



NATIONAL WEATHER SERVICE

DECISION SUPPORT NEWSLETTER

SPRING — SUMMER 2013

SPRINGFIELD, MO

www.weather.gov/

SUMMERTIME DECISION SUPPORT

The National Weather Service (NWS) provides weather, hydrologic, and climate forecasts and warnings for the United States, its territories, adjacent waters and ocean areas, for the protection of life and property and the enhancement of the national economy.

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It's that time of year again, temperatures have warmed up and the number of outdoor activities and events are increasing. Summer brings a number of challenges weather-wise across eastern Kansas and the Missouri Ozarks. Whether it's a baseball coach needing heat index information, boaters on Table Rock lake concerned with lightning, or an Emergency Manager planning an event, accurate and timely weather information is invaluable.

This newsletter will highlight some of the tools, services, and products available from the National Weather Service in Springfield to help your decision making.

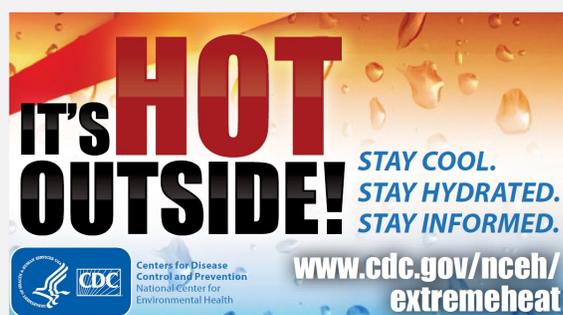
SUMMER WEATHER SAFETY DAY

Join us in promoting **Summer Weather Awareness Day May 24, 2013** Weather hazards from extreme heat to thunderstorms and lightning can affect those in Summer outdoor activities. Please help spread the word about Lightning, Excessive Heat, Thunderstorms, Fire Weather and Flash Flooding so we can have a safe and wonderful Summer 2013.

Just some quick facts, did you know?

- In Missouri, there have been 97 deaths attributed to lightning from 1959 - 2012, an average of 2 deaths per year. This is right behind the average of 4 deaths per year caused by tornadoes.
- Since 1980 there have been 996 fatalities related to excessive heat in Missouri.

The following pages will present information on how to prepare your community for the many challenges summer weather poses.



FOR MORE INFORMATION VISIT:

http://www.crh.noaa.gov/sgf/?n=summer_safety

When Thunder Roars, Go Indoors!

STOP all activities.

Seek shelter in a substantial building or hard-topped vehicle.

Wait 30 minutes after storm to resume activities.



www.lightningsafety.noaa.gov





EXCESSIVE HEAT

The summer months across the Midwest are notorious for being excessively hot and humid, with our neck of the woods being no exception. With average highs in July and August above 90 degrees, and records well above 100 degrees, summertime heat is not only uncomfortable, but at times, dangerous. The best measure of how dangerous a day's heat will be is the expected heat index, a calculation that takes into effect the cumulative effects of both temperature and moisture at the surface.

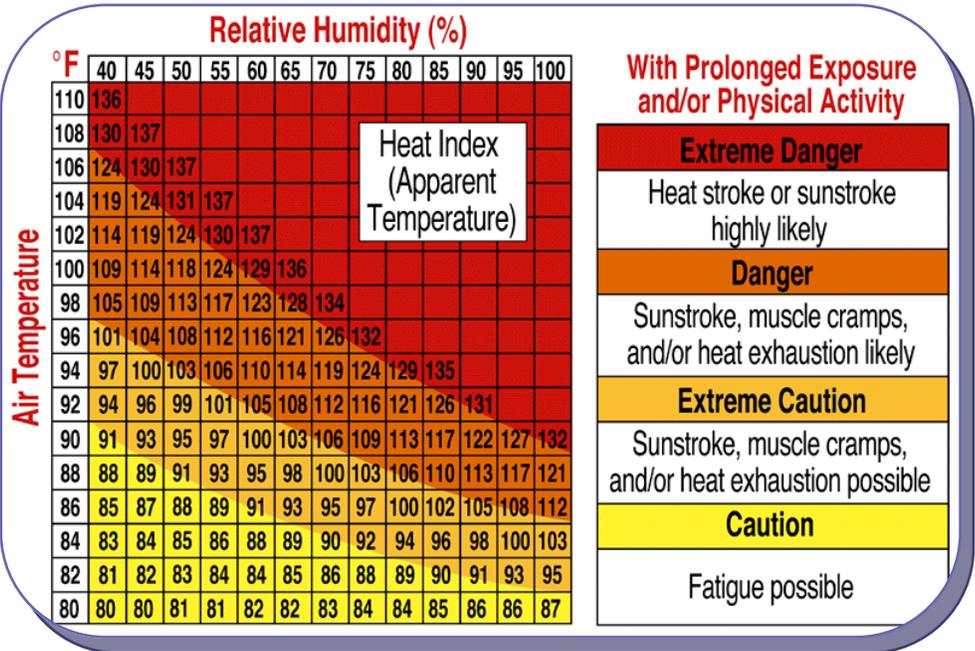
As the temperature and dewpoint rise this summer, the National Weather Service in Springfield will begin to highlight excessive heat in the Hazardous Weather Outlook as heat indices near the 100 degree mark. If heat indices are expected to reach 105 degrees or higher, then Heat Advisories and Excessive Heat Warnings will be issued.

Heat Advisory

Heat Index of 105-109 degrees

Excessive Heat Warning

Heat index of 110°+, or 105°+ for 4 or more days



HEAT FORECAST TOOLS

IT'S HOT OUTSIDE!
STAY COOL. STAY HYDRATED. STAY INFORMED.

Extremely hot weather can cause sickness or even death.

STAY COOL.
Stay in air-conditioned buildings as much as possible and avoid direct sunlight.

STAY HYDRATED.
Drink plenty of water and don't wait until you're thirsty to drink.

STAY INFORMED.
Stay updated on local weather forecasts so you can plan activities safely when it's hot outside.

KNOW WHEN IT'S HOT!
Check local news for extreme heat alerts and safety tips.

Weather Planner

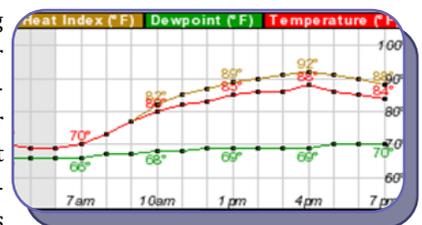
This interactive forecast display allows users to produce forecasts for general planning purposes based on user defined parameters. This tool can be very helpful to anyone who needs to plan activities within certain weather thresholds such as a football coach who needs to schedule practice when heat indices are less than a certain value. Forecasts can be created for any location, and can be accessed through the following link:

<http://forecast.weather.gov/wxplanner.php?site=sgf>

Interactive Forecast Map & Graphs

Hourly Weather Graphs and tables are available using the interactive forecast map. Graphs are available for any location, and will display all available forecast elements in the NWS forecast database on an hour by hour basis. This tool can be extremely beneficial to just about any user group, especially those than need weather information on an hour-by-hour basis. These forecasts can be accessed by visiting the following link:

<http://forecast.weather.gov/gridpoint.php?site=sgf>





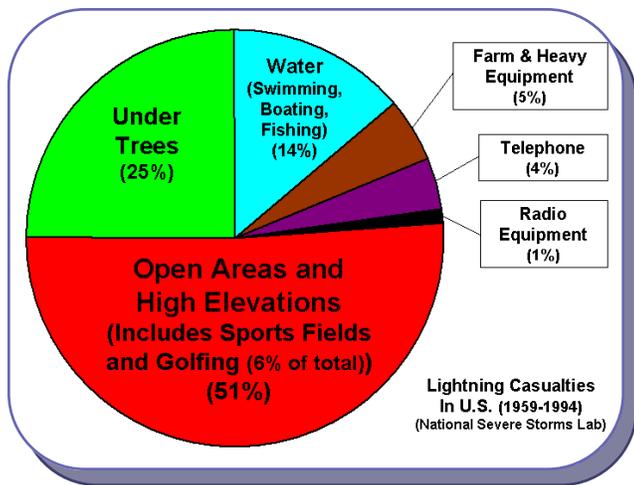
LIGHTNING AWARENESS

At any given moment, there are 1,800 thunderstorms in progress somewhere on Earth. This amounts to 16 million storms a year! In the United States, there are an estimated 25 million cloud-to-ground lightning flashes each year. While lightning can be fascinating to watch, it is also extremely dangerous. Remember, when Thunder Roars, Go Indoors!



For abundant and valuable information on lightning safety tips, ideas,, statistics, etc., go to:

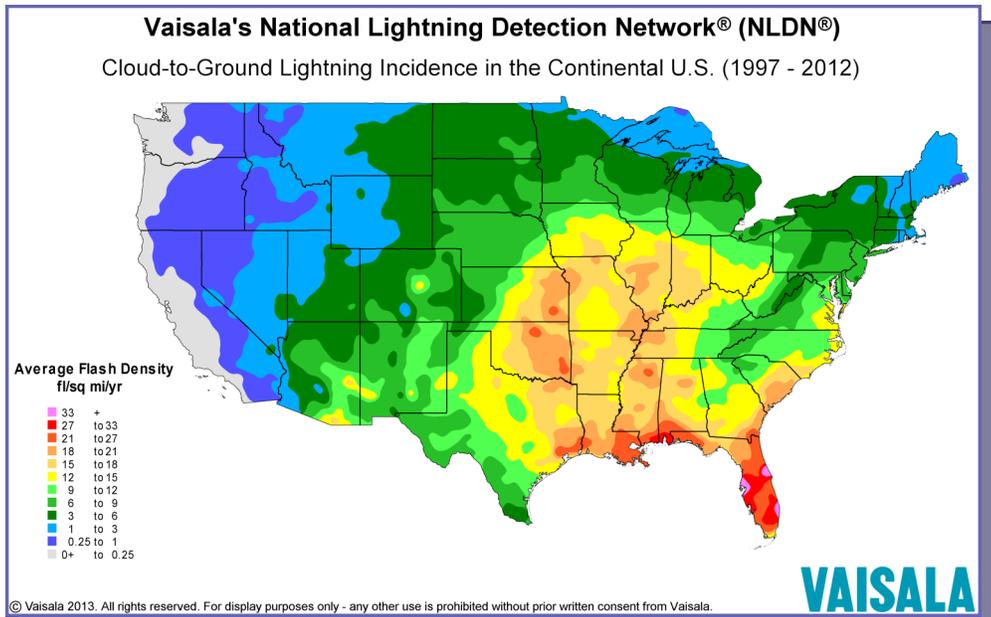
www.lightningsafety.noaa.gov



There have been **97 deaths** attributed to lightning **from 1959 - 2012** in Missouri, an average of 2 deaths per year. This is right behind the average of 4 deaths per year caused by tornadoes. For Kansas there have been 65 deaths from 1959-2011 an average of ~1 death a year.

73% of all lightning fatalities occur in the summer months (Jun: 21%, Jul: 30%, Aug: 22%). Another startling fact is that **84% of all victims are Male**, leaving 16% female.

FLASH DENSITY MAP



From the graphic to the right there were nearly 12 to 18 strikes per square mile per year between 1997 and 2012 along the Ozark Plateau.



THUNDERSTORM HAZARDS

NWS WARNING AND ADVISORY PRODUCTS AND HAZARD MONITORING

Thunderstorms are common during the summer months, bringing a variety of weather hazards including lightning, flooding rains, hail, and damaging winds. Because of summer time outdoor and recreational activities, more people are vulnerable to thunderstorm hazards. The abundance of recreational opportunity on area lakes and rivers heightens this risk.

Below are several resources available to monitor hazardous weather, as well as information on several short-term products issued by the National Weather Service in Springfield to highlight hazardous thunderstorms.

Enhanced Hazardous Weather Outlook

The **Experimental Enhanced Hazardous Weather Outlook** is an experimental product that will be posted to this page for evaluation. We encourage your comments or suggestions for improvements using the [Feedback](#) provided. Your feedback will help us determine product utility, if modifications are needed, and whether the product should become part of our operational suite.

The **Experimental Enhanced Hazardous Weather Outlook** is a decision support service that supports preparedness and response efforts prior to and during hazardous weather. This service provides decision makers with convenient access to potential weather hazard information by graphically depicting the risk of weather hazards out through seven days.

Product Suite Last Updated: Tuesday Jun 19, 2012 03:20:50 PM

Video Briefings | Briefing Pages | Radar / Satellite | HWO Text | About EHWO | Navigate EHWO

Hail Risk This Afternoon/Tonight

Risk Level - Legend

None	Limited	Elevated	Significant	Extreme

Note: To display hazard maps, click on any of the risk level indicators below.

Risk	Level	Risk	Level
Tornado		Fog	
Hail		Non-Thunderstorm Winds	
Thunderstorm Wind Gusts		Excessive Heat	
Flooding		Snow and Sleet	
Lightning		Ice Accumulation	
Spotter Outlook		Frost and Freeze	
Fire Weather		Excessive Cold	

Wednesday June 20 to Monday June 25

Risk	Wed Jun 20	Thu Jun 21	Fri Jun 22	Sat Jun 23	Sun Jun 24	Mon Jun 25
Risk						

<http://www.crh.noaa.gov/sgf/?n=hwo>

Text Products

Short Term Forecast

Issued on a 1-2 hour basis to relay the location, intensity, and movement of thunderstorms.

<http://www.crh.noaa.gov/product.php?site=sgf&product=NOW&issuedby=sgf>

Significant Weather Alerts

Issued for strong thunderstorms approaching severe limits with winds up to 50 mph and hail up to the size of nickels.

<http://www.crh.noaa.gov/product.php?site=sgf&product=SPS&issuedby=sgf>

NWS Interactive Radar Page

National Mosaic - NAT Select New Radar Permalink

Radar Type: mosaic

Product Displayed: High Resolution Base Reflectivity - N00 Change Radar Product

Thursday, May 16, 2013 9:25:00 AM

Experimental

Enter Your "City, ST" or zip code Find

Refreshes in: 187 sec. Refresh Now

Radar Overlay Opacity: 0% 25% 50% 75% 100%

Watch/Warning/Advisory Overlay Opacity: 0% 25% 50% 75% 100%

Loop: Off On

Loop Speed: Slow Medium Fast

Toggle Map Size

NPC: Day 1 QPF Day 2 QPF Day 3 QPF

SPC: Today's Severe Local Storm Reports (LSR) Yesterday's Severe LSRs Day 1 Outlook Day 2 Outlook Day 3 Outlook

<http://www.srh.noaa.gov/ridge2/>

Severe Thunderstorm Warnings

Issued for thunderstorms producing

- Damaging winds of 58 mph (50 kts) or greater And / or
- Large hail of 1" in diameter or larger

<http://www.crh.noaa.gov/product.php?>

Tornado Warnings

Issued When

- A thunderstorm is Capable and Radar indicates a tornado has formed.
- A confirmed tornado has developed.

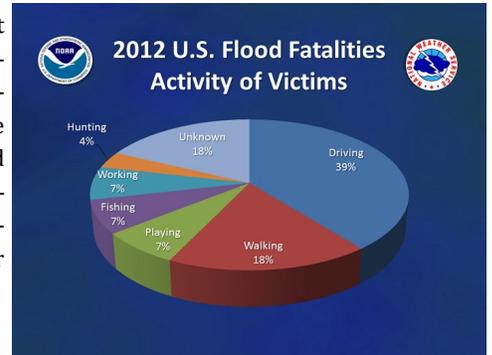
<http://www.crh.noaa.gov/product.php?>



FLASH FLOODING



Flash Flooding year after year remains one of the single deadliest weather hazards in the Ozarks. The combination of our geographic position for heavy rain events, complex and steep terrain, rocky soil, and hundreds of low water crossings leads to the potential of deadly flood and flash flood events. Drivers should always remember to “Turn Around, Don’t Drown” if they encounter a flooded roadway—don’t become a statistic! Also, rapidly rising water in dry creek and stream beds can be deadly for anyone camping nearby.



FLASH FLOOD AND FLOOD WARNINGS

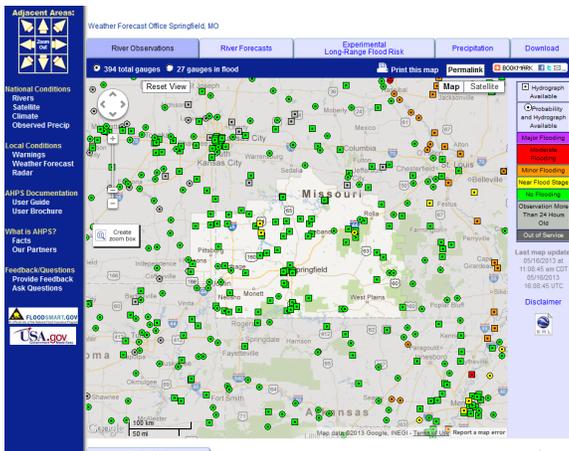
Flash Flood Warning

Issued when flooding is imminent or occurring, and a rapid rise of water is expected. This is usually within 1-3 hours of when it started raining. If a flash flood warning is issued for your area, be alert for rapidly rising waters. If you are driving, be aware of low water

Areal Flood Warning

Issued for instances where flooding is expected or occurring, but the rise of water is relatively slow, generally 3-6 hours after it has started raining. Areal Flood Warnings may also be issued when flooding is continuing after a Flash Flood Warning expires.

FLOOD MONITORING RESOURCES



Advanced Hydrologic Prediction System (AHPS)

The NWS Advanced Hydrologic Prediction System (AHPS) provides current and forecast gage readings for many locations along area streams and rivers.

<http://water.weather.gov/ahps2/index.php?wfo=sgf>

Flash Flood Risk Analysis

To better understand the flood risk for a given basin, stream or low water crossing, NWS Springfield in coordination with emergency management and DOT has been plotting locations that observe flooding including low water crossings. Analyzing the frequency and characteristics of flooding at a given point can enhance future flash flood warnings. To view basin flood risk and low water locations go to:

http://www.crh.noaa.gov/sgf/?n=ffrap_lwc





NEW DECISION SUPPORT BRIEFING PAGES

NWS Springfield has updated packaged briefing pages that incorporate more options based on event type and geospatial interfaces. The intent of these decision support pages is to provide a one stop shop for an overview of current and expected weather hazards. The Decision Support Briefing Page suite consist of individual sections including 1) Severe, 2) Flooding, 3) Winter, 4) Fire, and 5) Other which encompasses non-precipitation hazard information. Within each section you are provided a tabbed menu consisting of warnings, radar, storm reports, weather analysis, etc.

<http://www.crh.noaa.gov/sgf/?n=dss1>

The screenshot displays the 'Decision Support Services' web interface for WFO Springfield, MO. At the top, there are navigation tabs for 'Severe', 'Flooding', 'Winter', 'Fire', and 'Other'. Below these are buttons for 'Warnings', 'Reports', and 'Situation Report', along with a 'Web Briefing' button. A central map shows radar data over Missouri and surrounding areas, with various city names labeled. On the left side, there is a vertical menu with options like 'HWO', 'Radar / Warning', 'Watches / Warnings', 'Outlooks', 'Storm Reports', 'Sat/Radar/Analysis', 'Overview', and 'Weather Ready'. At the bottom, there are social media links for NOAA Weather Radio, Twitter, and Facebook. Callouts with arrows point to these features: 'Information Tabs' points to the left menu; 'Weather Hazard Sections' points to the top tabs; 'Direct Links to Web Briefing & Situation Report' points to the 'Situation Report' and 'Web Briefing' buttons; and 'Social Media Resources' points to the bottom social media links.



NWS ENHANCED DATA DISPLAY

The Enhanced Data Display (EDD) is a web-based platform/framework that serves as a gateway to distribute high spatial and temporal resolution data that NWS forecasters generate. It is envisioned that EDD will have a backend geospatial database that will enable users to query the data forecasters are providing enabling them to highlight areas of interest at any scale using EDD's mapping capabilities. By using a web-based framework, data can quickly be distributed via mobile and internet technology to our partners regardless of their location. This technology will give users in the field access to the raw data and the means to manipulate the data for their needs. The interface of EDD is designed to keep a lot of data in one place while at the same time be easy and intuitive to use. Most fields are just a click or two away and are clearly labeled into categories that best represent the product. EDD also provides quick access to deterministic and probabilistic forecasts.

<http://preview.weather.gov/edd/>

Quick Layer Options

Menu Bar

Sharing Function



COMMUNICATION TOOLS

NATIONAL WEATHER SERVICE CHAT

NWSChat continues to be a success in communication. As a reminder, partners in the emergency management, law enforcement, and media communities are encouraged to actively participate in NWSChat. NWSChat allows real-time communication between forecasters and our partners. Along with the opportunity to ask forecasters for additional information, clarification, or to pass on storm reports. Each chat room is automatically populated with the latest watches, warnings, and advisories, and updates to important products like the Hazardous Weather Outlook and Area Forecast Discussion. This feature provides users with an excellent monitoring and situational awareness tool during potentially hazardous weather events.

NWSChat is open to those in the media, emergency management, amateur radio net controllers and law enforcement communities, as well as other local, state, and Federal government partners. NWSChat can be utilized on Windows, Linux, and Macintosh operating systems. Several applications for mobile devices have also been recently developed. In addition, a web-based version of chat, called "NWSChat Live" is now available!

Additional information on NWSChat, including a link to NWSChat Live, is available at <https://nwschat.weather.gov/>

NWS SPRINGFIELD NOW ON TWITTER!

National Weather Service Forecast Offices, including the office in Springfield, now have individual office Twitter Accounts! These accounts will be used to post general weather information, call attention to noteworthy weather events across eastern Kansas and southwestern Missouri, as well as around the country, and provide another avenue for the public to interact with the National Weather Service.

Please note, as with our involvement on Facebook, Twitter is an experimental communications tool. Therefore, it is not designed for the dissemination of critical weather information, such as forecasts or warning information; NOAA Weather Radio, local media, and weather.gov/sgf

should be your primary sources to get information during severe weather events. However, friends of the NWS are encouraged to follow us and pass on any reports of severe weather, be sure to use the following hash tags: #MOWX, #KSWX, and #WXreport or tag us using @NWSSpringfield.

To visit the NWS Springfield Twitter page, visit the following webpage:

<https://twitter.com/#!/nwsspringfield>



ABOUT THE NATIONAL WEATHER SERVICE

SPRINGFIELD, MO FORECAST OFFICE

The mission of the National Weather Service, part of the National Oceanic and Atmospheric Administration and Department of Commerce, is to issue weather, water, and climate forecasts and warnings for the protection of life and property and enhancement of the National economy. This mission is carried out by the dedicated men and women at 122 Weather Forecast Offices around the United States.

The Springfield National Weather Service Forecast Office has 24 hours a day, 7 days a week forecast and severe weather warning responsibility for 37 counties in southern and southwestern Mis-

souri and extreme eastern Kansas. In addition, specialized forecasts are issued for aviation interests at the Springfield, Branson, and Joplin airports. The office is also one of 92 stations with responsibility for twice a day weather balloon observations.

More information on the Springfield, MO Forecast Office, as well as local forecast information, can be found on our website, www.weather.gov/springfield. Information on other Forecast Offices around the country, as well as forecasts across the United States, can be found at www.weather.gov.

ABOUT THIS PUBLICATION

This publication has been designed to enhance readiness and decision response by the emergency management community, media, DOT, and other critical partners. Decision Support Newsletters will generally be published seasonally.

Featured topics each season will include information on NWS watch, warning, and advisory products, as well as decision support tools such as GIS resources, web-based forecast services, and communication tools.

If you have a suggestion about information that you'd like to see

in this publication, or feedback on National Weather Service products and services, please don't hesitate to contact us.

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Springfield Weather Forecast Office**

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