National Weather Service

Springfield, Missouri

Services Guide

Last Updated: March 2025

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Introduction

This guide was designed to provide a listing of products and services provided by your National Weather Service (NWS) in Springfield, Missouri. A description and example of the products are included along with general information of our services. A review of the criteria for watches, warnings and advisories during extreme weather conditions is also included.

Mission

Provide weather, water and climate data, forecasts, warnings, and impact-based decision support services for the protection of life and property and enhancement of the national economy.

Vision

A Weather-Ready Nation: Society is prepared for and responds to weather, water, and climate-dependent events.

Office Information

National Weather Service Springfield, Missouri
Springfield-Branson Regional Airport
5805 West Highway EE
Springfield, MO 65802-8430

Office: 417-863-8028
Recording: 417-869-4491

contact.sgf@noaa.gov

weather.gov/springfield

@NWSSpringfield

@NWSSpringfield

youtube.com/NWSSpringfield

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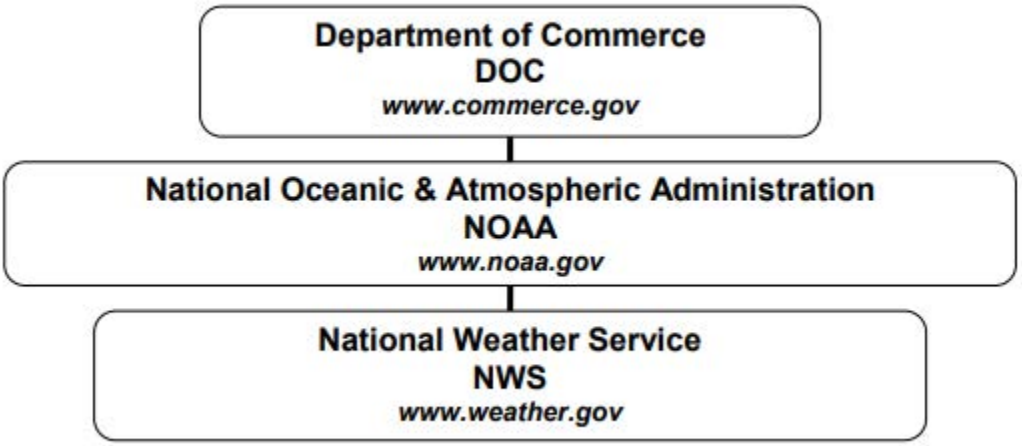
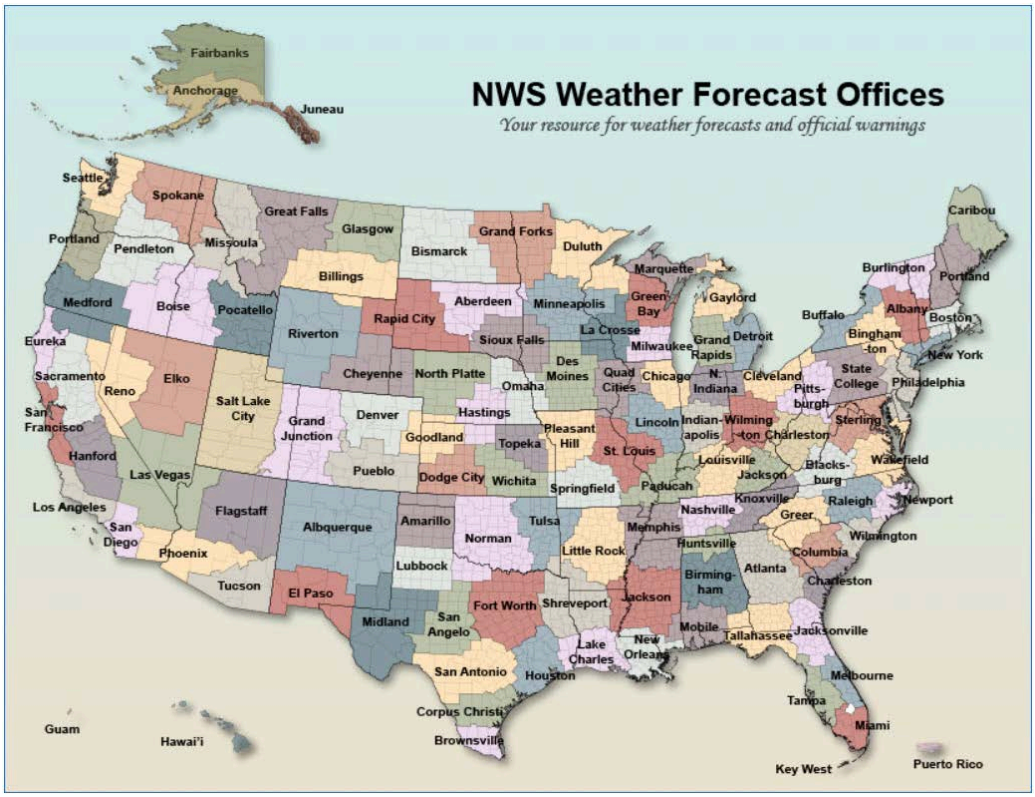
About the National Weather Service (NWS)

The NWS is a Federal agency under the National Oceanic and Atmospheric Administration (NOAA), which is an agency of the United States Department of Commerce (DOC).



The NWS is composed of six regions supporting 122 forecast offices across the United States, including Alaska, Guam, Hawaii and Puerto Rico.



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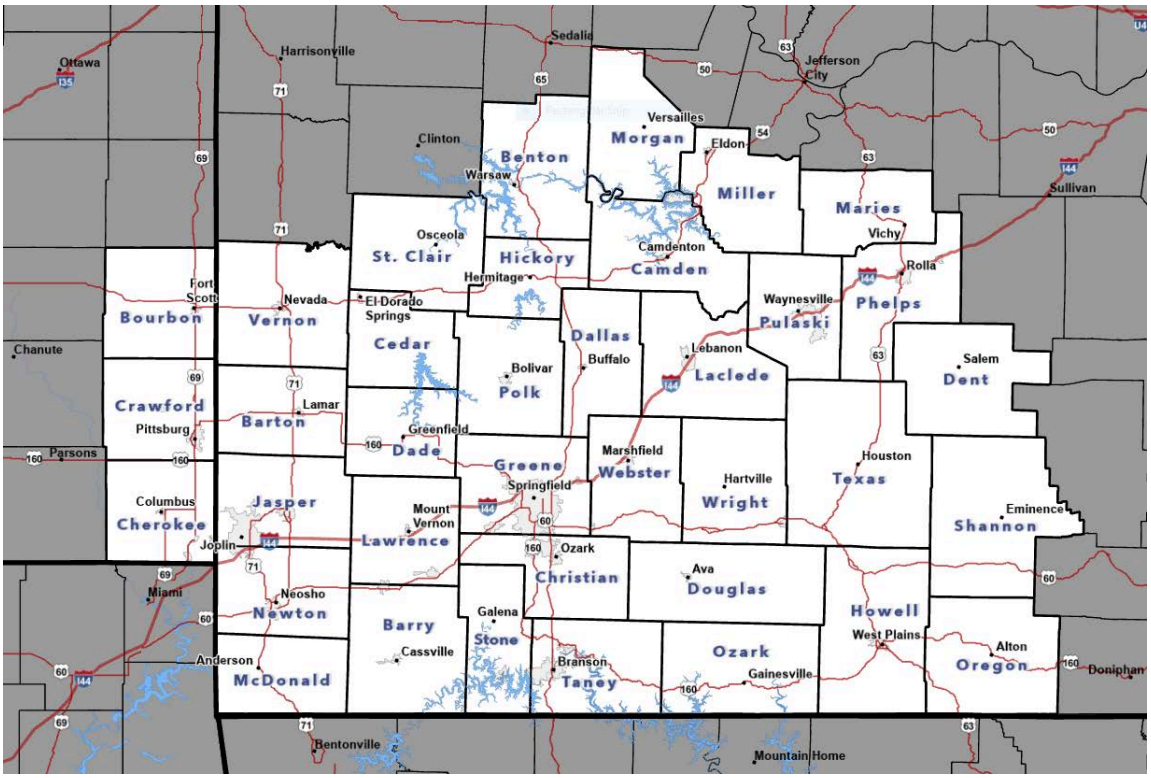
NWS Springfield Neighboring Weather Forecast Offices		
Weather Forecast Office	**County Warning Area (CWA)**	**Phone Number**
NWS St. Louis, MO	LSX	636-441-8467
NWS Pleasant Hill, MO	EAX	816-540-6021
NWS Topeka, KS	TOP	785-234-2592
NWS Wichita, KS	ICT	316-942-3102
NWS Tulsa, OK	TSA	918-838-7838
NWS Little Rock, AR	LZK	501-834-0308
NWS Paducah, KY	PAH	270-744-6440

NWS Springfield County Warning Area (CWA)

The NWS Springfield County Warning Area (CWA) is composed of 37 counties. This includes 3 counties in far southeast Kansas and 34 counties in portions of southwest, central, and south central Missouri.



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Office Contact List

Office Contact List		
Kelsey Angle	Meteorologist in Charge	kelsey.angle@noaa.gov
Nicole Newman	Administrative Support Assistant	nicole.newman@noaa.gov
Steve Runnels	Warning Coordination Meteorologist	steve.runnels@noaa.gov
Jason Schaumann	Science and Operations Officer	jason.schaumann@noaa.gov
Quay Kendrick	Electronic Systems Analyst	quay.kendrick@noaa.gov
Sean Rose	Information Technology Officer	sean.rose@noaa.gov
Tom Olsen	Observation Program Leader	thomas.olsen@noaa.gov
Trevor Grout	Service Hydrologist	trevor.grout@noaa.gov
Jason Howard	Electronics Technician	jason.d.howard@noaa.gov
Tom White	Electronics Technician	thomas.white@noaa.gov
Steven Lindenberg	Senior Meteorologist	steve.lindenberg@noaa.gov
Justin Titus	Senior Meteorologist	justin.titus@noaa.gov
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Angelica Soria	Meteorologist	angelica.soria@noaa.gov
Raychel Nelson	Meteorologist	raychel.nelson@noaa.gov
Ben Price	Meteorologist	benjamin.price@noaa.gov
Peyton Camden	Meteorologist	peyton.camden@noaa.gov

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Product Dissemination

Telephone and Conference Calls

The general public can call the NWS 24 hours a day at 417-869-4491 to receive current conditions and forecasts. To speak with a forecaster, call 417-863-8028. Private numbers are also available for media and emergency managers.

When initiating a Conference Call: Google Meet Me feature will be used to conduct conference calls. Severe Weather and Winter Weather Conference Call information will be discussed in future sections.

NWSChat 2.0

NWSChat is a resource to communicate directly with the media, emergency management, law enforcement, dispatch, fire, schools, and the Department of Transportation. Several of our products are automatically listed in the SGF chat room including watches, warnings, advisories, forecast discussions and Hazardous Weather Outlooks. Other NWS chat rooms can also be monitored for storm reports as well as interaction between those NWS offices and core partners. NWSChat 2.0 utilizes the Slack interface.

Here is the link to register for a NWSChat Account. NWSChat is only available for NWS partners. Learn more about NWSChat 2.0.

Interactive NWS (iNWS)

InteractiveNWS (iNWS) is the home of mobile and desktop innovations of the NWS. This application suite allows NWS partners to receive NWS products in innovative ways, such as text messaging and mobile-enabled web pages. iNWS is an experimental service intended for NWS core partners: emergency managers, community leaders, and other government agencies and the electronic media.

iNWS Information

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NOAA Weather Radio (NWR)

NOAA Weather Radio (NWR) provides weather information directly from the NWS office 24 hours a day. Weather information including forecasts, current conditions, and weather summaries are recorded and repeated every 4 to 6 minutes. During severe weather events, the NWS will include warning messages. When life threatening weather is anticipated, the NWS will activate specially designed warning receivers. These receivers either sound an alarm or are automatically turned on to alert you of the emergency.

The NWR broadcasts can usually be heard as far as 40 miles from the antenna site. The effective range depends on many factors, particularly the height of the broadcast antenna, terrain, quality of the receiver and the type of receiving antenna. Additional Information on NOAA Weather Radio.

NWS Springfield Transmitters		
Station	**Transmitter Location**	**Frequency**
WXL-46	Fordland	162.400 MHz
WXJ-61	Avilla	162.425 MHz
KZZ-82	Gainesville	162.425 MHz
WXM-81	Hermitage	162.450 MHz
WWF-76	Summersville	162.475 MHz
KZZ-30	El Dorado Springs	162.475 MHz
KXI-35	Alton	162.500 MHz
KXI-38	West Plains	162.525 MHz
WZ-2548	Eldon	162.550 MHz
KZZ-43	Branson	162.550 MHz
WNG-608	Cassville	162.500 MHz
WNG-648	Dixon	162.500 MHz

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FIPS Codes for SAME NOAA All Hazards Weather Radio			
County	**State**	**State Code**	**County Code**
Bourbon	KS	020	011
Cherokee	KS	020	021
Crawford	KS	020	037
Barry	MO	029	009
Barton	MO	029	011
Benton	MO	029	015
Camden	MO	029	029
Cedar	MO	029	039
Christian	MO	029	043
Dade	MO	029	057
Dallas	MO	029	059
Dent	MO	029	065
Douglas	MO	029	067
Greene	MO	029	077
Hickory	MO	029	085
Howell	MO	029	091
Jasper	MO	029	097
Laclede	MO	029	105
Lawrence	MO	029	109
Maries	MO	029	125
McDonald	MO	029	119
Miller	MO	029	131
Morgan	MO	029	141

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Newton	MO	029	145
Oregon	MO	029	149
Ozark	MO	029	153
Phelps	MO	029	161
Polk	MO	029	167
Pulaski	MO	029	169
Shannon	MO	029	203
St. Clair	MO	029	185
Stone	MO	029	209
Taney	MO	029	213
Texas	MO	029	215
Vernon	MO	029	217
Webster	MO	029	225
Wright	MO	029	229

Wireless Emergency Alerts (WEA)

WEA is a public safety system that allows customers who own compatible mobile devices to receive geographically targeted, text-like messages alerting them of imminent threats to safety in their area. Authorized public safety officials send WEA alerts through FEMA's Integrated Public Alert and Warning System (IPAWS) to participating wireless carriers, which then push the alerts to compatible mobile devices in the affected area.

Types of Weather Warnings that Trigger WEA:

- ➔ All Tornado Warnings
  - ◆ *Base, Considerable, Emergency*
- ➔ Significant Severe Thunderstorm Warnings
  - ◆ *Considerable, Destructive*
- ➔ Significant Flash Flood Warnings
  - ◆ *Considerable, Emergency*
- ➔ Snow Squall Warnings

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- *Significant*

NWS WEA Information

Emergency Alert System (EAS)

The Emergency Alert System (EAS) is a national system developed by the Federal Communications Commission (FCC), which allows the NWS and others access to commercial radio and television stations for announcing emergency messages to the public. The NWS in Springfield has direct access to this system. Specific Area Message Encoders (SAME) have been installed on the current NOAA Weather Radio system that allows for transmitted tones to directly trigger radio and television station EAS equipment. The NWS will utilize EAS to warn the public of life threatening hazardous weather and other natural hazards along with civil emergencies such as hazardous material spills. Additional information for the Missouri EAS Plan and Kansas EAS Plan.

National Warning System (NAWAS)

The NWS in Springfield uses the National Warning System (NAWAS) to relay severe weather warnings to Emergency Management personnel. Funded by the Federal Emergency Management Administration (FEMA), the National Warning System (NAWAS) is a comprehensive party-line network of telephone circuits connecting more than 1500 state and federal warning points throughout the United States such as the Missouri and Kansas Highway Patrol, Ft Leonard Wood, and several sheriff/911 departments.

NAWAS is used to warn the public, through local governments, about the potential loss of life and/or property. Such threatening situations are not limited to weather or hydrologic events. The warning message can also include information on dam breaks, earthquakes, volcanoes, major fires and other civil emergencies.

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WFO Springfield Troops

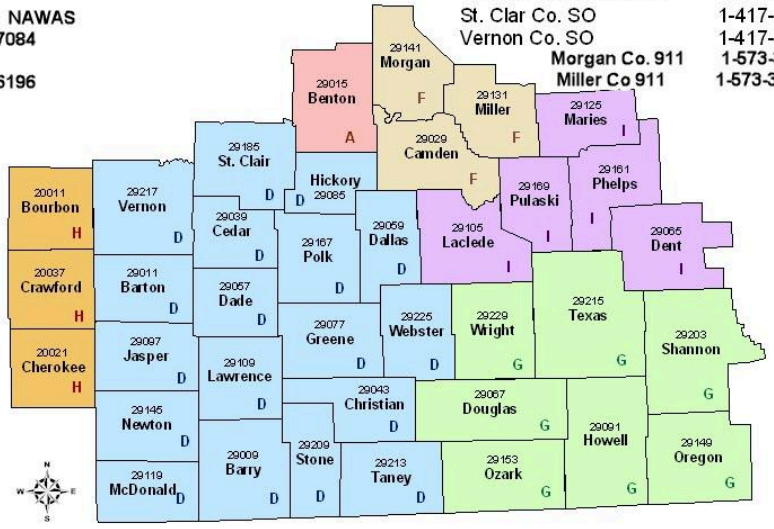
Troop Phone #"

- Troop A 1-816-622-0800
- Troop D 895-6868
- Troop F 1-573-751-1000
- Troop G 1-417-469-3121
- Troop I 1-573-368-2345
- Troop H KS 1-620-431-2100

NAWAS Drops

Benton Co. SO	1-660-438-9118
Benton Co. Civil Def	1-660-438-8412
Cedar Co. SO	1-417-276-5133
Pittsburg PD	1-620-231-1700
Springfield/Greene Co. 911	1-417-868-4040
West Plains PD	1-417-256-2244
Joplin PD	1-417-623-3131
Newton Dispatch	1-417-451-4242
Ft. Leonard Wood EOC	1-573-596-6141
St. Clar Co. SO	1-417-646-2522
Vernon Co. SO	1-417-667-6042
Morgan Co. 911	**1-573-378-2453**
Miller Co 911	**1-573-369-2444**

Troubleshoot NAWAS
800-634-7084
or
800-792-6196



Internet and Social Media

Current weather observations, forecasts, maps, satellite and radar imagery, climate data, weather safety information and much more can be found on the National Weather Service Springfield website.

NWS Springfield Webpage
NWS Springfield creates and sends out weather stories with each forecast package. These graphics are designed to highlight the key messages of the forecast.

NWS Springfield Weather Story

Additional avenues of communication during active weather include Facebook Lives and recorded YouTube Briefings.

NWS Springfield Facebook
NWS Springfield X
NWS Springfield Youtube

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The NWS and NWS Springfield continue to grow and build in Geographic Information Systems (GIS).

Experimental NWS National GIS Map Viewer

Amateur Radio

Amateur radio operators utilize personal radio equipment to submit reports of hazardous weather to the NWS. Amateur radio licensed storm spotters associated with ARES, RACES, and local amateur radio clubs communicate via two sets of radio repeaters - the Southwest Missouri Region NONWS Repeater Network and the Southwest Missouri Linked Repeater System.

RSS Feeds

Really Simple Syndication (RSS) is a family of web formats used to publish frequently updated digital content. Most commonly used to update news articles and other content that changes quickly, RSS feeds may also include audio files (PodCasts) or even video files (VodCasts). Users of RSS content use programs called feed 'readers' or 'aggregators' (newer versions of Web browsers offer built in support for RSS feeds): the user 'subscribes' to a feed by entering the link of the RSS feed into their RSS feed reader; the RSS feed reader then checks the subscribed feeds to see if any have new content since the last time it checked, and if so, retrieves the new content and present it to the user.

RSS Libraries and Podcast Information

Product List

Category	Product	Product ID
Routine		
	Area Forecast Discussion	AFD
	Hazardous Weather Outlook	HWO
	Point Forecast	PFM
	Area Forecast	AFM

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	Zone Forecast	ZFP
Severe		
	Tornado Watch	WCN
	Severe Thunderstorm Watch	WCN
	Tornado Warning	TOR
	Severe Thunderstorm Warning	SVR
	Special Weather Statement	SPS
	Severe Weather Statement	SVS
Hydrology		
	Flood Watch	FFA
	Flash Flood Warning	FFW
	Flood Warning	FLW
	Flood Advisory	FLS
	Flash Flood Statement	FFS
	Flood Statement	FLS
	River Summary	RVA
	River Forecast	RVF
	Lake Stages	HYD
	Flood Potential Outlook	ESF
Winter		
	Winter Storm Watch	WSW
	Winter Storm Warning	WSW
	Ice Storm Warning	WSW
	Blizzard Warning	WSW

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	Winter Weather Advisory	WSW
	Snow Squall Warning	SQW
	Extreme Cold Watch	NPW
	Extreme Cold Warning	NPW
	Cold Weather Advisory	NPW
Aviation		
	Terminal Aerodrome Forecast	TAF
Fire		
	Fire Weather Watch	RFW
	Red Flag Warning	RFW
	Fire Weather Forecast	FWF
	Fire Weather Point Forecast	FWM
	Grassland Fire Danger Index	RFD
	Spot Forecast	FWS
Non-Precipitation		
	Extreme Heat Watch	NPW
	Extreme Heat Warning	NPW
	Heat Advisory	NPW
	Dense Fog Advisory	NPW
	Freezing Fog Advisory	NPW
	High Wind Watch	NPW
	High Wind Warning	NPW
	Wind Advisory	NPW
	Freeze Watch	NPW
	Freeze Warning	NPW

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	Frost Advisory	NPW
Climate		
	Daily Climate Summary	CLI
	Monthly Climate Summary	CLM
	Record Event Report	RER
	Drought Information Statement	DGT
Miscellaneous		
	Public Information Statement	PNS
	Local Storm Reports	LSR
	Civil Emergency Message	CEM
	WSR-88D Outage Notification/ Free Text Message	FTM

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Impact-Based Decision Support Services (IDSS)

Timely and relevant forecasts, watches and warnings are major strengths of the National Weather Service. The agency's ability to respond quickly to natural disasters with public statements relevant for the protection of life and livelihoods and the advancement of the Nation's economy is unparalleled. However, new and evolving needs in society call for the NWS to shift to the impact-based decision support services approach.

DSS Packet

Decision Support Services Packets are detailed, hazard specific information in a PDF format. DSS Packets are created by the NWS to provide you with the critical information needed during significant hazardous weather events.

Information provided in a DSS Packet include: Important forecast changes, weather hazards, areas impacted, timing, impacts and forecast confidence.

When a DSS Packet is created, it can be found on the top right corner of our website and/or emailed to core partners. Please call the office 417-863-8028 or email us at contact.sgf@noaa.gov if your public service agency would like to be placed on our mailing list.

NWS Springfield DSS Packet

EventReady

Each year, numerous outdoor events occur across the area. These events typically require a great deal of planning to make sure the event runs smoothly and safely. A weather planning component is critical for the safety of all participants. Core partners of the National Weather Service (NWS) can submit requests to provide impact-based decision support services (IDSS) for these events If you have a role in the event planning process, please work with the public safety official that is involved with the event (emergency manager, police, fire, etc), to ensure your event has been submitted to NWS Springfield.
Weather Support Request Form
NWS Springfield Event Ready Webpage

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Once this weather support has been requested, the local public safety official may designate someone ("Weather Liaison") to serve as the primary communication conduit to the NWS. Regardless of an active Weather
Liaison, there should be an individual onsite that understands basic weather information and is in routine contact with the NWS for the weather forecast and current conditions.

The Event Ready Guide will provide an overview of the NWS IDSS available to assist in the development of safety plans for outdoor events, and is intended for NWS core partners as well as those individuals that may fulfill the role as a Weather Liaison.

Throughout the planning process we encourage direct communication with NWS Springfield. An overview of the primary NWS products are provided in separate appendices. Lastly, we highly encourage you to reach out to NWS Springfield for additional training and assistance with tabletop exercises.

On-Site Support

Following a hazardous weather event such as a large-scale flood or a non weather event such as a HAZMAT incident or missing person searches, the NWS offers on-site support to Emergency Operation Centers or to incident commanders.

Also as part of the EventReady special event request, on-site support from NWS meteorologists may be requested for high attendance and or events involving potentially high impact. Through pre-event planning, the NWS will collaborate with the emergency management community to effectively identify service support options.

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Severe

NWS Springfield issues severe weather watches, warnings, and statements for severe thunderstorms, tornadoes and flash floods to alert you of potential or imminent severe weather conditions. NWS Springfield is the sole source of severe weather watches, warnings and advisories across the Missouri Ozarks and southeast Kansas.

Severe Products

Severe Weather Products	
Tornado Watch	Conditions are favorable for tornadoes and severe thunderstorms.
Severe Thunderstorm Watch	Conditions are favorable for severe thunderstorms.
Flood Watch	Conditions are favorable for flooding.
Tornado Warning	A tornado is in progress, imminent, or highly likely.
Severe Thunderstorm Warning	Wind ≥ 58 mph and/or hail ≥ 1 inch in diameter.
Flash Flood Warning	Flash flooding is flash flooding is in progress, imminent, or highly likely.
Special Weather Statement	Wind < 58 mph and/or hail < 1 inch in diameter. Issued for strong thunderstorms that are sub-severe.
Severe Weather Statement	Issued to update the status of severe weather warnings and give specific details on the location and severity of storms.

Impact-Based Warnings (IBW)

Communication of crucial decision support and risk assessment information to partners and users within the guidelines of governing policy and the existing operational environment is the goal. The warnings will include streamlined, standardized, concise bullets to convey information about associated impacts, specific hazards expected, and recommended action designed to result in an improved public response to take immediate protective action.

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Tornado Warning IBW

Tornado Tag	
TORNADO...RADAR INDICATED	Evidence on radar and near storm environment is supportive, but no confirmation.
TORNADO...OBSERVED	Tornado is confirmed by spotters, law enforcement, etc.
Tornado Damage Threat Tag	
No Tag	Use most of the time, when tornado damage possible within the warning polygon. Tornado duration generally expected to be short-lived
TORNADO DAMAGE THREAT...CONSIDERABLE	Use 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 DAMAGE THREAT...CATASTROPHIC	Use exceedingly rarely, when a severe threat to human life and catastrophic damage from a tornado is occurring, and will only be used when reliable sources confirm a violent tornado.. Tornado duration generally expected to be long lived
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.

WEA alerts will be made for all Tornado Warnings. The Severe Thunderstorm Warning "Tornado Possible" Tag will not be alerted on WEA." Also, Tornado Emergency designation associated with the Catastrophic TAG.

Tornado Warning IBW Examples

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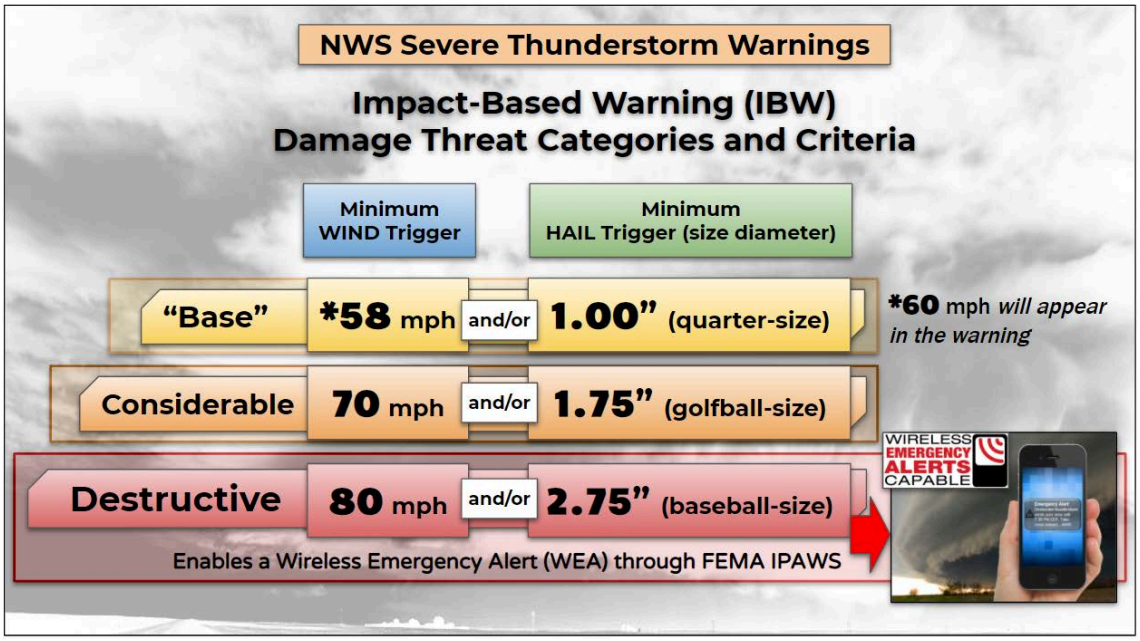
Severe Thunderstorm Warning IBW



Flash Flood Warning IBW

Flash Flood Damage Threat Tag	Explanation
"Base" (No Tag)	Use most of the time, when flash flood impact damage is possible.
CONSIDERABLE*	Use rarely, when there are indications flash flooding capable of unusual severity or impact is imminent or ongoing and urgent action is needed to protect lives and property.
CATASTROPHIC*+	Use exceedingly rarely, when a flash flood threat to life and catastrophic damage is occurring or is imminent, and floodwaters have risen or will rise to levels rarely if ever seen.
Flash Flooding Source Information Tag	
FLASH FLOOD... RADAR INDICATED	Evidence on radar and near storm environment is supportive, but no confirmation.
FLASH FLOOD... OBSERVED	Flash flood impacts confirmed by trained spotters, law enforcement, media, other credible human observers, etc.
Flash Flooding Causative Event Tag	
EXPECTED RAINFALL... [##-## INCHES PER HOUR] [## INCHES in ## MINUTES]	Use to identify rainfall rate leading to potential or observed flash flooding, including rain falling on a burn scar.
[DAM or LEVEE]FAILURE... [IMMINENT or OCCURRING]	Use to provide additional information about the status of the failing dam or levee, whether it is "imminent" or "occurring".

* Category utilized for a Wireless Emergency Alert (WEA).
+ Catastrophic equates to a headline and additional language for a "Flash Flood Emergency".

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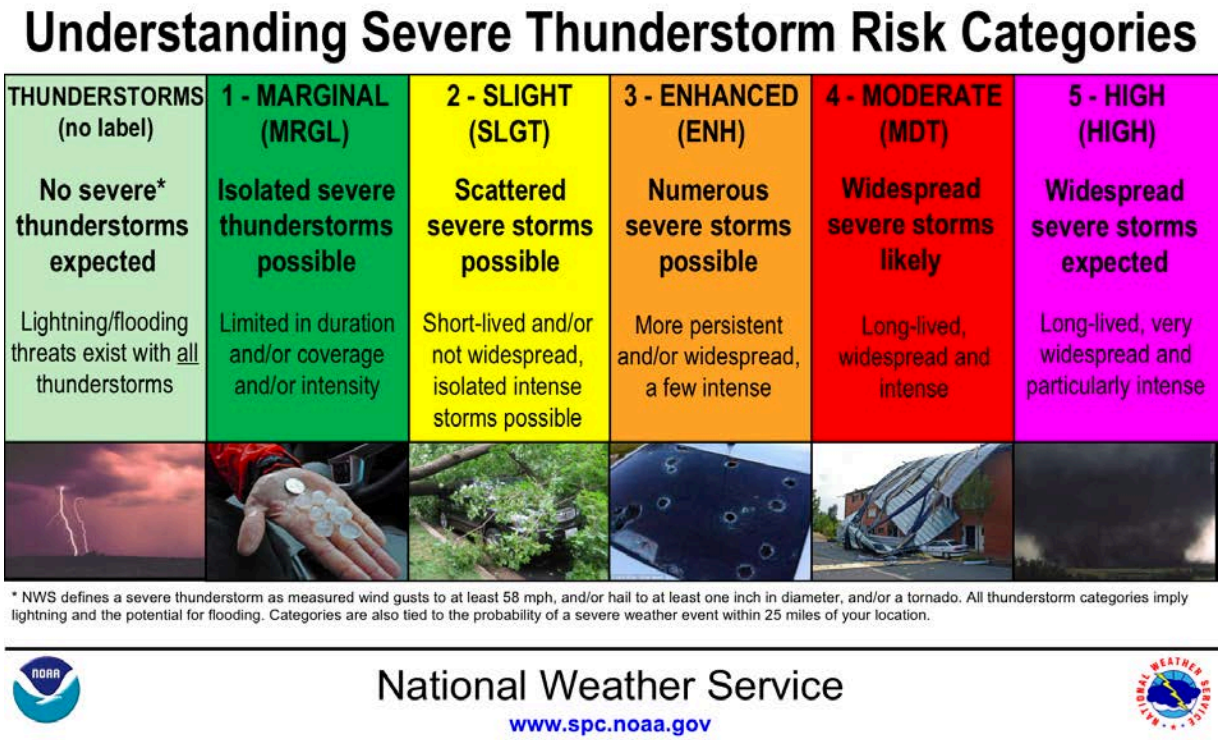
Storm Prediction Center (SPC) Severe Products

SPC issues Day 1, Day 2, and Day 3 Convective Outlooks that depict non-severe thunderstorm areas and severe thunderstorm threats across the contiguous United States, along with a text narrative. The categorical forecast specifies the level of the overall severe weather threat via numbers (e.g., 5), descriptive labeling (e.g., HIGH), and colors (e.g., magenta). The probabilistic forecast directly expresses the best estimate of a severe weather event occurring within 25 miles of a point. The text narrative begins with a listing of severe thunderstorm risk areas by state and/or geographic region. This is followed by a concise, plain-language summary of the type(s) of threat along with timing that is focused on the highest-risk areas. The rest of the outlook text is written in scientific language for sophisticated users. This technical discussion usually includes a synopsis section to provide a general overview of the weather pattern, emphasizing features that will influence the severe and general thunderstorm threats. Additional sections of the discussion are usually separated by geographic areas. Within these individual geographic areas, the text offers meteorological reasoning and justification for the type of coverage and intensity attendant to the severe weather threat.

SPC also issues a Day 4-8 Severe Weather Outlook that similarly depicts severe thunderstorm threats across the contiguous United States and contains a technical discussion.



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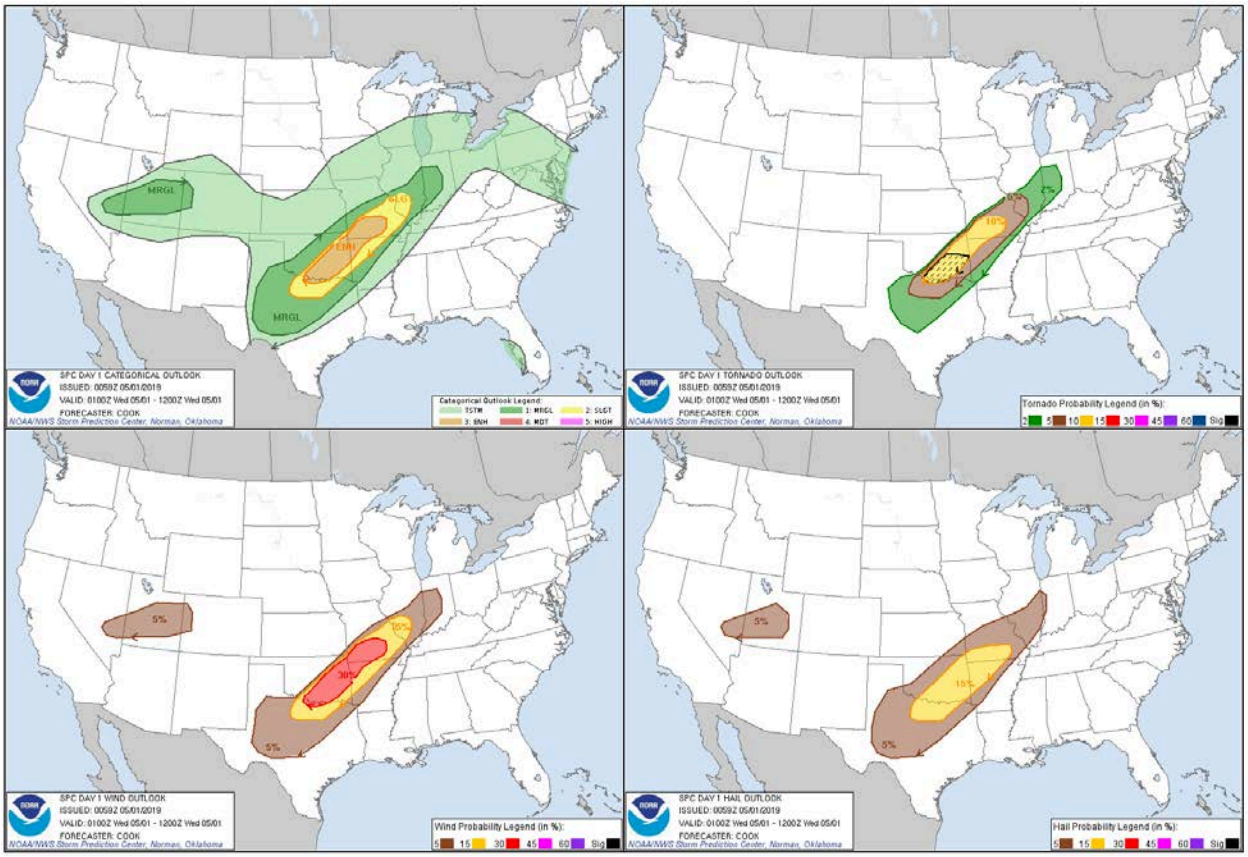
Day 1-3 Convective Outlooks

The level of categorical risk in the Day 1-3 Convective Outlooks is derived from probability forecasts of tornadoes, damaging winds, and large hail on Days 1 and 2, and a combined severe weather risk on Day 3. Additionally, a hatched area may be added to convective outlooks. A hatched area represents a 10% or greater probability for *significant* severe events within 25 miles of a location in the area. "Significant" is defined as: Tornadoes rated EF2 or greater, Thunderstorm wind gusts of 65 kt or 74 mph (or higher); Hail 2 inches or larger in diameter.
Day 1 Outlook is issued five times daily at: 0600Z, 1300Z, 1630Z, 2000Z, and 0100Z.
Day 2 Outlook is issued two times daily at: 0600Z CDT (0700Z CST) and 1730Z.
Day 3 Outlook is issued two times daily at: 0730Z CDT (0830Z CST) and 1930Z.
Day 4-8 Outlooks are issued once daily at: 0900Z CDT (1000Z CST).



Day 4-8 Convective Outlooks

Two probabilistic thresholds of 15% and 30% can be forecast. Highlighted areas are equivalent to 2-SLGT-yellow or 3-ENH-orange risks on the Day 1-3 Convective Outlooks.

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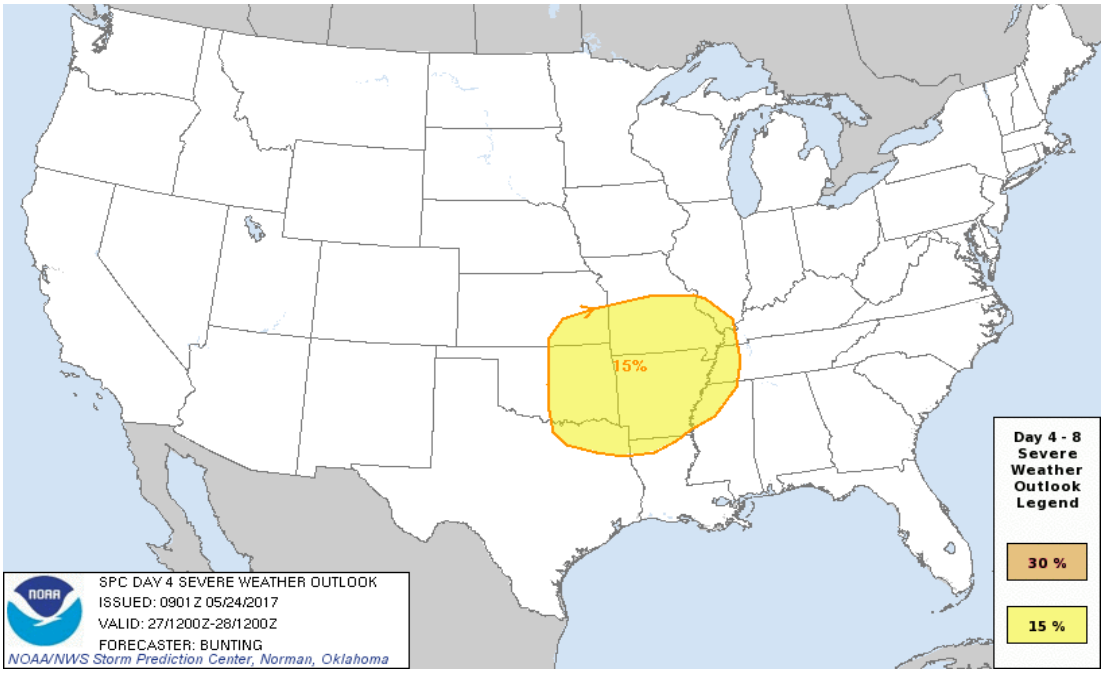
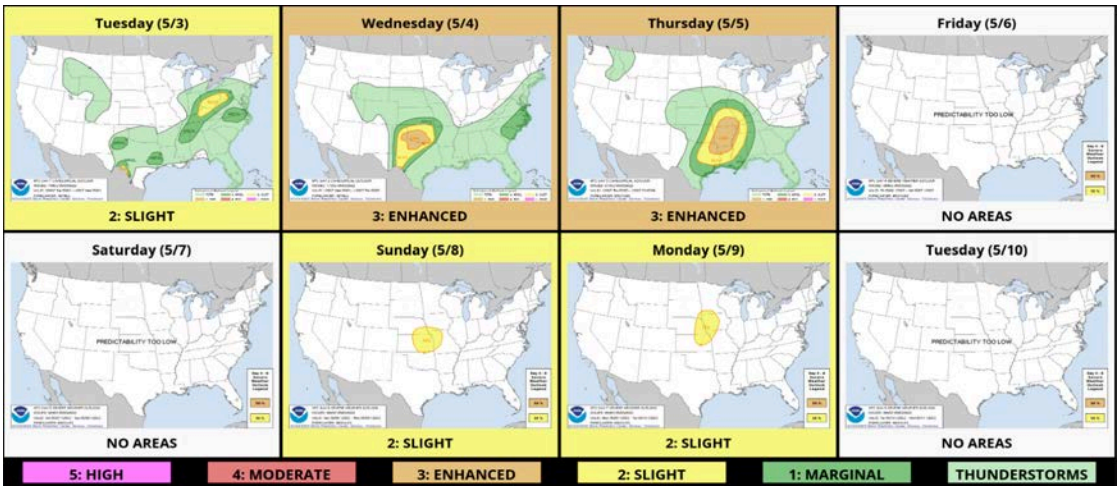
On rare occasions, the outlook text will begin with a headline for the possibility of a severe weather outbreak.

If no 15% areas are forecast, one of the following phrases will be used:

PREDICTABILITY TOO LOW: Used to indicate severe storms may be possible based on some model scenarios. However, the location or occurrence of severe storms is in doubt due to large spread in model guidance and/or minimal run-to-run continuity.
POTENTIAL TOO LOW: Used to indicate that 15% or greater severe probabilities appear highly unlikely on that day.





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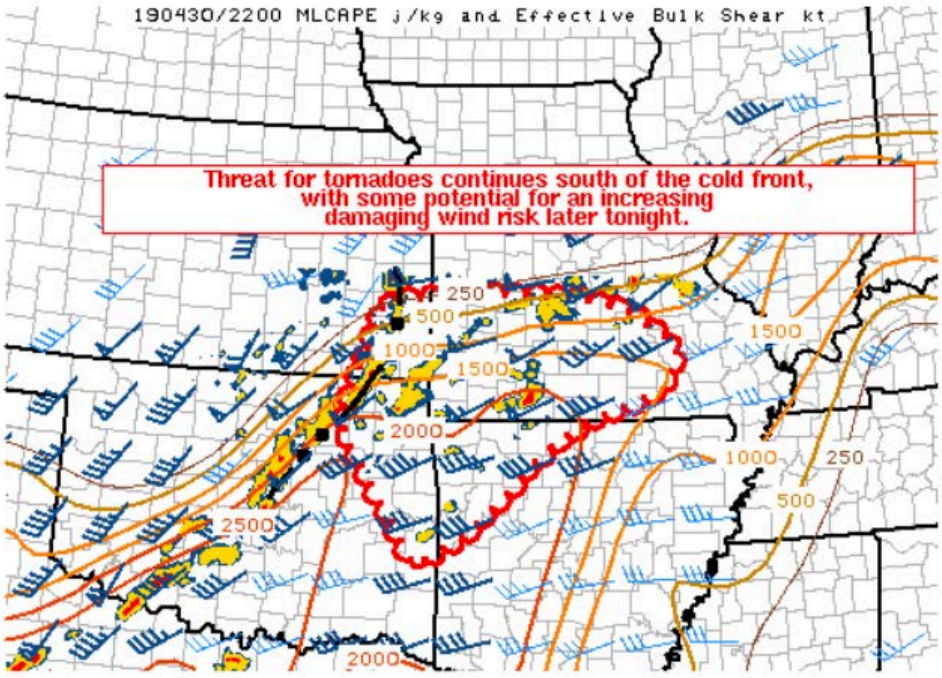
SPC Convective Outlooks

Mesoscale Discussions (MDs)

SPC issues Mesoscale Discussions (MDs or MCDs) that focus on severe thunderstorm potential over the continental U.S. for the next 6 hours with an emphasis on the first 1-3 hours. SPC also issues MDs for mesoscale aspects of hazardous winter weather events including heavy snow, blizzards, and freezing rain.



SPC MCD #0486

Mesoscale Discussion 0486
NWS Storm Prediction Center Norman OK
0600 PM CDT Tue Apr 30 2019

SPC Mesoscale Discussions

Severe Weather Watches

SPC's goal is to issue watches shortly prior to the development of severe thunderstorms and tornadoes. The goal is to issue the initial Severe Thunderstorm Watch of the day with a lead time of at least 45 minutes. For a Tornado Watch, the lead time goal is 2 hours for the first tornado event and 1 hour to the first non-tornado severe weather event (hail or wind). For all watches, the lead time should average around 1 hour for a Severe Thunderstorm Watch and 2 hours for a Tornado Watch.

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Whenever there is a high confidence forecast of multiple intense tornadoes (rated EF2-EF5), SPC will highlight a watch with the following "PDS" wording:

...THIS IS A PARTICULARLY DANGEROUS SITUATION...
The SPC goal is to have 3 out of every 4 PDS Tornado Watches verifying with multiple intense tornadoes.

Similar PDS wording is used in Severe Thunderstorm Watches when a well defined, large bow echo has developed and there is evidence of widespread damaging winds occurring and the bow echo is moving at 55 mph or greater and downstream conditions suggest the bow echo will be maintained or intensify for the duration of the watch. A PDS Severe Thunderstorm Watch can also be issued for the anticipation of widespread significant severe weather events (convective winds greater than 75 mph and/or hail greater than 2 inches in diameter).

SPC Convective Watches

Severe Weather Conference Calls

Conference calls are scheduled for possible high impact and widespread severe weather events. Scheduled call times will vary for these events. Emergency Management Directors will receive email notifications notifying of scheduled conference calls. The calls are conducted through Google Meet.

Storm Damage Assessments

When tornadoes occur, National Weather Service meteorologists are assigned the task of completing a thorough damage survey. A survey team's mission is to gather data in order to reconstruct a tornado's life cycle, including where it occurred, when and where it initially touched down and lifted (path length), its width, and its magnitude. It should also be mentioned that survey teams are occasionally tasked with determining whether damage may have been caused by straight line winds or a tornado and assessing the magnitude of straight line winds. With respect to tornado damage surveys, one of the most difficult tasks is assigning a rating to a tornado. All survey information is collected in the Damage Assessment Toolkit (DAT). Additionally, a LSR, a PNS, and social media graphics are often released after the completion of a survey.

NWS Surveying Links:

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Enhanced Fujita Scale (EF Scale)

Damage Indicators and Wind Speeds Associated with Observed Degrees of Damage

Damage Assessment Toolkit (DAT) Viewer

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Hydrology

Hydrology Products

Hydrology Products	
Flood Watch	Conditions are favorable for flooding.
Flash Flood Warning	Flash flooding is in progress, imminent, or highly likely.
Flash Flood Statement	Issued to update the status of flash flood warnings and give specific details on the location and severity of flooding.
Flood Advisory	Issued when flooding is not expected to be bad enough to issue a warning. It may cause significant inconvenience, and if caution is not exercised, it could lead to situations that may threaten life and/or property.
River Flood Watch	Conditions are favorable for river flooding.
River Flood Warning	Issued when larger rivers and streams are expected to rise above flood stage, based on observed or forecast precipitation.
River Flood Statement	Issued to update previous river flood warnings and make minor changes to the crest forecast.
River Statement	Issued to inform the public of notable hydrologic conditions, usually within-bank rises.
Routine Hydrology Products	
Precipitation Summary (RRMSGF)	24-hour rainfall accumulations from COOP and automated sites
River Summary (RVASGF)	7 AM stage and 24-hour change for rivers in the NWS Springfield Hydrologic Service Area (HSA)
River Stage Forecast (RVASGF)	12Z river level and 5-day forecast for daily river forecast points
Lake Stages (HYDSGF)	7 AM lake levels and 24 hour change.

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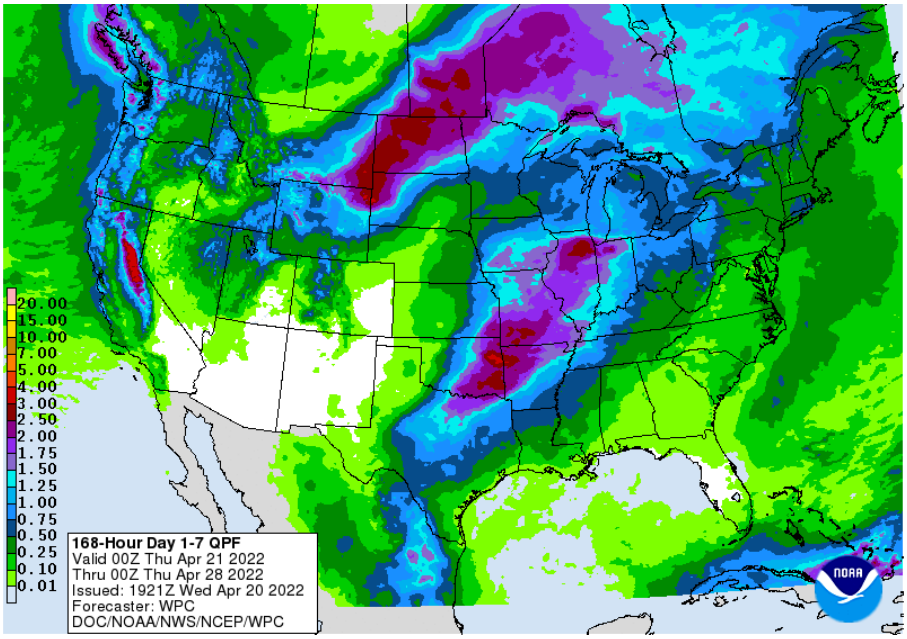
Weather Prediction Center (WPC) Products

Quantitative Precipitation Forecast (QPF)

Quantitative Precipitation Forecasts, or QPFs, depict the amount of liquid precipitation expected to fall in a defined period of time. Methods for producing QPFs are similar to other meteorological forecasts. First, meteorologists analyze the current state of the atmosphere. Then they use model forecasts of pressure systems, fronts, jet stream intensity, etc., to form a conceptual model of how the weather will evolve. The WPC has unique access to the full suite of operational and ensemble model guidance from modeling centers in the U.S., Canada, and Europe (the foreign models are global models, so they also make predictions over the U.S.), including many high-resolution or convection-allowing models that come close to depicting individual thunderstorm cells (or mountaintops in the case of orographic precipitation. WPC also stores output from several consecutive runs of all of these models, allowing for trend analysis of model QPFs. And watching every model every day across the entire continental U.S. domain, WPC forecasters become very attuned to the strengths, weaknesses, and biases of each model. During a given cycle, forecasters determine which models are showing a reasonable amount of precipitation in roughly the correct place and time. Those choices serve as the starting point for QPFs, but forecasters also make manual adjustments based on their experience.



WPC QPF Day 1-7

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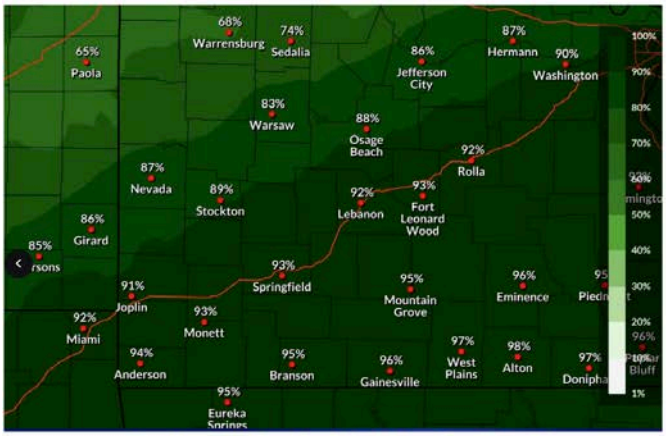
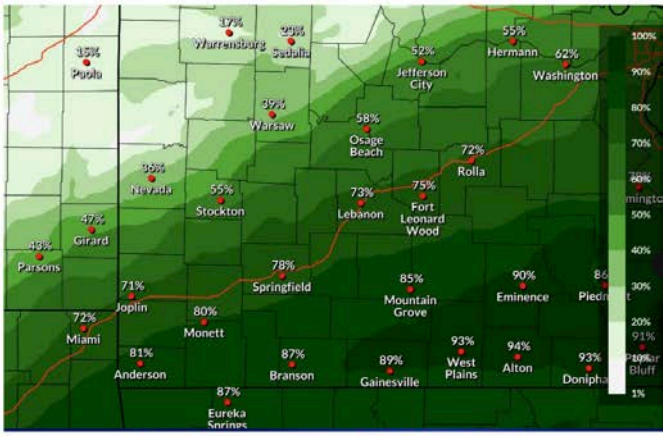
Probabilistic QPF Experiment

The purpose of the experimental probabilistic liquid precipitation products is to provide customers and partners a range of liquid precipitation possibilities, in complement to existing NWS deterministic liquid precipitation graphics, to better communicate forecast uncertainties during PQPF weather events. For more information visit this project's Product/Service Description Document.

Experimental probabilistic quantitative precipitation forecast (PQPF) graphics created by the Probabilistic Precipitation Portal (PPP) will be posted to the local Weather Forecast Office (WFO) PQPF webpages indicating the official 72-hour liquid precipitation forecast as well as the probabilities for low and high end amounts based on the Weather Prediction Center (WPC) ensembles. Graphics showing the probability of reaching various precipitation thresholds, such as ≥ 1", 2", 4", 6", and 8", plus a table showing the probability of 72-hour precipitation falling within specified ranges and the probability of exceeding specified amounts, will be provided.



Probability of > 0.50" of rainfall



Probability of > 1.0"of rainfall

Probabilistic QPF Experiment SGF Webpage

Excessive Rainfall Outlook (ERO)

In the Excessive Rainfall Outlooks, the Weather Prediction Center (WPC) forecasts the probability that rainfall will exceed flash flood guidance (FFG) within 40 kilometers (25 miles) of a point. Gridded FFG is provided by the twelve NWS River Forecast Centers (RFCs) whose service areas cover the lower 48 states. WPC creates a national mosaic of FFG, whose 1, 3, and 6-hour values represent the amount of rainfall over those short durations which it is estimated would bring rivers and streams up to bankfull conditions. WPC estimates the likelihood that FFG will be exceeded by assessing environmental

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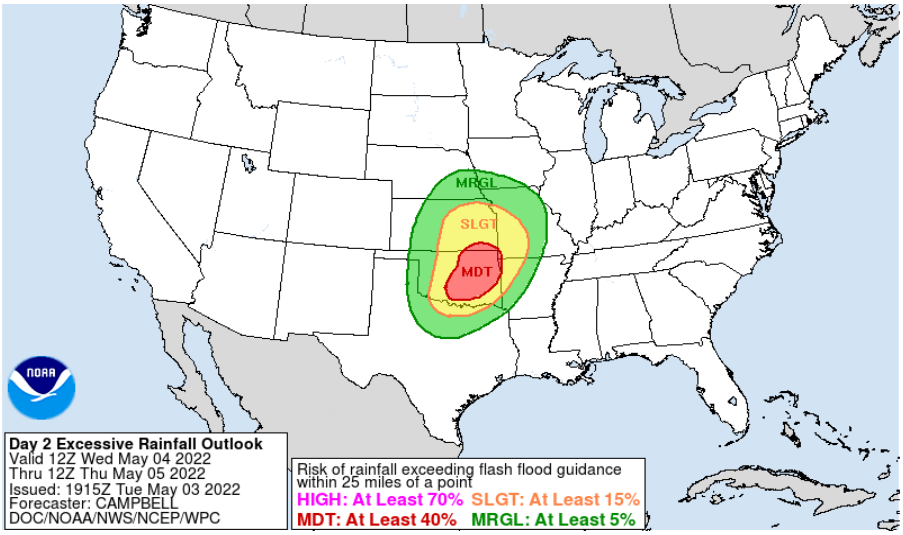
conditions, recognizing weather patterns commonly associated with heavy rainfall, and using a variety of deterministic and ensemble-based numerical model tools that get at both the meteorological and hydrologic factors associated with flash flooding. The ERO is a highly collaborative product and benefits from the input of meteorologists and hydrologists among the WFOs, RFCs, and National Water Center. The ERO is now being experimentally issued for Days 4 and 5, and those outlooks only include contours at the Slight and Moderate Risk levels.

Risk Category	Probability of Rainfall Exceeding Flash Flood Guidance within 40 km (25 mi) of a point
Marginal (MGRL)	At least 5%
Slight (SLGT)	At least 15%
Moderate (MDT)	At least 40%
High (HIGH)	At least 70%



[WPC ERO Day 1-3 (Experimental Day 4-5)]
[Excessive Rainfall Forecast Discussion]

Mesoscale Precipitation Discussion (MPD)

WPC began providing short term guidance during heavy rain events leading to a threat of flash flooding to the National Weather Service (NWS) Weather Forecast Offices (WFOs), River Forecast Centers (RFCs), the media, emergency managers and interested partners. Guidance is given in the form of Mesoscale Precipitation Discussions (MPDs), that are

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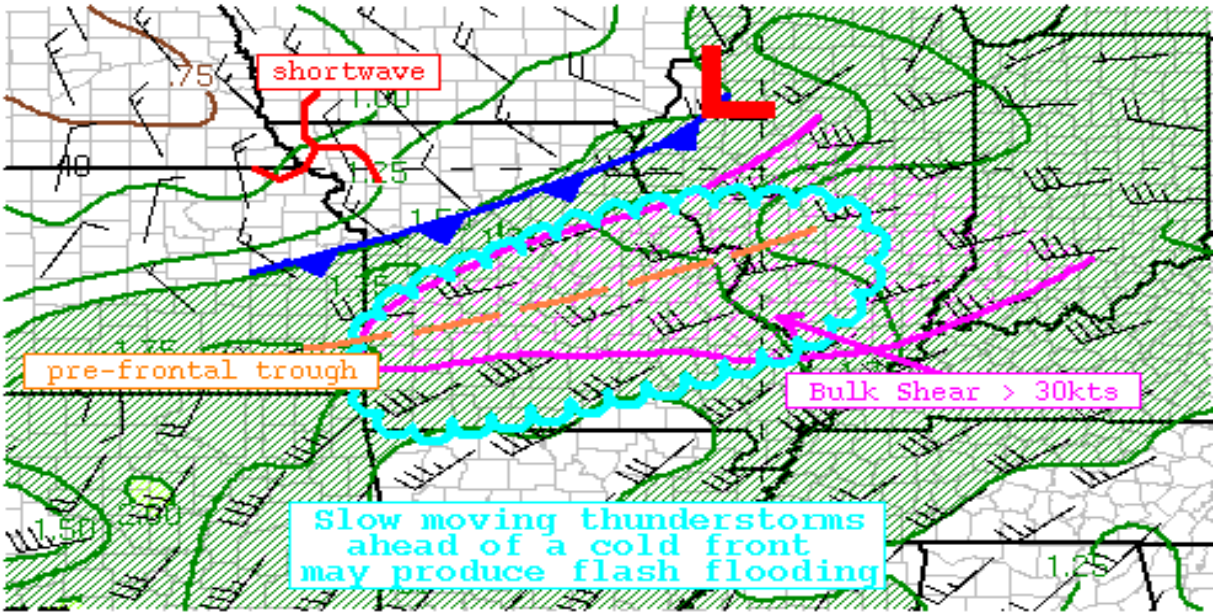
ideally issued 1-6 hours ahead of time, averaging an area equal to roughly half the size of the state of Kansas. Each MPD consists of a graphic indicating the area of concern and any pertinent meteorological features as well as a brief text discussion focused on the mesoscale features supporting the anticipated heavy rainfall. The potential for flash flooding within the area of concern will be highlighted by one of three headlines:
FLASH FLOODING LIKELY High confidence exists that environmental conditions are favorable, or will become favorable, for heavy rainfall that will result in flash flooding.



RAP32 PRECIP WATER 190616/0400f002
RAP32 850 MB WINDS 190616/0400f002
WPC MPD #0426

FLASH FLOODING POSSIBLE Environmental conditions are favorable, or will become favorable, for heavy rainfall, but there are questions about how the event will evolve and/or whether flash flooding will occur.

FLASH FLOODING UNLIKELY High confidence exists that environmental conditions are unfavorable, or will become unfavorable, for heavy rainfall that will result in flash flooding. (typically issued toward the end of an event)

While flash flooding is caused by a variety of factors (e.g., intense rainfall, dam failure, ice jams), WPC's Metwatch desk will only focus on flash floods triggered by intense rainfall that occur over a sufficient areal coverage. Localized flash flooding is not considered.

WPC MPDs

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National Water Center (NWC)

The National Water Center (NWC) is a first-in-the world facility that will enable NOAA, in partnership with other federal agencies, to deliver a new generation of water information and services to the nation. These new services will strengthen the nation's water forecast capabilities for floods and droughts, improve preparedness for water-related disasters, and inform high-value water decisions at the local, state, and national levels. By complementing existing regional River Forecast Centers with a national center, the National Weather Service (NWS) water mission area mirrors the highly successful structure of the meteorological side of the NWS.

NWC Products and Services

National Water Model (NWM)

The National Water Model (NWM) is a hydrologic modeling framework that simulates observed and forecast streamflow over the entire continental United States (CONUS). The NWM simulates the water cycle with mathematical representations of the different processes and how they fit together. This complex representation of physical processes such as snowmelt and infiltration and movement of water through the soil layers varies significantly with changing elevations, soils, vegetation types and a host of other variables. Additionally, extreme variability in precipitation over short distances and times can cause the response on rivers and streams to change very quickly. Overall, the process is so complex that to simulate it with a mathematical model means that it needs a very high powered computer or supercomputer in order to run in the time frame needed to support decision makers when flooding is threatened.

The NWM produces hydrologic guidance at a very fine spatial and temporal scale. It complements official NWS river forecasts at approximately 4000 locations across the CONUS and produces guidance at millions of other locations that do not have a traditional river forecast.

National Water Model (NWM)

The National Water Center (NWC) in conjunction with the NWS and other partners will be rolling out Flood Inundation Mapping over the coming years. Stay tuned for updates.

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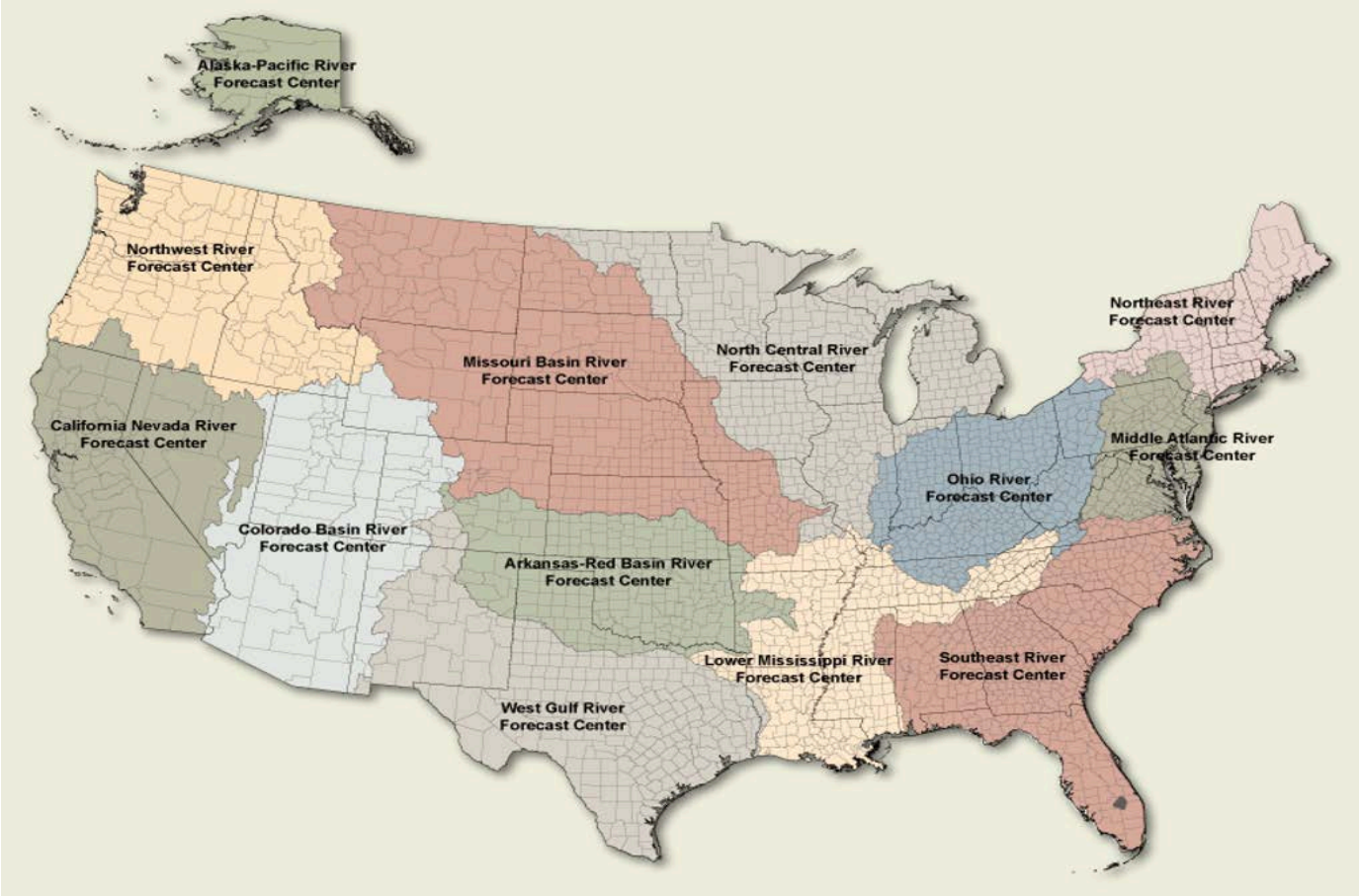
River Forecast Centers (RFC)

The duties of the River Forecast Centers are to 1) Provide river and flood forecasts and warnings for the protection of lives and property, and 2) Provide basic hydrologic forecast information for the nation's environmental and economic well-being. The RFC provides hydrologic guidance for time scales that vary from hours (flash flood guidance and support to Local Flood Warning Systems), to days (traditional flood forecasts), to weeks (snowmelt forecasts), to months (seasonal water supply)



The NWS Springfield area is covered by four different RFCs.

NWS Springfield River Forecast Center (RFC)
Missouri Basin River (MBRFC)
Arkansas-Red Basin (ABRFC)
Lower Mississippi River (LMRFC)
North Central River (NCRFC) - Flash flood guidance only

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River Forecast Points

Forecast Point	RFC	Code
Big Piney River at Fort Leonard Wood	MBRFC	bigm7
Current River above Powder Mill	LMRFC	pwdm7
Elk River near Tiff City	ABRFC	tifm7
Gasconade River near Hazelgreen	MBRFC	hzlm7
Gasconade River at Jerome	MBRFC	jrmm7
Jacks Fork River at Alley Spring	LMRFC	alym7
Jacks Fork River at Eminence	LMRFC	emcm7
James River at Galena	LMRFC	glnm7
James River near Boaz	LMRFC	jamm7
Little Osage River at Fulton	MBRFC	ftnk1
Little Osage River at Horton	MBRFC	htnm7
Marmaton River at Fort Scott	MBRFC	fskk1
Marmaton River near Nevada	MBRFC	nvdm7
North Fork White River near Tecumseh	LMRFC	tnzm7
Osage River near Taberville	MBRFC	tbvm7
Roubidoux Creek near Waynesville	MBRFC	rbxm7
Sac River near Caplinger Mills	MBRFC	cmzm7
Shoal Creek near Joplin	ABRFC	jopm7
Spring River near Baxter Springs	ABRFC	bxtk1
Spring River at Carthage	ABRFC	chtm7
Spring River near Waco	ABRFC	wcom7

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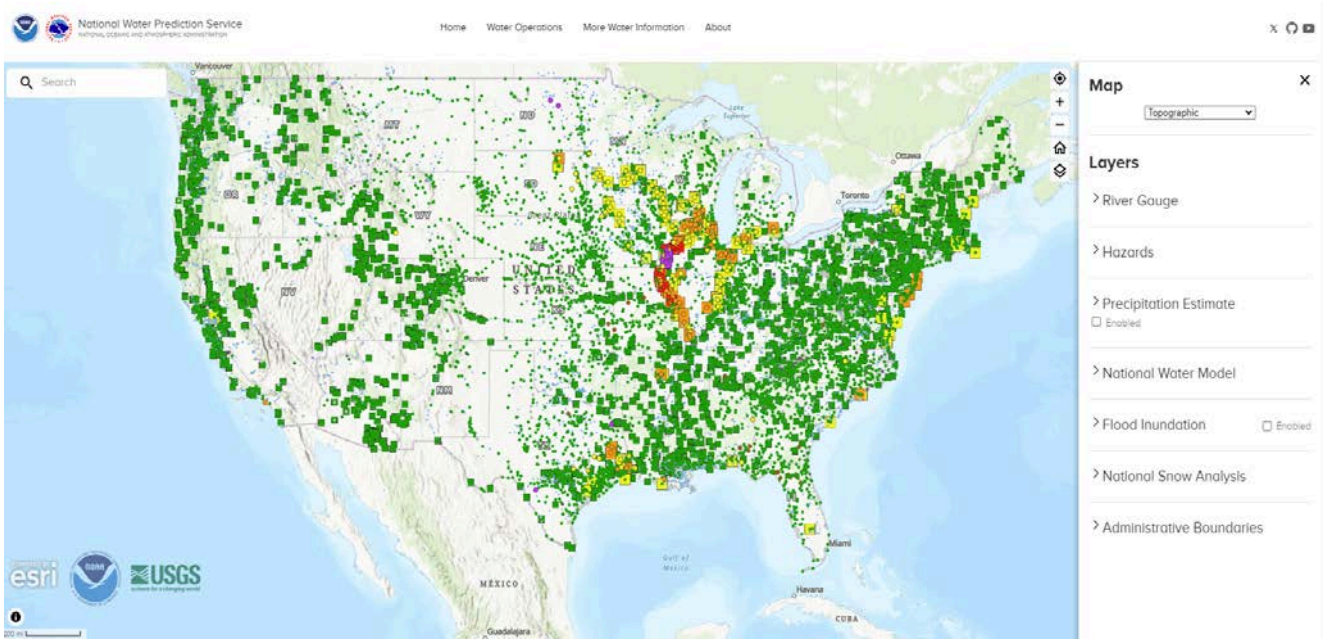
National Water Prediction Service (NWPS)

The National Water Prediction Service (NWPS) is the one- stop shop for critical National Weather Service (NWS) water resources information including river observations, forecasts, site data, and data services. The service can be found at water.noaa.gov and replaces the legacy Advanced Hydrologic Prediction Service (AHPS). An introductory StoryMap for NWPS can be found at: User's Guide to NWPS. Additional information can be found on NWPS Quick Start Guide and Fact Sheet.



NWS Springfield NWPS

Experimental Flood Inundation Mapping (FIM) Services

The National Weather Service's (NWS) Flood Inundation Mapping (FIM) service provides high-resolution visualizations of the extent of forecast flooding. FIM maps show the area of water that has overflowed the banks of a river, creek, or stream. These new services complement and support the issuance of flood watches and warnings by providing near-real-time, high-resolution, street-level visualizations showing where, when, and how much flood waters are forecast. Check out the NWS Flood Inundation Mapping Services StoryMap for additional information.

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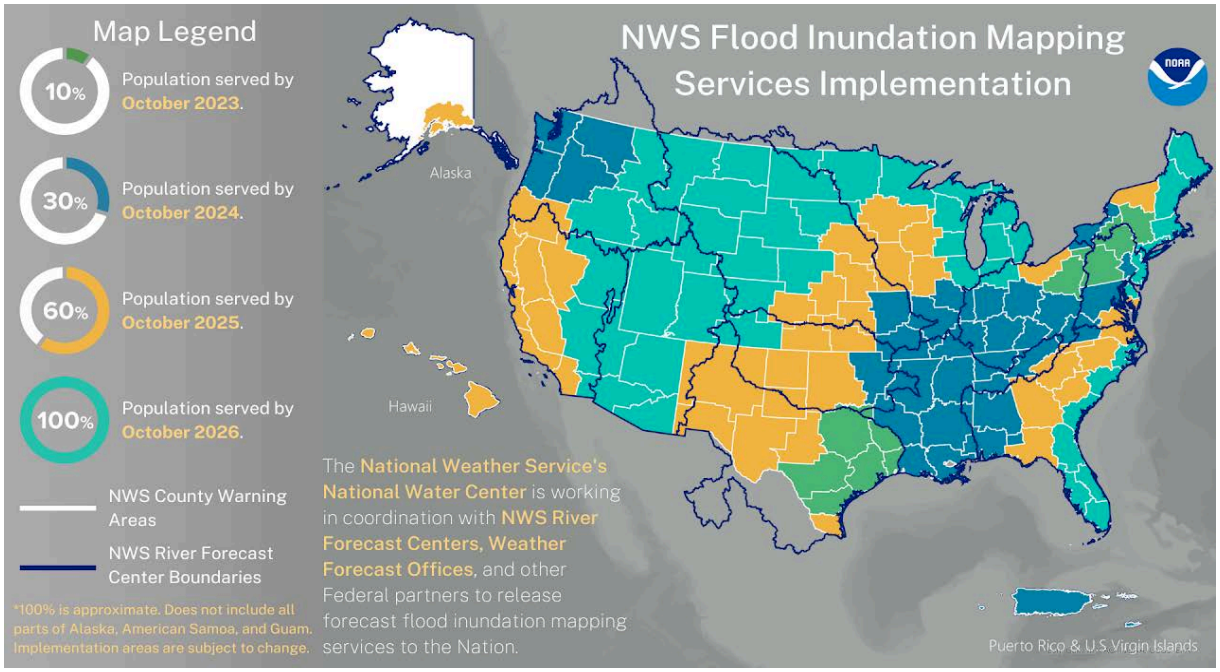

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Winter

Winter Products

Winter Products	
Winter Storm Watch	A Winter Storm Watch is issued when there is the potential for significant and hazardous winter weather within 48 hours.
Winter Weather Advisory	Winter event with snow (1-4"), freezing rain (<¼ inch), or a combination of wind-driven snow, sleet and/or freezing rain, or sleet accumulating < 1/2 inch.
Winter Storm Warning	Winter storm with more than one hazard or only heavy snow (5" or more), or a combination of wind-driven snow, sleet and/or freezing rain.
Ice Storm Warning	Ice accumulations ≥ 1/4 inch
Blizzard Warning	Sustained winds or frequent gusts ≥ 35 mph and falling or blowing snow with visibilities < 1/4 mile for ≥ 3 hrs.
Snow Squall Warning	Condition 1: Visibility 1/4SM or less in snow with sub-freezing ambient road temps Condition 2: A significant reduction in visibility from falling and/or blowing snow AND plunging temperatures behind an arctic front sufficient to produce flash freeze.

Probabilistic Winter Forecasts

The purpose of the experimental probabilistic snowfall products is to provide customers and partners a range of snowfall possibilities, in complement to existing NWS deterministic snowfall graphics, to better communicate forecast uncertainties during winter weather events.

NWS Springfield Winter Probabilistic Forecasts

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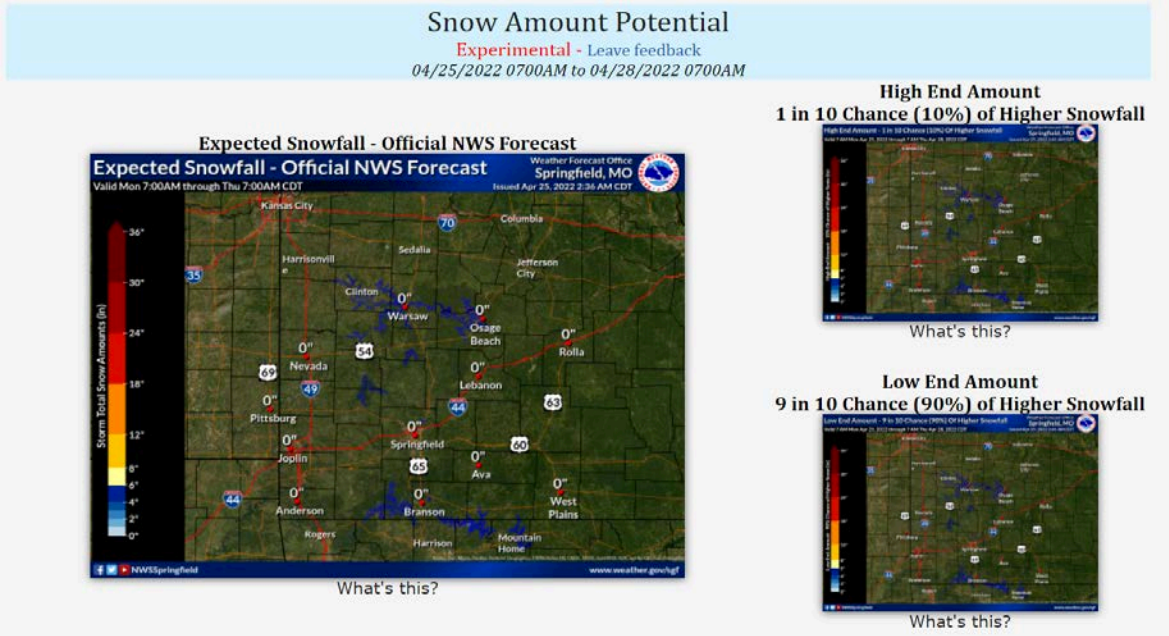
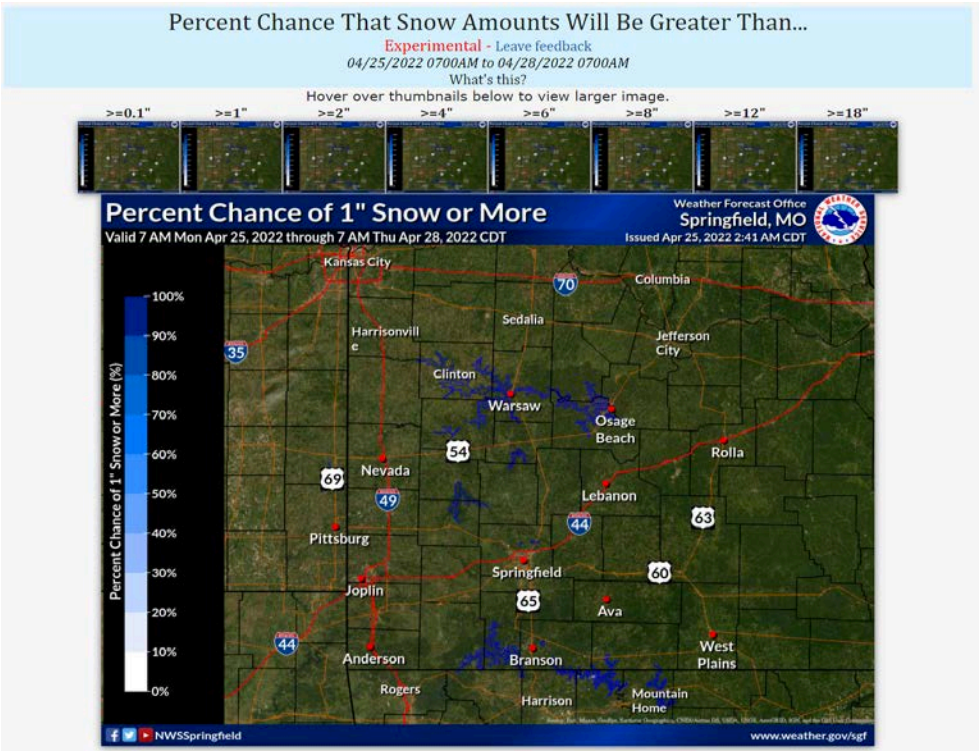
Snow Amount Potential



Percent Chance of Snowfall Amounts



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Snowfall Totals by Location

Snowfall Totals by Location

Experimental - Leave feedback

04/25/2022 0700AM to 04/28/2022 0700AM

What's this?

County: Selected

Box Plots | Bar Plots

Location	Snow Amount Potential			Chance of Seeing More Snow Than							
	Low End Snowfall	Expected Snowfall	High End Snowfall	>=0.1"	>=1"	>=2"	>=4"	>=6"	>=8"	>=12"	>=18"
Anderson, MO	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
Ava, MO	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
Bolivar, MO	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
Branson, MO	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
Gainesville, MO	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
Joplin, MO	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
Lebanon, MO	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
Osage Beach, MO	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
Pittsburg, KS	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
Rolla, MO	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
Salem, MO	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
Springfield, MO	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
Warsaw, MO	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
West Plains, MO	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
Fort Scott, KS	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
Monett, MO	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
Greenfield, MO	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
Osceola, MO	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
Hartville, MO	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
Waynesville, MO	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
Eminence, MO	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
Houston, MO	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
Thayer, MO	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%

Ice Accumulation Potential

Ice Accumulation Potential

04/25/2022 0700AM to 04/26/2022 0700AM

Expected Ice Accumulation - Official NWS Forecast

This is the elevated flat surface ice accumulation. It is not radial/line ice. Radial/line ice is typically 39% of the elevated flat surface ice. For more information on this, see this module.

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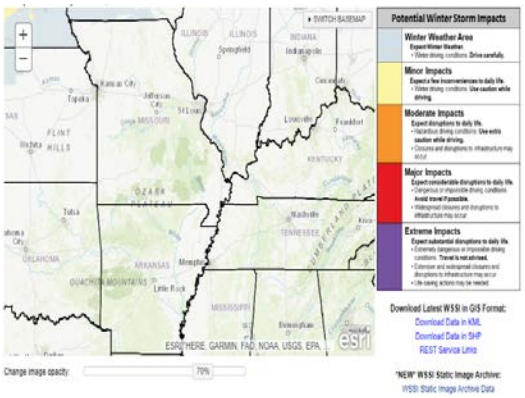
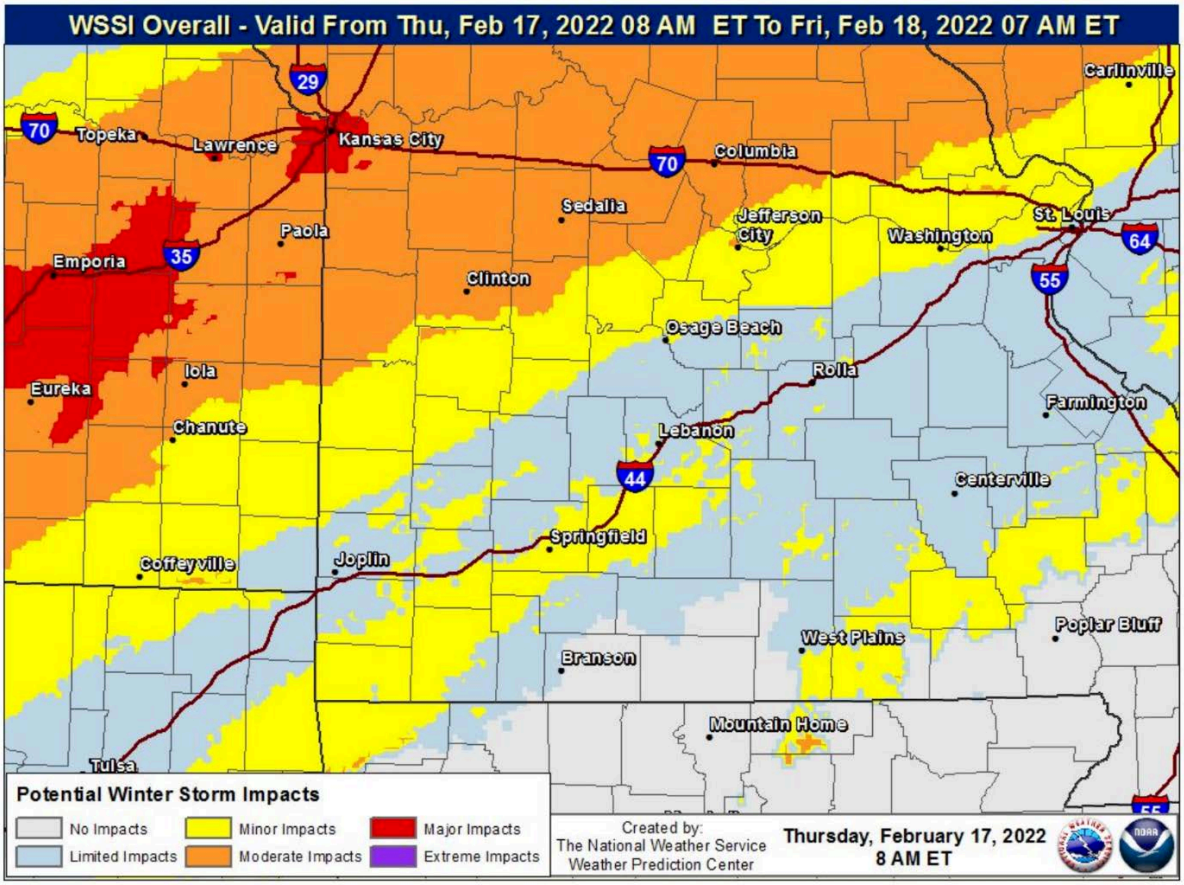
Winter WPC Products

Winter Storm Severity Index (WSSI)



The Winter Storm Severity Index, or WSSI, is a new tool from the National Weather Service that forecasts the potential impacts of winter storms throughout the continental United States. The WSSI can keep you informed on potential winter storm impacts in your community, including tree damage, property damage, transportation impacts, and disruptions to daily life. This product is developed for Day 1 to 4, with Day 4 experimental at this time.



NWS Springfield WSSI

Prototype Display Rolling 24 Hour Winter Storm Severity Index (WSSI)

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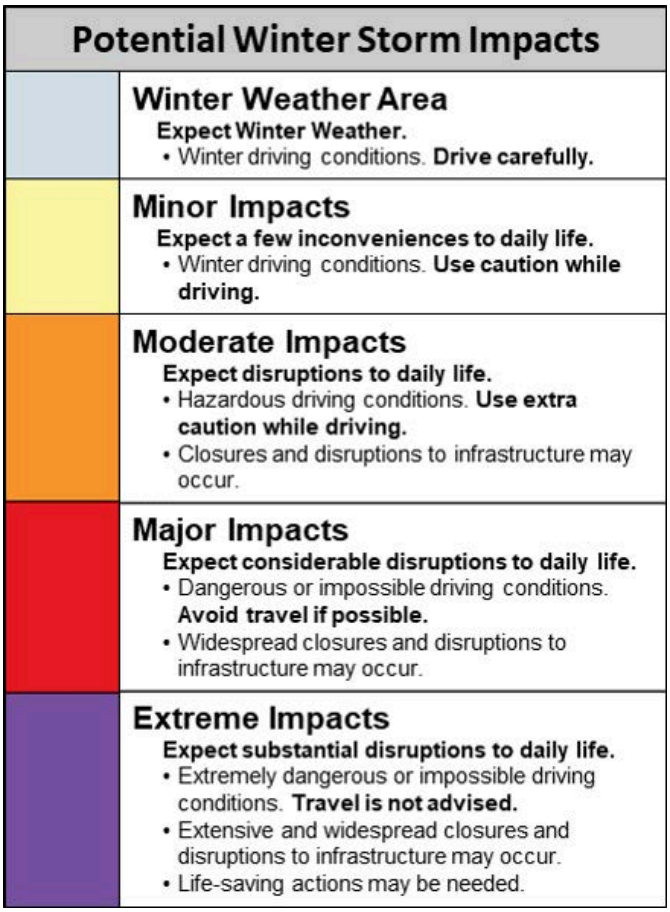
The WSSI is measured by analyzing the potential impacts of:

Snow amount: impacts due to the total amount of snow or the accumulation rate.
Snow load: infrastructure impacts due to the weight of the snow.
Ice accumulation: infrastructure impacts due to the effects and severity of ice and wind.
Flash freeze: potential for quick-forming ice from rapid temperature drops during or after precipitation.
Blowing snow: disruption due to blowing and drifting snow.
Ground blizzards: travel-related impacts of strong winds interacting with pre-existing snow.



Experimental Probabilistic Winter Storm Severity Index (PWSSI)

The Probabilistic WSSI highlights a period of 24 hours. Each time-step forward is 6 hours starting at 24 hours and extending to 168 hours. As you move forward in time using the slider bar you can see how the PWSSI is changing every six hours out to the end of the end of day 7 (168 hours).

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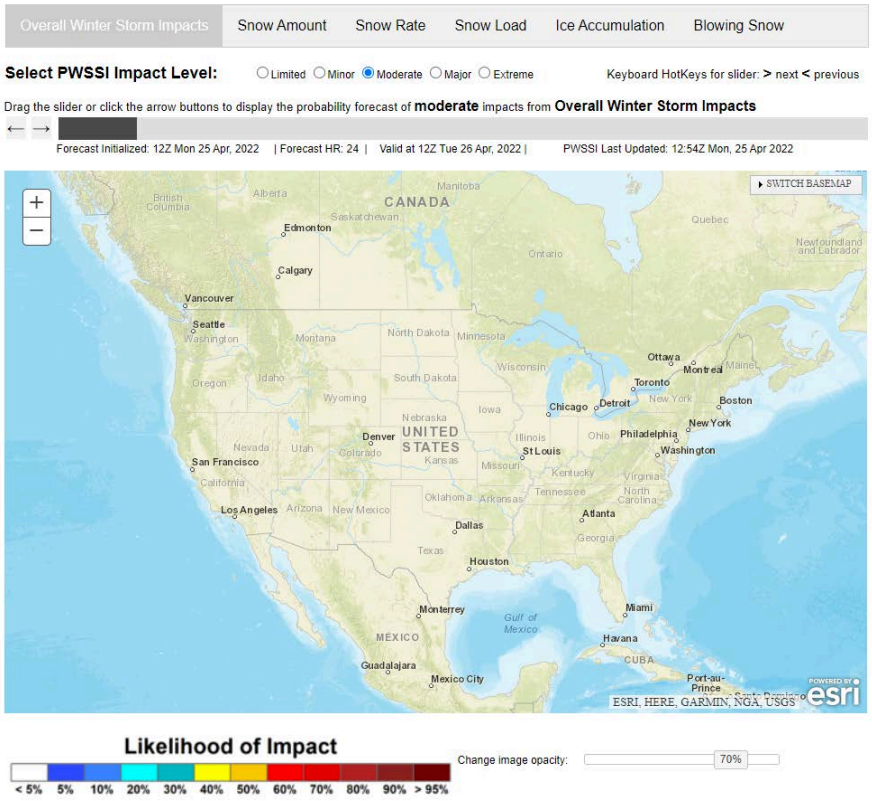

Probabilistic Winter Storm Severity Index (PWSSI)

WPC Probabilistic Winter Precipitation Guidance Day 1 to 3

These graphics indicate the probability (potential) for a location to receive specific thresholds of accumulated snow or ice.
Snowfall - closed lines represent the probability (slight, moderate, and high) that enclosed areas will receive equal to or greater than a specific threshold accumulation (4", 8" or 12") of snowfall in a 24 hour period.
Freezing Rain - depicts the probability in the same manner and time period as snowfall, but with an accumulation threshold of .25" (one quarter of an inch) of freezing rain.

The probability thresholds used are defined as follows:

SLGT - 10% to 40% chance of occurrence within the outlined area.
MODERATE (MDT) - 40% to 70% chance of occurrence within the outlined area.
HIGH - 70% chance or greater of occurrence within the outlined area.

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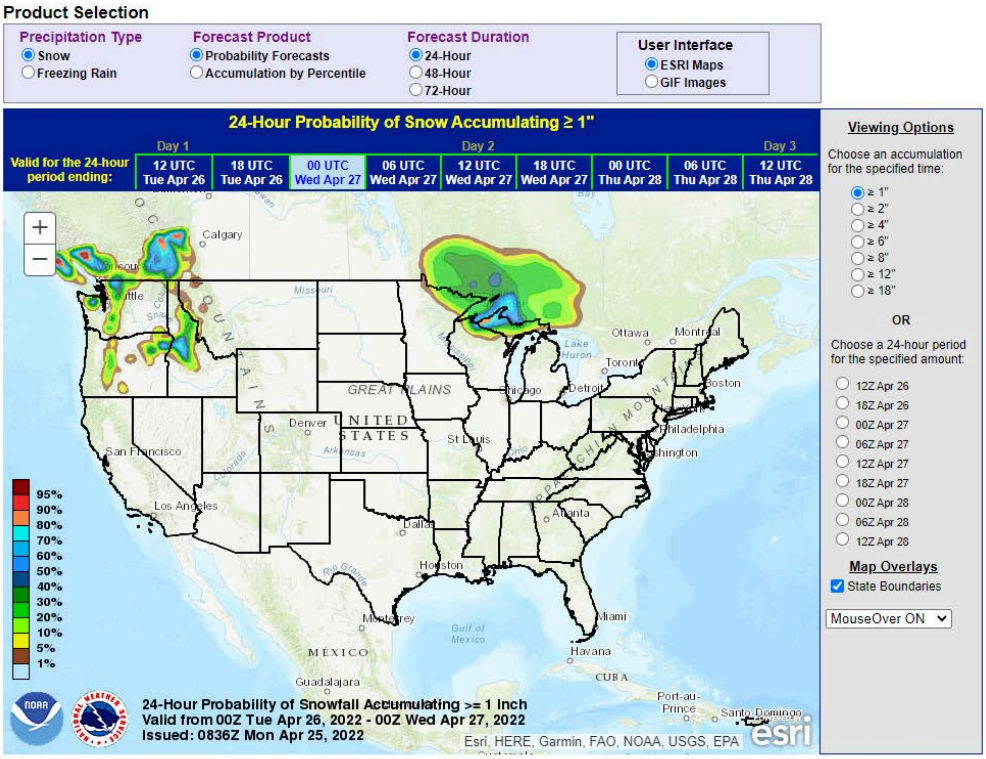
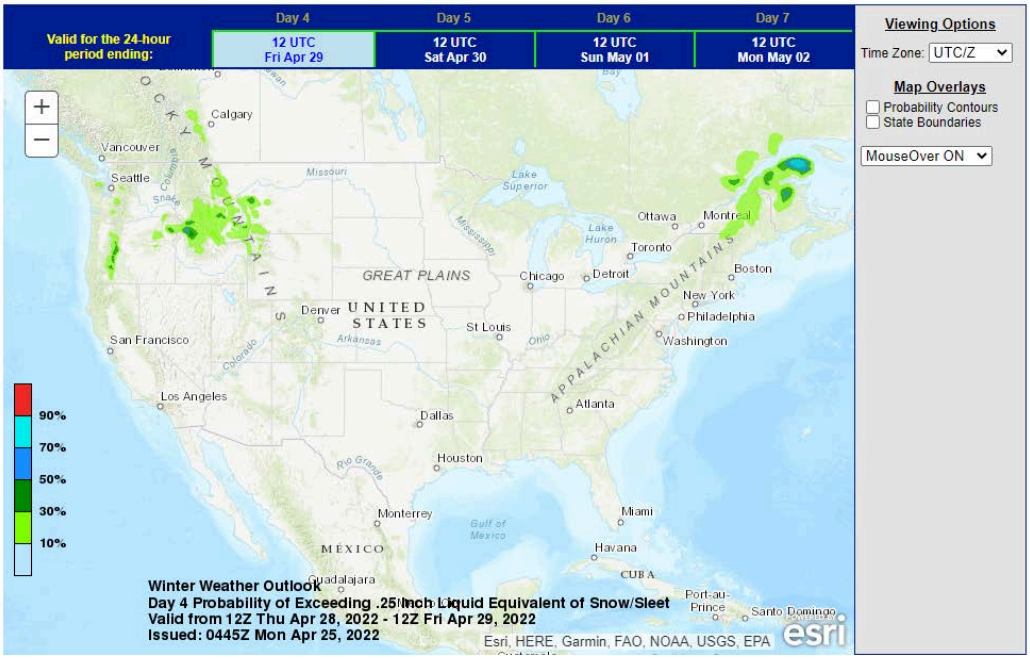


[WPC Probabilistic Winter Precipitation Guidance]

WPC Winter Weather Outlook Day 4 to 7



[WPC Winter Weather Outlook Day 4 to 7]

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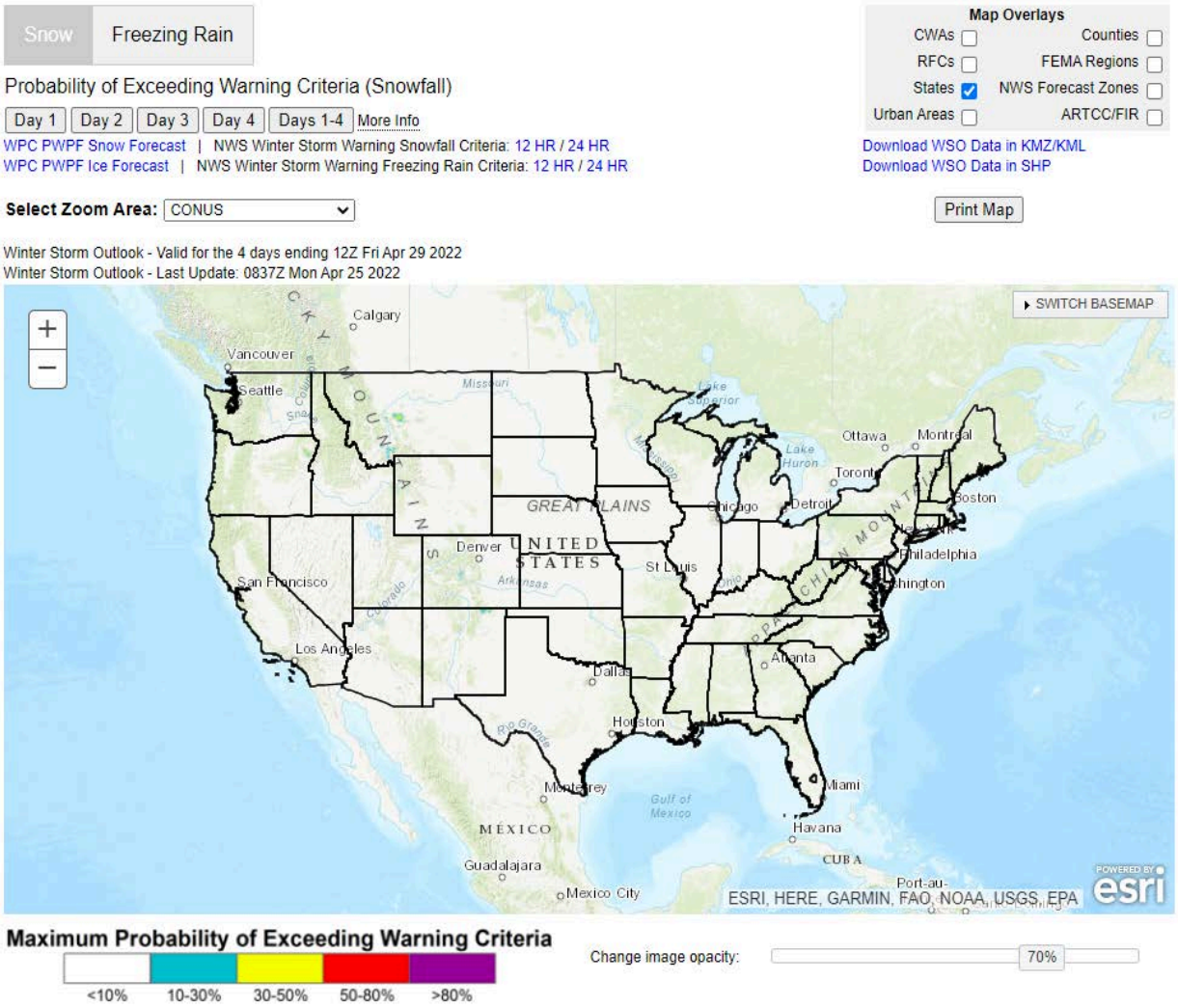
Experimental Winter Storm Outlook (WSO)

The Winter Storm Outlook is experimental and does not depict official warnings, and should always be used in context with official NWS forecasts and warnings.



[NWS Springfield Experimental Winter Storm Outlook (WSO)]

SPC Winter Mesoscale Discussions (MDs)

Winter weather MDs focus on the meteorological processes expected to cause hazardous winter weather over the continental U.S. for the next 6 hours, with emphasis on the first 4 hours. The MD provides short term forecast information on the what, when, where, and why of the impending weather hazard. In the first paragraph, the plain-language summary contains information concerning expected snowfall/precipitation rates and timing.

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Winter weather MDs are usually issued when:

Forecast snowfall rates exceed 1" per hour below 4000 foot elevation or 2" per hour in lake effect snow/between 4000-8000 foot elevation for multiple hours.
Forecast freezing rain rates exceed 0.05" in three hours.
Forecast blizzard conditions (visibilities less than 1/4 mile in snow/blowing snow and winds in excess of 35 mph) are expected to last over three hours.
Climatologically anomalous or unexpected events below the aforementioned criteria.

Winter School Conference Calls

School District Decision Support Program is conducted using conference calls for Winter precipitation impacts on roads. Calls are usually conducted at 4:15 AM. Calls may also be made in the afternoon. School Districts and Emergency Management Directors will receive email notifications notifying of scheduled conference calls. The calls are conducted through Google Meet.

MoDOT Conference Calls

MoDOT holds statewide briefings when impactful winter weather is expected for the state of Missouri. Typically, they schedule these calls when multiple districts are expected to receive accumulating winter precipitation that's expected to cause road impacts. There can be two to three briefings per day (most commonly 9 am and 3 pm, with an optional 9 pm call), depending on the severity of the expected winter weather. As the state liaison, NWS St. Louis will provide the briefings to the partners on the call which typically includes the Governor's Office, Missouri State Highway Patrol (MSHP), and Missouri State Emergency Management Agency (SEMA).

Additional MoDOT briefings are conducted by NWS Springfield for the Southwest MoDOT District.

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Aviation

Terminal Aerodrome Forecasts (TAFs)

A TAF is the international standard code format for terminal forecasts issued for airports. TAFs are valid for a 24 or 30 hour time period and are issued 4 times a day at 6 hour intervals at 00 UTC, 06 UTC, 12 UTC, and 18 UTC. The forecast includes forecasted wind speed, wind direction, visibility, ceiling, type of precipitation (i.e. snow, rain, etc.) and/or weather phenomenon.

NWS Springfield produces terminal forecasts for three airports across southwest Missouri. All our 24 hour forecasts.

Airport Name	Airport Identifier Code
Springfield-Branson National Airport	KSGF
Joplin Regional Airport	KJLN
Branson Airport	KBBG

Aviation Forecast Discussion

The Aviation Forecast Discussion is produced with each 6 hourly issuance of TAFs. This discussion provides users with brief discussion on the forecast and potential impacts. This discussion will be found towards the end of the AFD.

NWS Springfield AFD

Aviation Weather Center (AWC)

The AWC delivers consistent, timely and accurate weather information for the world airspace system. We are a team of highly skilled people dedicated to working with customers and partners to enhance safe and efficient flight. The AWC issues a wide variety of aviation related products and services daily.

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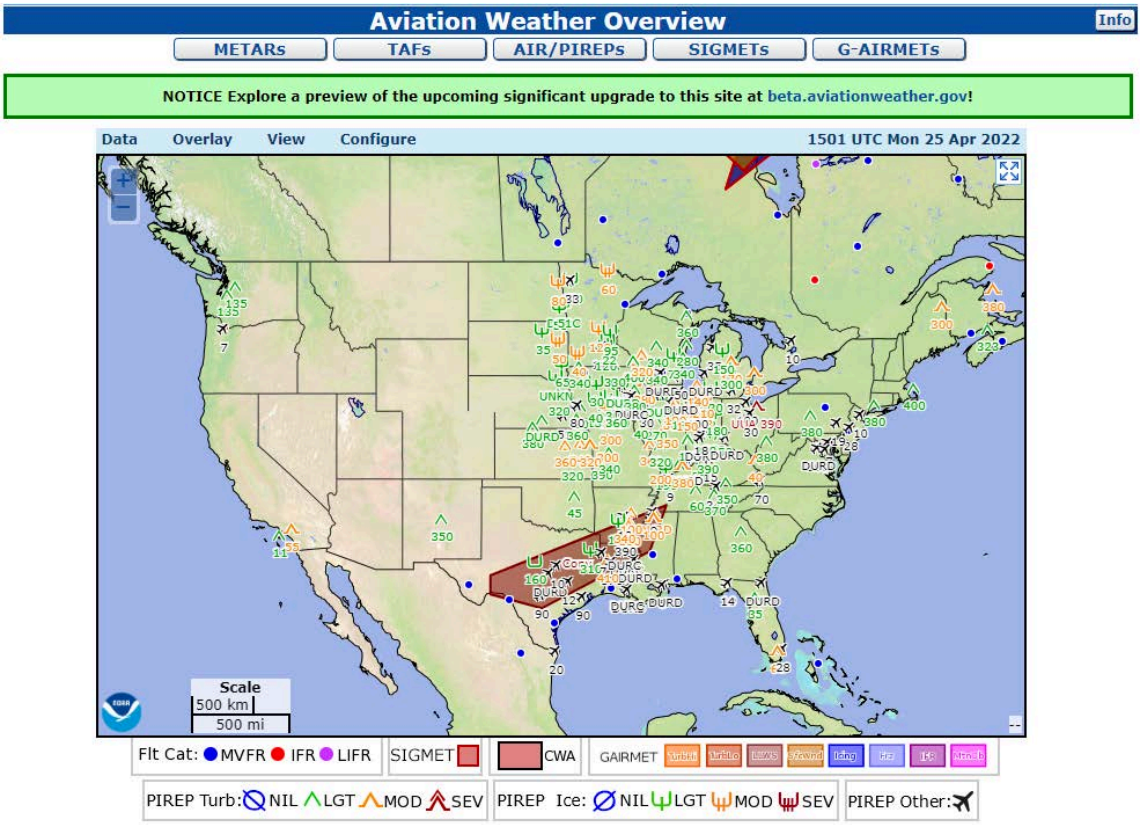

AWC Webpage

Central Weather Service Units (CWSU)

The Center Weather Service Units monitor and provide weather forecasts and advisories to the nation's 21 Air Route Traffic Control Centers (ARTCC). The nation's 21 CWSUs concentrate fully on aviation weather for the Air Route Traffic Control Center (ARTCC) producing specialized tailored forecasts and advisories of thunderstorms, turbulence, icing and precipitation affecting the National Air Space system.

These face-to-face on-the-spot briefings convey a variety of weather information to air traffic controllers and are vital in helping FAA personnel safely and efficiently route traffic. Three Pre-Duty Weather Briefings are also created by each CWSU every day to provide situational awareness of upcoming aviation issues. In addition to the weather briefings, CWSU meteorologists issue Center Weather Advisories (CWAs) and Meteorological Impact Statements (MISs) on an as needed basis.

NWS Springfield is covered by the Kansas City CWSU and Memphis CWSU.

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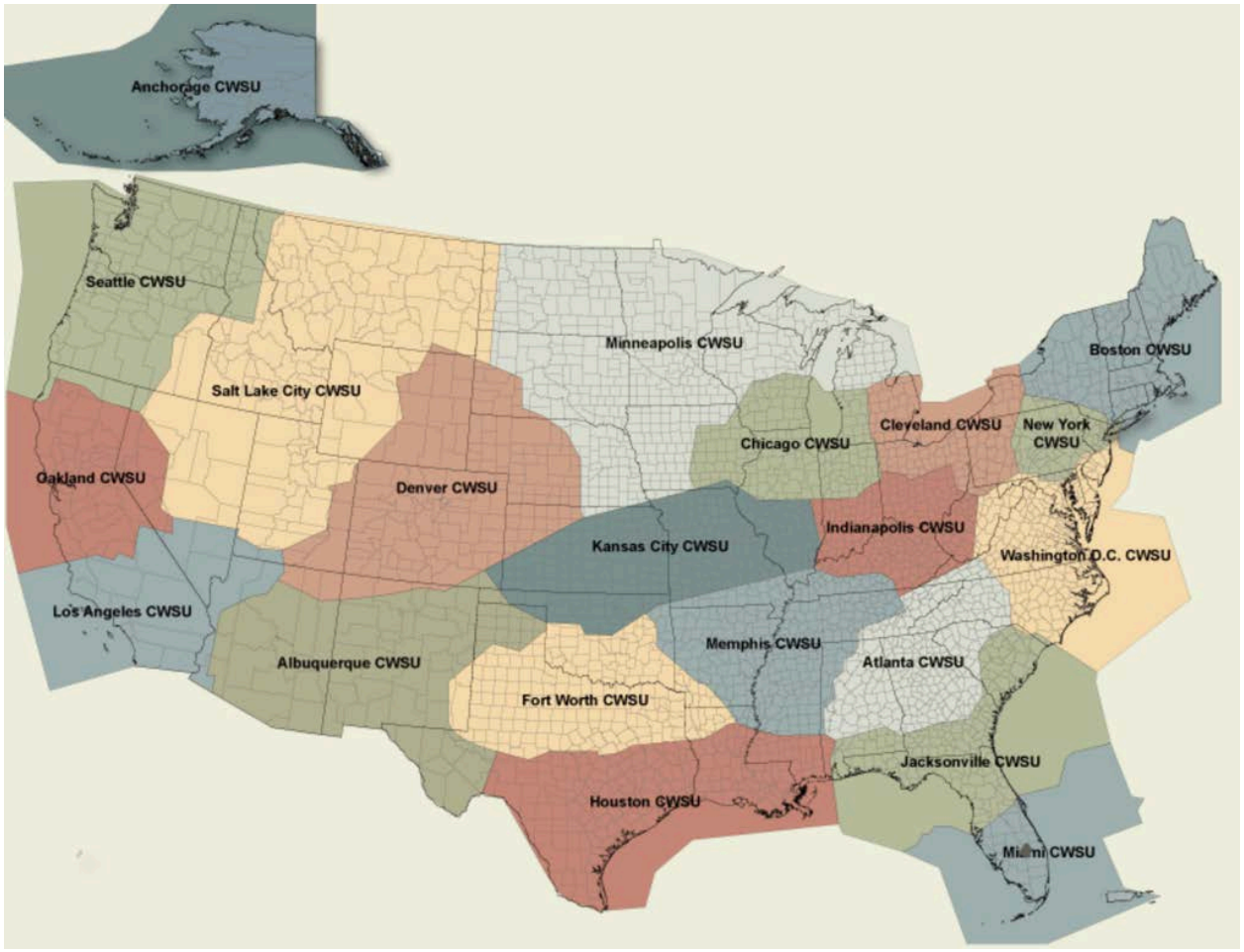

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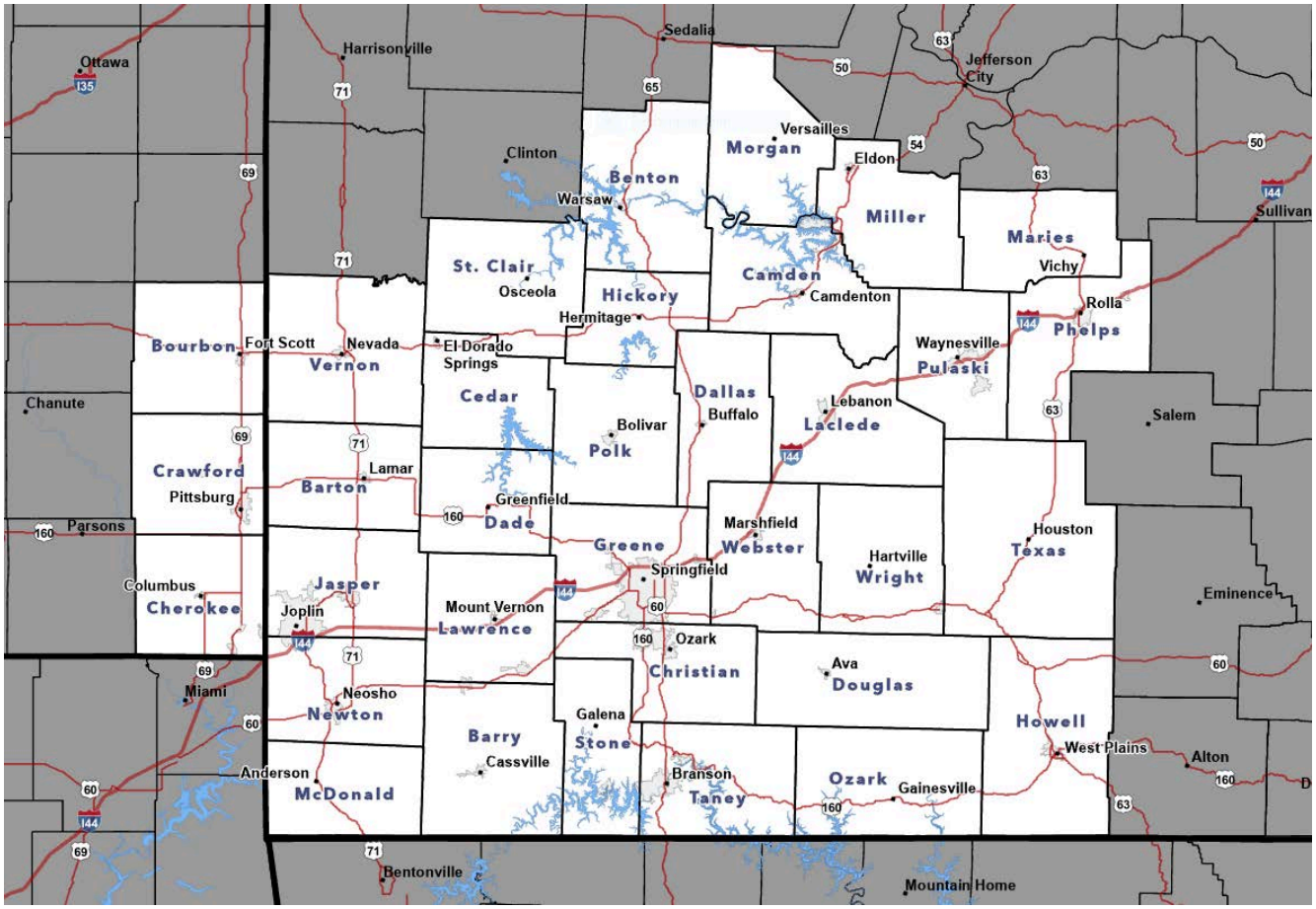
Fire

Peak fire season is Mid February to Mid April. Two distinct seasons grass/brush is from the winter to the end of March. Forest litter late February-Mid April. Summer is generally quiet except for drought years. Sometimes we can have a mini fire season in late October-early December before winter rain/snow kicks in.

Fire Weather Forecast Area



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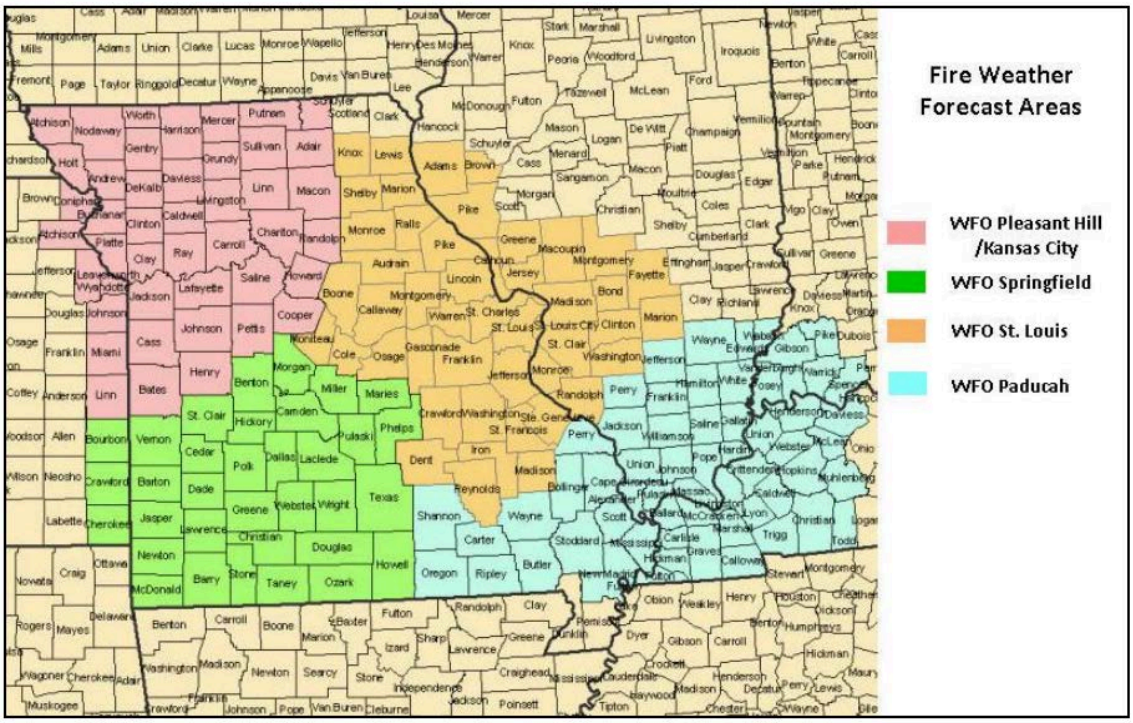

[NWS Springfield Fire Weather Webpage]

[Fire Weather Operating Plan]

[Fire Weather Forecast Dashboard]

Fire Products

Fire Weather Products	
Fire Weather Watch	The watch will be issued 18 to 96 hours in advance of high potential for the development of a Red Flag event.
Red Flag Warning	A Red Flag Warning is issued to alert fire officials and firefighters of potentially dangerous fire weather conditions within the next 12 to 24 hours. 20 ft wind ≥ 20 mph sustained. Frequent gusts over 30 mph are also okay as a criteria. For airports ≥ 20kt 10m wind sustained. Frequent gusts over 30 mph. RH ≤ 25% 10hr Fuel derived from RAWS site at or expected to be ≤ 9%
Spot Forecast	Issued for prescribed burns or wildfires. Provides hourly forecasts of various fire weather forecast parameters.

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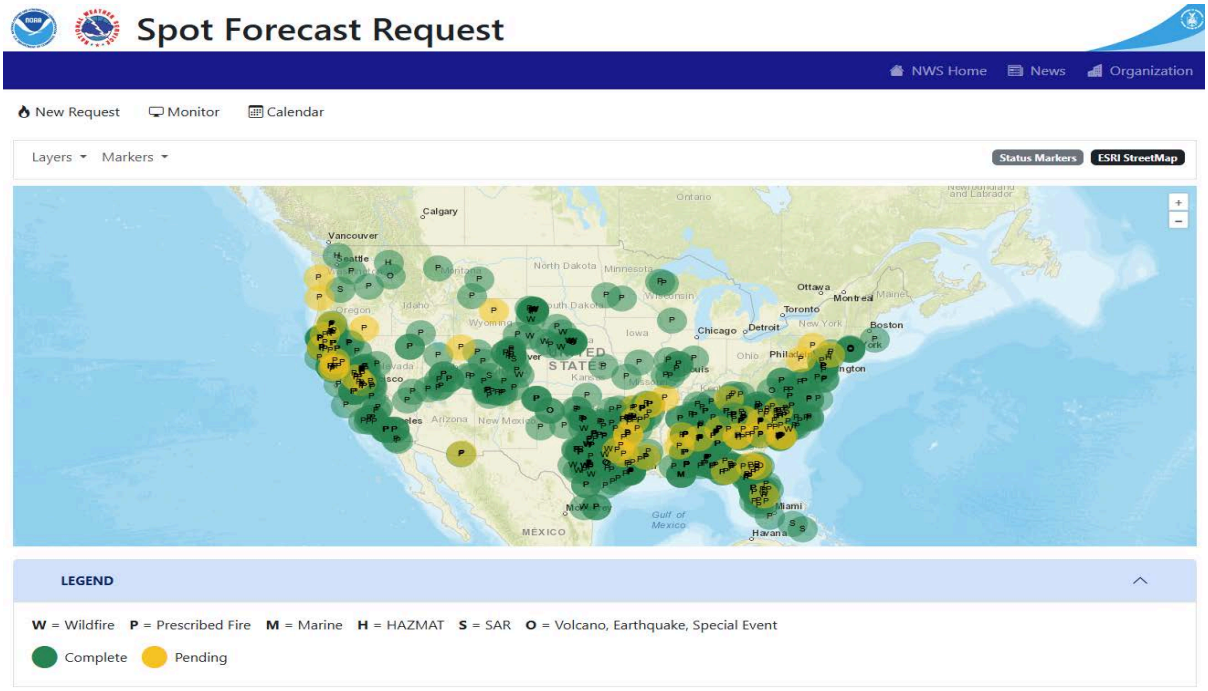
Experimental Hot Spot Notification Tool	Issued ONLY within Red Flag Warnings. A text and email notification system that identifies fire location.
Routine Fire Weather Products	
Fire Weather Forecast	Seven day fire weather planning forecast.
Fire Weather Point Forecast	Quantitative means for evaluating the fire danger across a large area such as a forest. This complex model processes daily weather observations, fuel moisture, and forecasts as inputs. The resulting output and indices suggest the severity of fire danger over a large area.
Grassland Fire Danger Index	The Grassland Fire Danger Index (GFDI) values correspond to the likelihood that grassland fires will become uncontrolled. The GFDI forecast is used as a fire weather planning aid for predictive service meteorologists, land management personnel, and can potentially be used by emergency management and county fire personnel to decide when to issue burn permits. The index values for days 2 through 6 are intended to be used as a planning guideline.

Spot Forecasts



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Submit Spot Forecast Request
Monitor Spot Forecasts

Experimental Hot Spot Notification Tool

For our purposes notifications can be sent to any location which is under a Red Flag Warning. There are some obvious times where high cloud cover will obscure hot spots and smoke plumes and our partners understand this. This service will supplement fire detection methods already used by our partners (aircraft, fire towers, citizen reports, etc.).

The advent of higher temporal and spatial resolution satellite imagery has resulted in many advances in the provision of Impact-Based Decision Support Services. Among these are a more efficient ability to detect hot spots created by new or quickly growing wildfires.

SPC Fire Forecast

The Fire Weather Outlooks are intended to delineate areas of the continental U.S. where pre-existing fuel conditions, combined with forecast weather conditions during the next 8 days, will result in a significant threat for the ignition and/or spread of wildfires. This product is designed for use in the NWS, as well as other federal, state, and local government agencies.

Each outlook consists of a categorical forecast that graphically depicts fire weather risk areas across the continental United States, along with a text narrative. Through various labels and colors on the graphic, the five types of Fire Weather Outlook risk areas are:

ELEVATED (orange) - Elevated risk from wind and relative humidity
CRITICAL (red) - Critical risk from wind and relative humidity
EXTREME (magenta) - Extremely Critical risk from wind and relative humidity
ISODRYT (brown) - Elevated risk from dry thunderstorms
SCTDRYT (red) - Critical risk from dry thunderstorms

SPC Day 1 Fire Weather Outlook

SPC Day 2 Fire Weather Outlook

SPC Day 3 - 8 Fire Weather Outlooks

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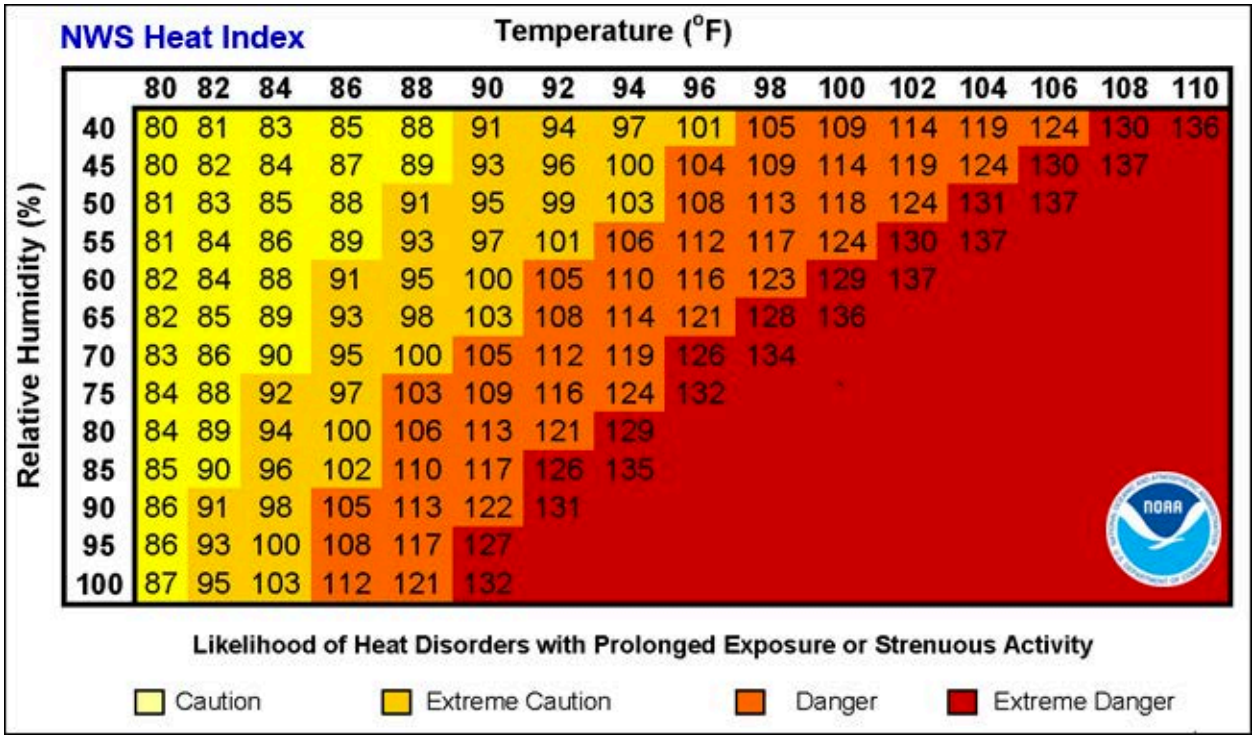
Other Weather Hazards

Heat

Heat Products	
Extreme Heat Watch	Issued for a heat index ≥ 110 degrees or a heat index ≥ 105 degrees for 4 days within 24 to 48 hours.
Extreme Heat Warning	Heat index around 110° or higher. Heat index ≥ 105° for 4 or more consecutive days. Minimum temperatures around 75° or higher should be considered as it relates to impacts. Excessively warm night time temperatures accentuate the dangers of an excessive heat event.
Heat Advisory	Heat index around 105° or higher. Heat index 100-104° for 4 or more consecutive days.

Heat Index

Also known as Apparent Temperature. Measure of what the temperature feels like to the human body when relative humidity is combined with the air temperature.



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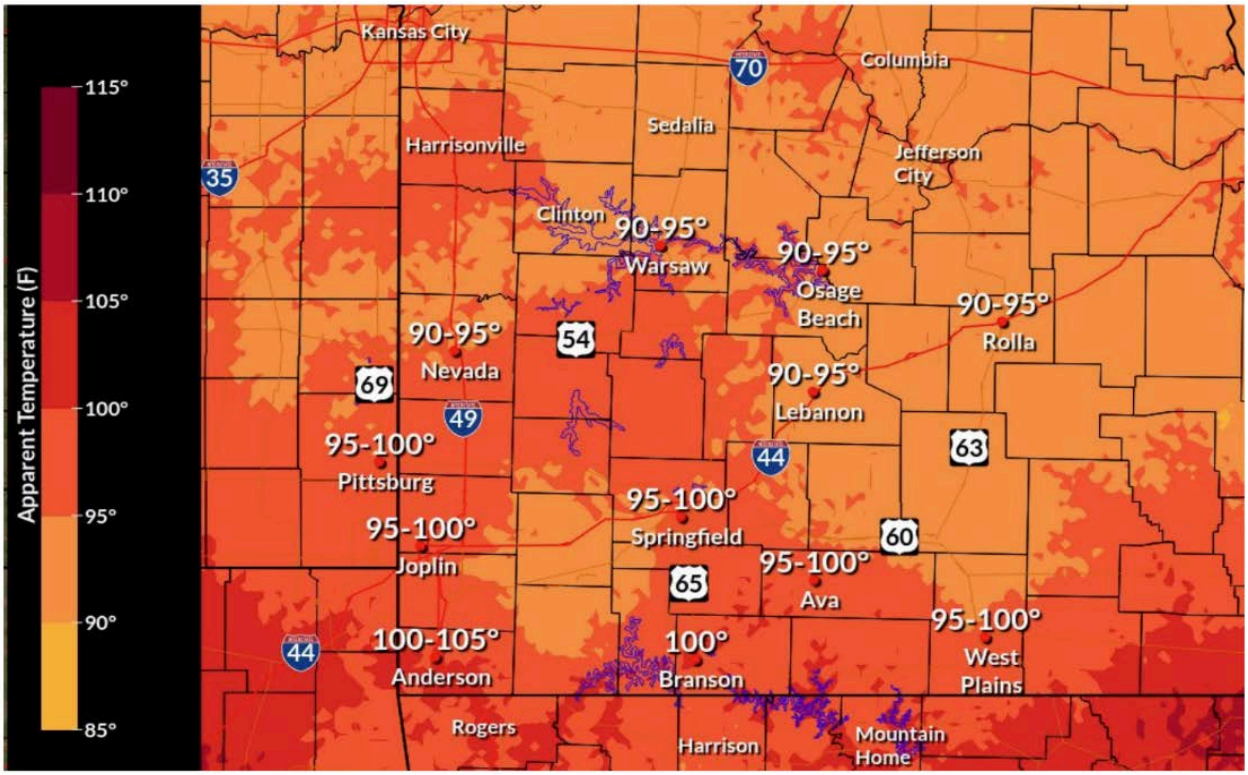
Heat Index		
Classification	**Heat Index (°F)**	**Effect on the Body**
Caution	**80 to 89**	**Fatigue possible with prolonged exposure and/or physical activity.**
Extreme Caution	**90 to 102**	**Heat stroke, heat cramps or heat exhaustion possible with prolonged exposure and/or physical activity.**
Danger	**103 to 124**	**Heat cramps or heat exhaustion likely, and heat stroke possible with prolonged exposure and/or physical activity.**
Extreme Danger	**125 or higher**	**Heatstroke highly likely with continued exposure.**

Heat Index is the most commonly used and understood heat tool by the general public. The higher the values the hotter it's going to feel and the higher the threat for heat related illnesses. It's calculated from the temperature and relative humidity. Heat Index assumes you are in the shade. The Heat Index or the "Apparent Temperature" is an accurate measure of how hot it really feels when the Relative Humidity (RH) is added to the actual air temperature.



[CPC Heat Index Outlook Day 6 to 10]

[CPC Heat Index Outlook Day 8 to 14]

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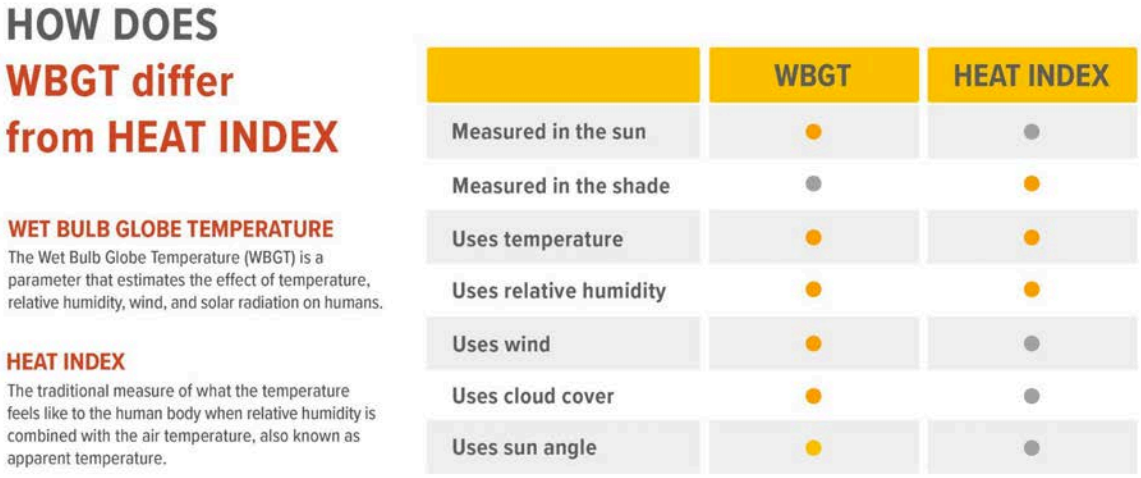
Wet Bulb Globe Temperature

Measures heat stress on the body in direct sunlight, taking many factors into account. This an index much like Heat Index, as it is an estimation of heat stress displayed by a number. Remember one of the big differences between the two: HI is calculated for shady areas and WBGT is calculated in direct sunlight (takes into account sky cover).



Wet Bulb Globe Temperature (WBGT)			
Threat Level	**WBGT (°F)**	**Effects**	**Call to Actions**
Low	**< 78.3**	**Normal activities.**	**Take at least 3-5 minutes of breaks each hour if working or exercising in direct sunlight.**
Elevated	**78.3 – 82.0**	**Working or exercising in direct sunlight will stress your body after 45 minutes.**	**Take at least 15 minutes of breaks each hour if working or exercising in direct sunlight.**
Moderate	**82.1 – 86.0**	**Working or exercising in direct sunlight will stress your body after 30 minutes.**	**Take at least 30 minutes of breaks each hour if working or exercising in direct sunlight.**
High	**86.1 – 90.0**	**Working or exercising in direct sunlight will stress your body after 20 minutes.**	**Take at least 40 minutes of breaks each hour if working or exercising in direct sunlight.**
Extreme	**> 90.0**	**Working or exercising in direct sunlight will stress your body after 15 minutes.**	**Take at least 45 minutes of breaks each hour if working or exercising in direct sunlight.**

Wet Bulb Globe Temperature (WGBT) is a measure of the heat stress in direct sunlight, which takes into account: temperature, humidity, wind speed, sun angle and cloud cover (solar radiation). This differs from the heat index, which takes into consideration temperature and humidity and is calculated for shady areas. a particularly effective indicator of heat stress for active populations such as outdoor workers and athletes. Always check with local officials for appropriate actions and activity levels. Experienced heat stress will depend upon duration and intensity of activity and personal health and vulnerability.

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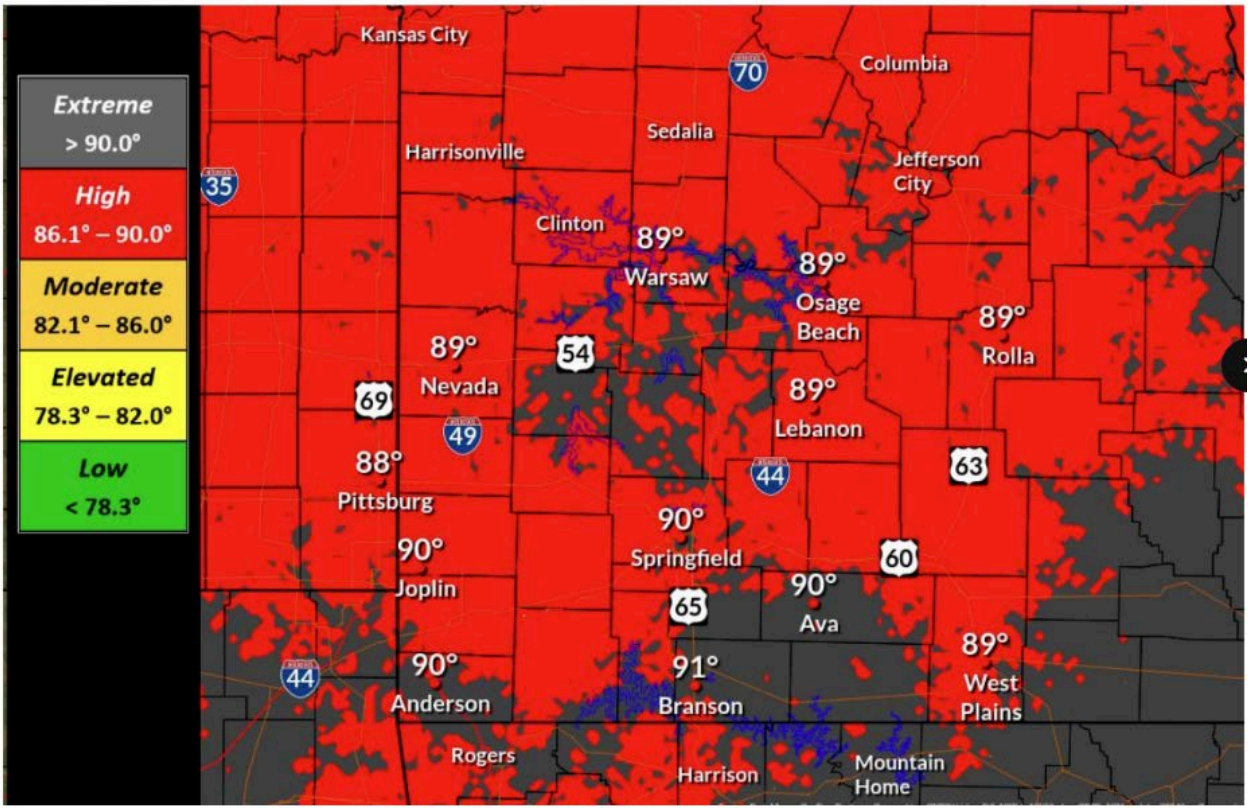

Wet Bulb Globe Temperature Forecast

NWS HeatRisk

The NWS HeatRisk is an experimental color-numeric-based index that provides a forecast risk of heat-related impacts to occur over a 24-hour period. HeatRisk takes into consideration:

- How unusual the heat is for the time of the year
- The duration of the heat including both daytime and nighttime temperatures
- If those temperatures pose an elevated risk of heat-related impacts based on data from the CDC

This index is supplementary to official NWS heat products and is meant to provide risk guidance for those decision makers and heat-sensitive populations who need to take actions at levels that may be below current NWS heat product levels.

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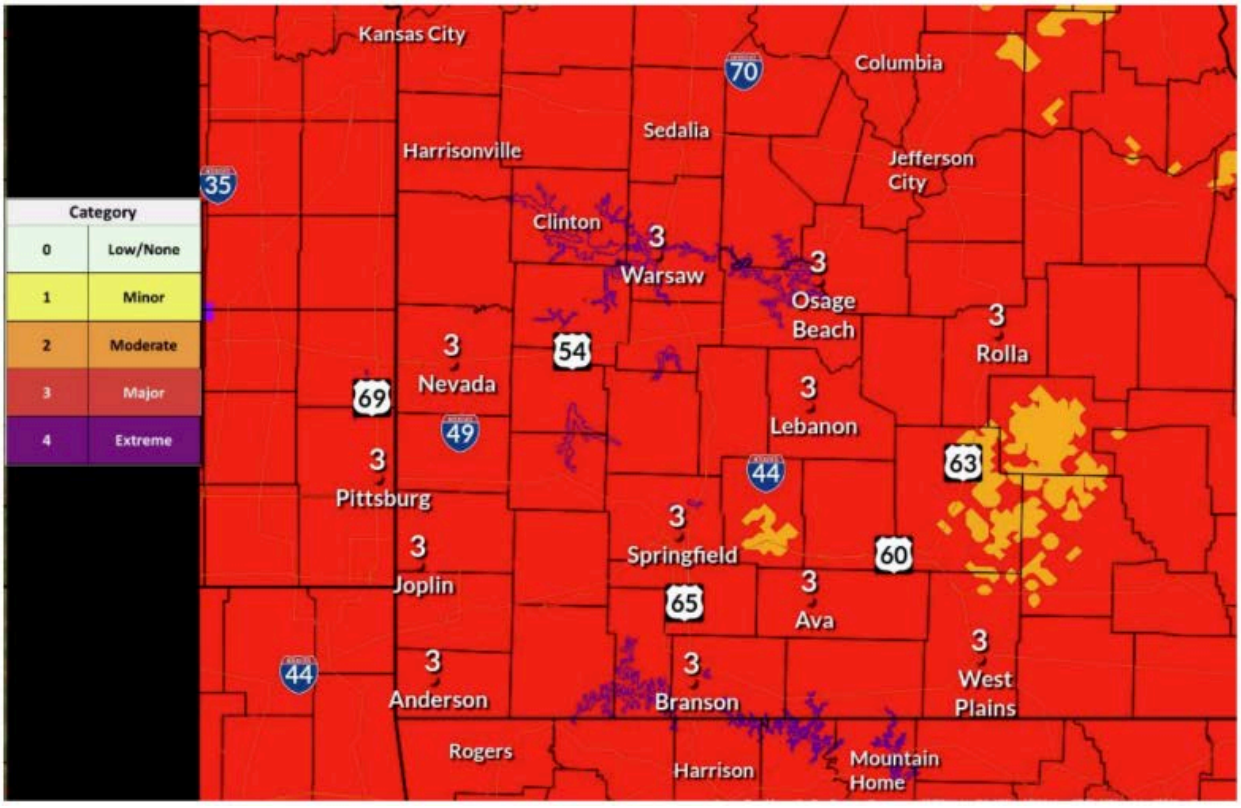
NWS HeatRisk		
Risk of Heat Effects		**Risk of Heat-Related Impacts**
0	Little to None	Little to no risk from expected heat.
1	Minor	Primarily affects individuals extremely sensitive to heat, especially when outdoors without effective cooling and/or adequate hydration.
2	Moderate	Affects most individuals sensitive to heat, especially when outdoors without effective cooling and/or adequate hydration. Impacts possible in some health systems and in heat-sensitive industries.
3	Major	Affects anyone without effective cooling and/or adequate hydration. Impacts likely in some health systems, heat-sensitive industries, and infrastructure.
4	Extreme	Rare and/or long duration extreme heat with little to no overnight relief. Affects anyone without effective cooling and/or adequate hydration. Impacts likely in most health systems, heat-sensitive industries, and infrastructure.

The NWS HeatRisk is an experimental color-numeric-based index that provides a forecast risk of heat-related impacts to occur over a 24-hour period. HeatRisk takes into consideration: How unusual the heat is for the time of the year. The duration of the heat including both daytime and nighttime temperatures. If those temperatures pose an elevated risk of heat-related impacts based on data from the CDC.



[NWS HeatRisk Forecast]

[Additional information on NWS Heat Tools]

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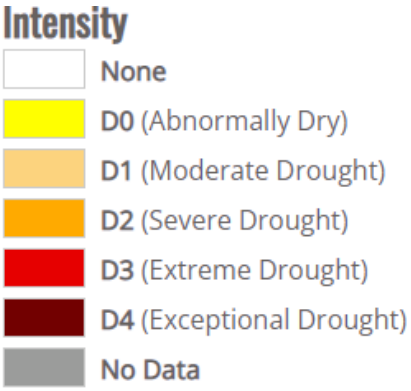
Drought



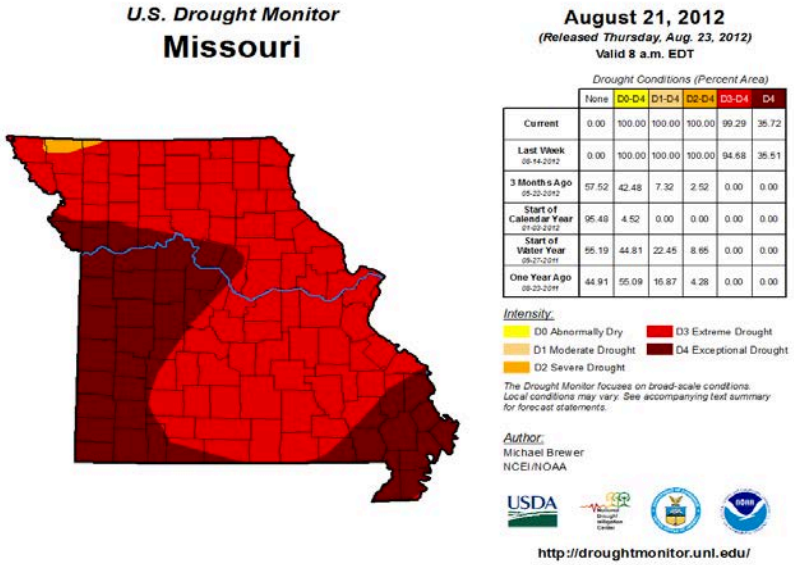
NWS Springfield issues Drought Information Statements when D2 drought or higher.
US Drought Monitor, August 21, 2012
Abnormally Dry (D0): Going into drought, short-term dryness slowing planting, growth of crops and pastures; fire risk above average. Coming out of drought, some lingering water deficits, pastures or crops not fully recovered.

Moderate Drought (D1): Some damage to crops, pastures, fire risk high; streams, reservoirs or wells low, some water shortage developing or imminent, voluntary water use restrictions requested.

Severe Drought (D2): Crop or pasture loss likely, fire risk very high, water shortages common, water restrictions imposed.

Extreme Drought (D3): Major crop/pasture losses, extreme fire danger, widespread water shortages or restrictions.

Exceptional Drought (D4): Exceptional and widespread crop and pasture losses, exceptional fire risk, shortages of water in reservoirs, streams and wells causing water emergencies.



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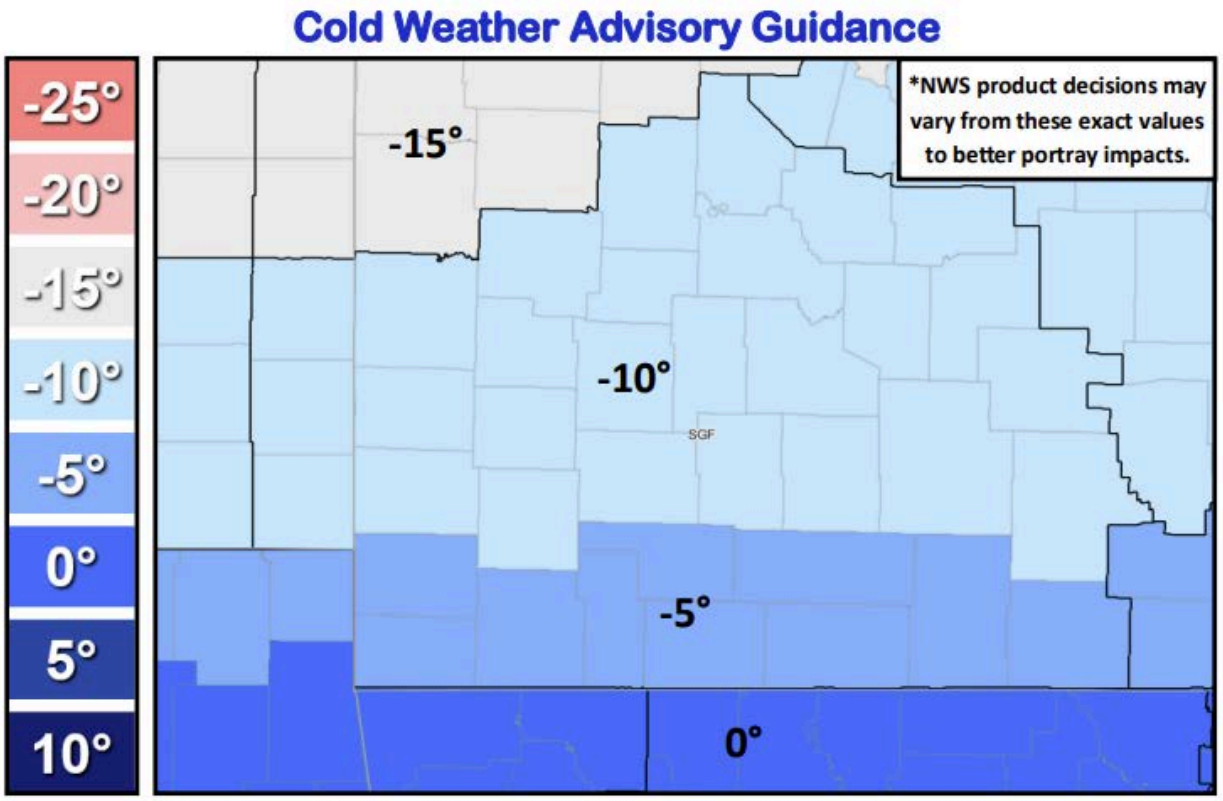
U.S. Drought Monitor

U.S. Monthly Drought Outlook

U.S. Seasonal Drought Outlook

Cold

Cold Products	
Extreme Cold Watch	Issued when dangerous wind chills or cold are expected within the next 24 to 48 hours.
Extreme Cold Warning	Wind chills expected of < -20° northern ⅔ of area and < -15° southern ⅓ of area.
Cold Weather Advisory	Wind chills expected of < -10° northern ⅔ of area and < -5° southern ⅓ of area.



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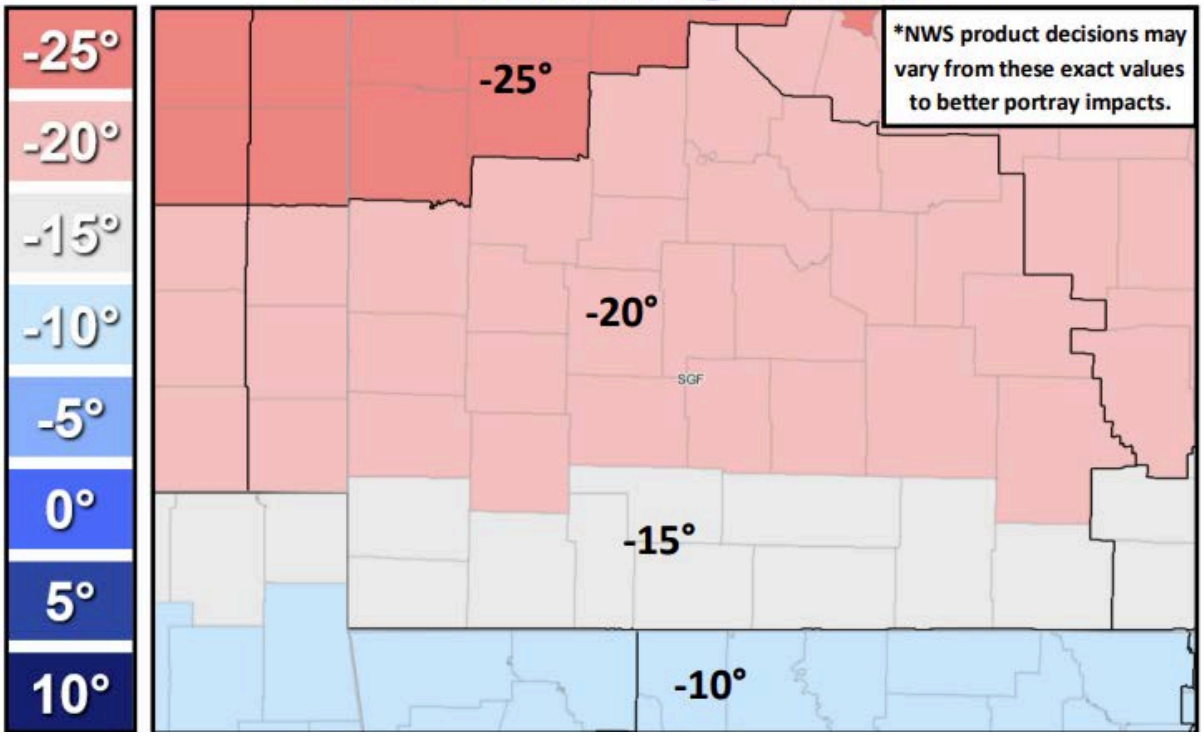
Extreme Cold Warning Guidance



Wind Chill Chart

Wind (mph)	Temperature (°F)																	
Calm	40	35	30	25	20	15	10	5	0	-5	-10	-15	-20	-25	-30	-35	-40	-45
5	36	31	25	19	13	7	1	-5	-11	-16	-22	-28	-34	-40	-46	-52	-57	-63
10	34	27	21	15	9	3	-4	-10	-16	-22	-28	-35	-41	-47	-53	-59	-66	-72
15	32	25	19	13	6	0	-7	-13	-19	-26	-32	-39	-45	-51	-58	-64	-71	-77
20	30	24	17	11	4	-2	-9	-15	-22	-29	-35	-42	-48	-55	-61	-68	-74	-81
25	29	23	16	9	3	-4	-11	-17	-24	-31	-37	-44	-51	-58	-64	-71	-78	-84
30	28	22	15	8	1	-5	-12	-19	-26	-33	-39	-46	-53	-60	-67	-73	-80	-87
35	28	21	14	7	0	-7	-14	-21	-27	-34	-41	-48	-55	-62	-69	-76	-82	-89
40	27	20	13	6	-1	-8	-15	-22	-29	-36	-43	-50	-57	-64	-71	-78	-84	-91
45	26	19	12	5	-2	-9	-16	-23	-30	-37	-44	-51	-58	-65	-72	-79	-86	-93
50	26	19	12	4	-3	-10	-17	-24	-31	-38	-45	-52	-60	-67	-74	-81	-88	-95
55	25	18	11	4	-3	-11	-18	-25	-32	-39	-46	-54	-61	-68	-75	-82	-89	-97
60	25	17	10	3	-4	-11	-19	-26	-33	-40	-48	-55	-62	-69	-76	-84	-91	-98

Frostbite Times: 30 minutes | 10 minutes | 5 minutes

$$\text{Wind Chill (°F)} = 35.74 + 0.6215T - 35.75(V^{0.16}) + 0.4275T(V^{0.16})$$

Where, T= Air Temperature (°F) V= Wind Speed (mph) *Effective 11/01/01*

[CPC Wind Chill Outlook Day 6 to 10]

[CPC Wind Chill Outlook Day 8 to 14]

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Frost and Freeze

Frost and Freeze products are issued once the growing season has begun in the Spring and also as it comes to end in the Fall.

Frost and Freeze Products	
Freeze Watch	Issued for significant or unexpected freeze events; conditions are favorable for a significant freeze event in the next 24 to 48 hours.
Freeze Warning	Issued when the minimum temperature is forecast to fall below 32° for ~ 3 hours or greater, or reach 28° or lower for any period resulting in a widespread freeze.
Frost Advisory	Issued when the minimum temperature is forecast to be 32° to 37° on nights with strong radiational cooling (calm winds, clear skies, surface dewpoints ≤ 32°, and surface air mass near or at saturation) resulting in widespread frost.

Fog

Fog Products	
Dense Fog Advisory	Issued for widespread fog with visibility reduced to ≤ ¼ mile, or locally dense fog if the forecaster believes the fog will have high impact such as causing numerous traffic accidents on main roads, etc. In the event of dense fog, if temperatures are below freezing and rime ice may form on surfaces as result of the fog, note the potential of freezing fog within the Dense Fog Advisory.
Freezing Fog Advisory	If the fog is not dense but temperatures are below freezing and rime ice may form on surfaces as result of the fog.

Wind

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Wind Products	
High Wind Watch	Issued when there is the possibility of sustained winds 40 or greater for duration of one hour or more or wind gusts to 58 mph for any duration.
High Wind Warning	Issued when sustained winds of 40 mph or greater for a duration of one hour or more or wind gusts of 58 mph or greater for any duration are imminent or expected within 18 hours.
Wind Advisory	Issued when sustained winds of 30 to 40 mph for a duration of an hour or more, or gusts of 45 mph or greater for any duration.

Routine Products

Area Forecast Discussion (AFD)

The Area Forecast Discussion (AFD) is a meteorological discussion about the weather across the region. The AFD explains the technical and scientific basis for the forecast to internal and external users of NWS forecast products.

The AFD is for those with an interest in the weather and desire to have a deeper understanding of the meteorological processes that go into forecasting.

Area Forecast Discussion (AFD)

Hazardous Weather Outlook (HWO)

The Hazardous Weather Outlook is issued at least twice daily in both text and graphical format. Updates are issued as needed to address changes in the severity, coverage, or timing of anticipated weather hazards. The text HWO provides an outlook to potential hazardous weather conditions. Detailed hazardous weather threats, areal coverage and timing are included for the first 24 hours. A more general discussion addresses possible threats beyond 24 hours. The purpose of the HWO is to provide emergency management, media and the general public with an outlook of potential weather hazards so that appropriate preparations can be taken.

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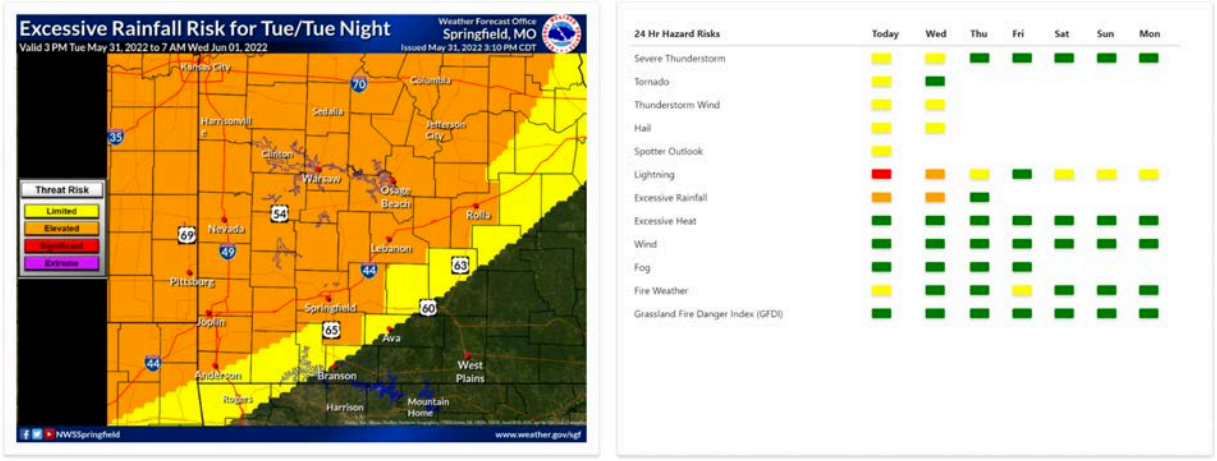
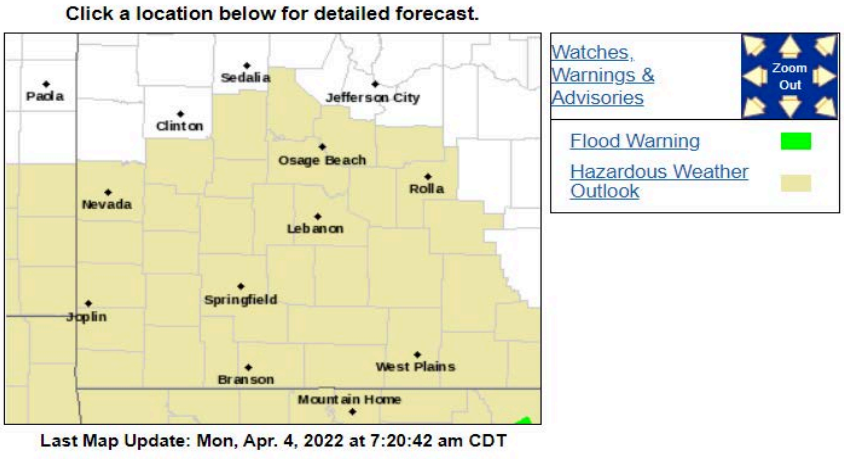


[Graphical Hazardous Weather Outlook (GHWO)]

Point Forecasts Matrices (PFM) and Area Forecast Matrices (AFM)

NWS Springfield will generate digital forecast grids that will be incorporated into the [National Digital Forecast Database (NDFD)]. The graphical forecast derived from the NDFD will allow users to determine the forecast for a particular weather element at a user defined time and location.



[Point and Click Forecast]
[PFM Product]
[AFM Product]

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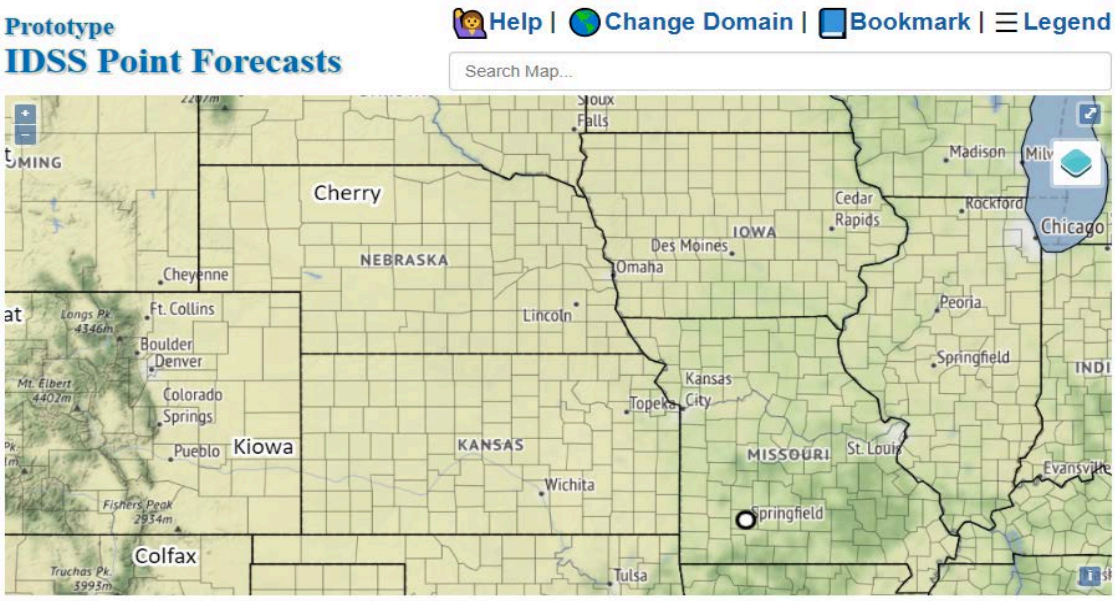
The point and click forecast option on the homepage of our website provides users with the option to click on a given point for forecast information. Additional Point Forecasts can be accessed on an interactive map of IDSS Point Forecasts.



IDSS Point Forecasts

Zone Forecasts (ZFP)

The Zone Forecast Product (ZFP) provides forecast weather conditions out to 7 days. In addition to general weather conditions, hazardous weather is also highlighted as needed.

Zone Forecast

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Climate

Local Climate Information

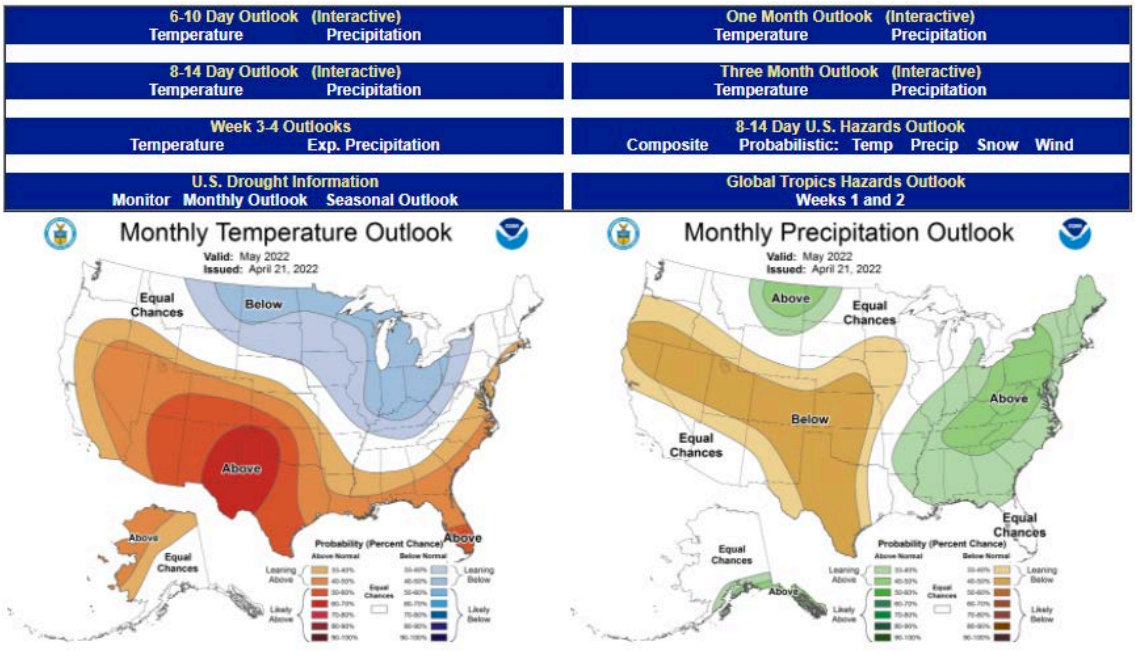
NWS Springfield Climatology Records and Normals

Additional NWS Springfield Climatology Information

NWS Springfield NCEI Storm Events Database

Climate Prediction Center (CPC) Products

The Climate Prediction Center (CPC) is responsible for issuing seasonal climate outlook maps for one to thirteen months in the future. In addition, the CPC issues extended range outlook maps for 6-10 and 8-14 days as well as several special outlooks, such as degree day, drought and soil moisture, and a forecast for daily ultraviolet (UV) radiation index.



Monthly to Seasonal Climate Outlooks

The CPC issues maps showing the probabilities of temperature, precipitation and sea surface temperatures (SSTs) deviation from normal for the next month and three month periods. These outlooks are issued from 2 weeks to 13 months in advance, for the lower 48 states and Hawaii and other Pacific Islands. In addition, seasonal climate outlooks

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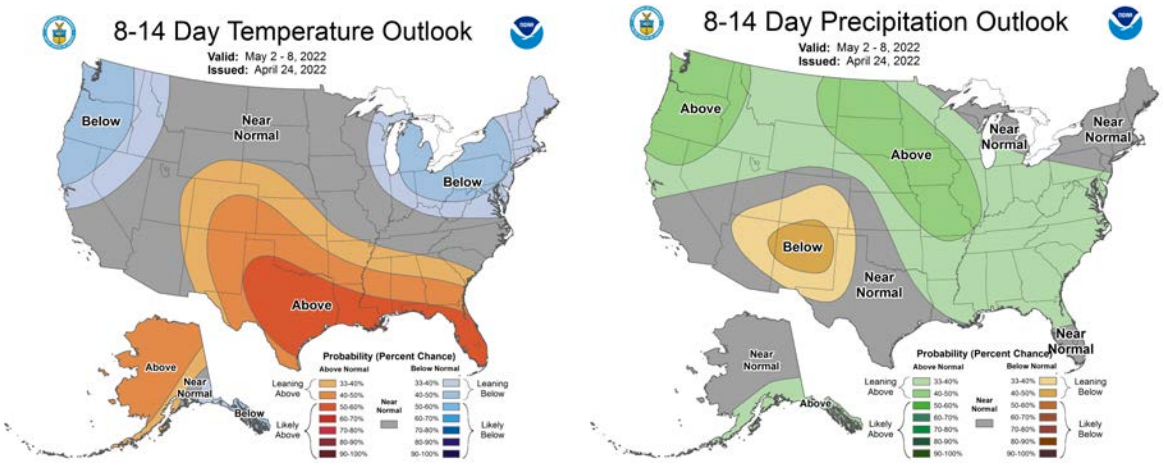
show average temperature (degrees Fahrenheit) and precipitation (inches) for the lower 48 states by climate regions.

Monthly Temperature and Precipitation Outlooks

Three-Month Temperature and Precipitation Outlooks

Extended Range Outlooks

The CPC issues 6-10 Day and 8-14 Day Outlook maps showing probabilities of temperature and precipitation departing from normal, with an accompanying technical discussion. Additionally, 3-4 Week Outlook is available.



Day 6 to 10 Temperature and Precipitation Outlook

Day 8 to 14 Temperature and Precipitation Outlook

3 to 4 Week Temperature and Precipitation Outlook

Additional products available include 3-7 Day and 8-14 Day U.S. Hazards Outlook. These graphics are probabilistic outlooks for temperature, precipitation, wind, and snow.

Day 3-7 U.S. Hazards Outlook

Day 8-14 U.S. Hazards Outlook

Week 2 Probabilistic Extremes Forecast Tool

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Climate Patterns

El Nino - Southern Oscillation (ENSO)

Madden/ Julian Oscillation (MJO)

Arctic Oscillation (AO)

North Atlantic Oscillation (NAO)

Pacific / North American Pattern

Antarctic Oscillation (AAO)

Blocking

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Observations

WSR-88D Radar

NWS Radar Webpage

NWS Radar Webpage - Low Resolution

Radar Operations Center NEXRAD WSR-88D

Upper-Air

The National Weather Service (NWS) Upper-air Observations Program is managed by the Office of Observations (OBS), which is part of NWS Headquarters located in Silver Spring, Maryland. Radiosondes provide upper-air data that are essential for weather forecasts and research. OBS staff are also involved in the development, testing and implementation of new radiosonde ground systems.
NWS Springfield deploys radiosondes twice a day for 12 UTC and 00 UTC. Additional special soundings are captured as needed for operational support and/or research.

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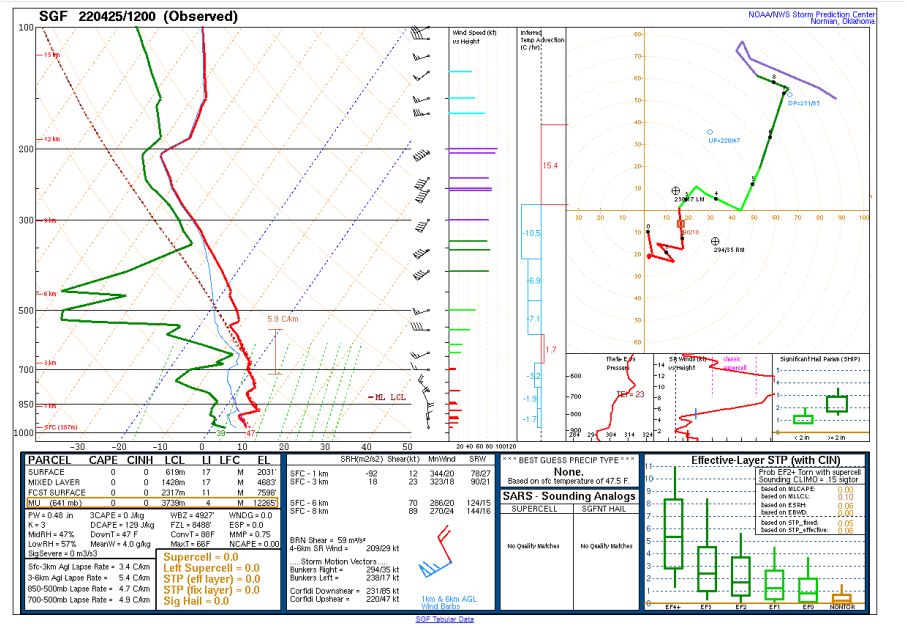

[Observed Soundings Archive]

[Additional Upper-Air Information]

Automated Surface Observing Systems (ASOS)

The Automated Surface Observing Systems (ASOS) program is a joint effort of the National Weather Service (NWS), the Federal Aviation Administration (FAA), and the Department of Defense (DOD). The ASOS system serves as the nation's primary surface weather observing network. ASOS is designed to support weather forecast activities and aviation operations and, at the same time, support the needs of the meteorological, hydrological, and climatological research communities.

Reports basic weather elements:

- Sky condition:cloud height and amount (clear, scattered, broken, overcast) up to 12,000 feet.
- Visibility (to at least 10 statute miles).
- Basic present weather information: type and intensity for rain, snow, and freezing rain.
- Obstructions to vision: fog, haze.
- Pressure: sea-level pressure, altimeter setting.
- Ambient temperature, dew point temperature.
- Wind: direction, speed and character (gusts, squalls).

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- Precipitation accumulation.
- Selected significant remarks including- variable cloud height, variable visibility, precipitation beginning/ending times, rapid pressure changes, pressure change tendency, wind shift, peak wind.

Additional ASOS Information

Cooperative Observer Program (COOP)

The National Weather Service (NWS) Cooperative Observer Program (Coop) is truly the Nation's weather and climate observing network of, by and for the people. More than 8,700 volunteers take observations on farms, in urban and suburban areas, National Parks, seashores, and mountaintops. The data are truly representative of where people live, work and play.

Observers generally record temperature and precipitation daily and electronically send those reports daily to the NWS and the National Climatic Data Center (NCDC). Many cooperative observers provide additional hydrological or meteorological data, such as evaporation or soil temperatures. Data is transmitted via telephone, computer or, in special cases, by mail. Equipment used at NWS cooperative stations may be owned by the NWS, the observer, or by a company or other government agency, as long as it meets NWS equipment standards.

Additional COOP Information

Community Collaborative Rain, Hail, and Snow Network (CoCoRaHS)

CoCoRaHS is a unique, non-profit, community-based network of volunteers of all ages and backgrounds working together to measure and map precipitation (rain, hail and snow). By using low-cost measurement tools, stressing training and education, and utilizing an interactive Web-site, our aim is to provide the highest quality data for natural resource, education and research application

About CoCoRaHS Program

Miscellaneous Products and Services

Non-Weather Emergency Messages

In addition to releasing hazardous weather warnings into the Emergency Alert System (EAS), the NWS may also disseminate non-weather emergency messages (NWEM) on behalf of the emergency management community. NWEMs may be manually released as a Civil Emergency Message (CEM) by the NWS or as a NWEM through the Integrated Public Alert and Warning System (IPAWS) if submitted by the emergency management partner directly.

If a CEM is requested, the partner will be asked to provide their name, phone number, and the exact message to be released. The NWS will vet the event before releasing the CEM via NWR into the EAS system.

In the event of an NWEM, the public safety agency initiates the alert and has the option of disseminating it through NWR, EAS or as a Wireless Emergency Alert (WEA). Additional information on IPAWS and NWEMs.

WSR-88D Outage Notification

These messages inform users of NWS Springfield Doppler radar data about scheduled maintenance and unscheduled outages.

Public Information Statement

A narrative statement issued by a National Weather Service Forecast Office that can be used for:

1) A current or expected non-hazardous event of general interest to the public that can usually be covered with a single message (e.g., unusual atmospheric phenomena such as sun dogs, halos, rainbows, aurora borealis, lenticular clouds, and stories about a long-term dry/cold/wet/warm spell).

2) Public educational information and activities, such as storm safety rules, awareness activities, storm drills, etc.

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3) Information regarding service changes, service limitations, interruptions due to reduced or lost power or equipment outages, or special information clarifying interpretation of NWS data. For example, this product may be used to inform users of radar equipment outages or special information clarifying interpretation of radar data originating from an unusual source which may be mistaken for precipitation (such as chaff drops, smoke plumes, etc., that produces echoes on the radar display.

NWS Springfield PNS

Service Assessments

NWS conducts Service Assessments to evaluate its performance after significant hydrometeorological, oceanographic, or geological events. Assessments may be initiated when one or more of the following criteria are met:

- Major economic impact on a large area or population
- Multiple fatalities or numerous serious injuries
- Extensive national public interest or media coverage
- Unusual level of attention to NWS performance

Assessment teams, composed of experts from within and outside the NWS, evaluate activities before, during, and after events to determine the usefulness of NWS products and services.The team generates a report, which serves as an evaluative tool to identify and share best practices in operations and procedures, and identify and address service deficiencies. The goal of the activity is for the NWS to continuously improve its services to the nation.

NWS Service Assessments

NWS Glossary

The NWS Glossary contains information on more than 2000 terms, phrases and abbreviations used by the NWS. Many of these terms and abbreviations are used by NWS forecasters to communicate between each other and have been in use for many years and before many NWS products were directly available to the public. It is the purpose of this glossary to aid the general public in better understanding NWS products.

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Building a Weather-Ready Nation

StormReady

StormReady communities, counties, Indian nations, universities and colleges, military bases, government sites, commercial enterprises and other groups are better prepared to save lives from the onslaught of severe weather through advanced planning, education and awareness. No community is storm proof, but StormReady can help communities save lives.

StormReady uses a grassroots approach to help communities develop plans to handle all types of extreme weather—from tornadoes to winter storms. The program encourages communities to take a new, proactive approach to improving local hazardous weather operations by providing emergency managers with clear-cut guidelines on how to improve their hazardous weather operations. Applying is easy. To be officially StormReady, a community must:

1. Establish a 24-hour warning point and emergency operations center
2. Have more than one way to receive severe weather warnings and forecasts and to alert the public
3. Create a system that monitors weather conditions locally
4. Promote the importance of public readiness through community seminars
5. Develop a formal hazardous weather plan, which includes training severe weather spotters and holding emergency exercises.

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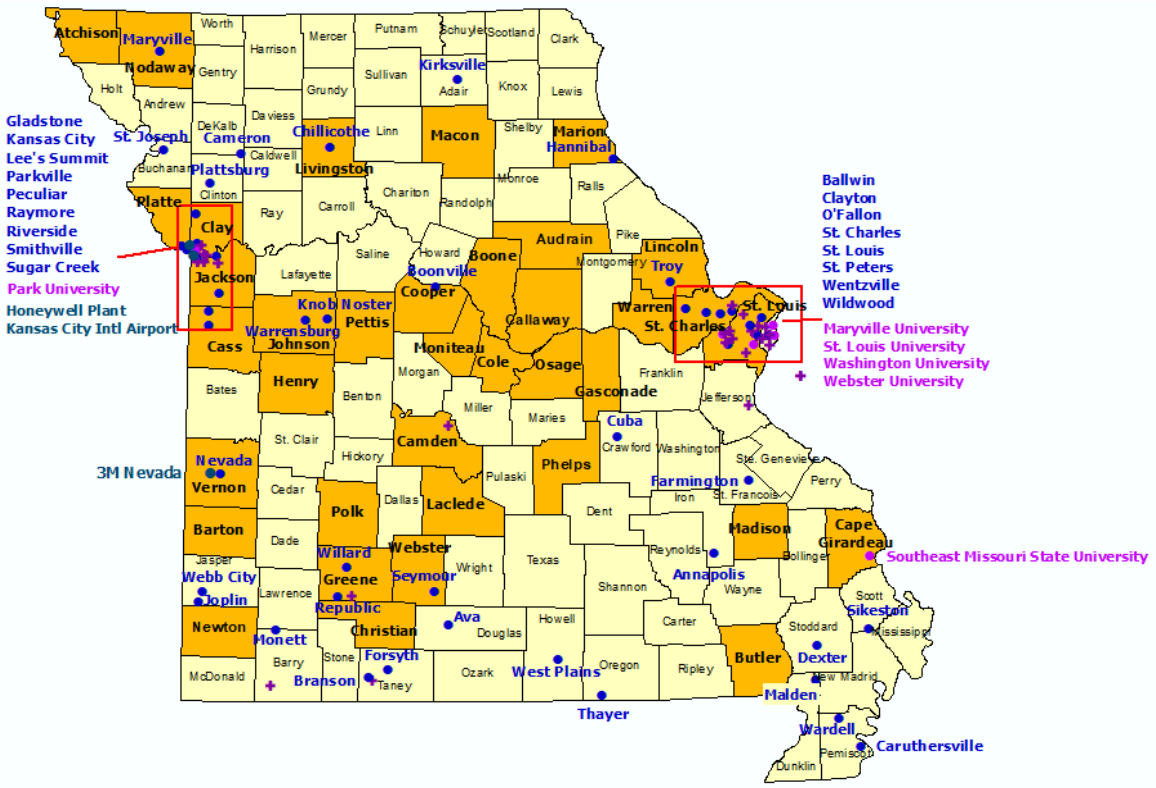

[How to Become StormReady](#)

[Why Become StormReady?](#)

[Additional StormReady Information](#)

Weather-Ready Nation Ambassadors

The Weather-Ready Nation Ambassador™ initiative is the National Oceanic and Atmospheric Administration's (NOAA) effort to formally recognize NOAA partners who are improving the nation's readiness, responsiveness, and overall resilience against extreme weather, water, and climate events. As a WRN Ambassador, partners commit to working with NOAA and other Ambassadors to strengthen national resilience against extreme weather. In effect, the WRN Ambassador initiative helps unify the efforts across government, non-profits, academia, and private industry toward making the nation more ready, responsive, and resilient against extreme environmental hazards. Weather-Ready

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Nation (WRN) is a strategic outcome where society's response should be equal to the risk from all extreme weather, water, and climate hazards.

The WRN Ambassador initiative is a: WRN Ambassadors serve a pivotal role in affecting societal change — helping to build a nation that is ready, responsive, and resilient to the impacts of extreme weather and water events. To be officially recognized as a WRN Ambassador, an organization must commit to:

- Promoting Weather-Ready Nation messages and themes to their stakeholders;
- Engaging with NOAA personnel on potential collaboration opportunities;
- Sharing their success stories of preparedness and resiliency;
- Serving as an example by educating employees on workplace preparedness

Apply to Become Weather-Ready Nation Ambassador

Additional Weather-Ready Nation Ambassador Information

Integrated Warning Team (IWT)

Vision: Unified effort to effectively serve our core partners and public to the best of our abilities when hazardous weather approaches.

Mission:

➔ Build Relationships and Share Information Among Key Players
➔ Identify Challenges and Solutions to Improving Weather Communications
➔ Integrate Social Science Concepts

Team Structure:
The Ozarks Integrated Warning Team participants will be comprised of partner agencies and community stakeholders committed to working together toward a Weather Ready Nation.Partner agencies and stakeholders include but not limited to EM's Media, DOT, Utilities, State & National Parks, Corp of Engineers, Public Safety, Health, Schools, Venue mgrs, Recreation and the NWS.

General Activities:

The IWT Steering Committee will meet periodically to plan IWT's, review findings and move projects and initiatives forward. Ozarks IWT workshops will be conducted periodically on a semi-annual or annual basis to bring the spectrum of key agencies and stakeholders together. IWT's will be held in strategic regional locations within the NWS Springfield county warning area to best address issues and ensure the engagement of all stakeholders representing differing challenges. Multiple IWT's at differing locations may be conducted in a single year.

After Action Reviews will be conducted on a seasonal basis and/or following major events. The goals of After Action Reviews include evaluating challenges and best practices following specific events and identifying needed initiatives.

Want to become involved?
Contact Steve Runnels or Mark Burchfield at NWS Springfield.

SKYWARN

In most years, thunderstorms, tornadoes and lightning cause hundreds of injuries and deaths and billions in property and crop damages. To obtain critical weather information, the National Weather Service (NWS) established SKYWARN® with partner organizations. SKYWARN® is a volunteer program with between 350,000 and 400,000 trained severe weather spotters. These volunteers help keep their local communities safe by providing timely and accurate reports of severe weather to the National Weather Service.

Who is eligible and how do I get started?

NWS encourages anyone with an interest in public service to join the SKYWARN® program. Volunteers include police and fire personnel, dispatchers, EMS workers, public utility workers and other concerned private citizens. Individuals affiliated with hospitals, schools, churches and nursing homes or who have a responsibility for protecting others are encouraged to become a spotter. Ready to learn more? Find a class in your area. Training is free and typically lasts about 2 hours. You'll learn:

- Basics of thunderstorm development

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- Fundamentals of storm structure
- Identifying potential severe weather features
- Information to report
- How to report information
- Basic severe weather safety

[NWS Springfield SKYWARN Spotter Webpage]

[Online SKYWARN Spotter Training]

Storm Reporting

WHO are you? WHAT occurred? WHEN was it? WHERE was it?
Use proper terms. How confident are you? Location should be address/ lat-lon /intersection (Can be estimated miles from city) Follow up, if necessary.

Tornadoes

- **Distance & direction** from your location
- **Movement** (tornado direction & speed)
- **Impacts:** Damage, injuries, or deaths
- **Tornado Behavior:** Growing larger? Roping out?

Wall Clouds & Funnel Clouds

- **Wall cloud:** Rotating? Persistent?
- **Funnel Cloud:** How far to the ground
- **Visible rotation** with the funnel?
- **Dust or debris** below the funnel? (if so, you have a tornado!)

Hail

- **Diameter** of the ***largest*** hailstone (estimated or measured)
- DO NOT report marble-sized hail!! Marbles vary widely in size
- **Damage** to windows, cars, crops, etc.

Hail Size	Inches
Pea	1/4
Dime	1/2
Penny	3/4
Nickel	7/8
Quarter	1
Half Dollar	1 1/4
Ping Pong Ball	1 1/2
Golf Ball	1 3/4
Hen Egg	2
Tennis Ball	2 1/2
Baseball	2 3/4
Softball	4
Grapefruit	4 1/2

Damaging Winds

- **Wind speed** (estimated or measured)
- **Damage** to trees, power lines, and structures
- **Trees:** Diameter of limbs snapped off and health of tree (old or rotten?)

Speed (mph)	Designation	Description
<1	Calm	Smoke rises vertically
1-3	Light air	Smoke drift indicates wind direction
4-7	Light breeze	Weather vane moves, leaves rustle
8-12	Light breeze	Leaves and twigs in constant motion
13-18	Mod breeze	Dust raised, small branches move
19-24	Fresh breeze	Small trees sway
25-31	Strong breeze	Large branches move
32-38	Moderate gale	Whole trees move, walking affected
39-46	Fresh gale	Twigs break off trees, walking difficult
47-54	Strong gale	Minor structural damage
55-63	Whole gale	Large tree branches break
64-74	Storm	Widespread damage

Flash Flooding & Heavy Rain

- **Flood Impacts:** Roads, houses, etc.
- **Depth** of the water (estimated--use references such as cars or buildings)
- Is the water moving swiftly or slowly?
- **Damage:** Roads washed out, etc.
- **Rainfall amounts** & how quickly it fell

Snow & Ice

- **Amount:** (measured or estimated) Take multiple measurements and average them if possible.
- **Damage or impacts** such as downed power lines, snapped tree limbs, cars off the road, etc.

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Training

NWS Springfield offers a variety of training courses including Tactical Storm Spotter Training and other special topic training courses. Contact the WCM or office for more information.

NWS Springfield Training Courses

Outreach

NWS Springfield participates in various outreach events each year across the area. Some of the outreach events we have participated in include Battlefield Mall Severe Weather Expo and Safe and Sound.

Office Tours

We offer office tours as an opportunity to showcase NWS services, provide education, and give the public an opportunity to visit their local NWS office. Do you have a group interested in an office tour? If so, please see the guidelines below:

Tour guidelines:

Tours are typically conducted Monday - Friday, 10:00 am - 5:00 pm. Tour groups who are larger than 20 will need to separate into smaller groups.

If you are interested in scheduling a tour, please email us at contact.sgf@noaa.gov. Please provide the following information in a tour request:

- Contact name/phone number/e-mail address
- Group name and address
- Number and age of those who plan to attend
- Special needs or specific topics your group is interested in

Things to Note:

Tours may be canceled with little or no notice due to severe weather, or other issues.

Everyone on the tour will be required to sign in. There are no fees for office tours.

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Safety and Preparedness

Seasonal Safety Campaigns

NWS Safety Tips

Education

As NOAA's National Weather Service (NWS) continues to work towards building a Weather-Ready Nation, the NWS Outreach program is continually working on creating new ways to reach our youth. It has been shown that youth retain information about weather hazards, the science behind the hazards, and weather safety information more than adults. Most importantly, our youth take action and bring their newly acquired knowledge and weather science and safety into their homes; they educate their families, take action, and ultimately, keep their families safe!

The goal of Owlie's Weather-Ready Educational Activity is to ensure more families, schools, community groups, and youth organizations become Weather-Ready. Those who complete the activity will learn about various weather hazards, the science behind the hazard, how to be safe during a weather event, and most importantly, how to keep their families and friends safe.

NWS Education Resources

NWS and Partners Publications and Brochures

NWS Springfield Weather Unlocked Video Series

Careers

The NWS employs over 4,000 people serving in a variety of careers, including scientific, technical, and administrative positions in offices across the country.

Careers in the NWS

Student Opportunities in the NWS

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