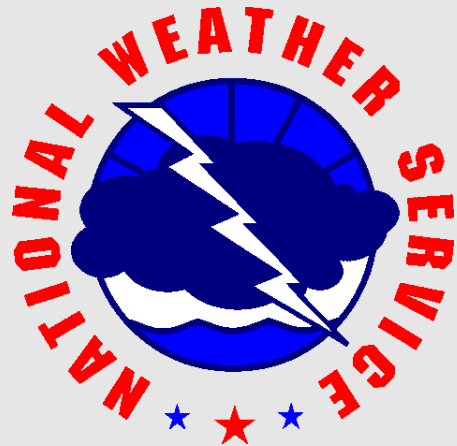


NATIONAL WEATHER SERVICE 101

2023 IPWMAN Annual Conference

October 24, 2023

Bloomington, IL



Mike Bardou: Warning Coordination Meteorologist – Chicago, IL

Ed Shimon: Warning Coordination Meteorologist – Lincoln, IL

Christine Wielgos: Warning Coordination Meteorologist - Paducah KY

THE NATIONAL WEATHER SERVICE



Department of Commerce

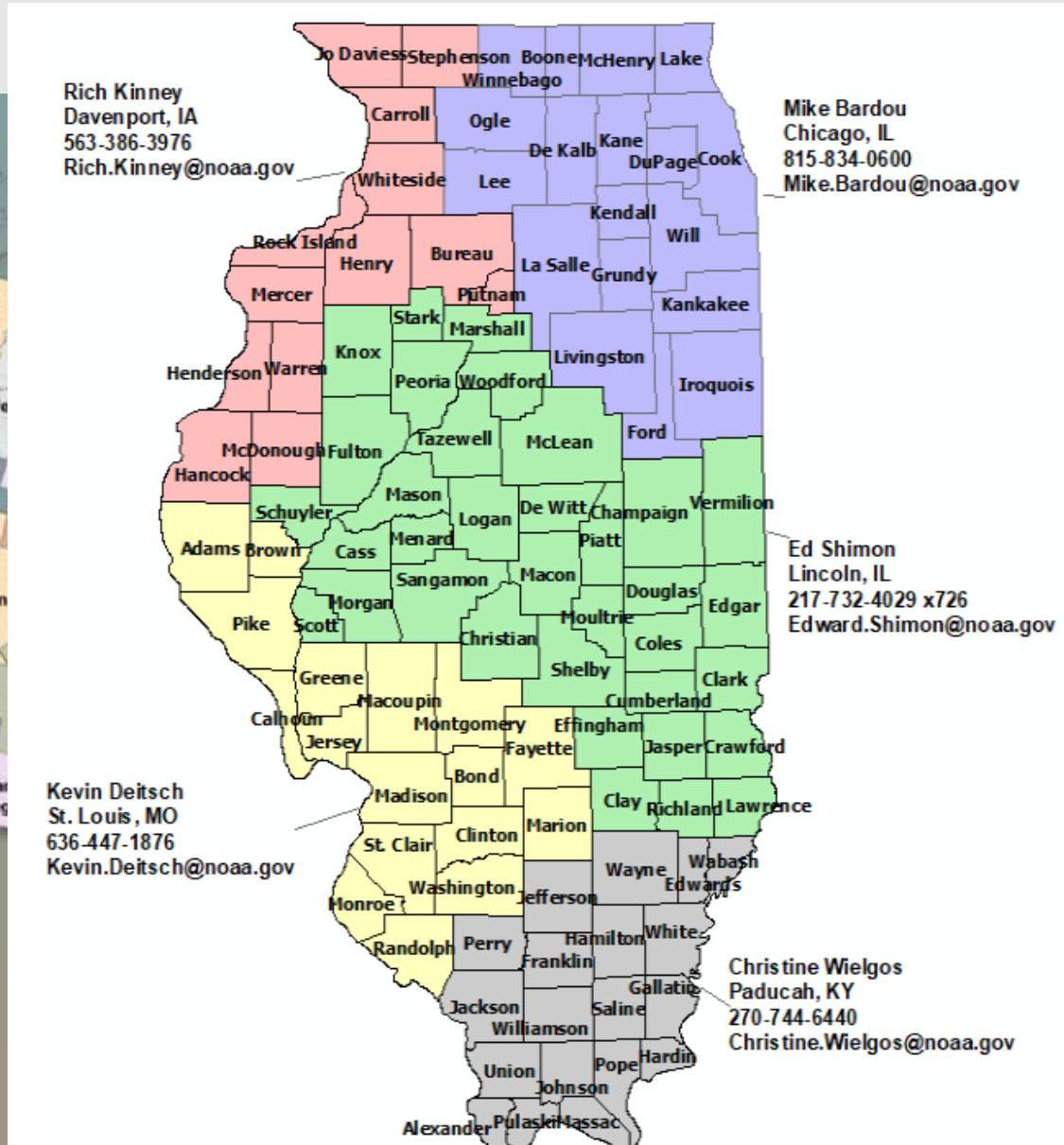


NOAA – National Oceanic and Atmospheric Administration



National Weather Service

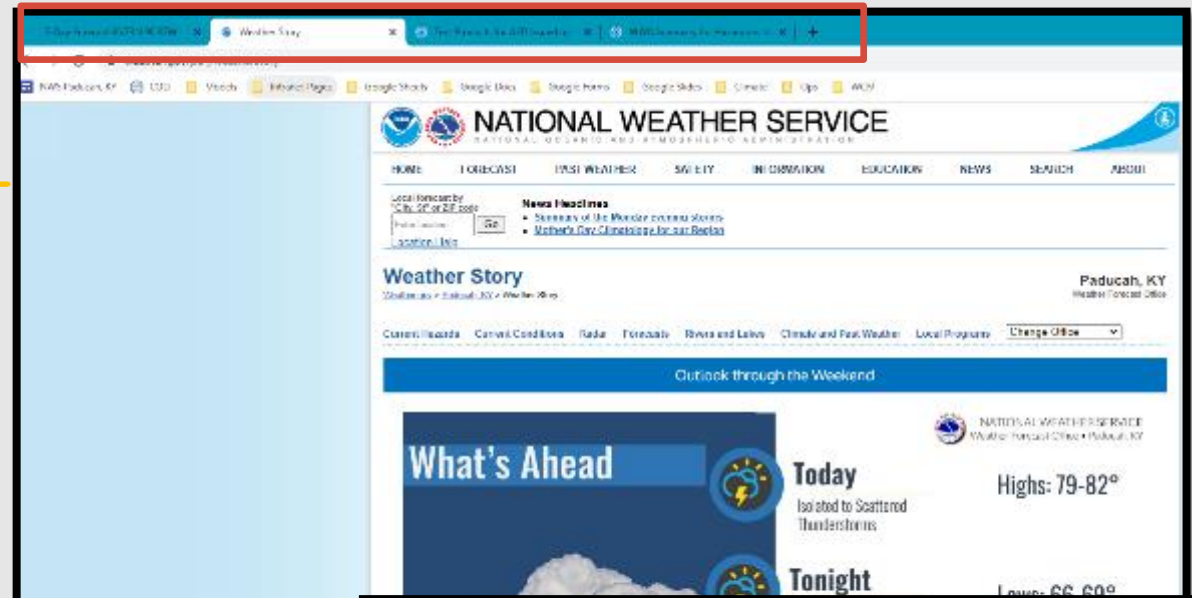
- 122 Offices
- CWA – County Warning Area
Counties served by office



LONG TERM FORECAST - PLANNING

Local NWS Forecasts
Area Forecast Discussions
Hazardous Weather Outlooks
NWS Graphics

- In the longer term period, the forecast will be rather vague, but there can be hints or signals that will help you determine what day(s) to be keeping an eye on.
- These same sources should be checked on daily leading up to an weather event.
- Create a bookmark group with all the links to easy brief yourself everyday.



NWS FORECAST OFFICE WEBSITES

Get to know your local NWS website

www.weather.gov

Click on where you live on the map to be taken to your local NWS office website.



NATIONAL WEATHER SERVICE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

HOME FORECAST PAST WEATHER SAFETY INFORMATION EDUCATION NEWS SEARCH ABOUT

Local forecast by "City, ST" or ZIP code
Enter location ... Go
[Location Help](#)

Significant Damaging Wind and Large Hail Threat in the South-Central Plains Today
Widespread severe thunderstorms associated with damaging wind gusts, large hail and a few tornadoes are expected this afternoon into tonight across parts of the southern and central Plains. Hailstones greater than 2 inches in diameter and wind gusts above 80 mph will be possible along the more intense parts of a fast-moving line of storms. [Read More >](#)

****Feedback Opportunity: Survey on Hazard Simplification plain language headline display options for national map and local forecast pages**

ACTIVE ALERTS FORECAST MAPS RADAR RIVERS, LAKES, RAINFALL AIR QUALITY SATELLITE PAST WEATHER

Customize Your Weather.gov
City, ST
Enter Your City, ST or ZIP Code
 Remember Me
Get Weather
[Privacy Policy](#)

Created: 06/15/23 at 16:12 UTC

American Samoa [Guam](#) [Puerto Rico/Virgin Islands](#)

Click on the map above for detailed alerts or [Warnings By State](#) Go [Public Alerts in XML/CAP v1.2 and ATOM Formats](#)

NWS FORECAST OFFICE WEBSITES

*Get your local NWS
Forecast!*

One click on the map (where you live) and you will receive a plethora of information including: watch, warning and advisories, 7-day forecast, current conditions, links to hourly weather graphs and area forecast discussion.

The screenshot displays the National Weather Service website for the Lincoln, IL forecast office. The page features a navigation menu with links for HOME, FORECAST, PAST WEATHER, SAFETY, INFORMATION, EDUCATION, NEWS, SEARCH, and ABOUT. A search bar allows users to enter a location by city, state, or ZIP code. The main content area includes a 'News Headlines' section with links to 'Fall Freeze Climatology' and 'Fall Colors Report'. The 'NWS Forecast Office Lincoln, IL' section provides a 'Weatherology - Central Illinois' overview and a 'Click a location below for detailed forecast' map. The current forecast for Lincoln, IL is 'Overcast' with a temperature of 60°F (16°C). The 7-day forecast shows 'Partly Cloudy' with a low of 39°F and 'Mostly Sunny' with a high of 62°F. The map includes a 'Hazardous Weather Outlook' section and a 'Last Map Update' timestamp of Mon, Oct. 16, 2023 at 4:15:32 pm CDT. A red arrow points from the text on the left to the Lincoln, IL location on the map.

NWS FORECAST OFFICE WEBSITES

Get your local NWS Forecast!


- All hazardous weather information such as watches, warnings or advisories will be on top under Hazardous Weather Conditions. Click on headline for more details.
- Current conditions at observation site closest to your point.
- Seven day forecast in graphical form. Any watch, warning or advisory will be highlighted.

Hazardous Weather Conditions

- [Flood Warning until March 16, 07:00 PM CDT](#)

En Español | [Share](#) | [f](#) [t](#) [g+](#) [e](#) [p](#)

Current conditions at
Paducah, Barkley Regional Airport (KPAH)
Lat: 37.06°N Lon: 88.77°W Elev: 410ft.










 Fair
44°F
7°C

Humidity 65%
Wind Speed N 6 mph
Barometer 30.14 in (1020.7 mb)
Dewpoint 33°F (1°C)
Visibility 10.00 mi
Wind Chill 41°F (5°C)
Last update 10 Mar 8:53 am CST

More Information:
[Local Forecast Office](#)
[More Local Wx](#)
[3 Day History](#)
[Mobile Weather](#)
[Hourly Weather Forecast](#)

Extended Forecast for
2 Miles NW Paducah KY

[Click here for hazard details and duration](#)

	Today	Tonight	Friday	Friday Night	Saturday	Saturday Night	Sunday	Sunday Night
NOW until 7:00pm Wed  Flood Warning	 Sunny High: 57 °F	 Increasing Clouds Low: 37 °F	 Partly Sunny then Chance Rain High: 48 °F	 Rain/Snow Likely then Mostly Cloudy Low: 18 °F	 Sunny High: 33 °F	 Clear Low: 21 °F	 Sunny High: 54 °F	 Mostly Clear Low: 38 °F

NWS FORECAST OFFICE WEBSITES

Get your local NWS Forecast!

- Scroll down the page for a detailed seven day forecast.
- Map to the right – change the forecast location.
- Very useful links below forecast
- Hourly Weather Graph
- Forecast Discussion (AFD)
- Hazardous Weather Outlook (HWO)
- Bookmark link on your phone!

Detailed Forecast

Tonight	Mostly cloudy, with a low around 39. North wind 3 to 8 mph.
Tuesday	Mostly sunny, with a high near 61. West wind 3 to 7 mph.
Tuesday Night	Partly cloudy, with a low around 43. South southeast wind 3 to 8 mph.
Wednesday	Mostly cloudy, with a high near 67. Breezy, with a south wind 9 to 14 mph increasing to 16 to 21 mph in the afternoon. Winds could gust as high as 31 mph.
Wednesday Night	A 50 percent chance of showers. Cloudy, then gradually becoming partly cloudy, with a low around 49. Breezy, with a southwest wind 16 to 21 mph decreasing to 10 to 15 mph after midnight. Winds could gust as high as 31 mph.
Thursday	A 50 percent chance of showers. Partly sunny, with a high near 62. West wind 10 to 17 mph, with gusts as high as 25 mph.
Thursday Night	A 40 percent chance of showers before 1am. Mostly cloudy, with a low around 45. West wind 10 to 15 mph, with gusts as high as 23 mph.
Friday	A 30 percent chance of showers before 1pm. Mostly sunny, with a high near 60.
Friday Night	Partly cloudy, with a low around 42.
Saturday	Sunny, with a high near 61.
Saturday Night	Mostly clear, with a low around 41.
Sunday	Sunny, with a high near 60.
Sunday Night	Partly cloudy, with a low around 40.
Monday	Mostly sunny, with a high near 62.

Additional Forecasts and Information

ZONE AREA FORECAST FOR MCLEAN COUNTY, IL

Forecast Discussion		Hourly Weather Forecast		Air Quality Forecasts
Printable Forecast		Tabular Forecast		International System of Units
Text Only Forecast		Hazardous Weather		River Info (AHPD)
		Cooperative Observers		Local Climate
		Observed Temps/Pres		NOAA Weather Radio

Additional Resources

Point Forecast: 2 Miles S Bloomington IL
40.44°N 88.96°W (Elev: 801 ft)
Last Update: 3:40 pm CDT Oct 16, 2023
Forecast Valid: 4pm CDT Oct 16, 2023-8pm CDT Oct 23, 2023
[Forecast Discussion](#)
[KML](#) [KML](#)



WANT EVEN MORE DETAILED DATA?

Detailed forecast data for a point
www.weather.gov/forecastpoints



Table updated: 340 pm CDT Mon. 10/16/2023 (Last Update: 50 minutes ago)

Click for Text Forecast
 ILX Forecast Discussion
 1 miles WSW of Bloomington, IL

Weekly Summary

	Mon Oct 16	Tue Oct 17	Wed Oct 18	Thu Oct 19	Fri Oct 20	Sat Oct 21	Sun Oct 22
Max Temp, °F	57	61	67	62	60	61	60
Min Temp, °F	44	40	44	50	47	43	42
Min Wind Chill, °F	41	37	38	46	42	36	36
Max Wind, mph	8	7	21	16	15	18	12
Min Wind, mph	6	2	7	10	10	10	8
Max Wind Gust, mph	13	9	31	25	23	28	17
Max Prob. of Precip., %	0	0	48	52	25	7	5
Max Prob. of Thunder, %	0	0	5	6	6	6	2
Max Dew Point, °F	45	45	49	51	50	44	45
Min Dew Point, °F	43	39	42	48	44	41	41
Max RH, %	96	96	93	100	100	93	100
Min RH, %	66	55	49	67	67	59	59
Max Cloud Cover, %	77	58	90	67	70	26	27
Min Cloud Cover, %	55	16	21	45	22	10	13

Outlooks

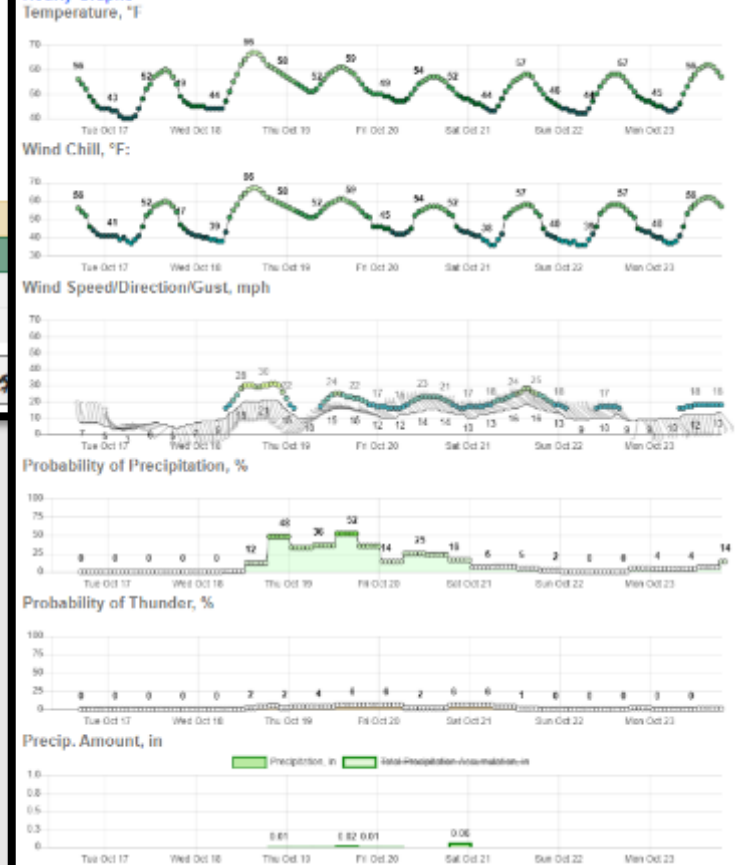
	Day 1	Day 2	Day 3
Severe Thunderstorm	Not Expected	Not Expected	Not Expected
Excessive Rainfall	Not Expected	Not Expected	Not Expected

Hourly Table

Day of week:	Monday 10/16							Tuesday 10/17										
Time:	4PM	5PM	6PM	7PM	8PM	9PM	10PM	11PM	12AM	1AM	2AM	3AM	4AM	5AM	6AM	7AM	8AM	9AM
Weather:																		
Temperature (°F):	56	56	54	52	49	47	45	44	44	44	43	43	41	40	40	40	41	
Wind Chill, °F:	56	56	54	52	46	44	42	41	41	41	41	41	39	40	38	37	39	
Wind Speed (mph):	8	8	7	7	7	7	7	6	5	5	3	3	3	2	3	3	3	
Wind Gust (mph):	13	13	12	12	12	10	10	9	8	7	6	6	5	5	5	5	6	
Wind Direction (°):	350	350	350	340	350	350	350	350	350	350	340	320	310	300	280	270	270	
Wind Direction:	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	
Prob. of Precip. (%):	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Prob. of Thunder (%):	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Precip. Amount (in.):							0.00											
Snow (in.):							0.0											
Ice (in.):							0.00											
Dew Point (°F):	45	45	45	45	44	44	44	45	45	45	45	45	45	45	45	45	45	
RH (%):	66	66	71	77	83	89	96	96	96	96	96	96	96	96	96	96	96	
Sky Cover (%):	77	75	73	71	66	62	58	58	58	58	58	58	58	58	58	58	58	

Configure Plot Order

Hourly Graphs



Mouse over
 graphs for data!

AREA FORECAST DISCUSSION (AFD)

- Highly detailed write up sent out at least twice a day (3am/3pm) from the NWS.
- Provides explanation of what weather is expected for the next 7 days and why.
- Can provide confidence levels and more detail than the actual 7 day forecast.

[Area Forecast Discussion](#)

National Weather Service Paducah KY
640 PM CDT Mon May 8 2023

[.MESOSCALE DISCUSSION...](#)

Issued at 639 PM CDT Mon May 8 2023

Evidence of lingering [subsidence](#) continues to be evident across the forecast area early this evening. The [cumulus](#) field has become quite anemic, and [isolated](#) showers that have developed in Webster County, KY, and over Gallatin County, IL, have struggled to develop mature updrafts. [Convection](#) has developed over central/southern Missouri. Latest WofS guidance shows some of this activity reaching our southeast MO counties in a weakening mode around 00-01z, with additional [isolated](#) or [scattered](#) activity across southern IL or far west KY. At this time, some marginally severe [hail](#) or perhaps a severe [wind gust](#) appears to be the main hazards over the next few hours before surface-based [instability](#) completely diminishes.

&&

[.UPDATE...](#)

Issued at 639 PM CDT Mon May 8 2023

Updated Aviation discussion for the 00z [TAF](#) issuance.

&&

[.SHORT TERM...\(Tonight through Wednesday night\)](#)

Issued at 230 PM CDT Mon May 8 2023

Tonight...Ongoing [convection](#) this evening will gradually wane in coverage by late tonight as [instability](#) wanes and a surface cold [front](#) approaches. The entire forecast area should be dry by 09z Tuesday. Low temperatures tonight will fall into the upper 50s to lower 60s under lingering debris clouds. Winds will become northeast behind the [front](#) early Tuesday morning.

Tuesday and Tuesday night...The frontal boundary will be just south of the forecast area on Tuesday. This may trigger an [isolated](#) shower or thundershower Tuesday afternoon across the Ozark Foothills or Bootheel region of southeast Missouri. Less humid air will filter into the region behind the [front](#), with [dew point](#) values falling into the 50s. High temperatures Tuesday will still be warm, reaching the upper 70s to lower 80s. Tuesday night will be pleasant and cool, with low temperatures falling into the lower to middle 50s.

Wednesday and Wednesday night...Wednesday will be a near repeat of Tuesday, with a small afternoon shower or thundershower chance across the Ozark Foothills. High temperatures will again reach the upper 70s to lower 80s. Dry low [humidity](#) air will continue to filter into the region, with forecast [dew point](#) values Wednesday in the lower to middle 50s. Low temperatures Wednesday night will dip into the upper 50s to lower 60s.

[.LONG TERM...\(Thursday through Monday\)](#)

Issued at 230 PM CDT Mon May 8 2023

For the extended portion of the forecast, a warm and [unsettled](#) weather pattern looks to return to the region. The aforementioned warm [front](#) stalled to our south will lift northward as a warm [front](#) Thursday. This will bring a return of warm and [muggy](#) conditions, with high temperatures in the lower to middle 80s and low temperatures in the lower to middle 60s each night. A daily chance of diurnally-driven [convection](#) is forecast each day. [Convection](#) looks to mainly [scattered](#) at most in coverage each day, so no day looks to be a complete washout. The lack of strong [dynamics](#) will preclude an organized severe risk at this time, though plentiful amount of [lightning](#) and locally heavy rain will be a risk each afternoon.

&&

[.AVIATION...](#)

Issued at 639 PM CDT Mon May 8 2023

For the 00z TAFs, opted to dial back convective impacts for this evening based on [radar](#) trends and latest model guidance. Have maintained a few hours of VCTS or VCSH at CGI, PAH, and OWB through 04-06z. Winds will become NW and eventually NE overnight into Tuesday morning behind the passage of a cold [front](#). A few hours of [MVFR](#) cigs appear [likely](#) in the 10-16z period before improvement in the afternoon.

HAZARDOUS WEATHER OUTLOOK (HWO)

- Describes any weather hazards over the next 7 days and any impacts expected.
- Can give you a rough idea of what days to be watching for impactful weather.

Hazardous Weather Outlook
National Weather Service Chicago/Romeoville IL
408 AM CDT Wed Oct 11 2023

ILZ003>006-008-010>013-019>021-023-032-033-039-103>108-INZ001-002-010-011-019-120915-
Winnebago-Boone-McHenry-Lake IL-Ogle-Lee-De Kalb-Kane-DuPage-La Salle-Kendall-Grundy-Kankakee-Livingston-Iroquois-Ford-Northern Cook-Central Cook-Southern Cook-Northern Will-Southern Will-Eastern Will-Lake IN-Porter-Newton-Jasper-Benton-408 AM CDT Wed Oct 11 2023 /508 AM EDT Wed Oct 11 2023/

This Hazardous Weather Outlook is for portions of North Central Illinois...Northeast Illinois and Northwest Indiana.

.DAY ONE...Today and Tonight.

Weather hazards expected...

Limited Thunderstorm Risk...with an associated:
Limited Hail Risk...up to quarter size.
Limited Flooding Risk.

DISCUSSION...

Showers and thunderstorms will develop after sunset and continue through sunrise. The highest coverage of thunderstorms is expected near Interstate 80, but may shift in later forecasts. The strongest storms may produce heavy rainfall and up to quarter size hail. Localized flooding of low-lying areas and creeks is possible, too.

.DAYS TWO THROUGH SEVEN...Thursday through Tuesday.

Friday...
Elevated Flooding Risk.
Limited Thunderstorm Risk.

DISCUSSION...

A second round of showers and thunderstorms is expected through the area on Friday. A few of the showers and storms may produce locally heavy rainfall and strong winds.

.SPOTTER INFORMATION STATEMENT...

Spotters activation is not anticipated at this time.

GENERAL STORM MOTION OF THE DAY:
Moving toward the east southeast at 30 mph.

NATIONAL WEATHER SERVICE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

HOME FORECAST FAST WEATHER SAFETY INFORMATION EDUCATION NEWS SEARCH ABOUT

Local forecast by "City, ST or ZIP code"
Clear location... Go
Location Help

Autumn Air-Mass for the East; Rainy Conditions and Strong Winds for Pacific Northwest and Northern Plains
Cooler weather along with a few showers are expected across the eastern third of the country through today. An approaching storm for the Pacific Northwest will track inland and across the northern Plains today into Tuesday. Rainy conditions and strong winds are expected for those areas. For southern portions of Alaska, increasing winds and precipitation are forecast into the middle of the week. Read More >

MY FORECAST
Chicago O'Hare International Airport IL

NWS Forecast Office Chicago, IL
Chicago, IL
Weather Forecast Office

Current Hazards Current Conditions Radar Forecasts Rivers and Lakes Climate and Past Weather Local Programs

Storm and Precipitation Reports
Chillicothe
Submit a Storm Report

Experimental Graphical Hazardous Weather Outlook

Watch, Warnings & Advisories
Small Craft Advisory
Hazardous Weather Outlook

55°F
13°C
Tonight
Mostly Cloudy
Low: 49°F
Tuesday

Last Map Update: Mon, Oct. 16, 2023 at 4:33:42 pm CDT

NATIONAL WEATHER SERVICE
Experimental Graphical Hazardous Weather Outlook

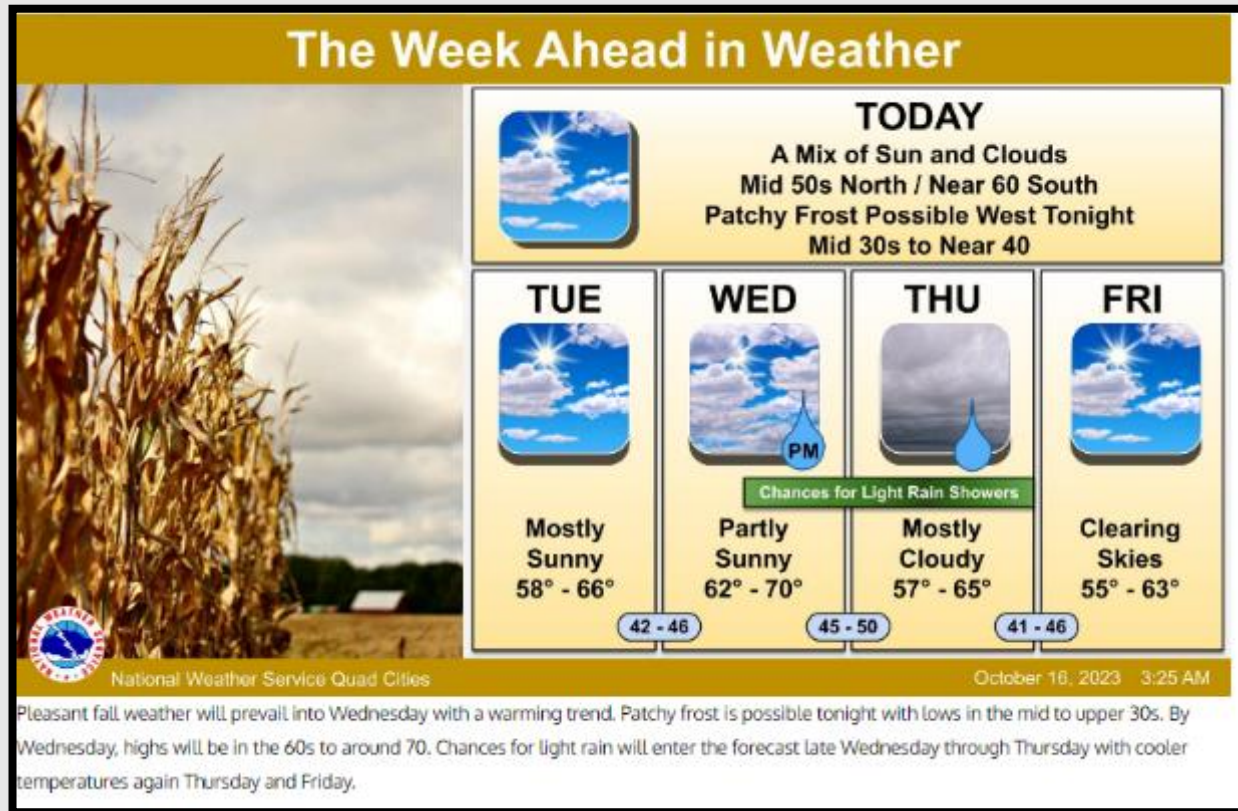
Lightning Risk for Thu/Thu Night
Thu 10 PM Thu Oct 12, 2023 to 7 AM Fri Oct 20, 2023
Chicago, IL

24 Hr Hazard Risk

	Tonight	Tue	Wed	Thu	Fri	Sat	Sun
● Severe Thunderstorms	■	■	■	■	■	■	■
● Flash Flood	■	■	■	■	■	■	■
● Thunderstorm Wind	■	■	■	■	■	■	■
● Hail	■	■	■	■	■	■	■
● Significant Rain	■	■	■	■	■	■	■
● Upgusting	■	■	■	■	■	■	■
● Excessive Heat	■	■	■	■	■	■	■
● Wind	■	■	■	■	■	■	■
● Heat Index	■	■	■	■	■	■	■
● Fog	■	■	■	■	■	■	■
● Ice	■	■	■	■	■	■	■
● The Weather	■	■	■	■	■	■	■
● Sky/Other	■	■	■	■	■	■	■

NWS FORECAST GRAPHICS

- Click for up to 5 tabs of graphics:
- More details: Timing, amounts, impacts, etc.



NATIONAL WEATHER SERVICE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

HOME FORECAST PAST WEATHER SAFETY INFORMATION EDUCATION NEWS SEARCH ABOUT

Local forecast by "City, ST" or ZIP code
Enter location: [] Go
Location Help

MY FORECAST
2 Miles ENE Paducah KY

NWS Forecast Office Paducah, KY
Weather.gov > Paducah, KY

Paducah, KY
Weather Forecast Office

Current Hazards Current Conditions Radar Forecasts Rivers and Lakes Climate and Past Weather Local Programs

RADAR UPDATE
Areas of rain will spread northwest to the Interstate 64 corridor by 9 AM. The rain will continue through the morning commute in western Kentucky and southeast Missouri. Most of the rain will be light, but a few thunderstorms are possible.

Click a location below for detailed forecast.

St. Louis Mount Vernon Paducah Owensboro
Cynthiana
Cape Girardeau Paducah
Poplar Bluff Sikeston Paducah Wayfield Hughsonville

Last Map Update: Wed, Oct. 6, 2021 at 3:04:48 am CDT

Shows Likely Low: 65°F
Wednesday Shows High: 78°F

change location

Watches, Warnings & Advisories
Flood Advisory
Hazardous Weather Outlook

Zoom Out

Shower & Thunderstorm Radar

Weather Story Weather Map Local Radar

SEVERE THUNDERSTORM DAMAGE THREAT TAGS



Considerable / Destructive Tags

Thunderstorm Damage Threat (tag category)	Wind	Hail diameter	WEA?
Base (no tag; default)	58 mph (60 mph will appear in the warning)	1.00 inch (U.S. quarter)	NO
Considerable	70 mph	1.75 inch (golfball)	NO
Destructive	80 mph	2.75 inch (baseball)	YES

Wireless Emergency Alerts (WEA) messages will be activated on mobile devices whenever a Severe Thunderstorm Warning with a “Destructive” tag is issued or updated.

TORNADO AND TORNADO DAMAGE THREAT TAGS

TORNADO TAG

TORNADO...RADAR INDICATED

Evidence on radar and near storm environment is supportive of a tornado, but no confirmation at this time.

TORNADO...RADAR INDICATED
HAIL...1.00IN

TORNADO...OBSERVED

Tornado is confirmed by spotters, law enforcement, radar etc.

TORNADO...OBSERVED
MAX HAIL SIZE...<.75 IN

TORNADO TAG IN SEVERE THUNDERSTORM WARNINGS

TORNADO...POSSIBLE

A severe thunderstorm has some potential for producing a tornado although forecaster confidence is not high enough to issue a tornado warning.

TORNADO...POSSIBLE
HAIL THREAT...RADAR INDICATED
MAX HAIL SIZE...<.75 IN
WIND THREAT...RADAR INDICATED

TORNADO DAMAGE THREAT TAG

NO TAG

Used most of the time when tornado damage is possible within the warning. Tornado duration generally expected to be short-lived.

TORNADO DAMAGE THREAT ...CONSIDERABLE

Used rarely when there is credible evidence that a tornado, capable of producing considerable damage, is imminent or ongoing. Tornado duration generally expected to be long lived.

TORNADO...OBSERVED
TORNADO DAMAGE THREAT...CONSIDERABLE
MAX HAIL SIZE...2.50 IN

TORNADO DAMAGE THREAT ...CATASTROPHIC

Used exceedingly rarely, when a severe threat to human life and catastrophic damage from a tornado occurring. Will only be used when reliable sources confirm a violent tornado. Tornado duration generally expected to be long lived.

TORNADO...OBSERVED
TORNADO DAMAGE THREAT...CATASTROPHIC
MAX HAIL SIZE...2.50 IN

BULLETIN - EAS ACTIVATION REQUESTED

Tornado Warning
National Weather Service Paducah KY
945 PM CST Fri Dec 10 2021

...TORNADO EMERGENCY FOR Benton...

The National Weather Service in Paducah has issued a

* Tornado Warning for...
Southwestern Marshall County in western Kentucky...

* Until 1000 PM CST.

* At 944 PM CST, a confirmed large and destructive tornado was observed near Benton, moving northeast at 60 mph.

TORNADO EMERGENCY for Benton. This is a PARTICULARLY DANGEROUS SITUATION. TAKE COVER NOW!

HAZARD...Deadly tornado.

SOURCE...Radar confirmed tornado.

IMPACT...You are in a life-threatening situation. Flying debris may be deadly to those caught without shelter. Mobile homes will be destroyed. Considerable damage to homes, businesses, and vehicles is likely and complete destruction is possible.

* This tornadic thunderstorm will remain over mainly rural areas of southwestern Marshall County.

This includes Interstate 69 in Kentucky between Mile Markers 38 and 46.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

To repeat, a large, extremely dangerous and potentially deadly tornado is on the ground. To protect your life, TAKE COVER NOW! Move to an interior room on the lowest floor of a sturdy building. Avoid windows. If in a mobile home, a vehicle or outdoors, move to the closest substantial shelter and protect yourself from flying debris.

&&

LAT...LON 3680 8842 3686 8846 3693 8835 3685 8828
TIME...MOT...LOC 0344Z 236DEG 50KT 3685 8842

TORNADO...OBSERVED
TORNADO DAMAGE THREAT...CATASTROPHIC
MAX HAIL SIZE...2.00 IN

FLASH FLOOD DAMAGE THREAT TAGS



The National Weather Service in Springfield has issued a

* Flash Flood Warning for...
West Central Newton County in southwestern Missouri...

* Until 930 AM CDT.

* At 540 AM CDT, Doppler radar indicated thunderstorms producing heavy rain in City of Seneca and surrounding areas. Between 1 and 4 inches of rain have fallen within the Lost Creek Basin near Seneca and upstream from Seneca. Additional rainfall amounts of 1 to 3 inches are possible in the Lost Creek basin area due to training thunderstorms. Flash flooding is ongoing or expected to begin shortly.

HAZARD...Life threatening flash flooding. Thunderstorms producing flash flooding.

SOURCE...Radar.

IMPACT...Life threatening flash flooding of creeks and streams, urban areas, highways, streets and underpasses.

* Some locations that will experience flash flooding include...
Seneca and Racine.

Lost Creek near Racine could also experience some sharp rises. Lost Creek at Highway CC could also flood shortly.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

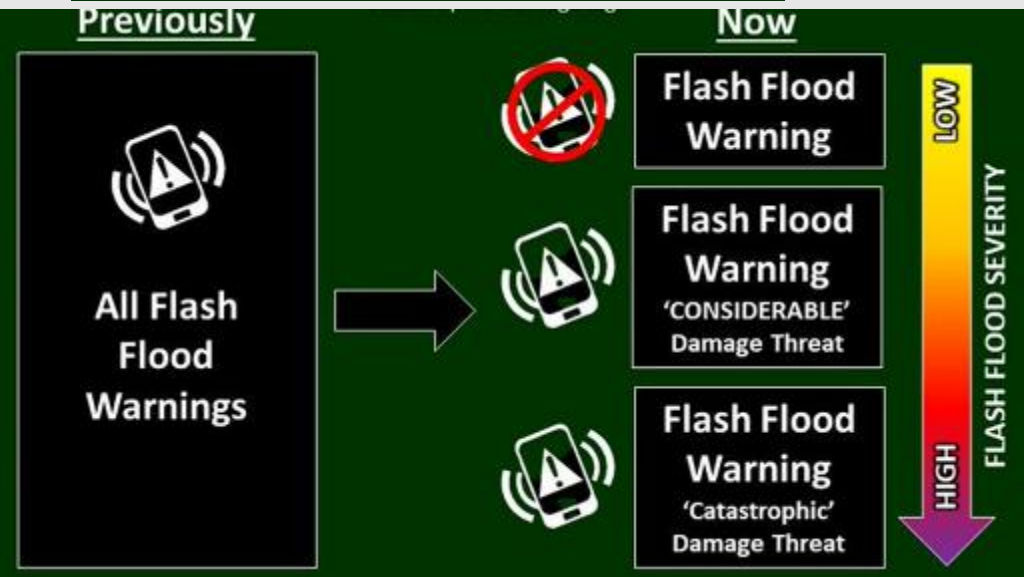
Turn around, don't drown when encountering flooded roads. Most flood deaths occur in vehicles.

Be aware of your surroundings and do not drive on flooded roads.

&&

LAT...LON 3690 9462 3693 9456 3694 9451 3691 9444
3687 9443 3684 9448 3682 9456 3681 9462

FLASH FLOOD...RADAR INDICATED
FLASH FLOOD DAMAGE THREAT...CONSIDERABLE



WEA will be activated only if a Flash Flood Warning contains a 'considerable' or 'catastrophic' damage tag.

Enabling Wireless Emergency Alerts on Your Android Smartphone Only Takes Seconds!



1. From the Settings menu, select Wireless Emergency Alerts. Make sure you have alerts enabled.

2. Once you have Wireless Emergency Alerts enabled, verify that Extreme Threats and Severe Threats are enabled as well.

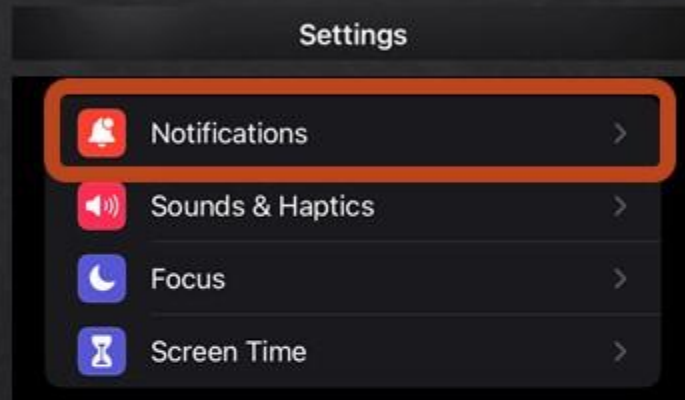


Scan this QR Code to learn more!

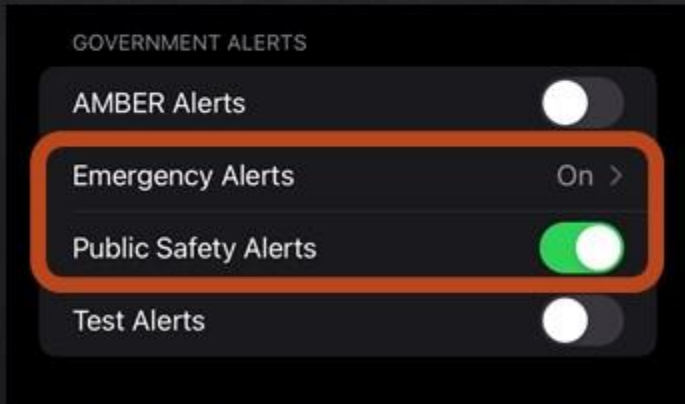


Paducah, KY

Enabling Wireless Emergency Alerts on Your Apple iPhone Only Takes Seconds!



1. From the Settings menu, select Notifications.



2. In the Notifications settings menu, make sure both Emergency Alerts and Public Safety Alerts are enabled.



Scan this QR Code to learn more!

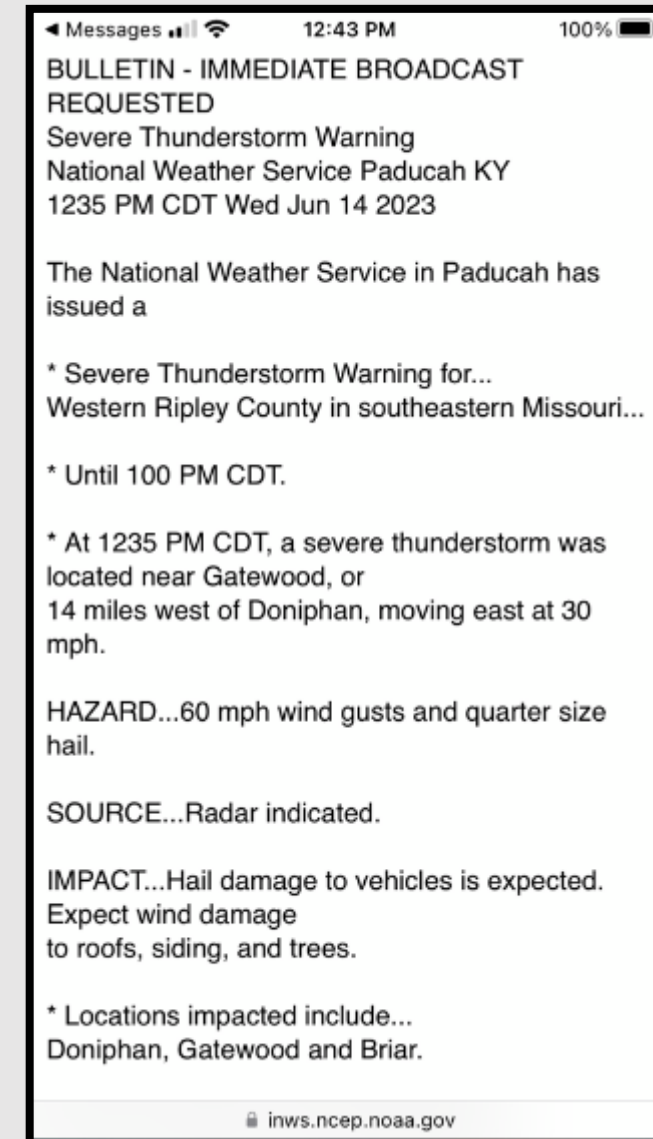
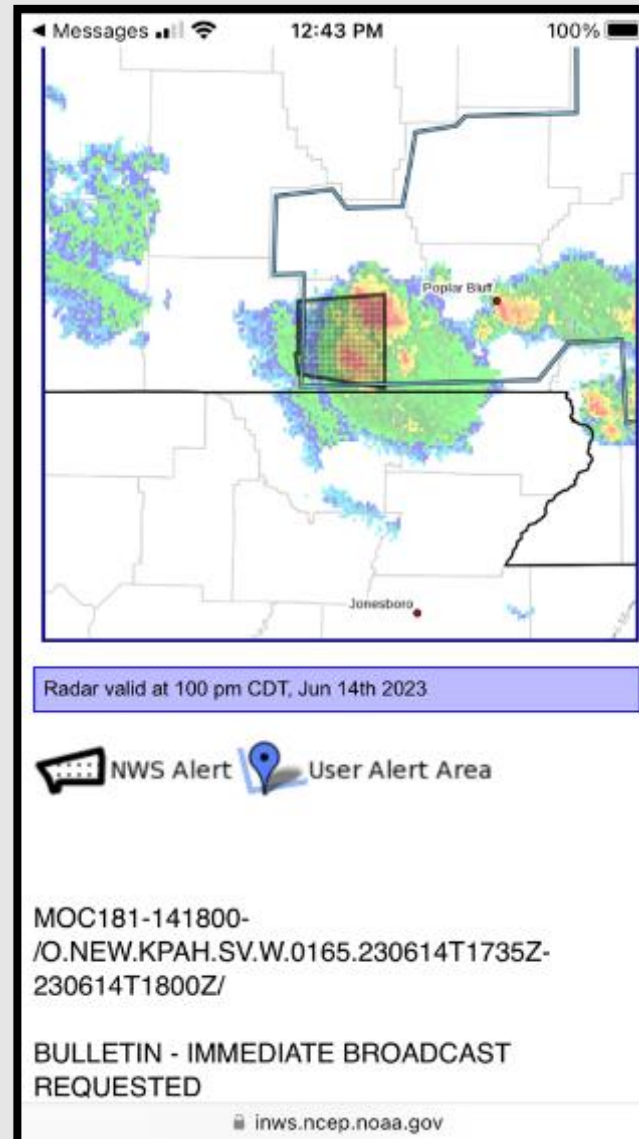
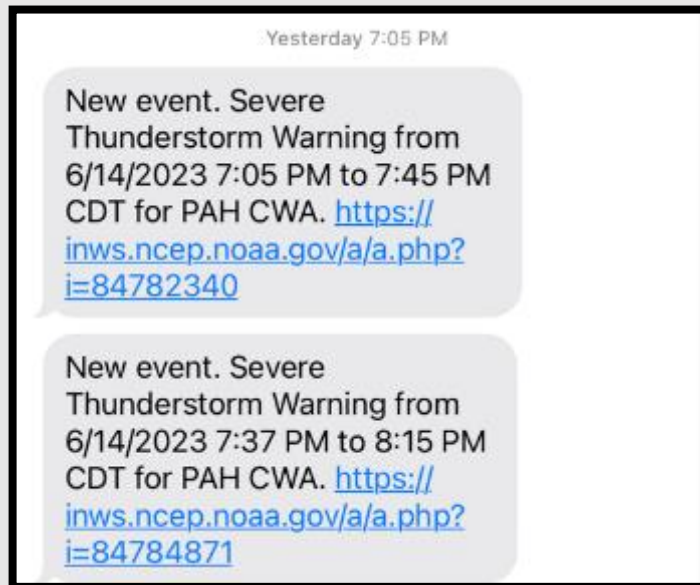


Paducah, KY

INWS – INTERACTIVE NWS

- Set up a geographic area
- Set and configure what alerts to receive and how (txt/email)
- Sign up today!

<https://inws.ncep.noaa.gov/>



NWS DSS PACKETS

DSS: DECISION SUPPORT SERVICES

- Click for a pdf of graphics
- Only available when impactful weather is forecast (forecaster discretion)
- Contact your WCM to be added to the email distribution list.

The screenshot shows the National Weather Service website for Paducah, KY. The page includes a navigation bar with links for HOME, FORECAST, PAST WEATHER, SAFETY, INFORMATION, EDUCATION, NEWS, SEARCH, and ABOUT. A local forecast section is visible, along with a 'Customize Your Weather.gov' sidebar. A news headline section is present, and a highlighted box in the top right corner contains 'UPDATED WINTER STORM INFORMATION'. Below this, there is a section for 'NWS Forecast Office Paducah, KY' with a 'Current Hazards' link. A weather alert box states: 'SHOWERS AND STORMS CONTINUE TO IMPACT THE AREA: 420 PM Oct 6, 2019: Widespread showers and scattered storms will continue developing and streaming northeast across the area well into the evening. Heavy rainfall over parts of the area will cause some minor flooding issues.' A map section is also visible, showing a detailed forecast for the Paducah area with a legend for 'Watches, Warnings & Advisories'.

The graphic is titled 'Strong Thunderstorms Late Tonight' and is dated January 2, 2023, at 2:30 PM. It features a map of the Paducah area with a 'Severe Weather Outlook Monday, January 02, 2023'. The map shows various weather conditions, with a legend indicating 'Light', 'Moderate', 'Heavy', and 'Marginal' rain, and 'Thunder'. The graphic includes a 'Timing' section with 'First round: 6 PM to 10 PM' and 'Main round: 10 PM to 6 AM'. An 'Actions' section advises to 'Be weather aware and ready to act.' and 'Have multiple ways to receive warning information!'. A 'Severe Threats' section lists 'Tornadoes', 'Large Hail', and 'Damaging Wind'. The graphic is from the National Weather Service Paducah, KY.

OUTDOOR EVENT SUBMISSION FORM

- Used to collect information about your outdoor events/facilities
- Situational awareness for NWS forecasters
- Helpful staffing decisions
- Event info readily available
- Services available will vary by office
- weather.gov/abc/eventsupport

abc = local office identifier

- **LOT** = Chicago
- **ILX** = Lincoln
- **PAH** = Paducah
- **DVN** = Quad Cities (Davenport)
- **LSX** = St. Louis

Weather Support Request for Events



Weather Support Request for Events - Quad Cities IA/IL

National Weather Service (NWS) weather decision support is designed for public safety officials whose events are particularly vulnerable to weather due to the location, size, or nature of the event. Complete this form to request NWS weather decision support for an event. Required sections are denoted with a red asterisk (*). After submitting a request for weather support, you will receive an email with important resources and you will be contacted by your NWS office to clarify event specifics and services.

rich.kinney@noaa.gov [Switch account](#)



Not shared

Next

Clear form

How Our Message Will Evolve Based on Confidence

The Types of Graphics You Will See:

Confidence in impactful winter weather

<30%

30-50%

50-80%

>80%

7 days from the winter weather

The day of the winter weather



<30% - Broad-brushed graphics stating what we know and don't know

Slippery Travel Monday Evening
Roads may be icy and slick Monday evening.

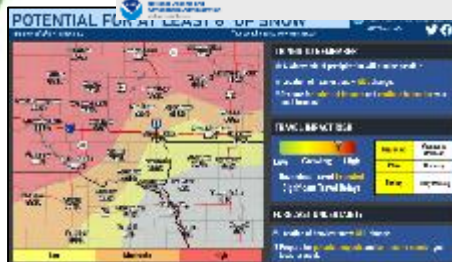
Additional Details:

- Heavy Rain
- Snow on Roads
- High Wind Gusts to 40 mph

Actions:

- Drive slowly and carefully
- Avoid unnecessary travel

30-50% - "Potential" graphics showing chances of accumulating wintry precipitation



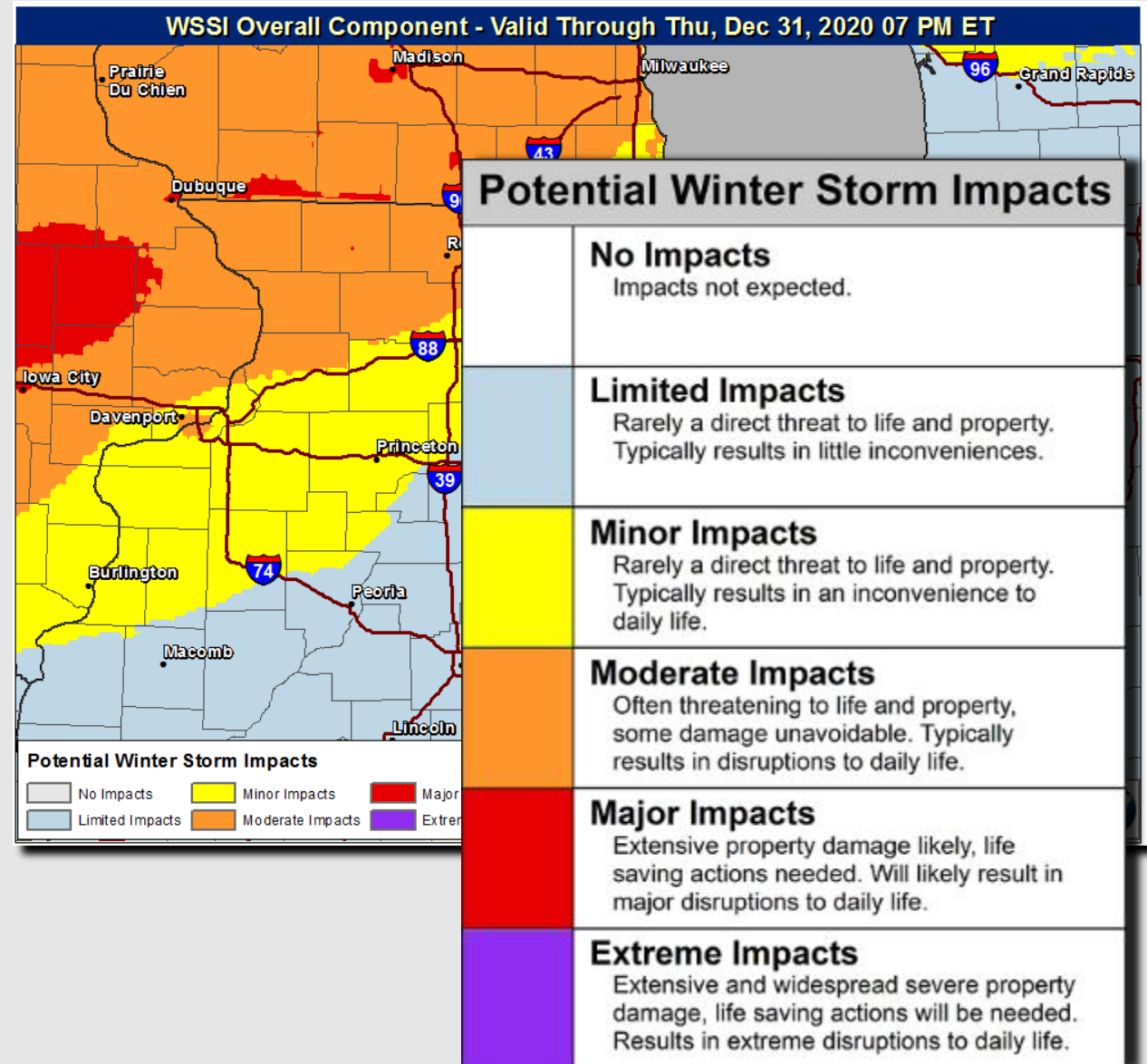
50-80% - "Potential" graphics or probability of exceedance images.



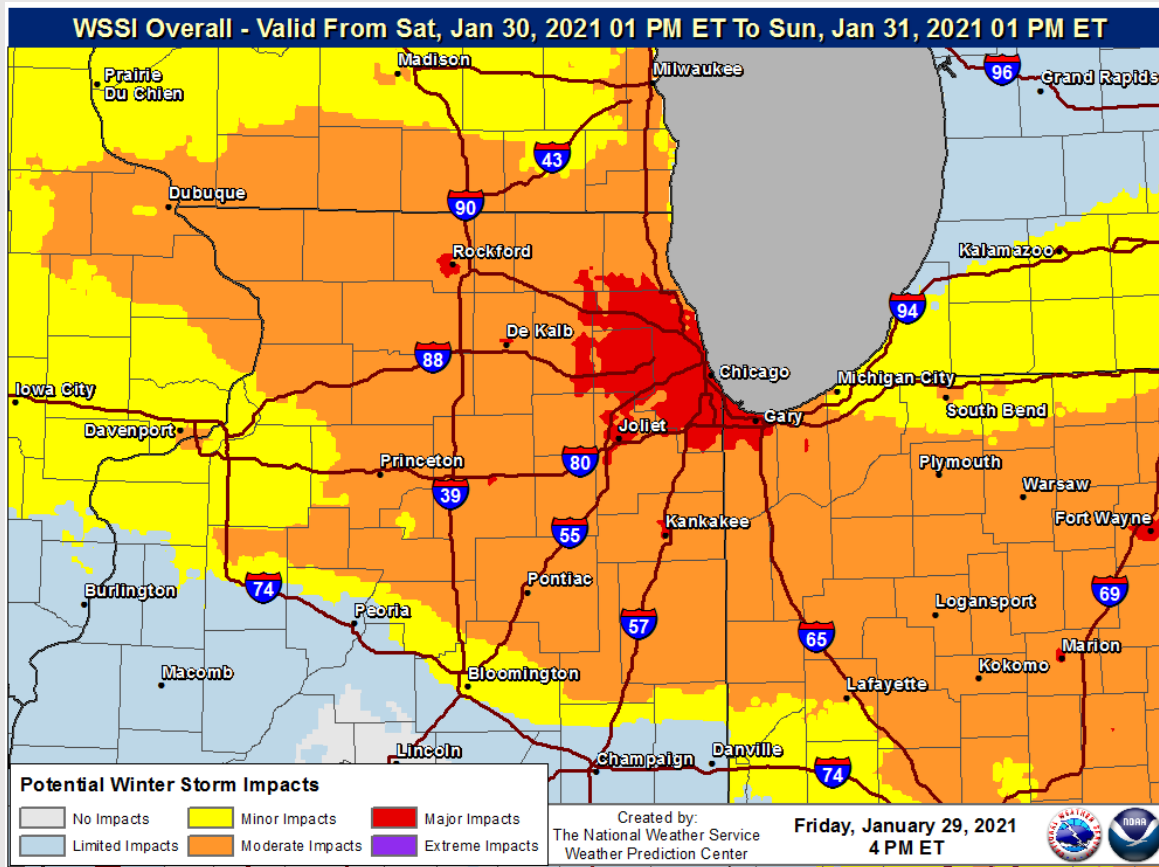
80+% - low end/high end snow ranges, timing, and precipitation type information

Winter Storm Severity Index (WSSI)

- A tool to help communicate a general level of potential societal impacts due to a winter event.
- Uses our NWS snow and ice forecast and combines it with information on local infrastructure, snowfall climatology, the potential for blowing snow, etc. to produce a color-coded map of expected impacts →
- Available through 3 days. There is an experimental version through 4 days that is linked/viewable on the winter weather liaison page.



Winter Storm Severity Index (WSSI)



Benefits:

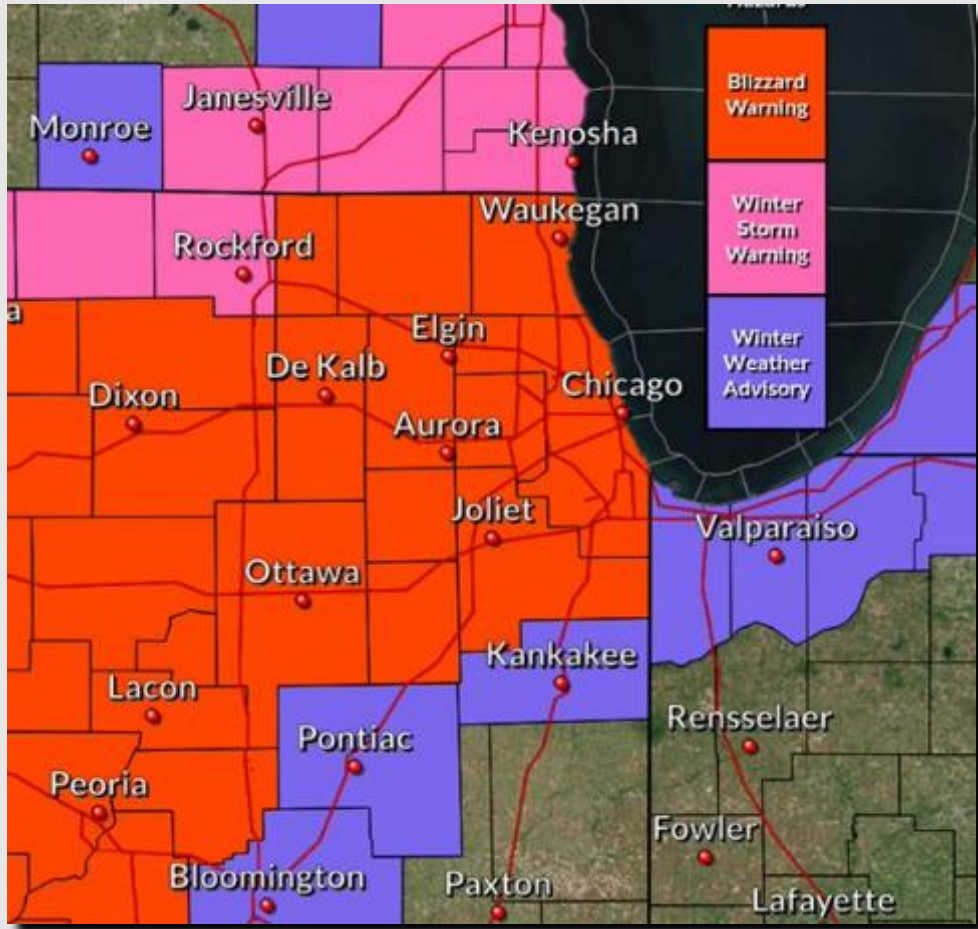
- ✓ Offers a quick, generalized view of potential winter-related impacts through 3-4 days
- ✓ A product marrying weather and its impacts

Drawbacks:

- ✗ Doesn't account for conditions that have already occurred: when a winter event is ongoing, the WSSI will NOT be representative of the entire event
- ✗ Does not provide expected snow or ice amounts

✗ Like the hourly graphs, the WSSI provides no information about forecast uncertainty

Watches vs. Warnings vs. Advisories



Watch



Chance for high-end winter impacts
is increasing
but we're still working out the specifics

Warning



High-end winter impacts
will occur

Advisory



Winter impacts
will occur

More Information:

<https://www.weather.gov/lot/headlines>

Snow Squalls

- **Snow squalls** are intense—but brief—periods of heavy snowfall accompanied by strong winds and sometimes plunging temperatures.
- Particularly treacherous due to sudden and rapid onset (coming in "like a wall") and near-zero visibility due to blowing snow. Leading wintertime cause of multi-car pileups.

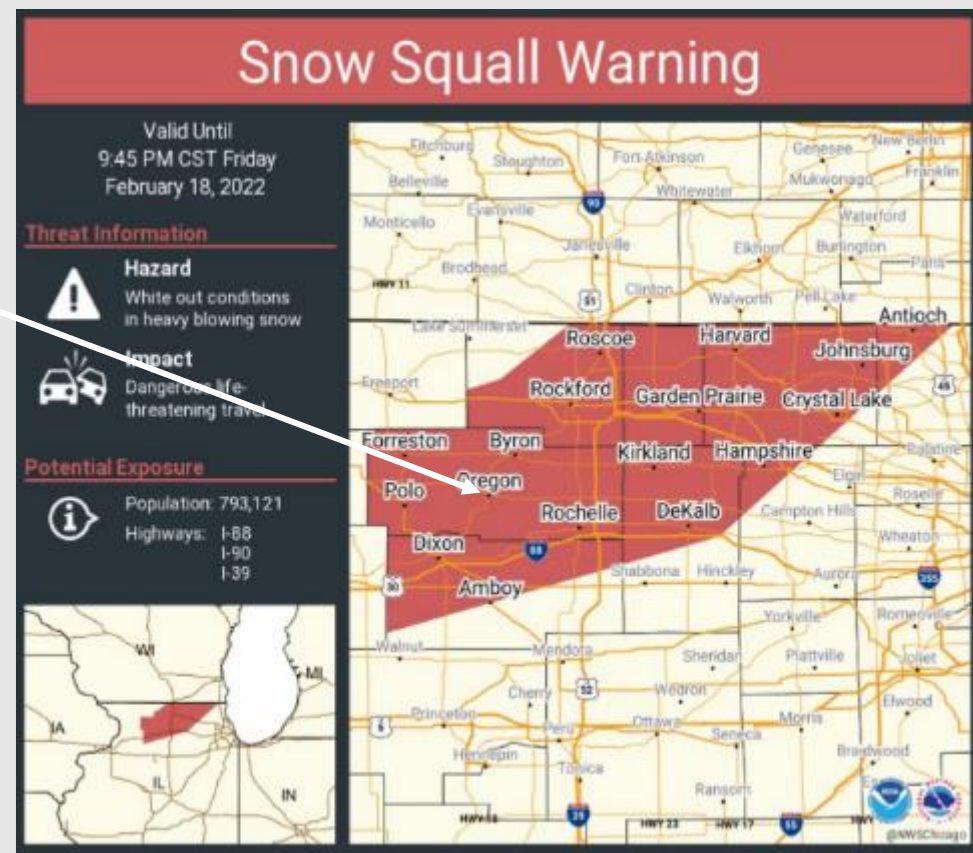
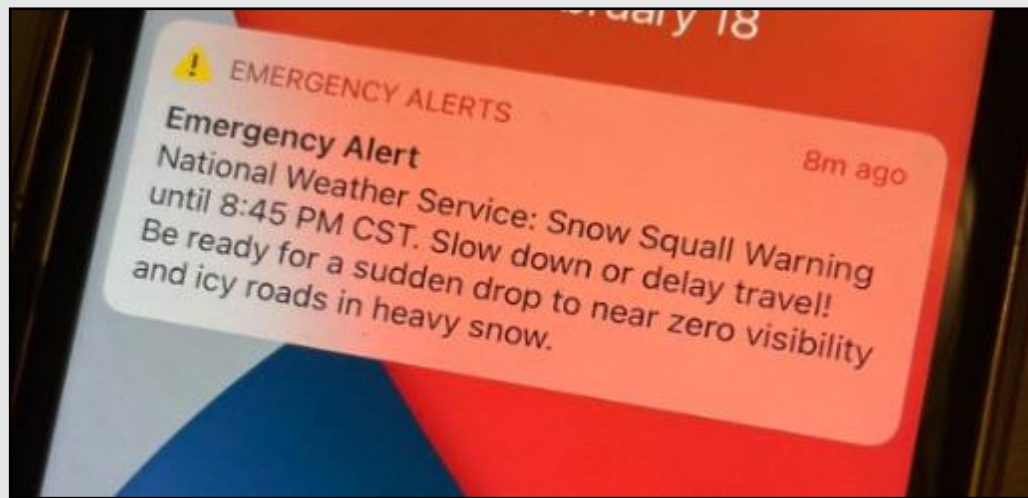


*WIFR webcam (State Street in Rockford) on 2/18/2022. **Conditions were completely clear 5 minutes before this images was taken. A wind gust of 53 mph was recorded at Rockford Airport!***

The National Weather Service began issuing **Snow Squall Warnings** at the end of 2018 to enhance messaging of this dangerous wintertime hazard.

Snow Squall Warnings

Snow Squall Warnings are intended to highlight situations where **rapid onset, brief, intense bursts of snow** and **strong winds** will pose a significant threat to those on the road, especially for high-speed travelers on interstates. This also includes flash freezes.



Snow Squall Warnings sent automatically to our X (Twitter) accounts.

NEW: **ONLY those with a tag of "**Significant**" impact will result in **Wireless Emergency Alerts** on cell phones (top).*

Impact-Based Warning Tags for Snow Squall Warnings

What's New:

Up to 2 Impact-Based Warning Tags will be appended to the bottom of Snow Squall Warnings

- General (No Tag), **SIGNIFICANT**
- **OBSERVED, RADAR-INDICATED**

General: Used frequently for snow squall conditions but mitigating actions, combined with societal context, will reduce the threat to safe travel

Significant: Used only when snow squalls pose a substantial threat to safe travel, such that WEA is warranted to alert all devices in the path.

```
...A SNOW SQUALL WARNING REMAINS IN EFFECT UNTIL 630 PM EST...

At 540 PM EST, a dangerous snow squall was located near Owls Head, moving east at 40 mph.

HAZARD...Flash freeze on roads and rapidly falling visibility due to intense bursts of heavy snow and gusty winds.

SOURCE...Radar indicated.

IMPACT...Dangerous and life-threatening travel conditions are expected to develop rapidly in the warning area.

Locations impacted include...
Chazy, Mooers, Altona

PRECAUTIONARY/PREPAREDNESS ACTIONS...
Slow Down! Rapid changes in visibility and road conditions are expected with this dangerous snow squall. Be alert for sudden whiteout conditions.
&&

LAT...LON 4467 7395 4479 7419 4489 7403 4500 7380
TIME...MOT...LOC 1815Z 259DEG 51KT 4512 7345 4501

SNOW SQUALL...RADAR INDICATED
SNOW SQUALL IMPACT...SIGNIFICANT
$$
```

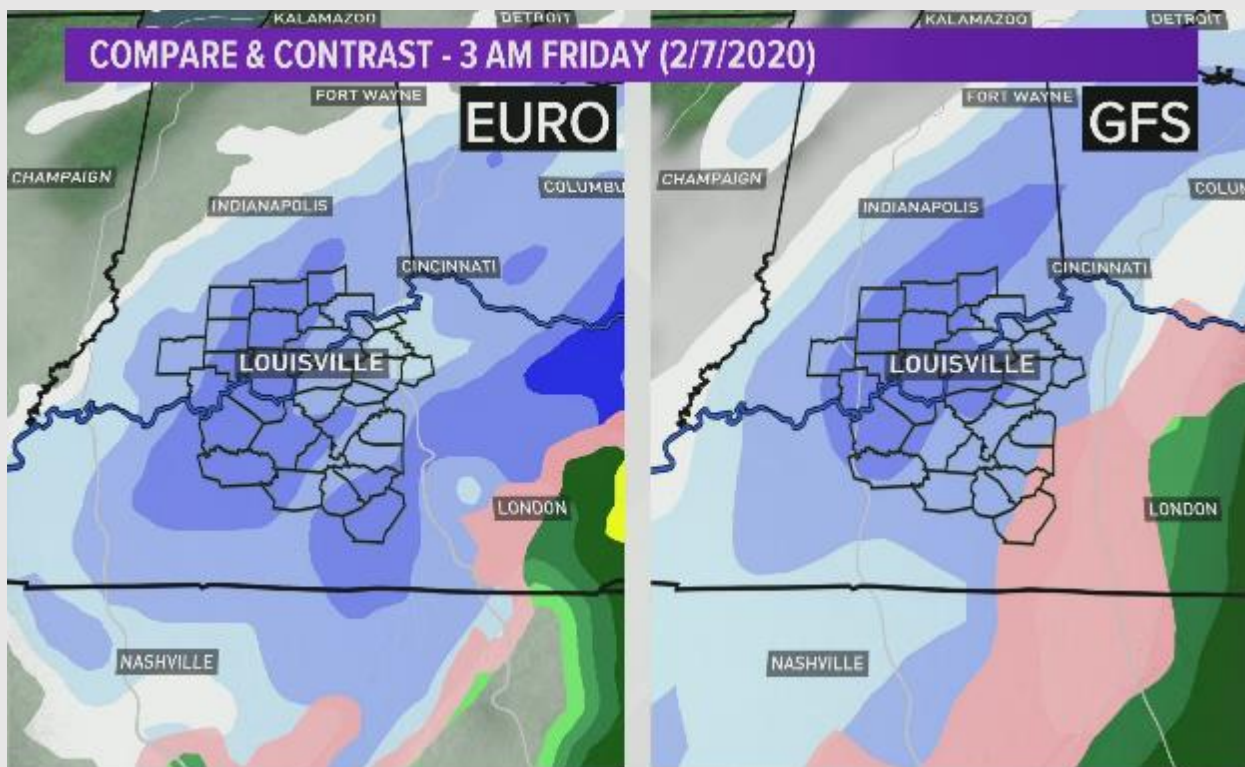
→ What This Means

Before: All Snow Squall Warnings activate WEA (Wireless Emergency Alerts).

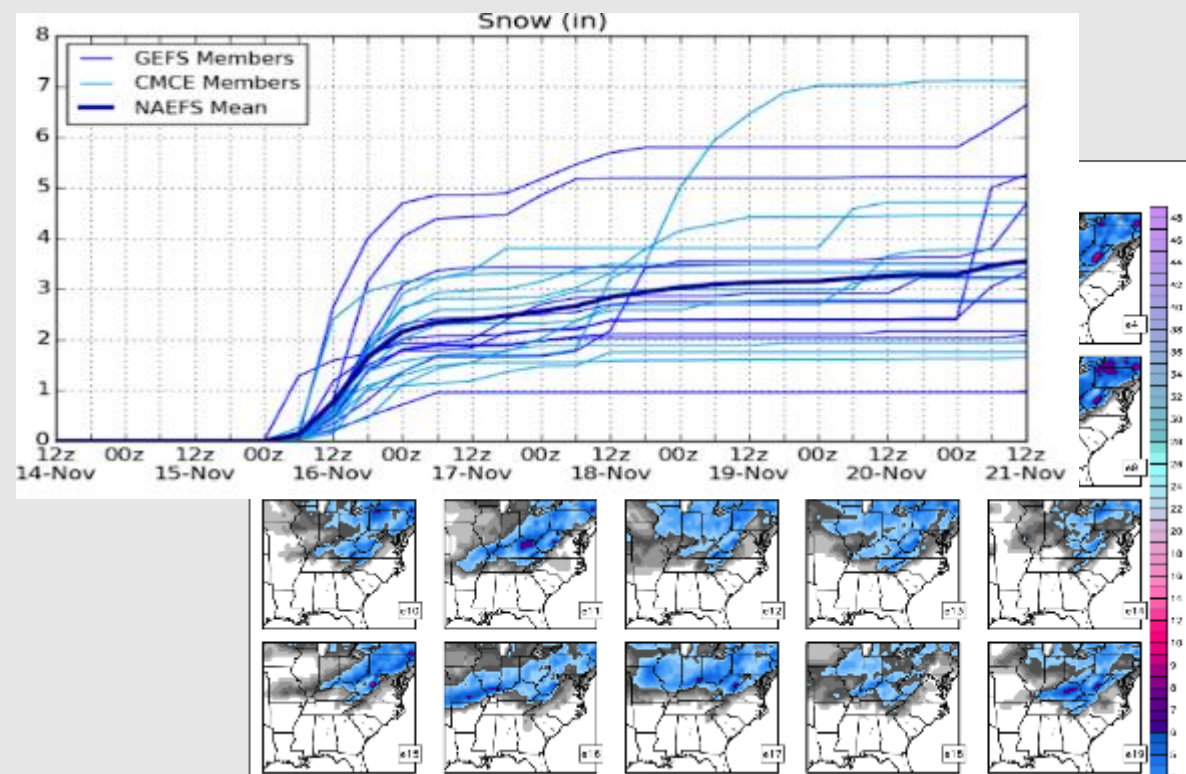
Now: WEA will only activate for high-end events with the **SIGNIFICANT** tag



Technology Advancements



You've probably heard of a couple of our weather models like the American (GFS) or the European (Euro)...



...but now due to increased technology, we actually have access to over a hundred models!

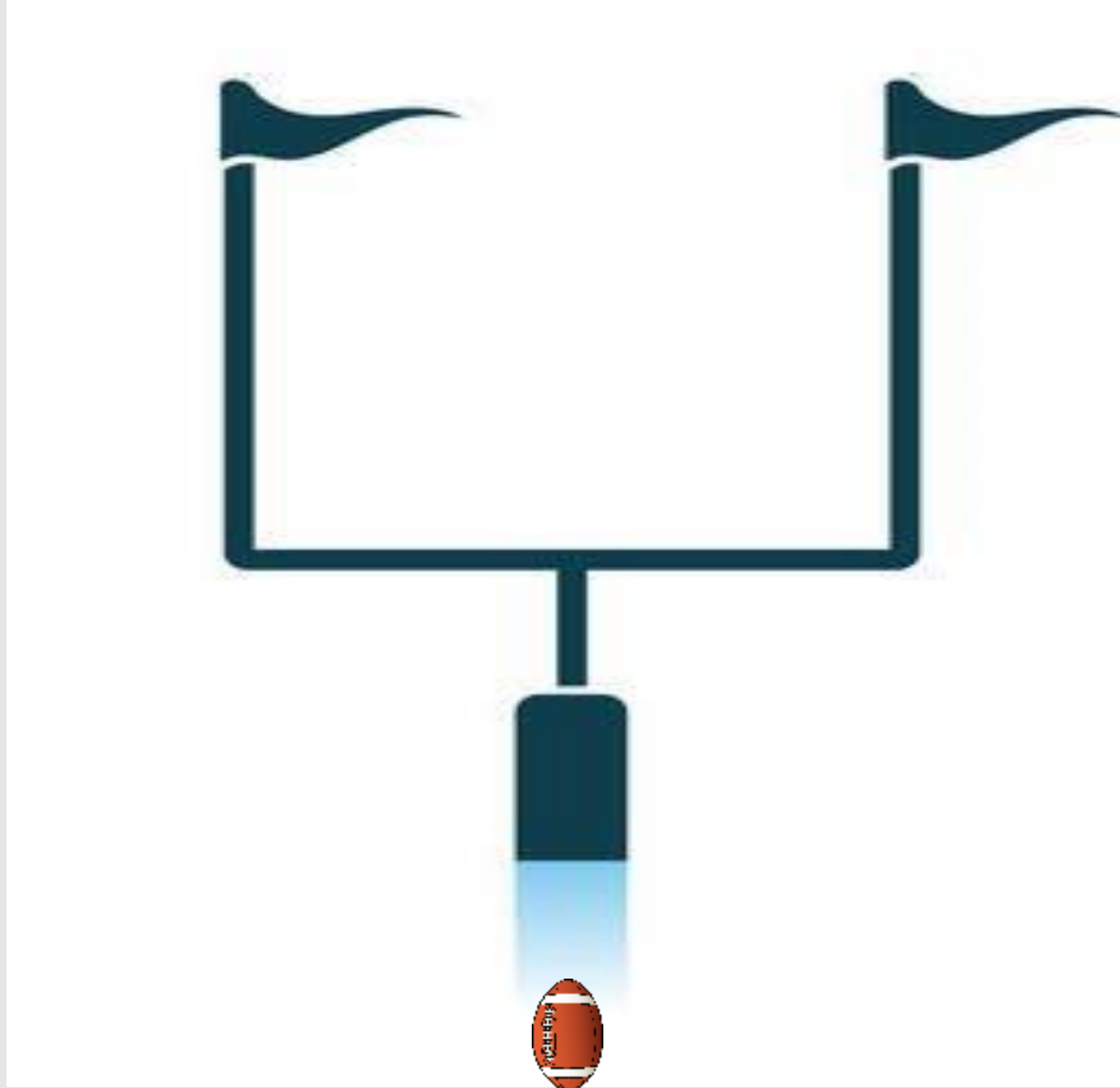
NATIONAL WEATHER SERVICE

Probabilistic Messaging Tools

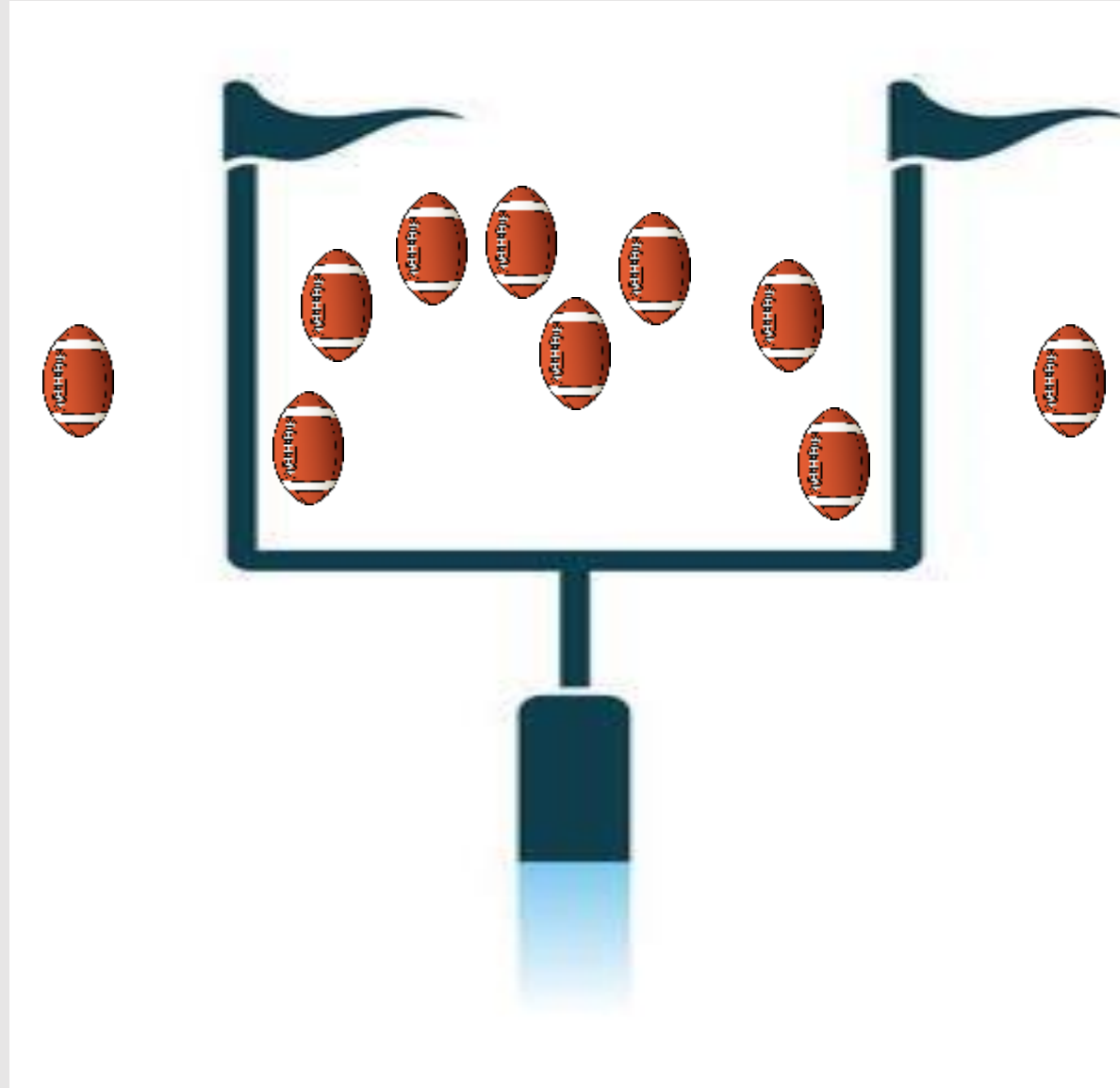


NATIONAL WEATHER SERVICE

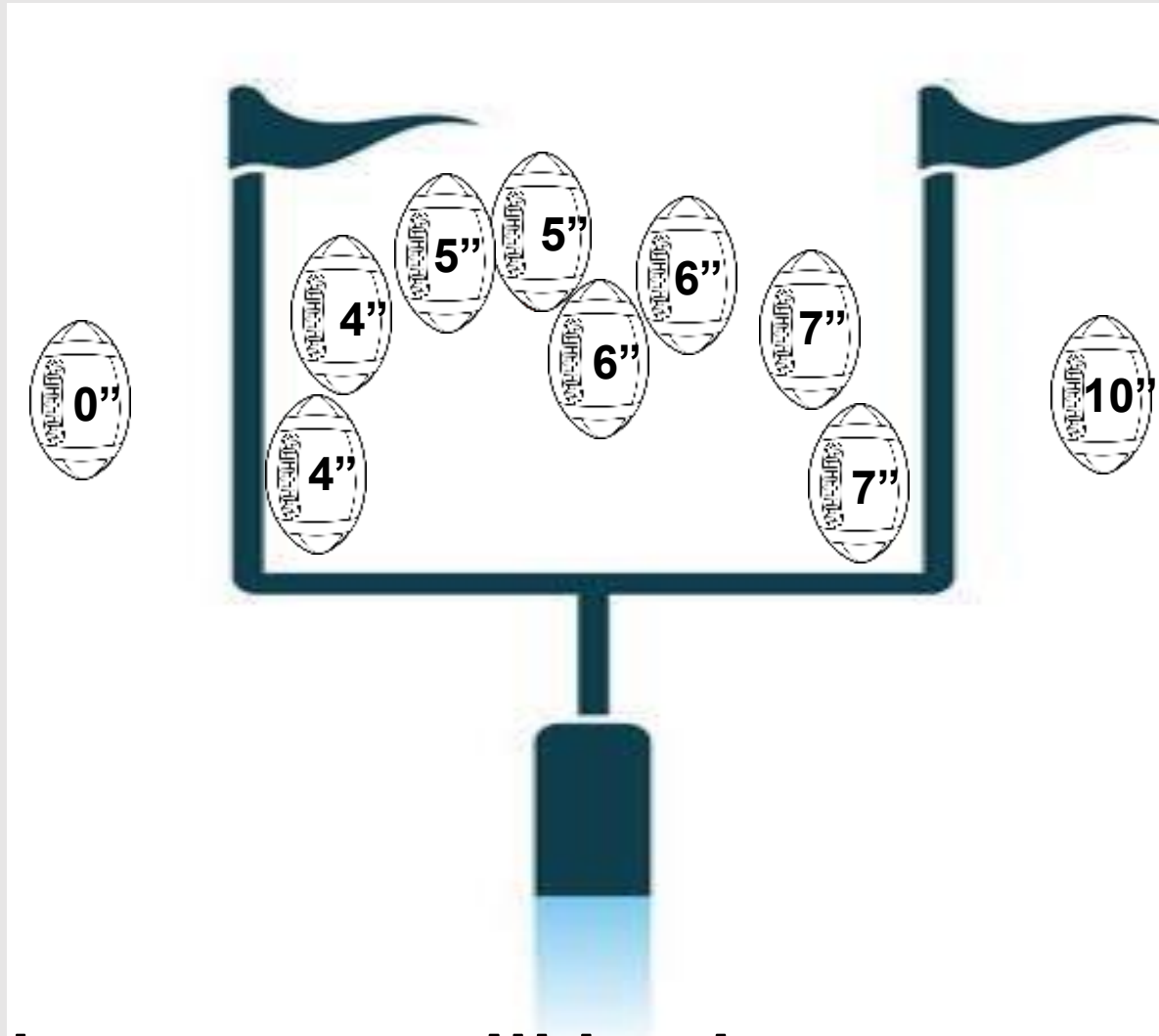
Field Goal Kicker – 80% Accurate



Field Goal Kicker – Made 8 out of 10

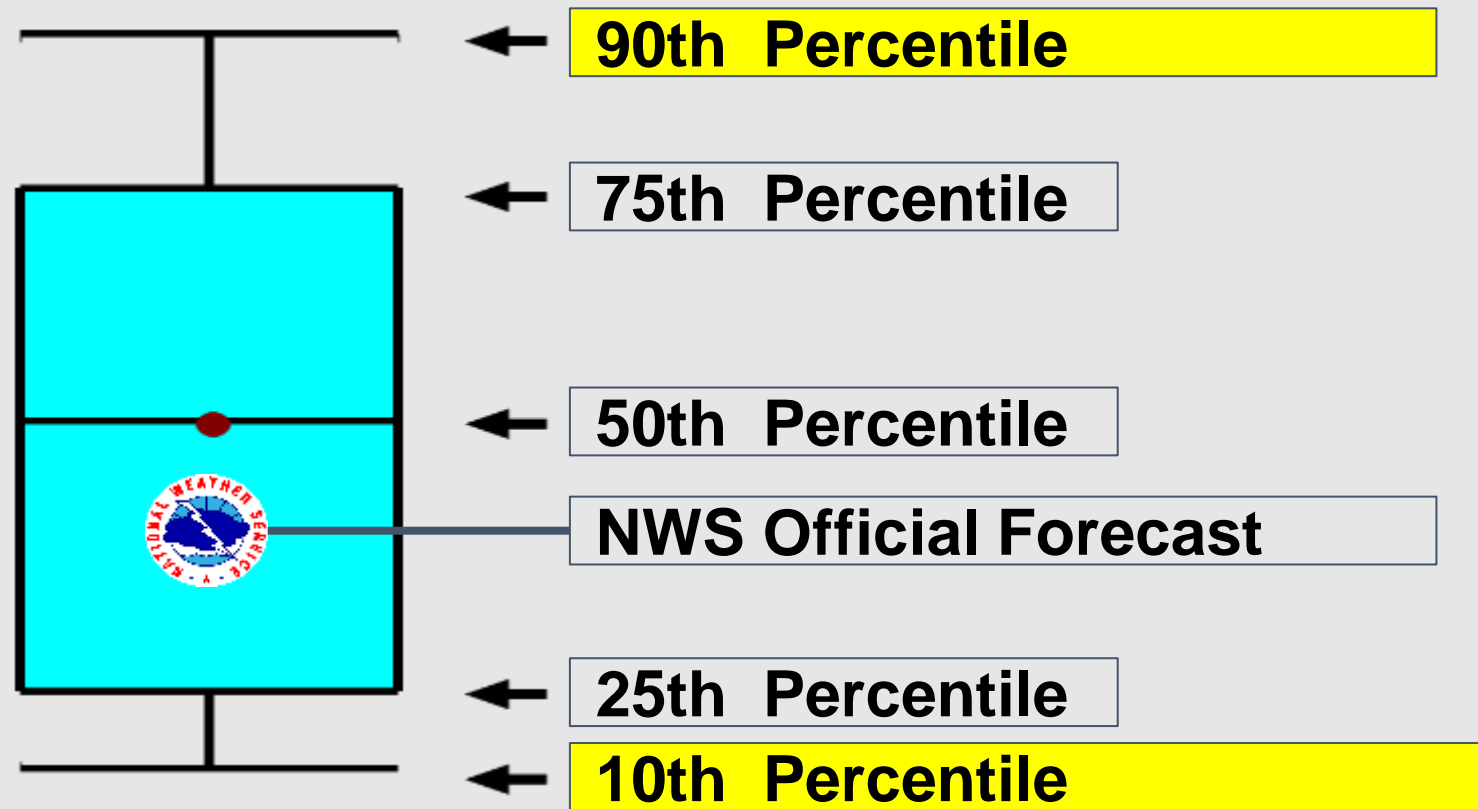
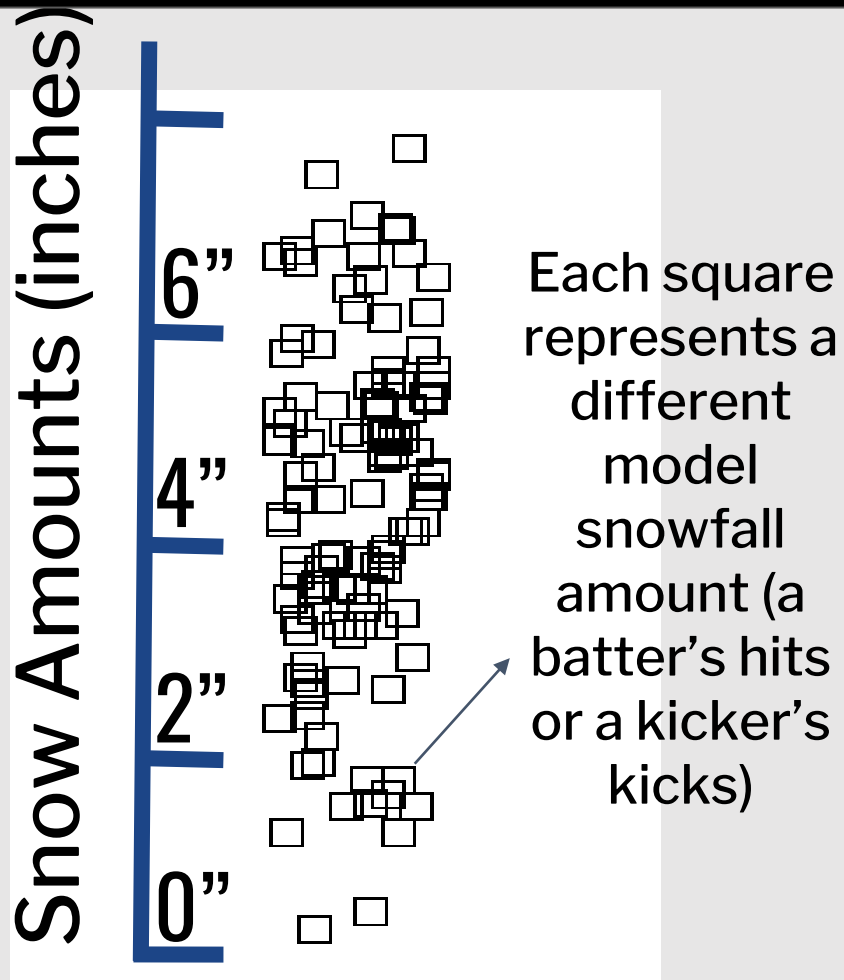


Each Football is a Model Snow Forecast



80% chance the snow will be between 4 and 7 inches!

How This Looks With Our Models

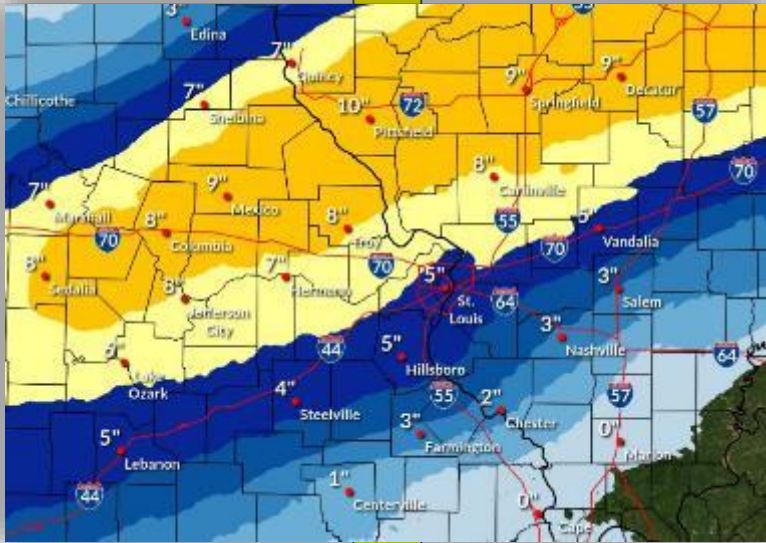


We take all the snow amounts from all these models...

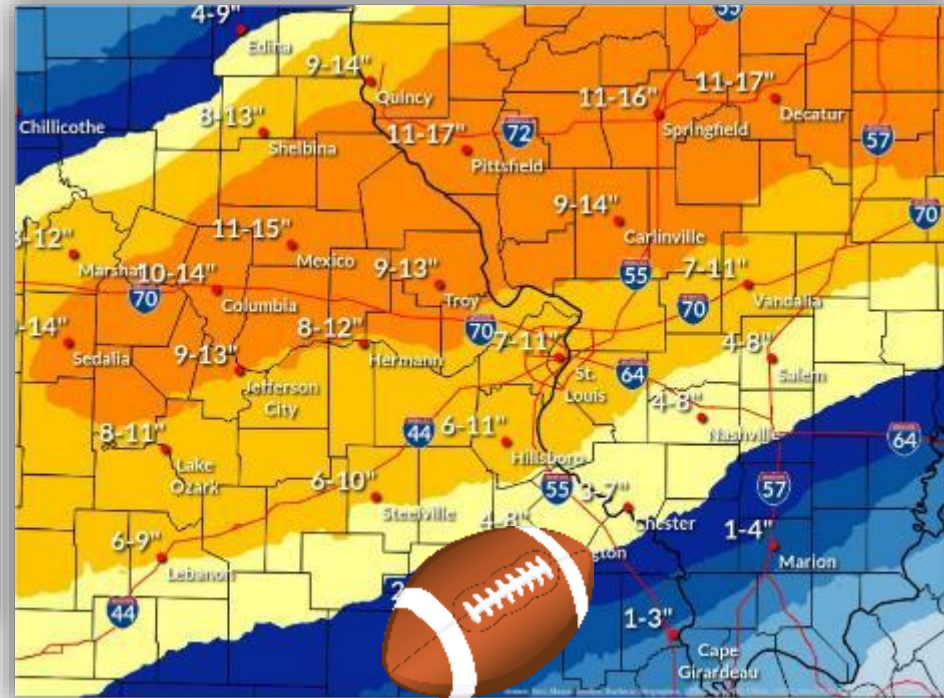
...and apply some math to them to give an idea of the range of snowfall possible with any given storm.

Snow Probability Graphics

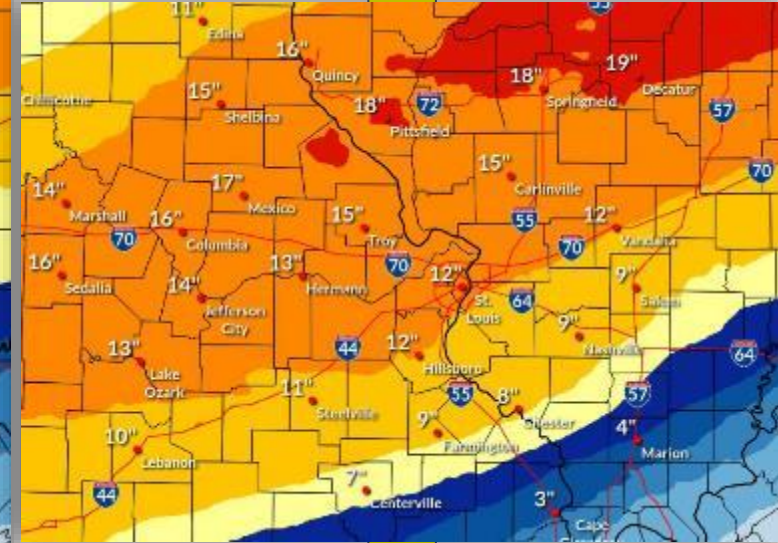
Expect At Least This
Much
(Left Goal Post)



Most Likely
(The football)

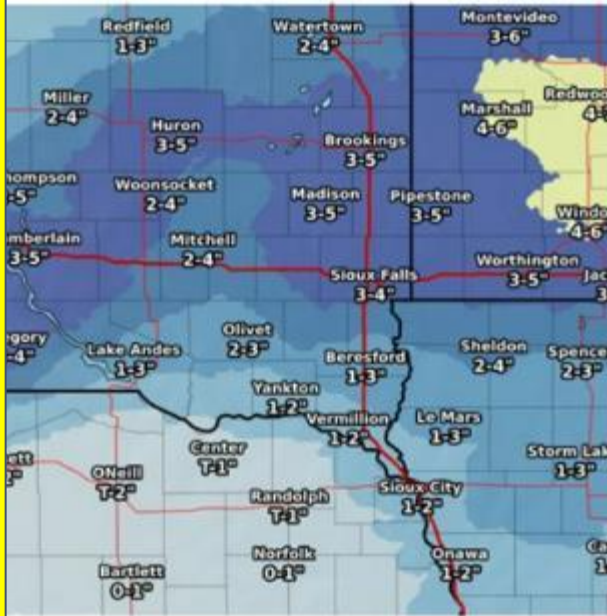


Potential For This
Much
(Right Goal Post)

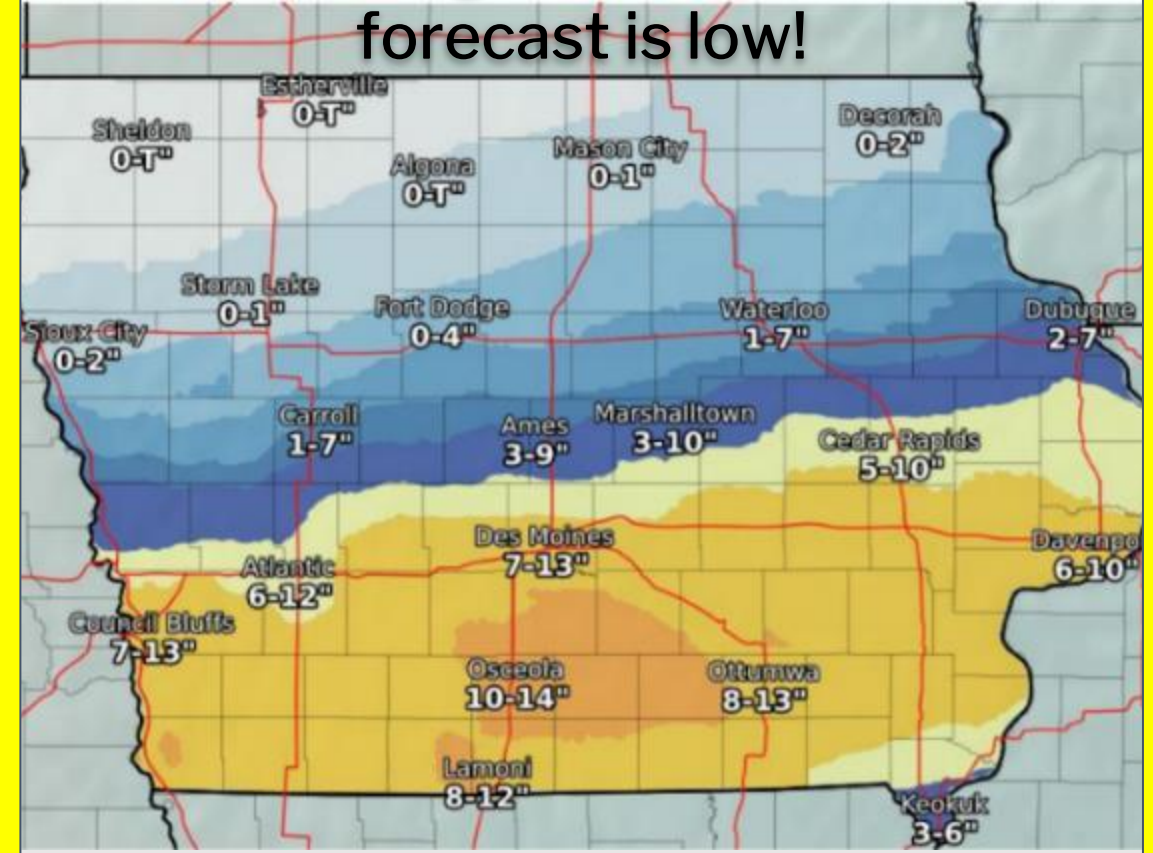


The Wider the Range (Field Goal Posts), the Higher the Uncertainty!

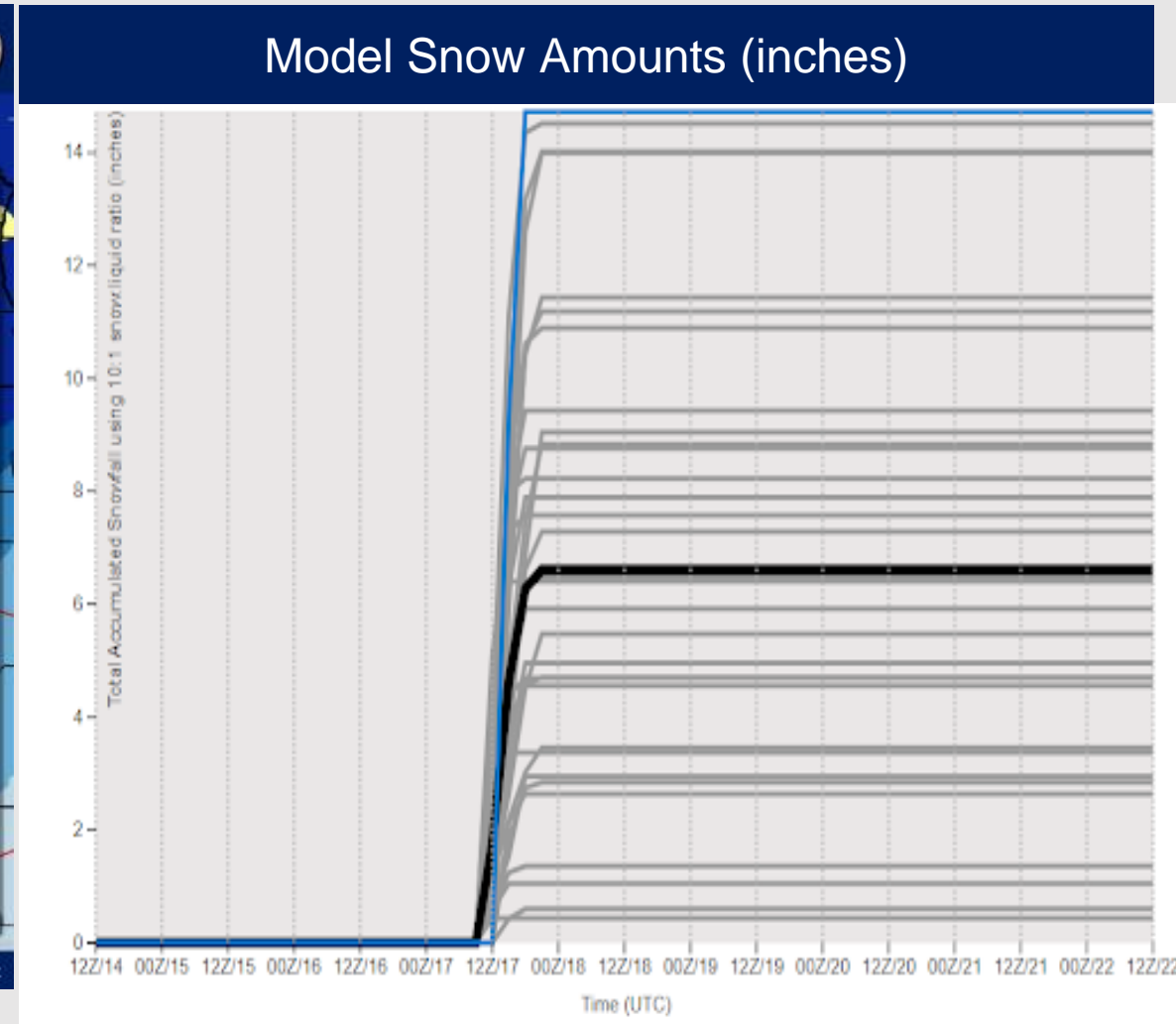
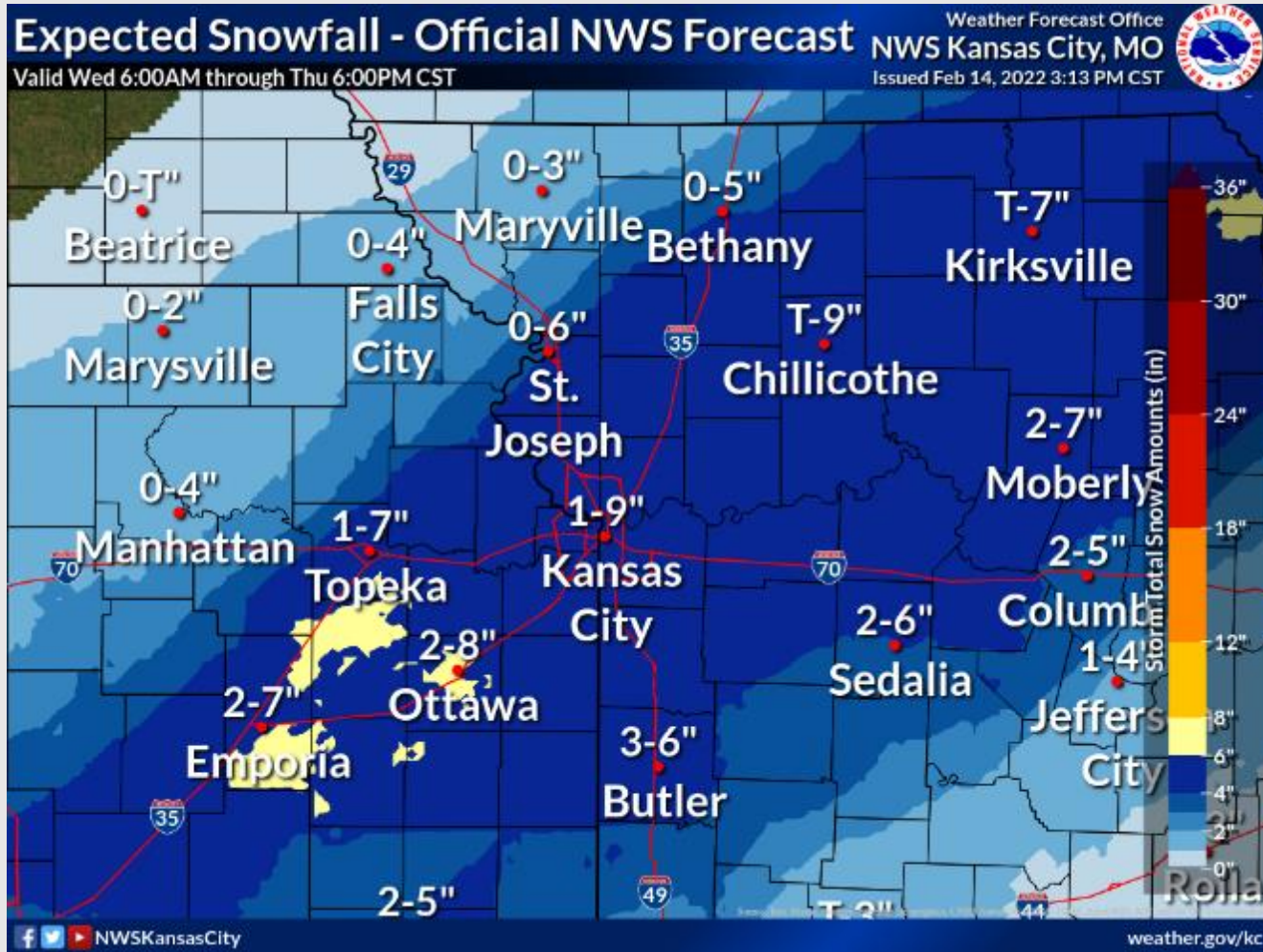
Narrow range – confidence in forecast is high!



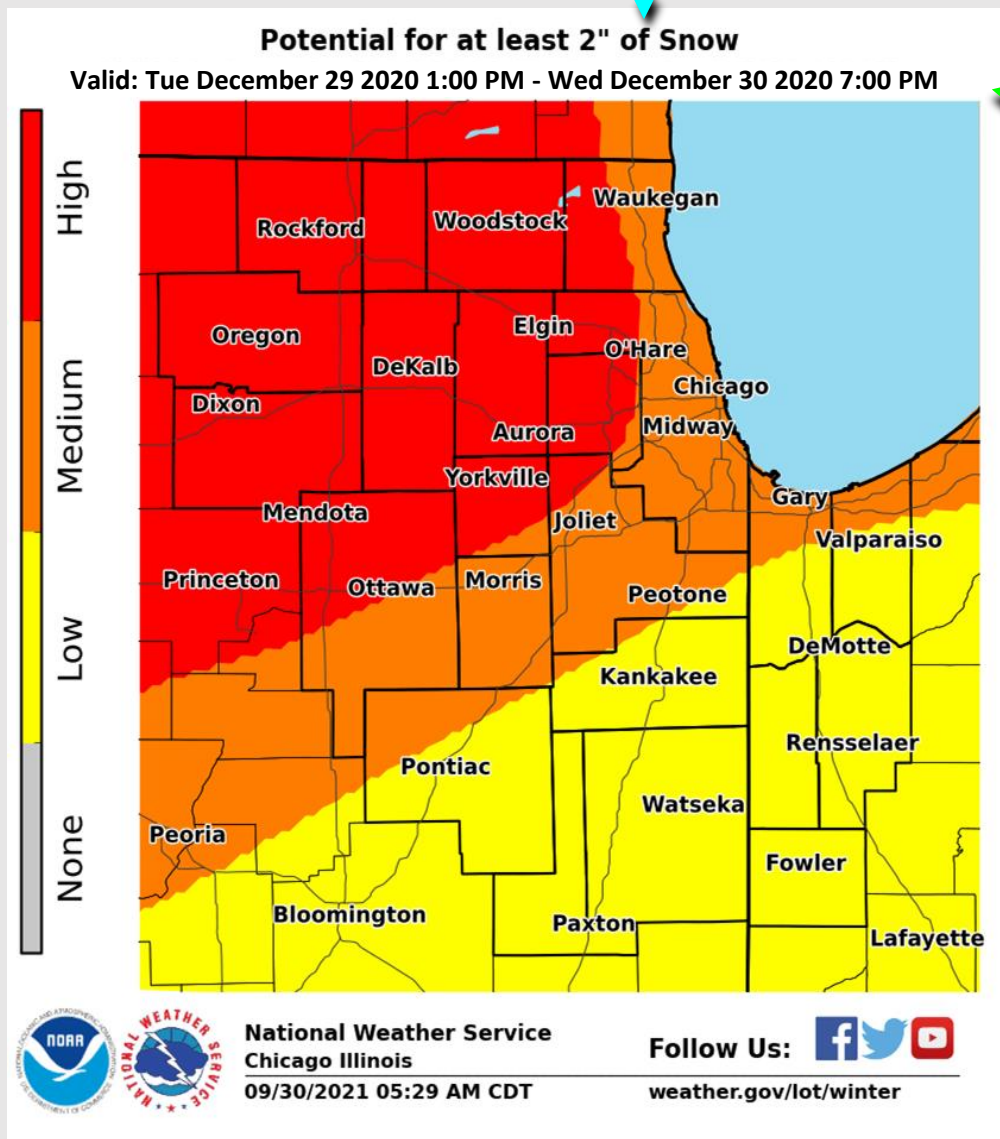
Wide Range – Confidence in forecast is low!



Communicating Wide Ranges and Uncertainty – Not Easy!



Probabilistic Exceedance Maps

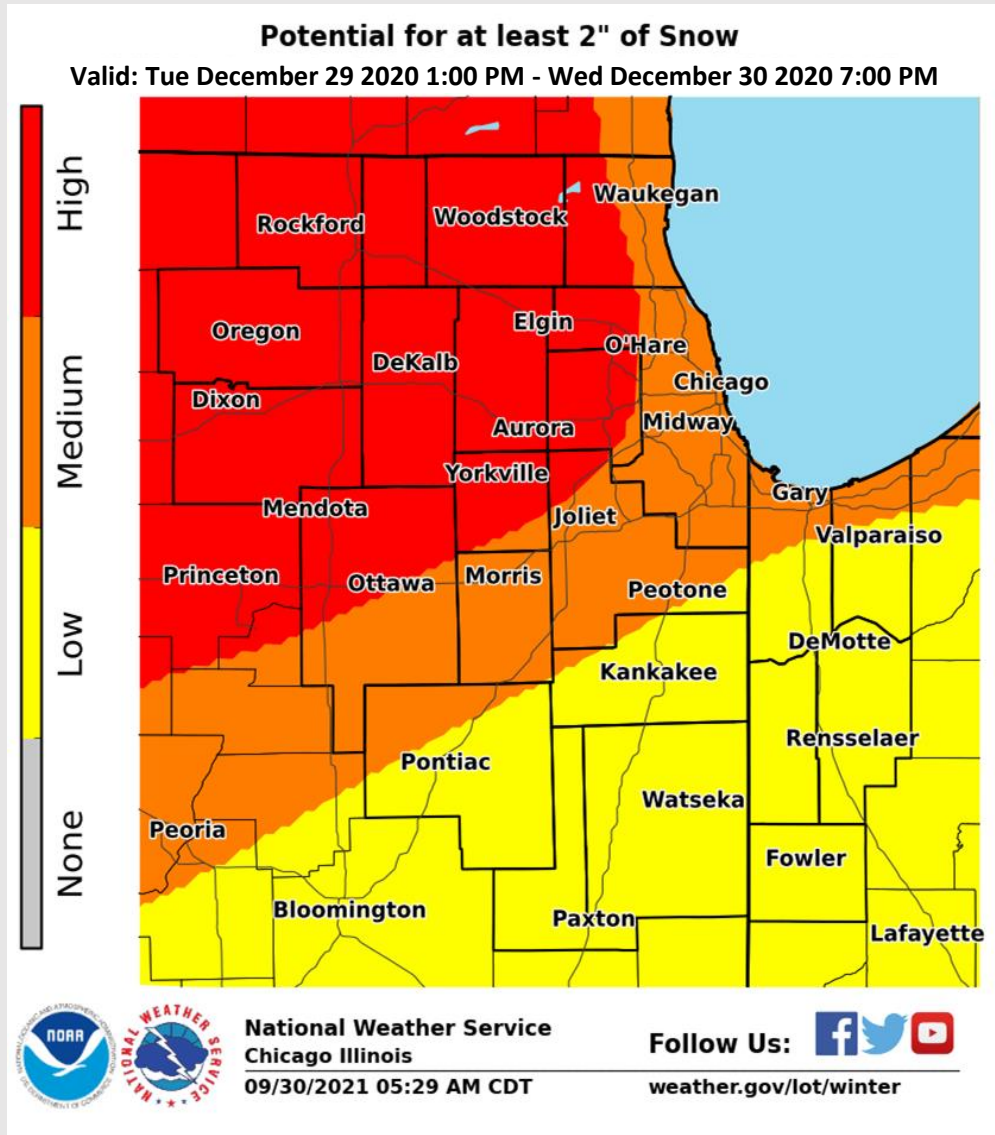


Chance of exceeding a **certain threshold** over a **time range**

NOTE: Snow (or ice) may not be forecast during the entire listed time range!

- Maps are automated and created using our local snow (or ice) forecast. Additional ensemble data is automatically added to build out the probabilities.
- Available for Snowfall $\geq 2''$, $4''$, and $6''$ and Ice Accumulations $\geq 0.10''$, $0.25''$, and $0.50''$
- **Yellow (10-39%), Orange (40-69%), Red ($\geq 70\%$)** chance of occurring
 - **Key Point:** Probability values are *continuous* (not a "stoplight": higher probabilities near Joliet than Peotone), but limiting color thresholds aids usability.

Probabilistic Exceedance Maps



Benefits:

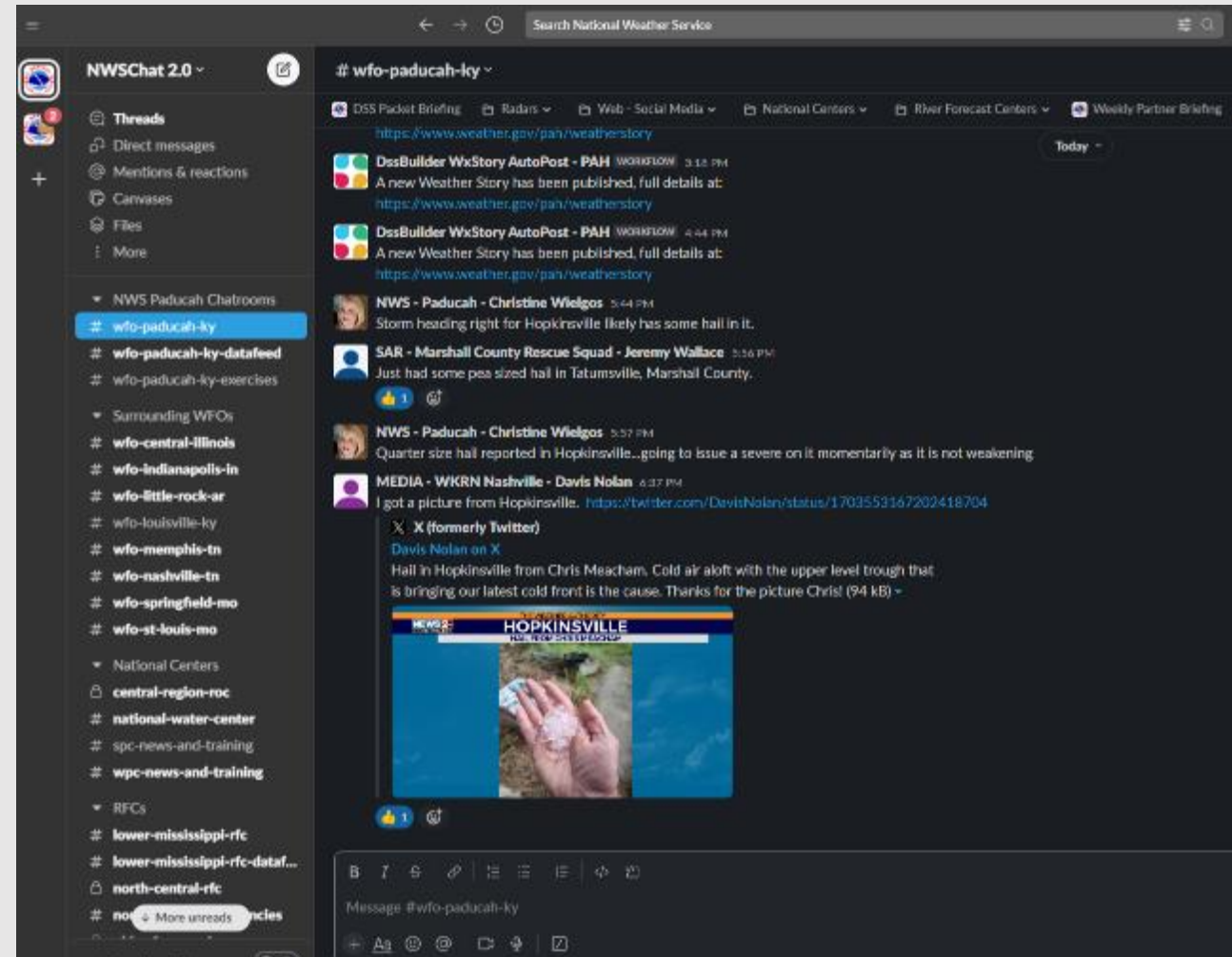
- ✓ Provide an overview of a *range* of potential snow or ice accumulations (available for $\geq 2, 4, 6$ " of snow and $\geq 0.10, 0.25, 0.5$ " ice & can compare to one another)
- ✓ May help show a level of uncertainty (or confidence) in a specific snow or ice amount's forecast
 - *Example: Latest forecast calls for 1" or less of snow, but exceedance map may show a low chance of >2"*

Drawbacks:

- ✗ Does not provide specific timing information
- ✗ Does not show the potential for high RATES over short periods of time (i.e. > 1 " / hour)
- ✗ (Currently) only updated twice per day

NWS Chat 2.0 is HERE!

- This tool will *revolutionize* the services we are able to provide you.
- 24/7 access to NWS meteorologists, fellow emergency officials, and broadcast meteorologists via a simple chat, sharing of images, hopping on a video call, etc.
- This will be the one tool you as partners will need. And the best part, **it has a mobile APP!** A meteorologist in your pocket!



NWS Chat 2.0: Features & Issues



- NWSChat 2.0/Slack will be very stable.
- Available on your phone!!
- Notifications can be set separately for your mobile device or synced to match your web account.
- Can be used on multiple devices at the same time.
- No password resets/annual training
- Photos and videos allowed!
- Emojis help limit clutter!



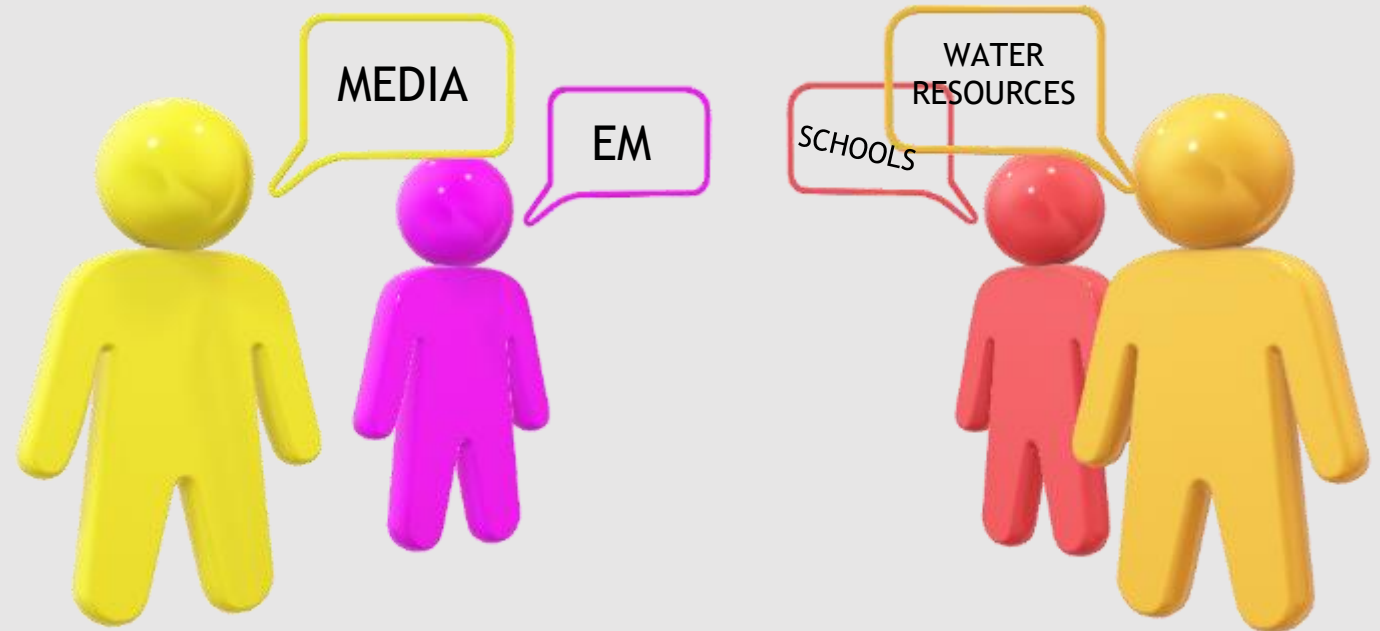
- Cannot see who is actively in chat or monitoring.
- No replacement for the radar map with overlays like the old NWSChat Live.
- Currently there is no ability to monitor several channels in one single, combined channel (i.e. All Chats).

NWS Chat 2.0: Account Approvals



Who can obtain an account?

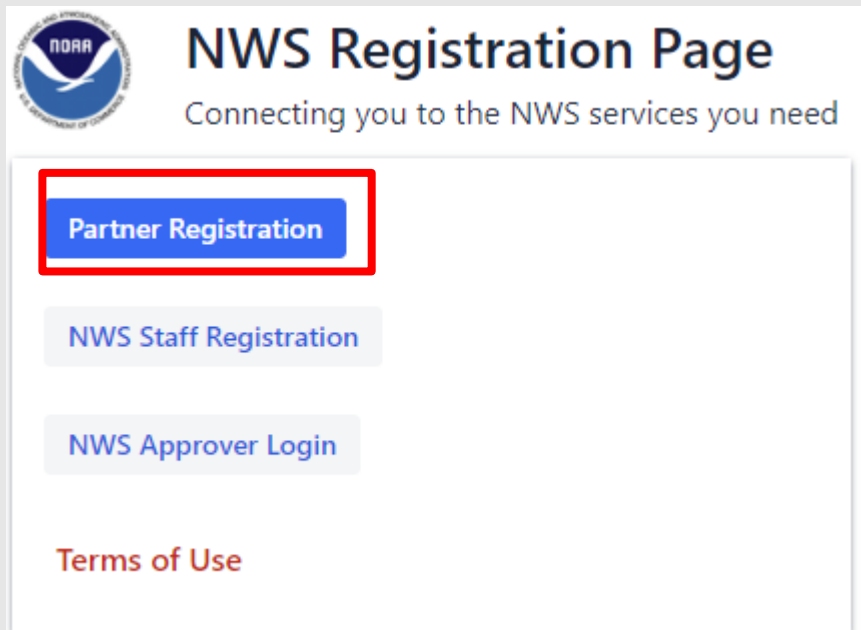
- Partners who have missions that require close coordination with the NWS to support the operational linkages of an allied mission of public safety or critical interdependency on each other's data or actions which impact the missions of both organizations.
- This includes officials with responsibility over public safety and decision-making authority regarding critical decisions.
- EMs, Fire/Police Chiefs, School superintendents, Skywarn Coordinator, Net Controllers (HAM), FEMA, FAA, Coast Guard, and many others!
- Not sure? Email us!



NWS Chat 2.0: Create an account



- Obtaining an account is easy!
- <https://partnerservices.nws.noaa.gov/registration>



1. Read the terms of service! Especially the “*NWSChat content and user conduct*” section.
2. Fill out the partner registration which involves 6 steps.
3. Account approvals can take up to 5 days

NWS Chat 2.0 QR Codes



NWSChat 2.0
Registration Page



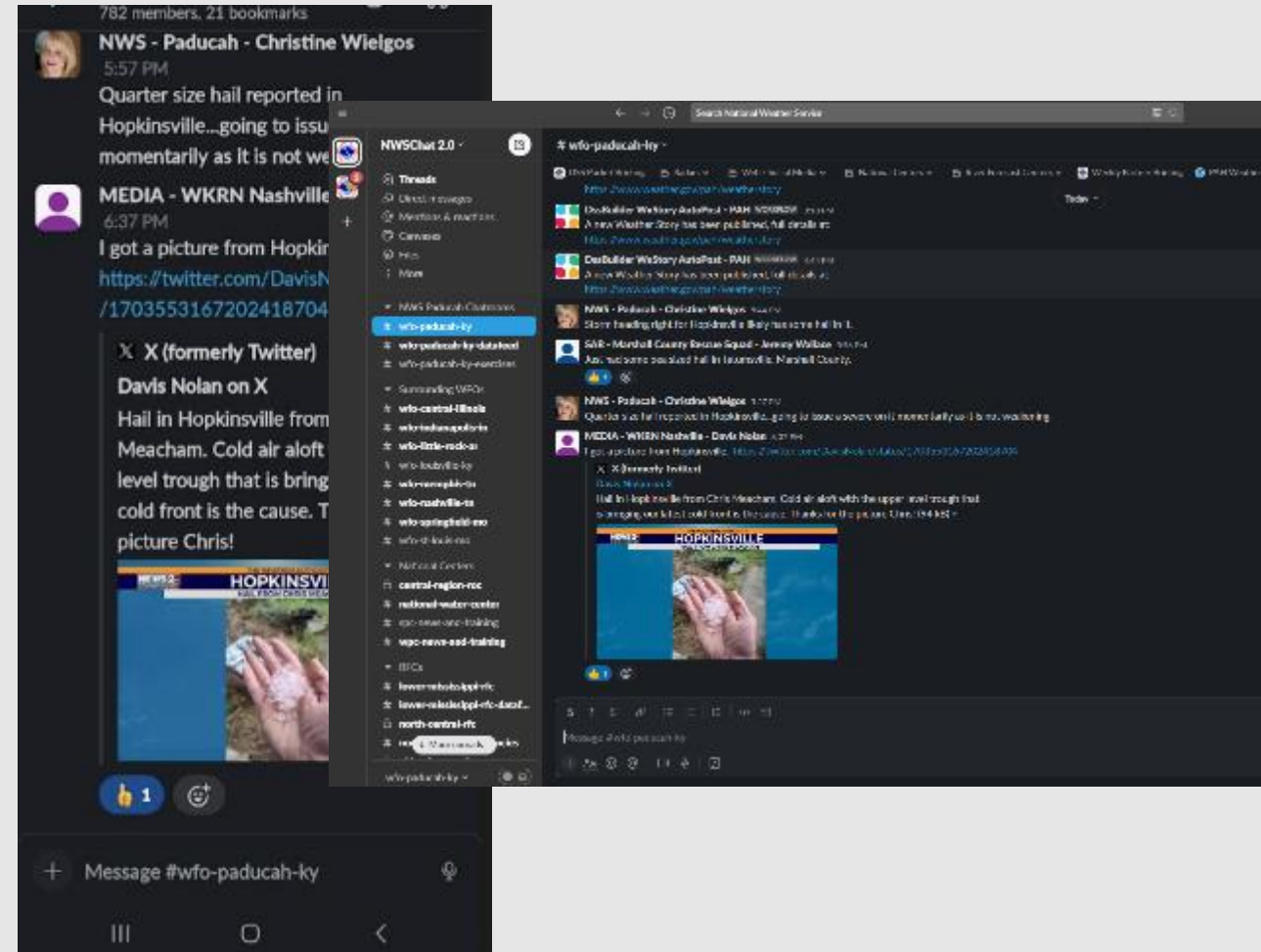
NWSChat 2.0 Training
Webinar

Accessing NWSChat 2.0



Slack
App

Download Slack app on your phone, the desktop app on your computer or use the webpage interface.



- Follow instructions received in your email to get logged onto NWSChat 2.0.
- Allow time to familiarize yourself with the platform.
- Training is available within Slack and also a local NWS PAH training video.

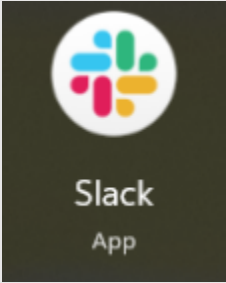


Slack
App

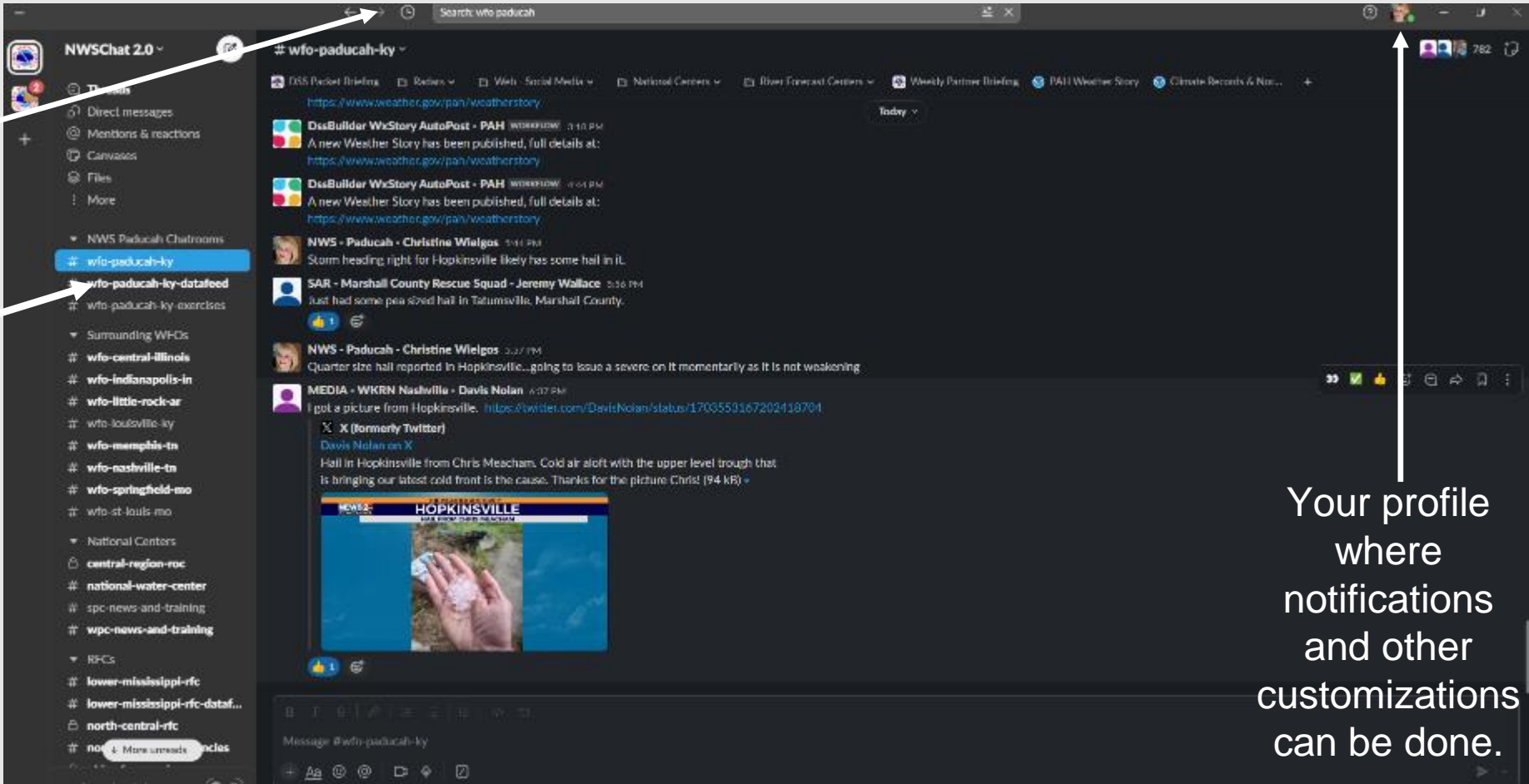
NWS Chat 2.0: New “Chat Rooms” or Channels

- **#wfo-paducah-ky**: NWS Paducah main channel – you can post in this room.
 - Similar naming convention to find other offices (i.e. wfo-st-louis-mo, wfo-chicago-il, wfo-quad-cities-ia-il, wfo-central-illinois)
- **:#wfo-paducah-ky-datafeed** NWS Paducah watches/warnings/reports/products.
 - Cannot post in this room
- **#wfo-paducah-ky-exercises**: NWS Paducah room for training/exercises
- **#help-slack-partners**: Ask questions for help from NWS personnel.
- **#ext-learn-slack-partners**: Learn all about Slack & NWSChat 2.0.
- **#feedback**: Provide requests/ideas/feedback to the Slack and NWSChat Admins.

NWS Chat 2.0: New “Chat Rooms” or Channels

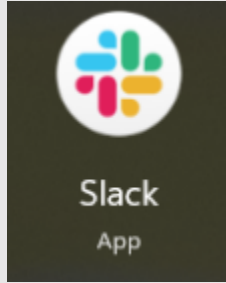


- Find these channels by typing them into the search bar on top!
- When you join a channel, a link to the channel will be placed in your sidebar.
- You can rearrange your sidebar to see important channels easily.

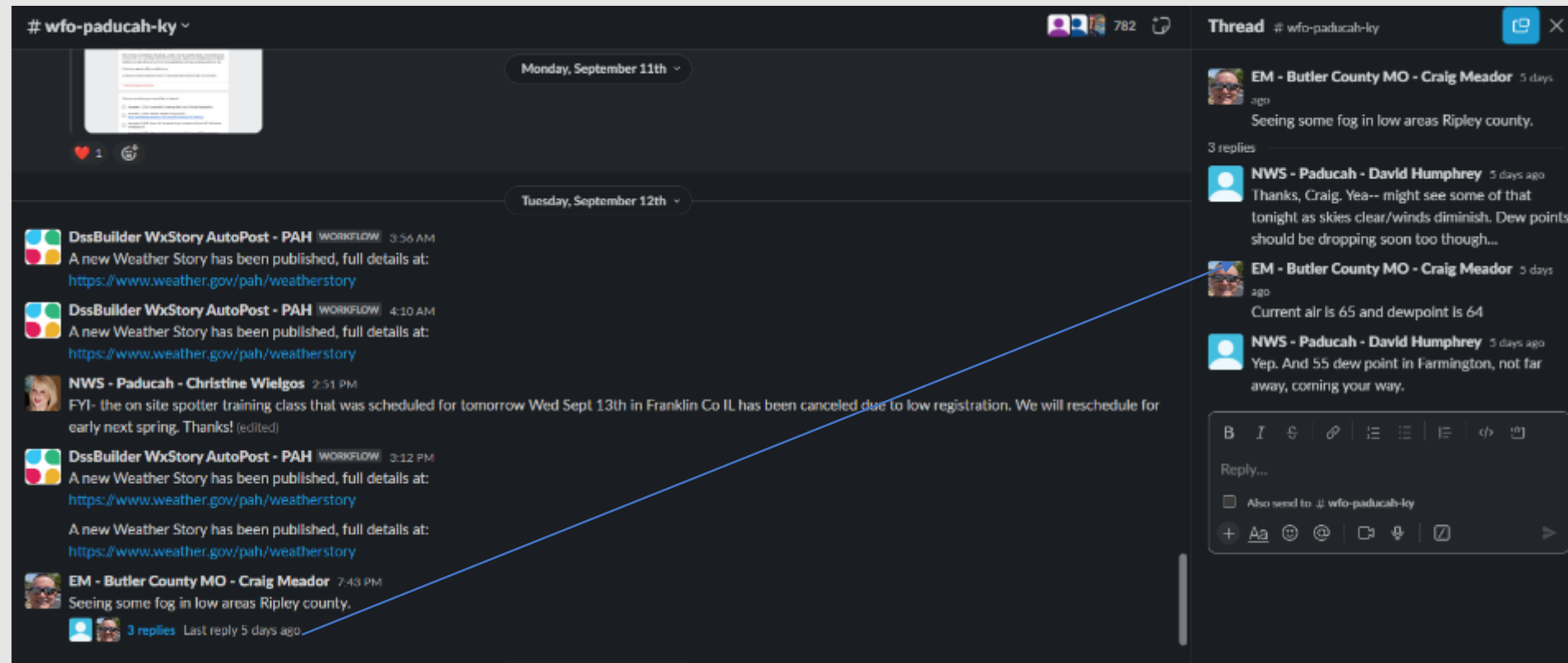


Your profile where notifications and other customizations can be done.

NWS Chat 2.0: Threading

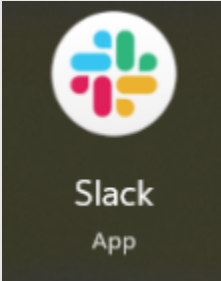


- Threading is replying directly to a comment just like you would on Facebook or Twitter.
- Issue: Replies not easily seen and important information may be missed or lost.

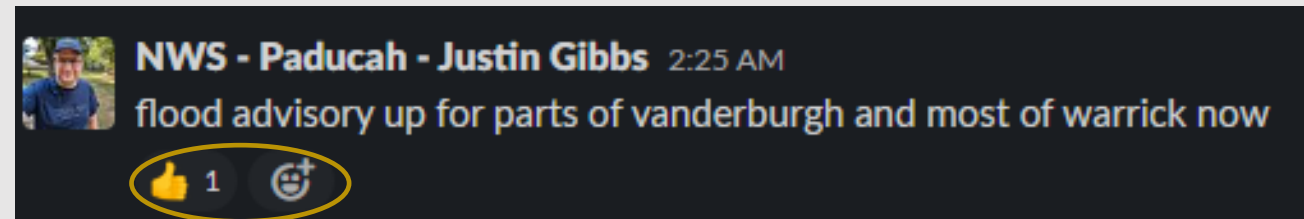
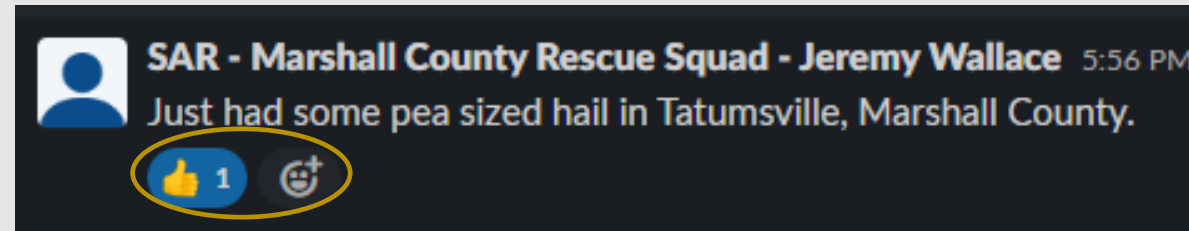


Do not “thread” unless we begin one with you. Otherwise your important information may be lost!

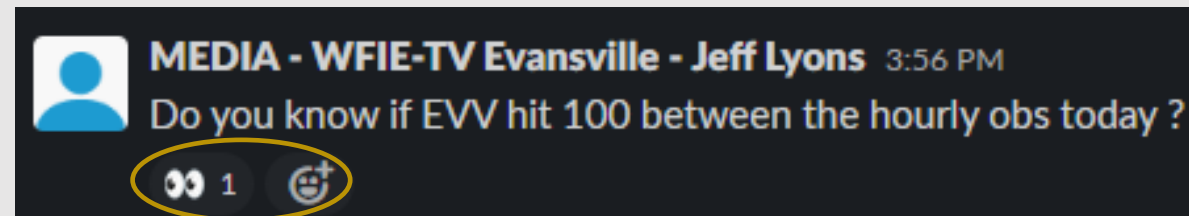
NWS Chat 2.0: Emoji Responses



- Emoji reactions and responses are an easy way to relay information as well as helping to keep the clutter low in the channel.

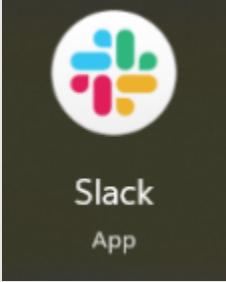


- Instead of typing thank you or got it each time, we may response with an emoji.



Best Practice: Use emojis if saying yes or to acknowledge something.

NWS Chat 2.0: Pinned info/bookmarks



Search: wfo paducah

wfo-paducah-ky

DSS Packet Briefing Radars Web - Social Media National Centers River Forecast Centers Weekly Partner Briefing PAH Weather Story Climate Records & Nor...

Today

DssBuilder WxStory AutoPost - PAH WORKFLOW 3:18 PM
A new Weather Story has been published, full details at:
<https://www.weather.gov/pah/weatherstory>

DssBuilder WxStory AutoPost - PAH WORKFLOW 4:44 PM
A new Weather Story has been published, full details at:
<https://www.weather.gov/pah/weatherstory>

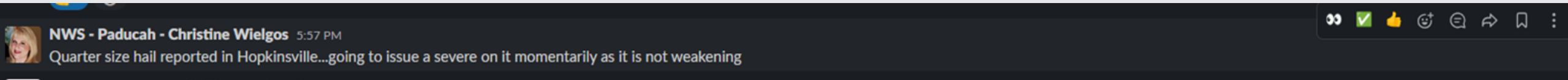
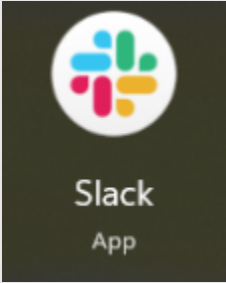
NWS - Paducah - Christine Wielgos 5:44 PM
Storm heading right for Hopkinsville likely has some hail in it.

SAR - Marshall County Rescue Squad - Jeremy Wallace 5:56 PM
Just had some pea sized hail in Tatumville, Marshall County.
👍 1 🗨️

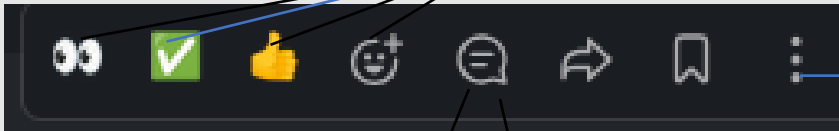
NWS - Paducah - Christine Wielgos 5:57 PM
Quarter size hail reported in Hopkinsville...going to issue a severe on it momentarily as it is not weakening

MEDIA - WKRN Nashville - Davis Nolan 6:37 PM
I got a picture from Hopkinsville. <https://twitter.com/DavisNolan/status/1703553167202418704>
X (formerly Twitter)
[Davis Nolan on X](#)
Hail in Hopkinsville from Chris Meacham. Cold air aloft with the upper level trough that

NWS Chat 2.0: Editing a chat

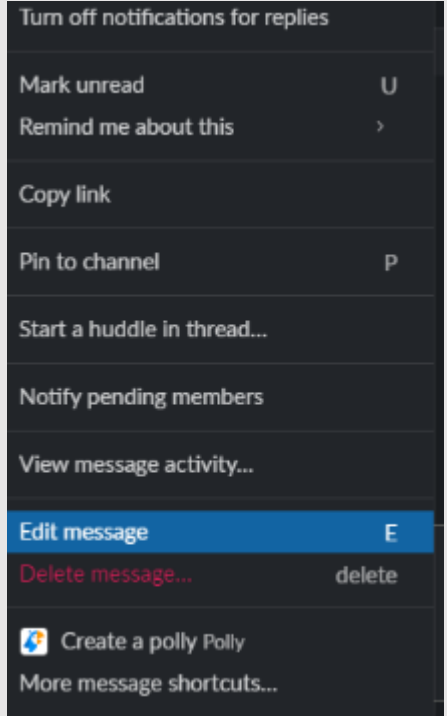
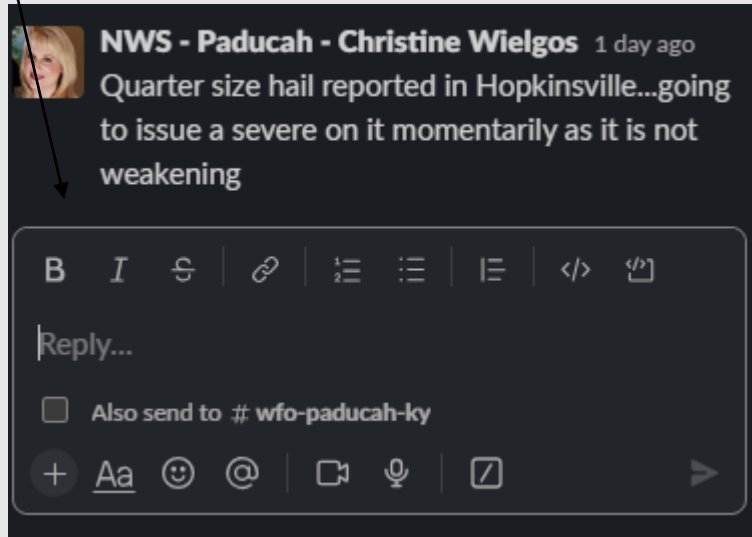


Emojis



Edit

Reply in thread



Ways to Obtain Info on Winter Weather

- DSS Packets (Decision Support Packets)
 - Are you receiving them? If not, let us know.
 - We need feedback on content, frequency, updates, timing etc!!
- Weekly Partner Calls – Every Monday at 11am. (Tuesday if Mon. is a holiday)
 - Are you on the mailing list for reminder emails?
 - Slides available on our website and NWSChat 2.0
- Conference Calls – conducted for substantial weather events
 - Are you on the mailing list for notification emails?
 - Videos are recorded.
- Facebook Live Sessions – Lead Forecaster discretion/staffing
- Chats/Videos inside NWSChat2.0
- Email Updates – Especially for “surprise” events or forecaster wants to send a quick message



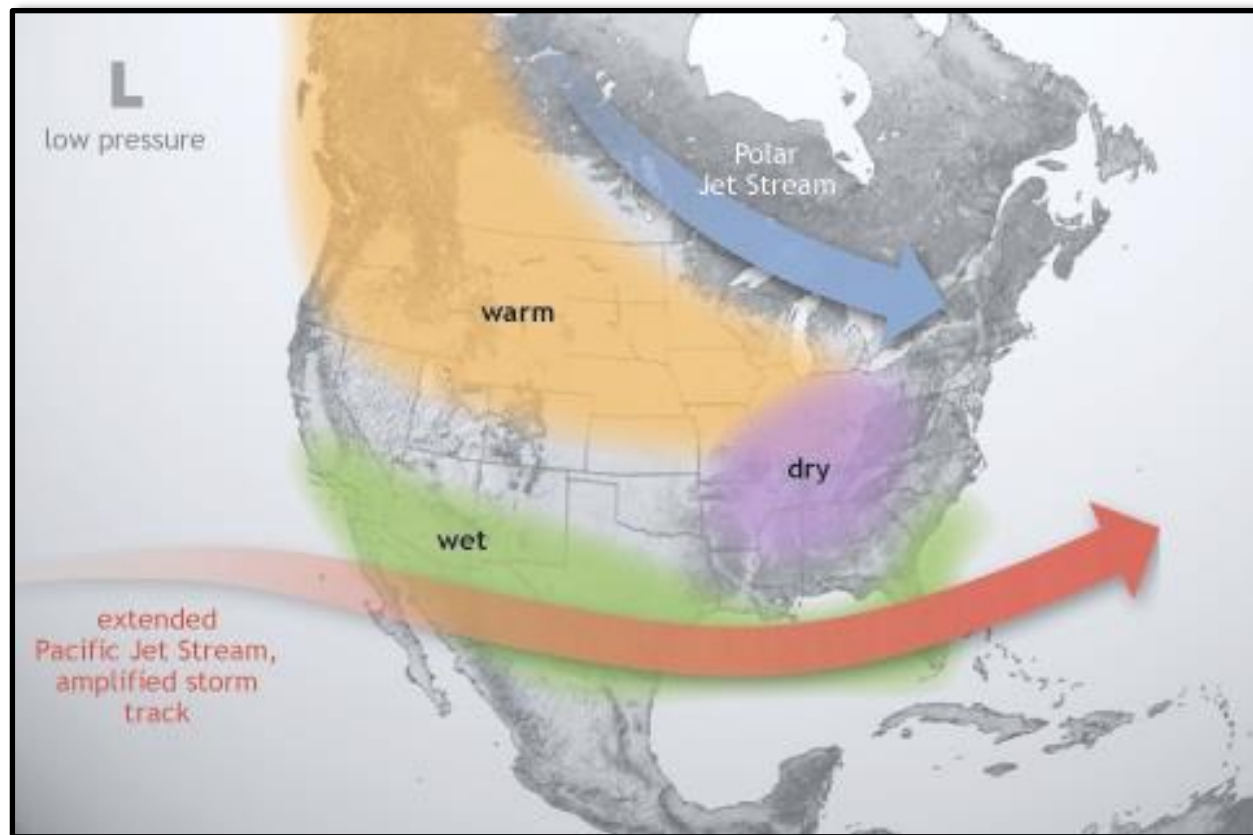
**Specific services will vary by office*



Winter Outlook 2023-24

El Niño expected this winter...

Typical El Niño Wintertime Pattern



El Niño this winter

- NOAA has issued an El Niño Advisory
- It will persist through the 2023-24 winter season. 80% chance to continue through March-May 2024
- Already a strong El Niño at +1.6C (+1.5-1.9C)
- 60% chance very strong (>2C) which would rival our strongest (2015-16, 1997-98)
- Mild winter seasons can lead to potential of stormy weather and mixed-precip events

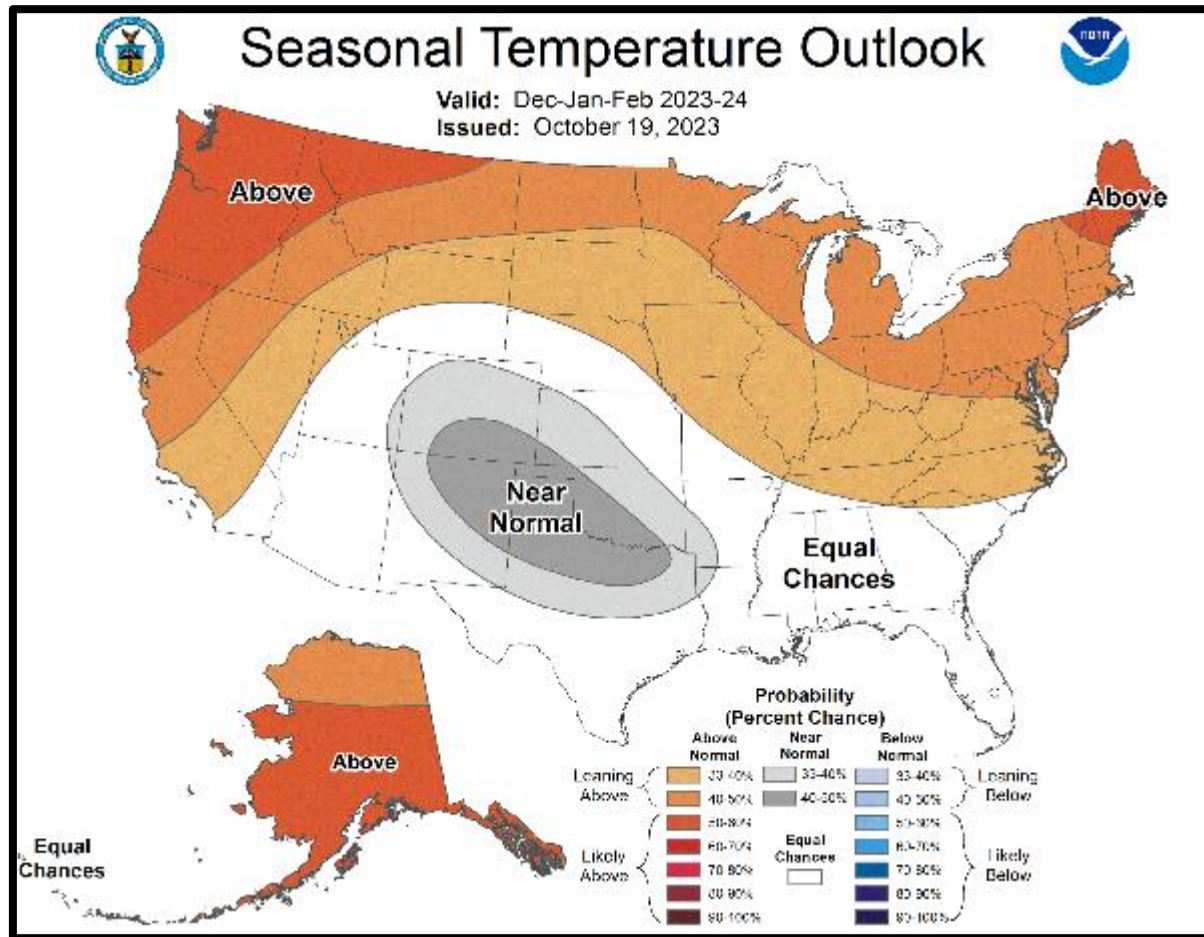




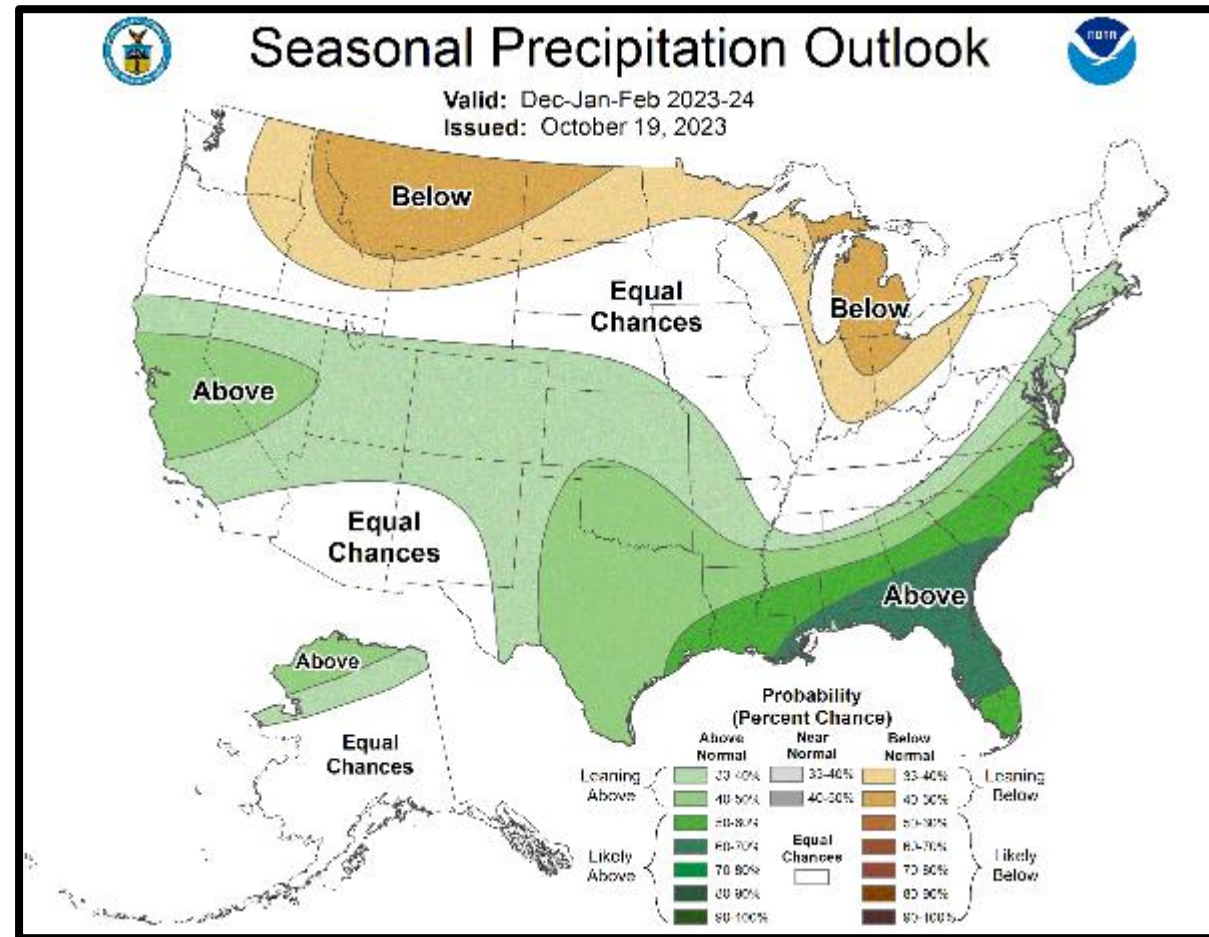
Winter Outlook 2023-24

Outlook: Dec 2023-Jan-Feb 2024

Temperatures: Above Normal



Precipitation: Equal Chances



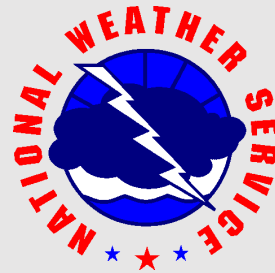
NATIONAL WEATHER SERVICE 101

2023 IPWMAN Annual Conference

October 24, 2023

Bloomington, IL

Questions?



Mike Bardou: Warning Coordination Meteorologist – Chicago, IL

Ed Shimon: Warning Coordination Meteorologist – Lincoln, IL

Christine Wielgos: Warning Coordination Meteorologist - Paducah KY