Severe Weather Preparedness Week

MARCH 16-22, 2014

Governor Mike Pence *has proclaimed March 16th through 22nd, 2014 as Severe Weather Preparedness Week in Indiana.* The National Weather Service, 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** ***Thursday, March 20 between 10:15 A.M. and 10:30 A.M. EDT and between 7:30 P.M. and 7:45 P.M. EDT. If weather postpones the tests, make-up tests are Friday, March 21 at the same times listed.***

The goal of Severe Weather Preparedness Week is to better educate people about the hazards of severe thunderstorms and tornadoes, and to help everyone be prepared should severe weather occur.

SPRING 2014

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OTHER DATES TO NOTE

* **National Flood Awareness Week**
  March 16-22, 2014
  www.weather.gov/floodsafety
* **National Safe Boating Week**
  May 17-23, 2014
  www.safeboatingcouncil.org
* **Lightning Awareness Week**
  June 22-28, 2014
  www.lightningsafety.noaa.gov
* **Winter Weather Preparedness Week for Indiana**
  November 16-22, 2014

This packet contains information about severe weather terms, safety rules, and some interesting facts on how severe weather affects Indiana as well as the rest of the country. Daily statements will be issued on newswires and NOAA All Hazards Radio during the week. Your local National Weather Service office will be available during Preparedness Week for interviews.

Preparedness Week Daily Focus

Sunday, March 16:	**Kick-off**; Discuss partners' (NWS, Media, Emergency Response Officials, Homeland Security, Red Cross, Public) roles in Severe Weather
Monday, March 17:	**Severe Weather Outlook**; partners' roles at the Outlook stage of an event
Tuesday, March 18:	**Watch**; partners' roles at the Watch stage
Wednesday, March 19:	**Warning**; everyone's role in Warnings
Thursday, March 20:	**Response**; partners' roles in responding to disasters (real-time response)
Friday, March 21:	**Recovery**; partners' roles in the recovery process (days/weeks/months) after disaster
Saturday, March 22:	**Wrap-up**; importance of preparedness and action during threatening hazards.

Graphical Weather Briefings are available as "Top News of the Day" at the top of NWS homepages whenever significant weather or flood hazards may occur.

TORNADOES

- The average forward speed of a tornado is 30 mph but varies from 0 to 70 mph. The average width is about 100 yards but can reach over a mile wide.

- Tornadoes occur year round but are most likely from April to June. Preferred hours are from 3 p.m. to 8 p.m. with a second peak from 12 a.m. to 3 a.m.

- On November 17th, 2013, 28 tornadoes hit the state of Indiana. This ranks 3rd for the highest number of tornadoes in one day in state history. 2nd is April 19, 2011 with 29. June 2, 1990 is 1st with 37.

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 from flying debris.

IN SCHOOLS, HOSPITALS, FACTORIES, OR SHOPPING CENTERS:
Go to interior rooms and halls on the lowest floor. Stay away from glass enclosed places or areas with wide-span roofs such as auditoriums and warehouses. Follow the instructions of the facility safety officials.

IN HIGH-RISE BUILDINGS:
Go to interior small rooms or halls. Stay away from exterior walls or glassy areas.

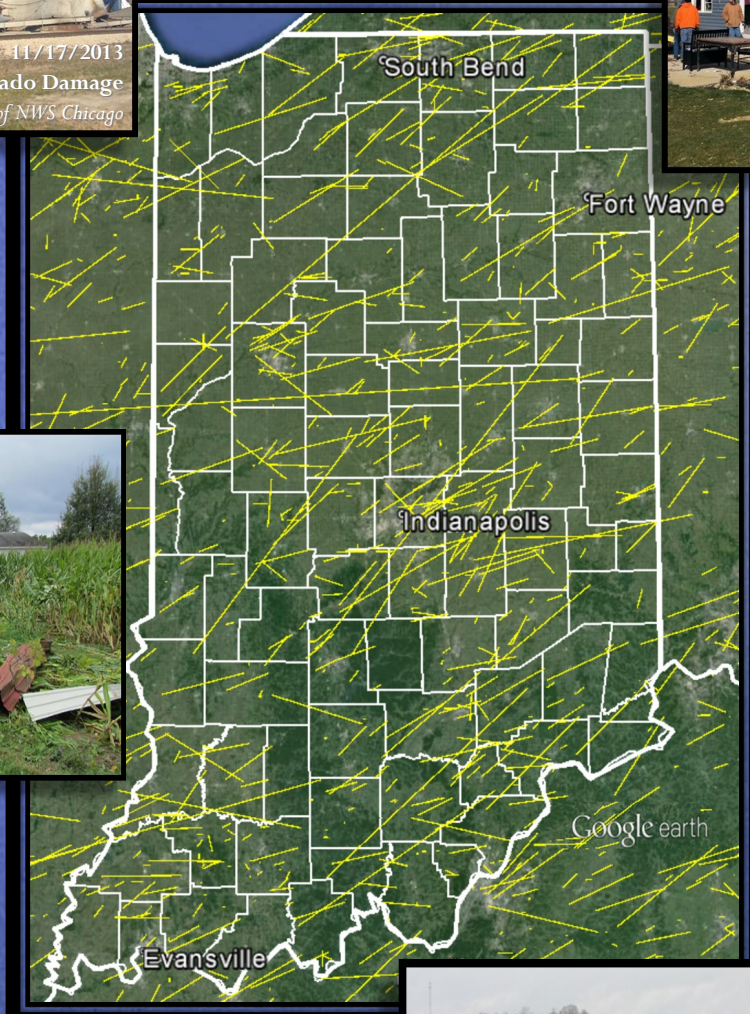
IN CARS OR MOBILE HOMES:
SEEK STURDIER SHELTER IMEDIATELY!!
Most tornado deaths occur in cars and mobile homes. If you are in either of those locations, leave them and go to a substantial structure or designated tornado shelter.

IF NO SUITABLE STRUCTURE IS NEARBY:
Lie flat in the nearest ditch or depression and use your hands to cover your head.

Tornado Tracks (1950-2011)

Goodland, IN 11/17/2013
EF-1 Tornado Damage
Photo Courtesy of NWS Chicago

Sweetser, IN 11/17/2013
EF-2 Tornado Damage
Photo Courtesy of NWS N. Indiana



North Vernon, IN 09/26/2011
EF-1 Tornado Damage
Photo Courtesy of NWS Indianapolis

Paoli, IN 11/14/2011
EF-1 Tornado Damage
Photo Courtesy of NWS Louisville

Lightning Safety

LIGHTNING AWARENESS WEEK JUNE 22-28, 2014

www.lightningsafety.noaa.gov

Nearly 25 million cloud to ground lightning strikes occur in the US each year

All thunderstorms produce lightning and are dangerous. Lightning kills more people each year than tornadoes.

Lightning can strike as far as 10 miles away from any rainfall. Many deaths from lightning occur ahead of the storm because people wait to the last minute before seeking shelter. **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!"**

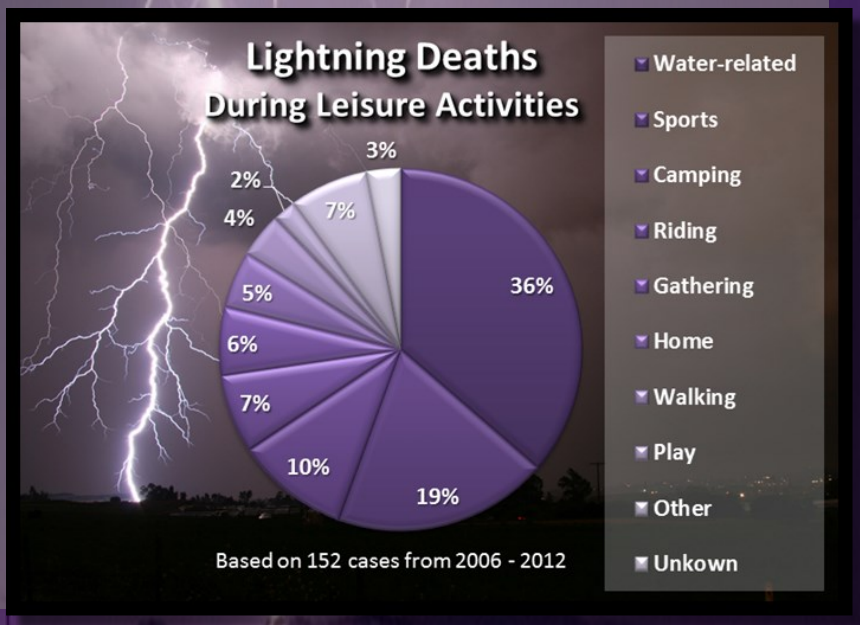
Lightning injuries can lead to permanent disabilities or death. On average, 10% of strike victims die; 70% of survivors suffer serious long term effects.

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.

Safety Tips:

Leisure activities contributed to 64% of the overall lightning deaths from 2006- 2012

- ***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.***



Severe Weather Terms & Definitions

Warning - a particular weather hazard is either imminent or has been reported. A warning indicates the need to take immediate action to protect life and property. The type of hazard is reflected in the type of warning (e.g., tornado warning, blizzard warning).

Watch - a particular hazard is possible, or when conditions support its occurrence. A watch is a recommendation for planning, preparation, and increased preparedness (i.e., to be alert for changing weather, listen for further information, and think about what to do if the danger materializes).

Slight Risk (of severe thunderstorms) - A slight risk generally implies that organized severe thunderstorms are expected, however the severe events will be relatively small in numbers and isolated in coverage. There is a small chance of a more significant event.

Moderate Risk (of severe thunderstorms) - A moderate risk is usually reserved for days where substantial severe storm coverage is expected or there is an enhanced chance for a significant severe storm outbreak. When multiple tornadic supercells with very large hail or intense squall lines with widespread damaging winds are expected a moderate risk would typically be required

Silver Lake, IN 11/17/2013
EF-2 Tornado Damage
Photo Courtesy of NWS N. Indiana

High Risk (of severe thunderstorms) - High Risk (of severe thunderstorms) - A high risk implies that a major severe weather outbreak is expected with a large coverage of severe weather. It is reserved for the most extreme events. A high risk would typically be issued if violent tornadoes or very damaging convective wind events are expected.

Tornado - A violently rotating column of air in contact with the ground and extending from the base of a thunderstorm.

Funnel Cloud - A condensation funnel extending from the base of a towering cumulus or cumulonimbus cloud, associated with a rotating column of air that is *not* in contact with the ground (and hence different from a tornado).

Flood - The condition that occurs when water overflows the natural or artificial confines of a stream or other body of water, or accumulates by drainage over low-lying areas.

Flash Flood - A flood that rises and falls quite rapidly, usually as the result of intense rainfall over a relatively small area. Usually a flash flood occurs within 6 hours of a rain event.

Straight-line Winds - Generally, any wind that is *not* associated with rotation, used mainly to differentiate them from tornadic winds.

Downburst - A strong downdraft resulting in an outward burst of damaging winds on or near the ground. Downburst winds can produce damage similar to a strong tornado. Although usually associated with thunderstorms, downbursts can occur with showers too weak to produce thunder.

Severe Thunderstorm - A thunderstorm that produces tornadoes, hail one inch or more in diameter, or winds of 50 knots (58 mph) or more.

Supercell - A thunderstorm with a persistent rotating updraft. Supercells are rare, but are responsible for a remarkably high percentage of severe weather events - especially tornadoes, extremely large hail and damaging straight-line winds.

Gary, IN 5/20/2012
Straight-line Wind Damage
Photo Courtesy of NWS Chicago

Squall Line - A solid or nearly solid line or band of active thunderstorms, often yielding heavy rain and strong wind.

Heat Wave

Heat Safety Tips

- Wear light clothes, sunglasses and a hat to protect yourself from the sun.
- Drink plenty of water at all times, even if you do not feel thirsty.
- Stay out of the sun when possible.
- Do not overexert yourself.
- Eat light meals.

Did you know?

In 2011, according to NWS statistics, 206 fatalities were attributed to heat!

There were also 2,401 injuries.

www.nws.noaa.gov/om/hazstats/sum11.pdf

Heat Index/Apparent Temperature Chart

Temperature (°F)

Relative Humidity	80	82	84	86	88	90	92	94	96	98	100	102	104	106	108	110
40	80	81	83	85	88	91	94	97	101	105	109	114	119	124	130	136
45	80	82	84	87	89	93	96	100	104	109	114	119	124	130	137	
50	81	83	85	88	91	95	99	103	108	113	118	124	131	137		
55	81	84	86	89	93	97	101	106	112	117	124	130	137			
60	82	84	88	91	95	100	105	110	116	123	129	137				
65	82	85	89	93	98	103	108	114	121	128	136					
70	83	86	90	95	100	105	112	119	126	134						
75	84	88	92	97	103	109	116	124	132							
80	84	89	94	100	106	113	121	129								
85	85	90	96	102	110	117	126	135								
90	86	91	98	105	113	122	131									
95	86	93	100	108	117	127										
100	87	95	103	112	121	132										

With Prolonged Exposure and/or Physical Activity

Extreme Danger	
Heat Stroke or Sun Stroke highly	
Danger	
Sunstroke, muscle cramps and/or	
Extreme Caution	
Sunstroke, muscle cramps, and/or	
Caution	
Fatigue possible	

How Quickly Does Your Car Heat Up in the Summer Sun?

Beat the Heat
Check the Backseat!

NEVER Leave Children or Pets Unattended in a Vehicle

Floods & Flash Floods

CHECK OUT THE ADVANCED HYDROLOGIC PREDICTION SERVICE (AHPS)

AHPS is a great tool to check out the latest in river flood information. Information on flood stage, flood impacts and any current flood warnings or statements is available for each station on the map. If you live or work near a river or stream, this page will be of great help to you! **http://water.weather.gov/ahps/**

Flood Facts From FEMA:

- Total flood insurance claims averaged over $3 Billion per year from 2003 to 2012.
- 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.

FLOOD AND FLASH FLOOD SAFETY TIPS

- **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 will issue a fine to motorists who ignore barriers!**
- **Never drive through flooded roadways as road beds 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.**

March 16-22, 2014 **Flood Safety Week** **www.weather.gov/floodsafety**

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 six hours of a heavy rainfall event.

Urban/Small Stream Flood Advisory (issued as a Flood Statement): These statements are issued when minor flooding problems are expected, mostly in flood prone urban areas or near small streams that may rise quickly out of their banks. Even minor flooding can cause huge problems if proper precautions are not taken.

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.

Weather Enthusiasts Wanted!

Volunteers are wanted to join the **CoCoRaHS** network in Indiana! Anyone can participate. The only requirement is a desire to learn more about how the weather impacts our daily lives. The project website is located at www.cocorahs.org

The **CoCoRaHS** network is a non-profit community based network of volunteer observers who measure and record daily amounts of precipitation (rain, hail, and snow). The data collected will help forecasters and resource managers better understand the variable patterns of Indiana's weather.

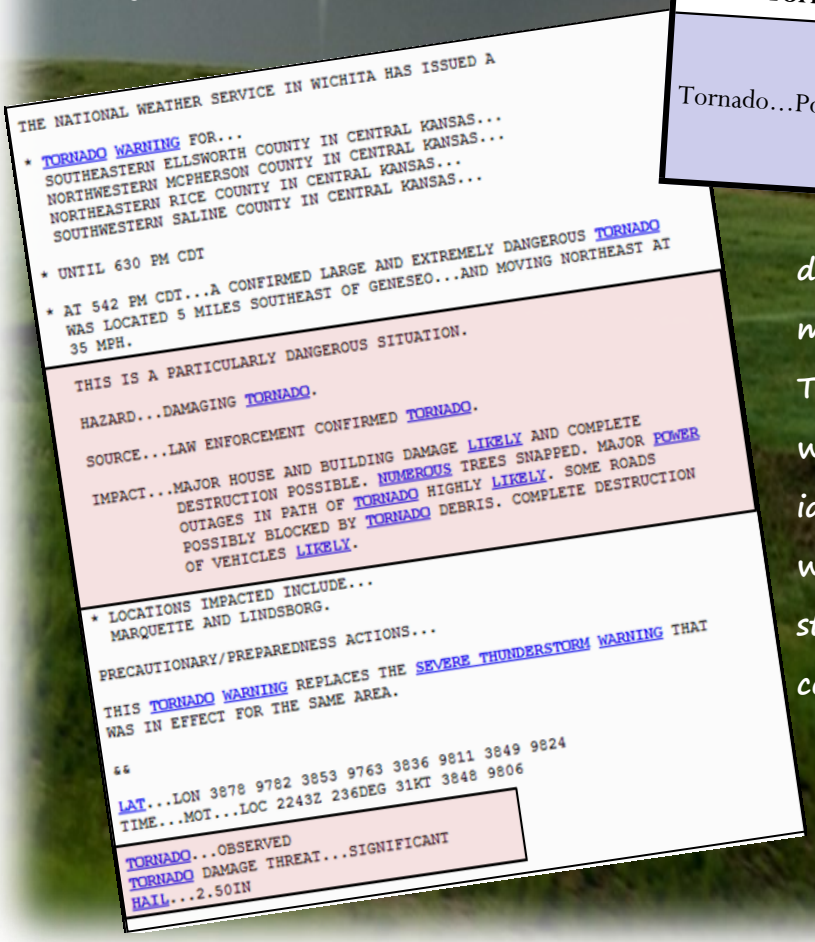
CoCoRaHS in Indiana is a collaborative effort between the National Weather Service and the Indiana State Climate Office at Purdue University.

Skywarn Storm Spotter training is also conducted each spring to help folks 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.

Impact Based Warnings

The Impact Based Warning (IBW) experimental products will continue to be used across much of the state of Indiana this convective season. IBWs are enhanced with additional information that conveys expected impacts of severe weather events, while continuing to serve the same function as traditional Severe Thunderstorm and Tornado Warnings. The main goal of these experimental warnings is to provide the public with enough information to better facilitate decision making and response during the most hazardous severe weather events. This is achieved by including special tags in warning products that make it easier to identify the most valuable information, while highlighting particularly dangerous storms and expressing NWS forecaster confidence in potential impacts.

Tornado Damage Threat	
No Tag	Used most of the time, when tornado damage possible within warning polygon. Tornado duration generally expected to be short-lived
Tornado Damage Threat…Considerable	Used rarely, when there is credible evidence that tornado, capable of producing considerable damage is imminent or ongoing. Tornado duration generally expected to be long lived
Tornado Damage Threat…Catastrophic	Used exceedingly rarely, when a severe threat to human life & catastrophic damage from a tornado is occurring and will only be used when reliable sources confirm violent tornado. Tornado duration generally expected to be long lived
Tornado Tag	
Tornado…Radar Indicated	Evidence on radar that near storm environment is supportive, but no confirmation
Tornado…Observed	Tornado is confirmed by spotters, law enforcement, etc
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



THE NATIONAL WEATHER SERVICE IN WICHITA HAS ISSUED A

* TORNADO WARNING FOR...
SOUTHEASTERN ELLSWORTH COUNTY IN CENTRAL KANSAS...
NORTHWESTERN MCPHERSON COUNTY IN CENTRAL KANSAS...
NORTHEASTERN RICE COUNTY IN CENTRAL KANSAS...
SOUTHWESTERN SALINE COUNTY IN CENTRAL KANSAS...

* UNTIL 630 PM CDT

* AT 542 PM CDT...A CONFIRMED LARGE AND EXTREMELY DANGEROUS TORNADO WAS LOCATED 5 MILES SOUTHEAST OF GENESEO...AND MOVING NORTHEAST AT 35 MPH.

THIS IS A PARTICULARLY DANGEROUS SITUATION.

HAZARD...DAMAGING TORNADO.

SOURCE...LAW ENFORCEMENT CONFIRMED TORNADO.

IMPACT...MAJOR HOUSE AND BUILDING DAMAGE LIKELY AND COMPLETE DESTRUCTION POSSIBLE. NUMEROUS TREES SNAPPED. MAJOR POWER OUTAGES IN PATH OF TORNADO HIGHLY LIKELY. SOME ROADS POSSIBLY BLOCKED BY TORNADO DEBRIS. COMPLETE DESTRUCTION OF VEHICLES LIKELY.

* LOCATIONS IMPACTED INCLUDE...
MARQUETTE AND LINDSBORG.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

THIS TORNADO WARNING REPLACES THE SEVERE THUNDERSTORM WARNING THAT WAS IN EFFECT FOR THE SAME AREA.

&&

LAT...LON 3878 9782 3853 9763 3836 9811 3849 9824
TIME...MOT...LOC 2243Z 236DEG 31KT 3848 9806

TORNADO...OBSERVED
TORNADO DAMAGE THREAT...SIGNIFICANT
HAIL...2.50IN

Social Media & Storm Reports

That's right! Your local National Weather Service office can now be found on all of your favorite social media sites! Follow us on Twitter @NWSIndianapolis and Like us on Facebook! Our pages are full of fun weather facts, daily weather story forecasts, occasional trivia and games, even behind the scenes looks at our daily operations! We now hold monthly Facebook photo contests if you like taking weather or nature pictures, or if you just enjoy checking out amazing images captured from around the region! You can also join us on YouTube, for awesome and informative educational videos, as well as view enlightening multi-media weather briefings on approaching winter storms!

SEND US YOUR REPORTS!

REMEMBER!
LESS THAN 10% OF
THUNDERSTORMS ARE SEVERE

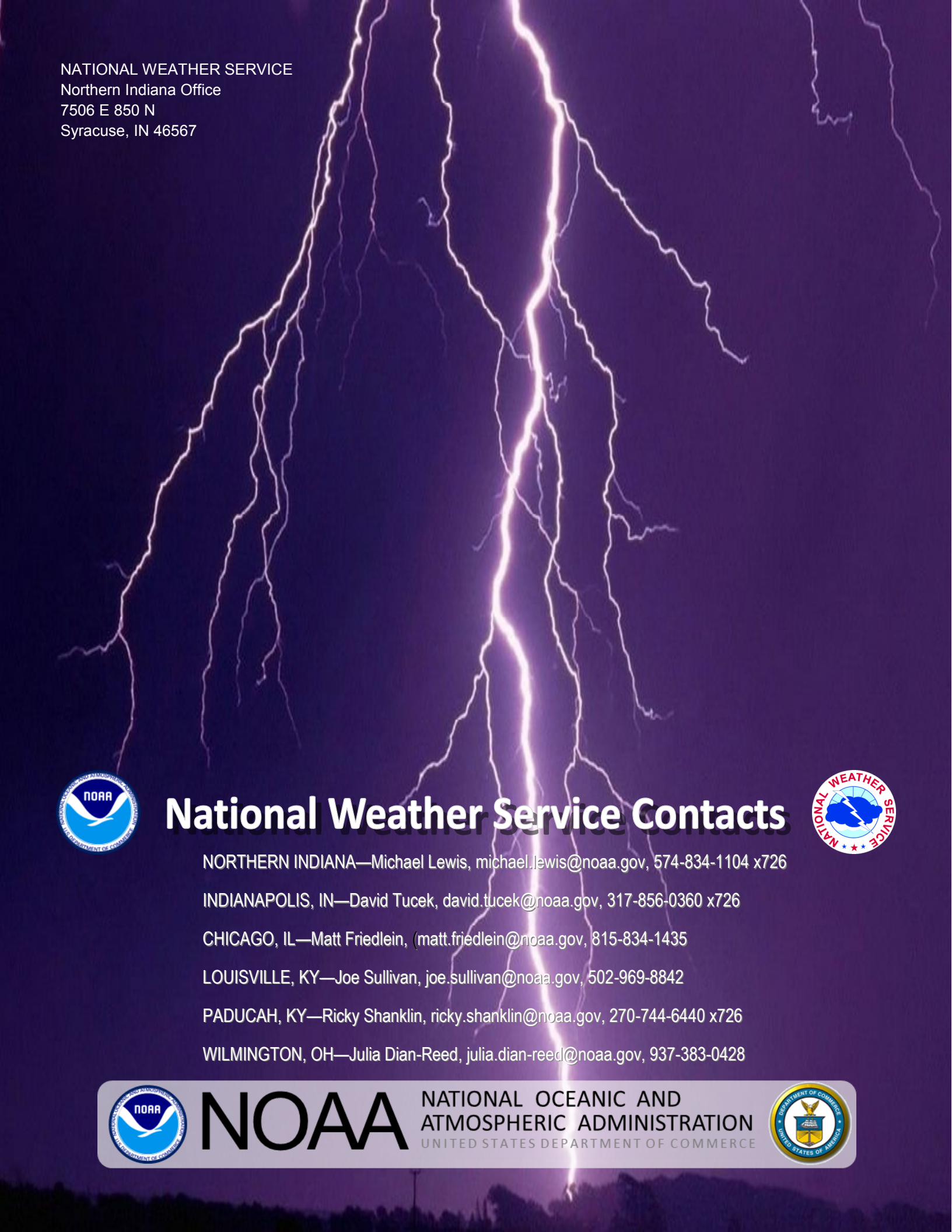
We'd love to hear what's really going on where you are! Send us a tweet or leave a comment on our Facebook page to let us know what you're seeing. Be sure to include your location and when the event occurred.

Spotter Reporting Criteria

- Any Hail (regardless of size)
- Measured Wind over 50mph
- Wind Damage
  - Size of Branches
  - Size of Trees
  - Number of Trees
  - Impacts (blocking roads, power outages, etc.)
- Tornado
  - You Must See Debris being Lifted
- Flooding

@NWSIndianapolis Search for US National Weather Service Indianapolis YouTube /NWSIndianapolis

NATIONAL WEATHER SERVICE
Northern Indiana Office
7506 E 850 N
Syracuse, IN 46567



National Weather Service Contacts

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UNITED STATES DEPARTMENT OF COMMERCE