

Severe Weather Preparedness Week

Indiana Severe Weather Preparedness Week— March 14-20, 2021

The National Weather Service (NWS), in conjunction with the Indiana State Police and Public Safety Commission, Indiana Department of Homeland Security, Department of Education, the Indiana Broadcaster's Association, the Red Cross, and Amateur Radio Operators will conduct a **statewide test** of communication systems

on **Tuesday, March 16 at 10:15 A.M. EDT/ 9:15 A.M. CDT.** If weather postpones the tests, a make-up test is Wednesday, March 17 at the same time listed.

The goal of Severe Weather Preparedness Week is to build towards a Weather Ready Nation where Hoosiers are prepared for and respond to all dangerous weather and flood hazards.

This packet contains information about severe weather terms, safety rules, and some tornado events that affected Indiana. Daily statements will be issued on newswires and NOAA All Hazards Radio during the week. Your local National Weather Service office and our partners are available for interviews.

Contacts

- Sam Lashley
NWS Indianapolis
317-856-0361 x726
- Mike Lewis
NWS Northern
Indiana
574-834-1104
x726
- Mike Bardou
NWS Chicago
815-834-0600
x726
- Tom Reaugh
NWS Louisville
502-969-8842
- Ricky Shanklin
NWS Paducah
270-744-6440
x726
- Brandon Peloquin
NWS Wilmington
937-383-0031

Preparedness Week Daily Focus

Sunday, March 14	Kick-off: Discuss the roles of You, NWS, Media, Emergency Response Officials, Homeland Security, and Red Cross during severe weather
Monday, March 15	Severe Weather Outlook & Watch: The roles at the Outlook and Watch stages of an event
Tuesday, March 16	Warning: The roles in Warnings; Tornado Drill at 10:15 am EDT/ 9:15 am CDT
Wednesday, March 17	Response: The roles in responding to disasters in real-time
Thursday, March 18	Recovery: The roles in the recovery process after a disaster
Friday, March 19	Weather Ready Nation: Ready your community for extreme weather, water, and climate events
Saturday, March 20	Wrap up: The importance of preparedness and action during threatening hazards

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Tornadoes

- ζ In 2020, Indiana saw 17 tornadoes while the annual average is 22. The last Indiana killer tornado was in 2012 in Henryville. Indiana had a record of 72 tornadoes in 2011
- ζ Most tornadoes travel northeast. Forward speeds average near 30 mph but can reach 60 mph. Other favored directions are from the northwest
- ζ Tornadoes occur year round but are most likely to occur from April to June. Primary hours are from 3 pm to 8 pm with a second peak from 12 am to 3 am

Tornado Safety

IN HOMES OR SMALL BUILDINGS:

Go to the basement (if available) or to an interior room on the lowest floor, such as a closet or bathroom. Wrap yourself in overcoats or blankets to protect yourself.

IN SCHOOLS, HOSPITALS, FACTORIES, OR SHOPPING CENTERS:

Go to interior areas on the lowest floor. Stay away from glass and very large rooms. Follow the instructions of the facility safety officials.

IN HIGH-RISE BUILDINGS:

Go to interior rooms, stairwells, or halls. Avoid exterior walls or glass.

IN CARS OR MOBILE HOMES:

Most tornado deaths occur in cars and mobile homes. If you have time, leave them for a substantial structure or designated tornado shelter. As last resort, lie flat in your car or nearby ditch and use your hands to cover your head.

Be Red Cross Ready Get A Kit. Make A Plan. Be Informed.

Emergency Preparedness Kit for your home

- Food and water for 3 days (1 gallon of water per person per day)
- Flashlights and extra batteries
- Battery-powered or hand-crank radio (NOAA Weather Radio, if possible)
- First aid kit
- Medications (7-day supply) and medical items
- Multi-purpose tool
- Personal hygiene items
- Copies of personal documents
- Extra cash
- Emergency blanket
- Baby and pet supplies



The Dangers of Night Time Tornadoes

By Christine Wielgos, NWS Paducah, Kentucky

Since 1996, there have been a total of 57 deaths from tornadoes in NWS Paducah's area, which serves 58 counties across portions of southeast Missouri, southern Illinois, western Kentucky, and southwest Indiana. Astonishingly, 46 of these 57 deaths occurred during night time tornadoes, which is a staggering 81% of the total amount of deaths. In addition, 80% of the deaths occurred in mobile homes. Twenty five of these nighttime fatalities occurred in southwest IN at 2 AM with a strong tornado that went through the Evansville area back in November of 2005.

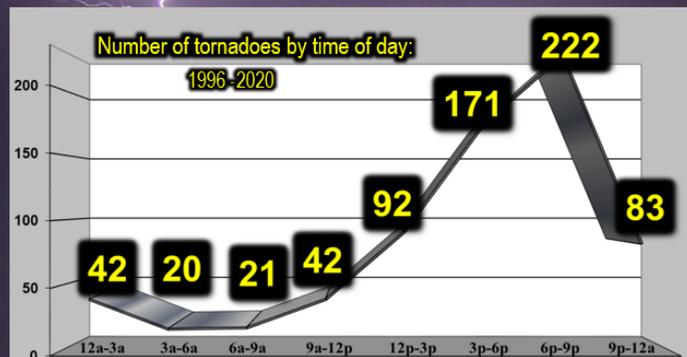
So why are night time tornadoes more dangerous than those that occur during the day time? At night, the tornado will be more difficult to recognize, locate, and identify, especially at greater distances. People who normally scope out the skies to confirm the fact that a tornado is occurring, may not see the tornado before it is too late to take shelter. In addition, when tornadoes occur overnight, that is a time when a vast majority of folks are sleeping, therefore they are not going to have a television or radio on to hear about weather updates and warnings. Sirens may not be of much help either when you are indoors as they were designed to warn people outside. Many people are also going to be in dwellings that are more susceptible to damage, such as single family or mobile homes, instead of being at work or school in a stronger built building.

One of the most important things you can do to reduce your chances of being a tornado statistic, is simply being in the know. Weather is always changing and conditions can rapidly intensify during a severe weather event. It is very important to stay up to date with the latest information. If you know thunderstorms are forecast, find out how severe they might become and when they are expected. Before going to bed, check your favorite weather sources to find out more.

The key is to know and practice your severe weather safety plan so that it can be executed rapidly. A NOAA Weather Radio is going to be your number one alert tool since it is designed to do the work for you. Whenever the NWS issues a warning, the radio will turn on and alert you, as long as you have the unit turned on and programmed correctly. This can be especially lifesaving at night, when most people are not actively monitoring the weather. Keep fresh batteries in your NOAA Weather Radio, so it will still operate should the power go out. Alerts, such as tornado warnings are sent automatically to WEA-capable phones during an emergency. For

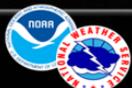
more information on how WEA works, please visit www.weather.gov/wrn/wea. If you plan on using your phone, always make sure the phone is charged up, and it is not on vibrate or in silent mode. It is always a good idea to have multiple ways to receive the warnings in case one fails.

Nighttime tornadoes account for 49 of the 57 fatalities in our region.



Yellow: Day time	Blue: Night time	
4/21/2002	351 PM CDT	1
4/27/2002	1240 AM CDT	1
4/28/2002	118 AM CDT	1
5/6/2003	932 PM CDT	1
5/6/2003	932 PM CDT	1
11/6/2005	154 AM CST	20
11/6/2005	203 AM CST	5
11/15/2005	156 PM CST	1
11/27/2005	1030 PM CST	1
3/11/2006	920 PM CST	2
1/29/2008	507 PM CST	2
2/5/2008	744 PM CST	3
2/29/2012	400 AM CST	1
2/29/2012	451 AM CST	8
3/23/2012	126 PM CDT	1
6/4/2012	844 PM CDT	3
11/17/2013	215PM CST	3
2/28/2017	755 PM CST	1
2/28/2017	954 PM CST	1
Total Tornado Deaths since 1996:		57

If there is a severe weather threat, check the weather before heading to bed & turn on your NOAA Weather Radio. Have a plan for you and your family.



**National Weather Service
Paducah, Kentucky**



weather.gov/pah

Lightning Safety

All thunderstorms produce lightning and are dangerous: Lightning can be 5 times hotter than the surface of the sun. 25 million cloud-to-ground lightning strikes occur in the U.S. each year.

You are in danger from lightning if you can hear thunder. If you can hear thunder, lightning is close enough that it could strike your location at any moment. Get inside! **“When thunder roars go indoors!”**

Lightning injuries can lead to permanent disabilities or death: On average, 10% of strike victims die; 70% of survivors suffer serious long term effects.

Blue Skies and Lightning: Lightning can travel sideways for up to 10 miles. Even when the sky looks blue and clear, be cautious. If you hear thunder, take cover. At least 10% of lightning occurs without visible clouds overhead in the sky. Don't wait until the last minute before seeking shelter.

- ✦ **Inside a building with wiring or plumbing is safest. Inside a hard-topped vehicle is safer than outside but avoid contact with metal or outside parts of the vehicle**
- ✦ **If you can't get to a shelter, stay away from trees or open areas where you may be the tallest object**
- ✦ **Avoid metal! Avoid leaning against vehicles. Get off bicycles and motorcycles. Don't hold on to metal items such golf clubs, fishing rods, tennis rackets or tools**
- ✦ **Get out of the water, it's a great conductor of electricity. Don't stand in puddles of water, even if wearing rubber boots**
- ✦ **Move away from a group of people. Stay several yards away from other people. Don't share a bleacher bench or huddle in a group**

**When
Thunder
Roars,
Go Indoors!**

STOP all activities.

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

Wait 30 minutes after the storm to
resume activities.



www.lightningsafety.noaa.gov



Lightning Deaths

- 80% of fatalities are men
- 63% of lightning fatalities occur during leisure activities such as fishing, hiking, walking, soccer, golfing, baseball, boating, etc.
- 17% of lightning fatalities occur during work activities such as farming, construction, roofing, lawn care, etc.
- 16% of lightning fatalities occur during daily routine activities such as heading to/from home or a car, yard work, taking out the trash, etc.



Severe Weather Terms and Definitions

Watch

Hazardous weather may occur. **Watch for information; review safety plans.**

Warning

A weather hazard is imminent or reported and requires **immediate action** to protect life and property.

Severe Thunderstorm

A thunderstorm is classified as severe if it produces a tornado, hail one inch or more in diameter, or winds of 50 knots (58 mph) or more.

Understanding Severe Thunderstorm Risk Categories

THUNDERSTORMS (no label)	1 - MARGINAL (MRGL)	2 - SLIGHT (SLGT)	3 - ENHANCED (ENH)	4 - MODERATE (MDT)	5 - HIGH (HIGH)
No severe* thunderstorms expected	Isolated severe thunderstorms possible	Scattered severe storms possible	Numerous severe storms possible	Widespread severe storms likely	Widespread severe storms expected
Lightning/flooding threats exist with <u>all</u> thunderstorms	Limited in duration and/or coverage and/or intensity	Short-lived and/or not widespread, isolated intense storms possible	More persistent and/or widespread, a few intense	Long-lived, widespread and intense	Long-lived, very widespread and particularly intense
					

* NWS defines a severe thunderstorm as measured wind gusts to at least 58 mph, and/or hail to at least one inch in diameter, and/or a tornado. All thunderstorm categories imply lightning and the potential for flooding. Categories are also tied to the probability of a severe weather event within 25 miles of your location.



National Weather Service

www.spc.noaa.gov



NOAA All Hazards Radio



Keep ahead of the storm by listening to NOAA Weather Radio for the latest weather watches, warnings, and advisories. In addition to routine broadcasts, the Specific Area message Encoding (SAME) feature of NOAA Weather Radio Activates

the Emergency Alert System (EAS). EAS is used to provide notifications of emergencies to the public.

Did you know??
Special needs NOAA Weather Radios designed to meet the needs of the hearing impaired are

available. For more information, visit:
www.nws.noaa.gov/nwr/info/special_needs.html

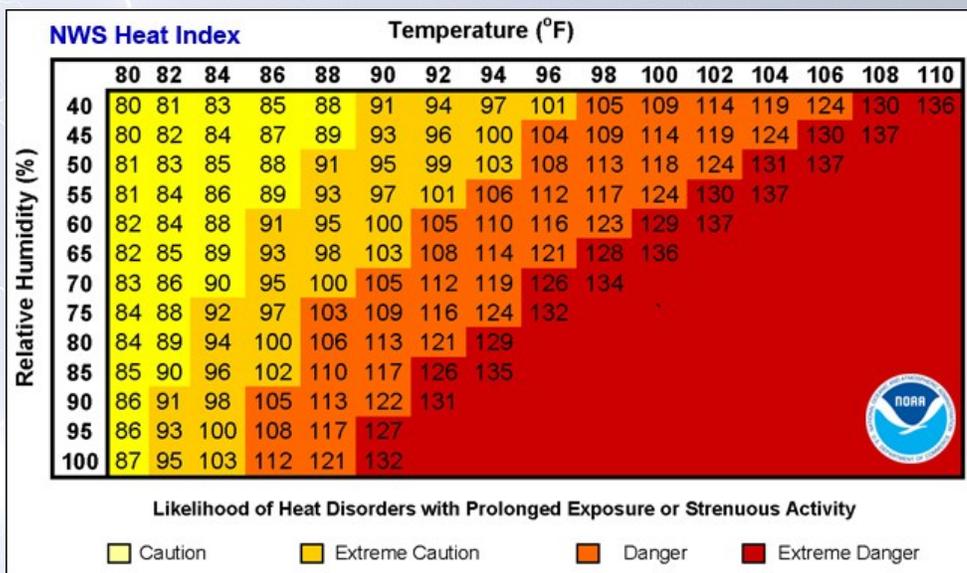
For more information, visit: www.nws.noaa.gov/nwr/

Heat Wave— How to prepare and stay safe



- Wear light clothes, sunglasses, and a hat to protect yourself from the sun
- Drink plenty of water, eat light meals, do not over exert yourself
- Stay out of the sun when possible
- #heatstrokekills
#checkforbaby
#lookbeforeyoulock

*In 2019,
there were
52 child
vehicular
deaths in
the U.S.*



Critical NWS Flood Products

Hydrologic Outlook

This product alerts the public when flood producing rainfall is expected in 36 to 72 hours. During the months of February and March, this product also contains information on the potential for flooding from the spring snow melt.

Flood Watch

A flood or flash flood watch is issued when conditions are favorable for flooding or flash flooding to develop.

Flash Flood Warning

A warning is issued when rapid flooding is imminent. Flash floods quickly develop within 6 hours of a heavy rainfall event.

Flood Warning

These warnings are issued for river floods or for widespread flooding across a county. River flooding mostly occurs with longer periods of rain which result in slower rises in flood waters and a prolonged flood event.

Citizen Scientists Wanted!



Volunteers may join the CoCoRaHS network, a non-profit community based network of volunteer weather observers to report daily rainfall as well as hail and snow. www.cocorahs.org

The mPING project is also looking for volunteers to report precipitation to the National Severe Storms Laboratory. Reports are plotted on a national map. The data helps NWS forecasters relate surface observations to what is detected by radar. Visit: mping.nssl.noaa.gov/



Skywarn Storm Spotter training is conducted each spring to help people better understand signs for severe weather and report storm information to the National Weather Service. See your local NWS office home page for storm spotter talks in your area. For a schedule of the Indianapolis office's talks, go to weather.gov/ind/spotter_talks

Flood Safety Tips and Facts

- ◆ Monitor NOAA All Hazards Radio or your favorite news source for vital weather information
- ◆ If flooding occurs, get to higher ground, away from areas subject to flooding
- ◆ Avoid areas already flooded and do not attempt to cross flowing streams
- ◆ Do not drive around barriers that warn you the road is flooded. Some cities and counties issue a fine to motorists who ignore barriers!
- ◆ Never drive through flooded roadways as roads may be washed out under flood waters
- ◆ If your vehicle is suddenly caught in rising water, leave it immediately and seek higher ground
- ◆ Do not camp or park your vehicle along streams and washes if there is a threat of flooding. Be especially cautious at night when it is harder to recognize flood dangers

According to FEMA:

- ◆ The average annual U.S. flood losses from 1996-2014 was more than \$8.8 billion (via the Hydrologic Information Center—Flood Loss Data)
- ◆ Hurricanes, winter storms, and snow melt are common, but often overlooked, causes of flooding
- ◆ In 2008, major spring, summer, and fall floods resulted in FEMA Disaster Declarations for most Indiana counties

River Flooding

The Advanced Hydrologic Prediction Service (AHPS) page is a great tool to check the latest in river flood information including flood stage, flood impacts, and any current river flood warnings.

Visit:
water.weather.gov/ahps/



Weather Ready Nation

NOAA's Weather-Ready Nation (WRN) is about building community resilience in the face of increasing vulnerability to extreme weather and water events. In recent years, increasing numbers of major storm and flood events have resulted in the greatest number of billion dollar disasters in our Nation's history. The NWS is transforming its operations to help America respond. In turn, officials, businesses and the public can make better, faster decisions to save lives and livelihoods.

The initiative includes several activities in every area of our work, from observing current conditions to increasing lead times on severe weather warnings to improving how we communicate our forecasts to the public. Building a Weather-Ready Nation starts with these internal actions, but requires the action of a vast nationwide network of partners including other government agencies and emergency managers, researchers, the media, insurance industry, non-profits, the private sector, the Weather Enterprise and more.

The goal of the WRN initiative is to support the mission of the National Weather Service by reducing risk and increasing community resilience for future extreme events.

#weatherreadynation see:
www.weather.gov/wrn/



WRN Ambassador

An offshoot of WRN is the Weather-Ready Nation Ambassador™ initiative. The Ambassador program is a way we recognize our partners and other entities who are improving America's 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 efforts across many disciplines, making the nation more ready, responsive, and resilient against extreme environmental hazards.

A Weather-Ready Nation (WRN) is where society's response should be equal to the risk from all extreme weather, water, and climate hazards. The WRN Ambassador initiative is a unifying effort that is action-oriented and serves as a force multiplier where new partnerships can lead to more partnerships. To be officially recognized as a WRN Ambassador, an organization must commit to: promoting Weather-Ready Nation messages and themes to their stakeholders; exploring innovative approaches for collaboration with your organization; engaging with NOAA personnel on potential collaboration opportunities; sharing success stories of preparedness and resiliency; serving as an example by educating others.

We in turn will help you, keeping Ambassadors informed of upcoming hazards or providing toolkits tied to weather safety campaigns.

See: www.weather.gov/wrn/amb-tou

Find us on Social Media!

 @NWSIndianapolis

 US National
Weather Service
Indianapolis Indiana

Send Us Your Reports

We need to know what's really going on where you are! Send us a tweet @NWSIndianapolis or comment on our Facebook page to let us know what type of precipitation is falling, how much snow you've measured, if there's any ice accumulation, or if you measure any strong wind gusts. Better yet, you can send us pictures or video to really show us what you're seeing! But don't forget to include your location and the time during which this took place.



6900 West Hanna Ave.
Indianapolis, IN 46241

Phone:
317-856-0664

Email:
nws.indianapolis@noaa.gov

Protecting life & property

New Tools for Decision Making

Two new pages have been created in order to better assist with decision making for event planning or personal use. These pages allow you to view a variety of data all in one stop.

Indiana Briefing

The first is the Indiana weather briefing page to assist in decision support where you can find statewide maps for various parameters such as temperatures, rain, snow, severe weather, etc. Weather stories and graphics from each office that forecasts for Indiana are also available all in this one location. This page can be viewed at www.weather.gov/ind/INwxbrief.

Graphical Hazardous Weather Outlook

The second is a Graphical Hazardous Weather Outlook (GHWO) where you can select a hazard and specific day to see a corresponding map of each threat for an individual forecast office. For the Indianapolis office, visit www.weather.gov/crh/ghwo?sid=ind. To view this page for other offices, replace the last three letters of the link (ind) with the abbreviation for the desired office: NWS Chicago = lot, NWS Northern Indiana = iwx, NWS Wilmington = iln, NWS Louisville = lmk, NWS Paducah = pah, and NWS Lincoln = ilx.