April 2nd into April 3rd.

A Radar Operator's Perspective: Challenging Tornado Warning Decisions and Critical Environmental Analysis – May 2025

Brian Schoettmer,
Lead Meteorologist

The month of May has a history of bringing severe weather to Indiana and Kentucky, and sometimes these events can be quite intense. The year 2025 was no exception as a couple of notable severe episodes occurred on May 16 and May 30, bringing strong and long-track tornadoes to parts of Kentucky. A lot goes into issuing tornado warnings for these dangerous storms; including radar analysis, environmental analysis, proper maintenance of radar equipment, and staffing levels. There is an argument to be made that environmental analysis is just as important, or even more important, than the actual radar analysis. After all, if you take the same storm and put it in two different environments you are going to get differing impacts from that storm. With this idea in mind, two particular May events were great examples of how environmental analysis can be crucial in making the right warning decisions.

May 16 saw a very long track supercell thunderstorm track much of the way across southern KY before producing an EF-4 tornado that impacted communities across Russell, Pulaski, and Laurel County, including London and Somerset. On this particular evening, the storm was in a very favorable environment for tornadoes as it tracked across southern KY, yet for much of its life, it was not producing a tornado. Warning forecasters across several NWS offices kept warnings going on this storm despite the lack of reports because the environmental data that is updated hourly continued to suggest it could go tornadic at any moment. As a radar analyst, this can be a tough spot to be in as you don't want to overly false alarm a storm, but at the same time you know the potential is there for a strong tornado. A warning team consisting of 2 environmental analysts and a warning operator made the right decisions on this night, keeping the warnings going which likely gave an additional "heads up" to the folks around and east of the Lake Cumberland area that a notably dangerous storm was approaching. Eventually the long track supercell was able to take advantage of the favorable environment as a tornado touched down in Russell county, and quickly intensified to EF-3 strength. It then went on into Pulaski and Laurel counties while producing swaths of devastating EF-4 damage. Great collaboration between NWS Louisville and NWS Jackson kept the tornado warnings flowing seamlessly with very long lead times of 20+ minutes as the storm intensified into what is considered a violent tornado.



EF-3 tornado damage near the Eli community in Russell Co., KY



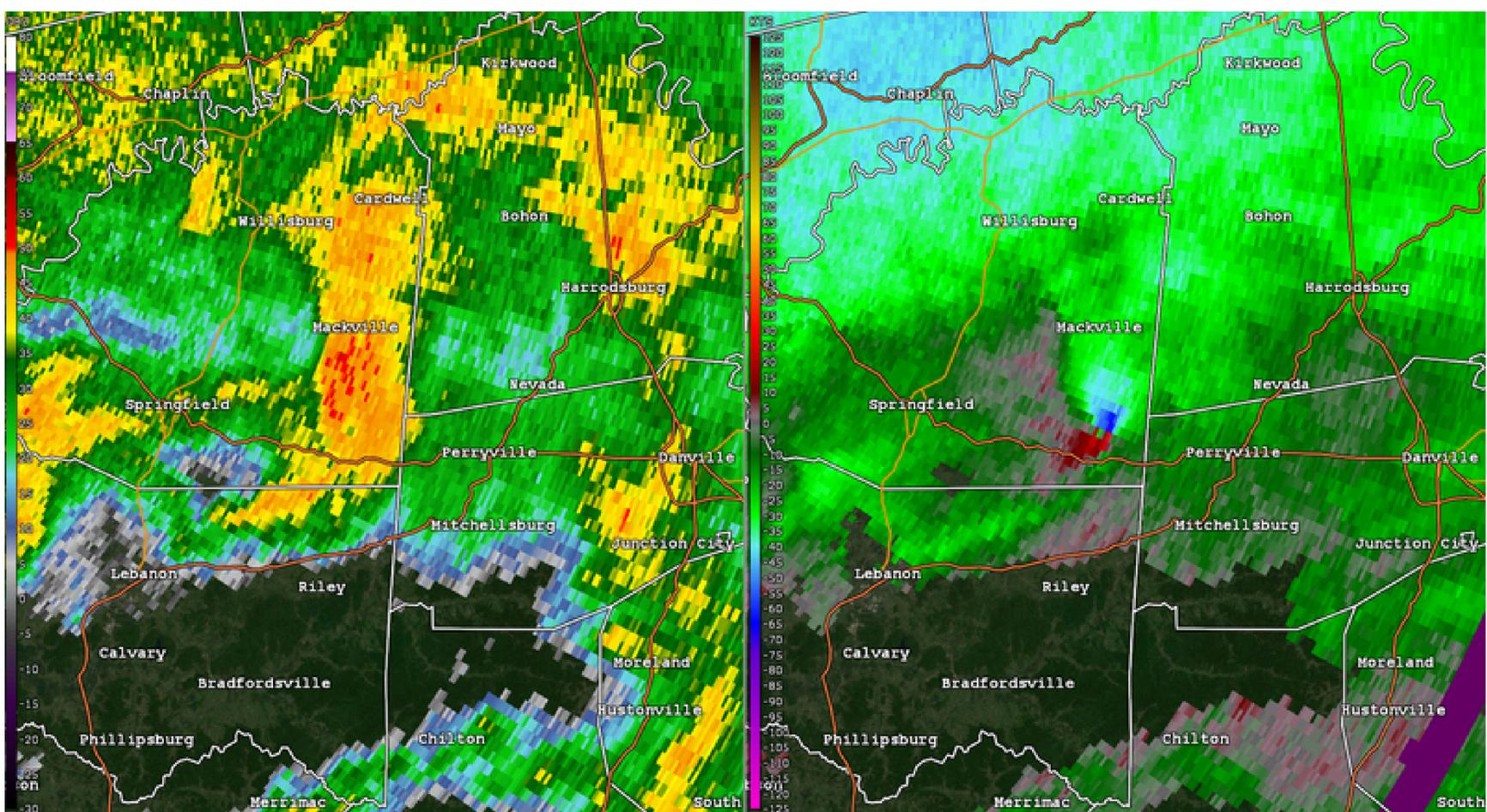
2-3 inch diameter hail in
Plum Springs, KY (Warren Co.)

A Radar Operator's Perspective: Challenging Tornado Warning Decisions and Critical Environmental Analysis – May 2025

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A second example occurred on May 30th, and this case proved just how important environmental analysis can be. I'll have to say, the early morning of May 30th, 2025 goes down as one of the most challenging events of my 19 year career. The day before, we recognized that there was going to be a subtle tornado threat as a weak surface low pressure moved into the Ohio River Valley, with a warm front draped southwest to northeast across Kentucky. After collaborating with the Storm Prediction Center about having our area highlighted in a Marginal Risk (Level 1/5) of severe weather, we decided to bring extra staff in at 4 AM that morning to work the event out of an abundance of caution. As it turns out, this would end up being the right decision.

The early morning hours started out with a strengthening supercell over south central KY, which showed a good rotational signature and prompted several tornado warnings. These initial tornado warnings did not end up producing reports of any damage, despite the excellent radar presentation, and the storm going through several cycles of strengthening/weakening. At the time we knew the warm frontal boundary was in the vicinity thanks to dense surface observing networks like ASOS, AWOS, and the incredibly valuable Kentucky Mesonet. Still, despite these excellent observational tools, exact placement of the warm front was still in question within about a one county width. We chatted to broadcast media and county emergency managers about a continuing tornado threat downstream as the storm was paralleling this critical boundary, despite it now being well north of the expected risk area. At the time, there was no way to know exactly which side of this all-important boundary the storm was on, but it was too close to risk not having a tornado warning on it. On the other hand, consideration absolutely has to be given to not setting tornado sirens off in the pre-dawn hours for a storm that could be in a stable environment. These are the challenges that make certain warning decisions very tough.



Radar Imagery as the Tornado touched down in Washington County, KY.

A Radar Operator's Perspective: Challenging Tornado Warning Decisions and Critical Environmental Analysis – May 2025

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After the storm went through a third weakening phase it appeared that the threat was ending. However, it quickly regained supercell structure, took a hard right turn across the warm frontal boundary into unstable air, and then produced a very quick hitting and intense EF-2 tornado in southeast Washington County and northwest Boyle County. Because of the persistent radar interrogation and thorough environmental analysis a warning was able to be issued with about 1 minute of lead time before this strong and dangerous tornado struck at a very vulnerable time of the morning.



Tornado debris and tree damage in Washington County, KY.

Without analysis of the exact warm frontal position, we could have decided not to warn based on no reported damage from upstream tornadic signatures. I'm glad we put ourselves in the best position to make the right decision in this instance. This is a good example of the benefits of having a solid staffing plan, thorough environmental analysis, and the right mindset to respect the fine line between a favorable tornado environment and an unfavorable one.

2025 Severe Weather Statistics

NWS Louisville County Warning Area

Tornadoes: 24 (20 in Kentucky, 4 in Indiana)

Highest Daily Tornado Count: 6 on April 3rd

Tornado Count by Rating: EF-0: 3, EF-1: 16, EF-2: 3, EF-3: 2

Largest Hail Size: 2.75" – Plum Springs, KY, May 16th

**Highest Thunderstorm Wind Gust: 82 mph,
Louisville/Muhammad Ali International Airport, May 16th**

Partnership: County and State Dispatch Centers Implement Automated CAD Reporting

Samantha Wilson,
Meteorologist

The NWS Louisville office is actively collaborating with Kentucky and Indiana county dispatch centers to enhance severe weather reporting through automated Computer-Aided Dispatch (CAD) systems. This initiative aims to streamline the flow of critical weather-related information and reports directly to the NWS office, enabling near real-time updates for forecasters, and improving the accuracy of severe weather warnings.

During severe weather, NWS Louisville meteorologists provide weather warnings and alerts, but also work to find ground truth through weather reports. There are multiple weather reporting outlets: broadcast media, social media, email, phone calls, spotter reports, but one of the most consistently relied upon is 911 dispatch reports. For example, if a tree falls in the road during a storm, you may call your local dispatch to inform them. This instance is reported as 'tree down' and is extremely useful information for NWS Louisville warning forecasters. Typically, NWS Louisville meteorologists call each county dispatch center that was within a warning to see how they fared through the storm. Sometimes NWS Louisville can call dispatch centers multiple times in one night, which is an inefficient use of both NWS Louisville meteorologists and local county dispatchers. To help facilitate a smoother flow of information, NWS Louisville has built upon partnerships with 911 county dispatch centers across Kentucky and at the state level with Kentucky State Police (KSP). This partnership provides a free flow of severe weather reports from their CAD systems to NWS Louisville email accounts.

29 counties across central Kentucky and southern Indiana and all KSP posts have successfully implemented these automated reports. This has significantly augmented our ability to receive timely and precise severe weather reports, such as reports of wind damage and flooded roadways. These automated inputs complement traditional reporting methods and provide a more comprehensive picture of ongoing weather impacts.

The ongoing effort to expand this program to more counties across Kentucky and Indiana is a testament to the commitment of both NWS Louisville and local dispatch centers to public safety. By improving the efficiency of reports, we have enhanced situational awareness for forecasters and facilitated more effective decision-making during weather events.



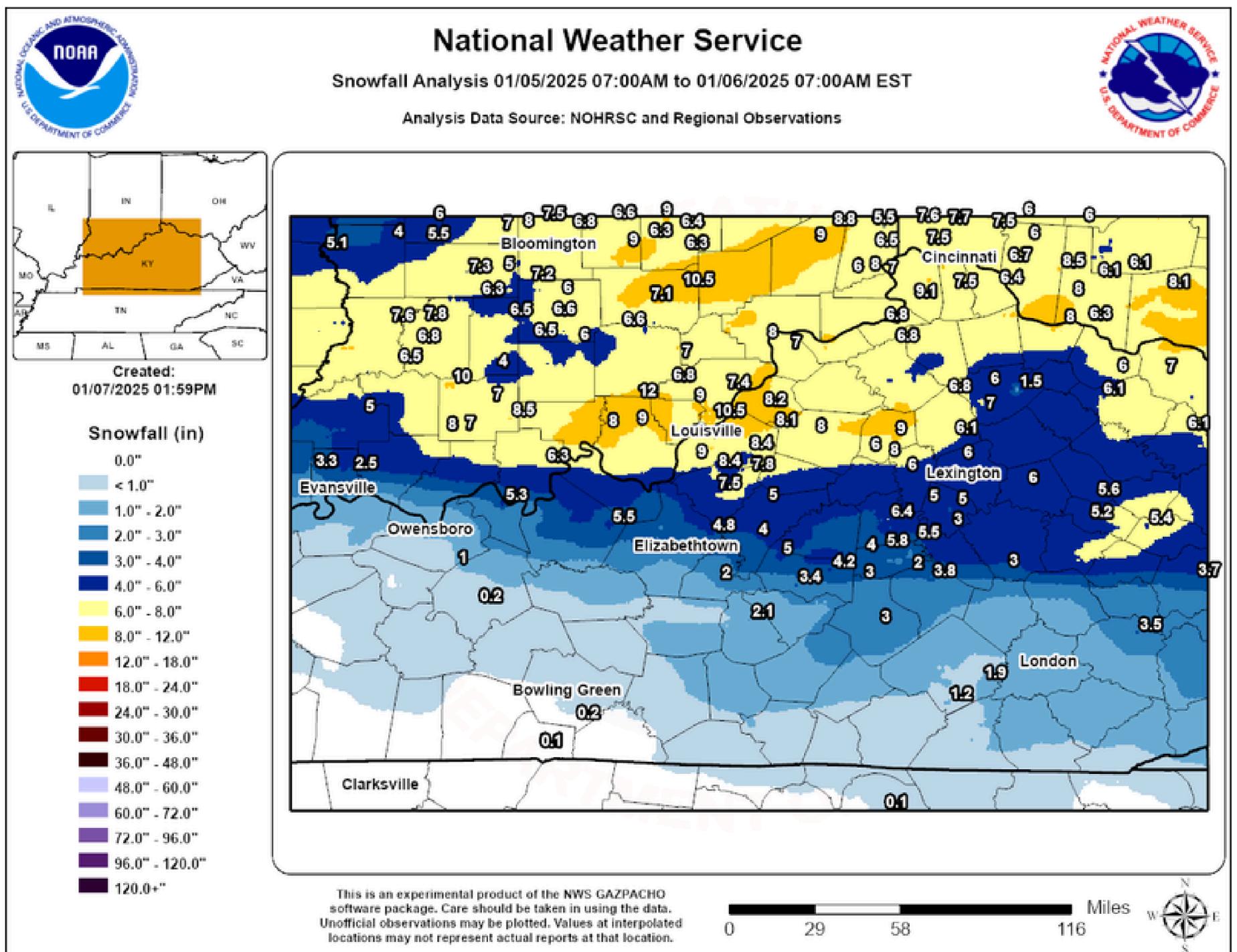
Tree damage obstructing roadways (left) is a common report received from 911 Dispatch Center Automated CAD Emails

An Active 2025 for Winter Weather In the Ohio Valley

Evan Webb,
Lead Meteorologist

The worst winter storm to impact central Kentucky and southern Indiana occurred in the first week of the year. On January 5-6, 2025, a major winter storm produced a swath of heavy snow and sleet across southern Indiana and north-central Kentucky, with total accumulations of 6-12 inches. In addition, damaging ice accumulation of 0.25-0.75 inches occurred across much of Kentucky. In some areas, including the Louisville Metro, snow fell for several hours, followed by freezing rain, and then followed by another bout of snow, resulting in a layer of ice in the middle of the snowpack. On January 5th, record daily precipitation records were set at Frankfort (1.35") and Louisville (1.49"), which is quite unusual in a snow/ice storm. Louisville and Lexington recorded new daily snowfall records of 9.0" and 5.5", respectively, on January 5th.

By the morning of Jan. 6, nearly 100,000 were without power. Later that night, many area roads remained covered in snow and ice. A period of intense cold lasted for several days following the winter storm, adding to its impact.



Observed Snow and Sleet Totals for the January 5-6, 2025 Winter Storm

An Active 2025 for Winter Weather In the Ohio Valley

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Ice Accumulating on a Tree Branch in Lexington, KY
(Photo courtesy of Lacy May)

The January 5-6 storm was followed by several days of sub-freezing weather and a few more bouts of snow, most notably a wintry system that brought 2-5 inches on January 10, 2025. Unlike the event earlier in the week, precipitation fell entirely as snow, with temperatures in the upper 20s and low 30s for the entirety of the event. While all locations in southern Indiana and central Kentucky received at least light to moderate snowfall accumulations, a heavier band of snow accumulations between 3 and 5 inches was observed across southern Indiana and west-central Kentucky. The highest totals near 5 inches were reported from Owensboro and Beaver Dam east through Brandenburg and Elizabethtown.

The January 10th winter storm was followed by the coldest temperatures of the winter. Many locations dipped below zero January 20-22, including -9°F at the Kentucky Mesonet station in Shelby County near Waddy. Lexington had snow on the ground from the 5th to the 26th in January. January 2025 ended as the 8th snowiest January on record in Louisville. Additional wintry systems would impact central Kentucky and southern Indiana during the month of February, with snow impacting portions of the area on February 10th and 11th, February 16th, and February 18th and 19th. While on average, these systems produced lesser snowfall amounts than the early January winter storm, localized higher amounts were observed in each system. Of particular note, a roughly 10-15 mile wide swath received 5 to 8 inches of snow on February 10th and 11th, with the heaviest totals occurring from Danville over to Richmond, KY.

Cold temperatures in the mid and upper 20s were in place across the region on Sunday morning when precipitation began. Initially, it began as snow with intense rates between 1 and 2 inches per hour across northern KY and southern IN. This was due to strong low to mid level frontogenesis, which yielded many snow and sleet totals in the 6 to 9" range. However as a warm surge of low level air moved into the area, it overran the cold air at the surface and changed precipitation to sleet, and then finally prolonged freezing rain. The event then ended on Monday afternoon with one last round of snowfall that yielded another 1 to 3 inches of snowfall.



A Winter Wonderland in Charlestown, IN
(Photo courtesy of Amy Guidry)

An Active 2025 for Winter Weather In the Ohio Valley

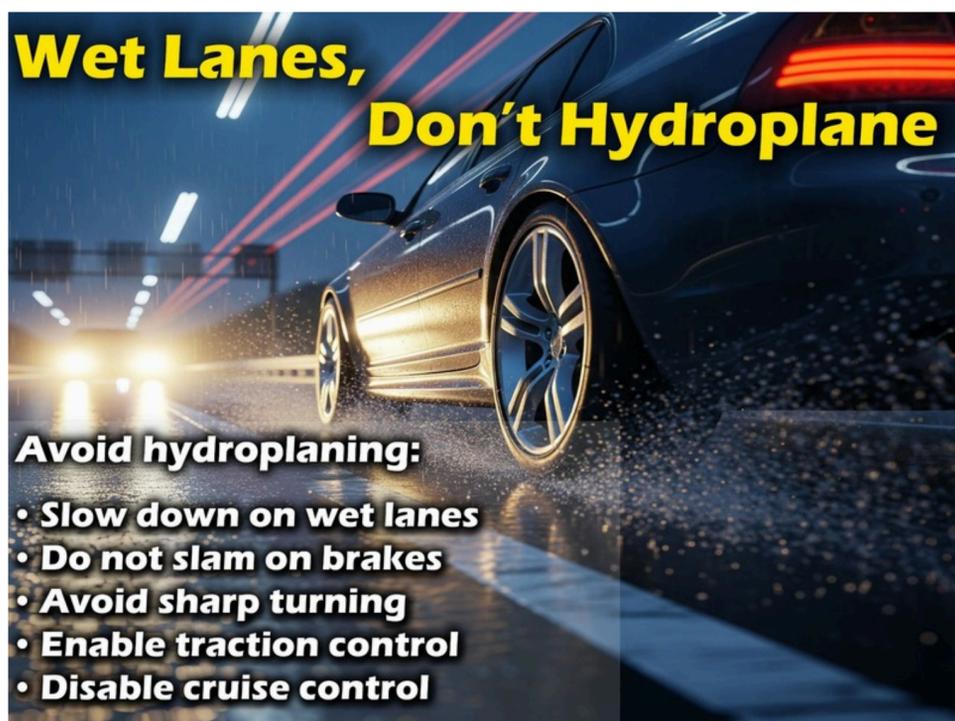
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Much like it began, 2025 also ended with a cold and snowy December. December 1-2, 2025 saw 1-4 inches of snow fall across southern Indiana and the northern half of central Kentucky. The highest totals of 4+ inches were reported from around Louisville to the northeast along the I-71 corridor to Cincinnati. Ten days later, heavy snow accumulation of 3-6 inches occurred across southern Indiana and north-central Kentucky on December 11-12, 2025. The heaviest snow fell north of a line from Tell City, IN to Liberty, KY. Because a lot of the snow was focused across the northern half of the area in December, Bowling Green only recorded 0.4" of snow during the month. Meanwhile, Louisville recorded its fourth snowiest December on record with 10.6".

CJ Padgett,
Meteorologist

Students Leave a Lasting Impact in 2025

NWS Louisville was fortunate to have four students spend time at the office throughout the year, each working on different operational projects and gaining experience on forecast operations. Chrissa Ledbetter (University of Louisville) wrapped up a year-long volunteer internship in February, where she spent many hours on several projects, but some of her most impactful work was done by updating our Damage Survey Field Guide and coordinating the first Tornado Operations and Training Summit (TOTS) in St. Louis. In December 2025, Chrissa was hired as one of our newest Meteorologists at NWS Louisville!



Hydroplaning Awareness Graphic created by NWS
Louisville Lapenta Scholar Zion Powell

In 2025, we welcomed our first William M. Lapenta intern, Zion Powell (Salisbury University). Zion spent the summer working with the Kentucky Transportation Cabinet and staff at NWS Regional and National Headquarters to create a national awareness campaign for hydroplaning. He conducted baseline research and created graphics for NWS and partner use. NWS Louisville also had an Ernest F. Hollings scholar, Jordan Howell (Iowa State University), who worked on finding ways for the NWS to connect with rural populations and to better serve those communities.

She developed a creative guide to best serve these rural communities, and the results of her research have made NWS Louisville forecasters more cognizant of the service provided to hard-to-reach rural communities. Lastly, NWS Louisville had another volunteer student, Sabrina Roche (University of Louisville), who worked on a plethora of projects, including Spanish outreach and tornado history in our forecast area. These four students also spent time learning NWS operations and the forecast process, as well as dedicating their time to help operations during severe weather. We thank them for their time and commitment to the NWS and citizens of our forecast area!

NWS Louisville

Staffing Changes in 2025

Chase Graham,
Meteorologist

2025 was a year of change to an extent likely not seen before in the history of NWS Louisville. The staffing profile of the NWS Louisville office was radically different in December than it was in January, with six LMK staff leaving over the course of the year. While several departures were to the greener pastures of retirement, others pursued new careers inside and outside of the Federal Government. Regardless of their ultimate destination, all of those who left NWS Louisville will be greatly missed.

Meteorologist in Charge **John Gordon** wrapped up 20 years at LMK and 39 years within the National Weather Service when he retired at the end of February 2025. John's illustrious career within the weather enterprise spanned across five different NWS offices and included stints as a member of the Hurricane Hunters team, where he notably participated in a mission which sampled the powerful winds of Hurricane Katrina in 2005. In his role as NWS Louisville MIC, John stressed the importance of the "4 Ss": Science, Service, Systems, and Staffing. John led the charge on several initiatives on a local, regional, and national scale. Of particular note was his emphasis on improving tornado warning statistics, increasing awareness of the dangers of pediatric vehicular heat stroke and hydroplaning, and his concepts of "owning the short term forecast" and "playing offense" in leading collaboration of headlines and messaging with surrounding NWS offices. Perhaps the most lasting aspect of John's legacy was his emphasis on mentorship and his engagement with students; as he saw it, the future. John made numerous trips to regional universities on his famous "College Road Shows", where he encouraged meteorology students to pursue careers within the NWS. While John may no longer be in the office on a daily basis, his influence will continue to shape the NWS Louisville office for many years to come.

Administrative Support Assistant **Jacquelyn Peoples** retired from the National Weather Service at the end of April 2025, concluding nearly 28 years of service within the NWS. Jackie was a vital member of the LMK team, performing many of the clerical duties which kept the Louisville WFO running smoothly. In the wake of her retirement, with many of the administrative tasks being distributed among current LMK staff, Jackie's impact over the years was greatly appreciated. We will miss Jackie's friendly and jovial spirit in the office and wish her all the best in retirement.

Information Technology Officer **Kevin Farina** retired at the end of February 2025 after spending just over three years at NWS Louisville, concluding an 35-year long career within the National Weather Service. After spending the majority of his career as a forecaster at WFO Gaylord, MI, Kevin joined NWS Louisville as the ITO in early 2022. Kevin's expertise in NWS IT systems was of utmost value and importance to the success of the mission of NWS Louisville. During his tenure at NWS Louisville, Kevin helped guide the office through multiple major systems upgrades, providing valuable support and reassurance to forecasters. "Kevin...help!" was a common refrain in the office whenever forecasters encountered a technological quagmire. In addition to his day-to-day duties, Kevin also worked with various regional and national IT objectives, including standardization of the AFD formatter GUI within AWIPS. Whenever extra assistance was needed with forecast and warning operations, Kevin frequently lent a helping hand. It is this selflessness, along with his unparalleled work ethic and humorous interjections, that will be greatly missed by all at NWS Louisville.

NWS Louisville

Staffing Changes in 2025

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Lead Forecaster **Tom Reaugh** retired from the National Weather Service at the beginning of May 2025 after a 33-year long career within the NWS. Tom's career within the National Weather Service extended across several offices, with Tom spending the last 21 years in Derby City. One of Tom's great accomplishments while at NWS Louisville can be seen under the "Local Programs" tab on our website: the Tornado History page. This colossal undertaking aggregates volumes of primary and secondary source data to create a thorough record of the tornadoes of central Kentucky and southern Indiana from the middle of the 19th century through 2021. Tom was also the leader of the NWS Louisville climate program, maintaining the scores of climate records for the five climate sites within the Louisville forecast area. Last, but not least, Tom served as editor of the Shareholders Report for many years, innovating as technological capabilities improved while always ensuring the highest syntactic standards and content quality possible for a collection of prose written by scientists. Tom's contributions to NWS Louisville were immense, and he will be missed for these contributions, but also for his wisdom, kindness, and selflessness.

Adrian Lopez Lago left NWS Louisville after three and a half years as a general forecaster in February 2025, transitioning to a career as a contractor for the Climate Prediction Center. Coming to Louisville in the Summer of 2021 after a career in broadcast meteorology in Miami, Adrian quickly adapted to the forecasting challenges unique to the Ohio Valley. Adrian provided expert mesoanalysis, skillfully diagnosing areas of greatest concern during severe weather events. Adrian's wide-ranging skillset led to his involvement in numerous initiatives during his time with WFO LMK. Adrian was renowned for his computer programming prowess, and he designed several applications which were used in NWS Louisville forecasting operations. A native Spanish speaker, Adrian led multiple outreach initiatives with Spanish-speaking communities across southern Indiana and central Kentucky, including the development of NWS Louisville's Spanish language page (weather.gov/lmk/espanol). All of us at NWS Louisville miss Adrian's jovial personality as well as his incredible contributions, and wish him all the best in his current and future endeavors.

Ron Steve spent nearly 14 years as a lead forecaster at NWS Louisville and 26 years overall within the National Weather Service, transitioning to a career in the private sector in August 2025. While at NWS Louisville, Ron was involved in many programs and initiatives in addition to the typical forecast and warning duties. Of all the forecasters, Ron was one of if not the most involved with outreach and decision support services, serving on numerous occasions as the NWS representative in Emergency Operations Centers on the local and state level. Ron served as program lead on NWS Louisville's StormReady program, and he was also responsible for preparing other forecasters to become deployment ready to EOCs. Continuity of operations was another one of the programs that Ron was closely involved with. In 2023, in coordination with Central Region Regional Operations Center staff, Ron served as a leader in the NWS New Madrid Earthquake Exercise, a multi-day simulation which helped to prepare the NWS response to a major earthquake in the New Madrid seismic zone. Finally, Ron served as the program lead for Fire Weather operations at NWS Louisville, and he also served as the event coordinator for numerous severe weather events. NWS Louisville staff wish Ron all the best in his current career, and we will miss his humorous quotes and anecdotes.



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