

Severe Weather Preparedness Week



NATIONAL WEATHER SERVICE
INDIANAPOLIS



MARCH 4—10, 2007

Governor Mitch Daniels has proclaimed March 4 through 10, 2007 as Severe Weather Preparedness Week in Indiana. The National Weather Service, in conjunction with the Indiana State Police, Indiana Department of Homeland Security, the Indiana School System, the Broadcast Media across Indiana, and Amateur Radio Operators will conduct a statewide test of communication systems on Wednesday, March 7 between 1030 AM and 1100 AM EST and between 700 PM and 730 PM EST.

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.

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 will be available throughout Preparedness Week for interviews or questions.

If weather postpones the tests, make-up drill day is Thursday, March 7 at the same times listed above.

SPRING 2007

In this issue:

Important NWS Changes!	2
Volunteers needed!	3
Flood Safety	3
Tornadoes and Heat	4
Severe Weather Definitions	5
Lightning Safety	6
Indiana's Tornado History	7



This Week's Events

Sunday, Mar 4: **Kick-off;** Discuss each partners' (NWS, Media, Emergency Response Officials, Homeland Security, Red Cross, Public) role in Severe Weather

Monday, Mar 5: **Severe Weather Outlook;** each partners' role at the Outlook stage of an event

Tuesday, Mar 6: **Watch;** each partners' role at the Watch stage

Wednesday, Mar 7: **Warning;** everyone's role in Warnings; emphasize statewide tornado drill as time to practice plans.

Thursday, Mar 8: **Response;** each partners role in responding to disasters (real-time response)

Friday, Mar 9: **Recovery;** each partners role in the recovery process (days/weeks/months) after disaster

Saturday, Mar 10: **Wrap-up;** importance of preparedness and action during threatening hazards.

OTHER DATES TO NOTE

* National Flood Safety Awareness Week, March 19-23, 2007.

<http://www.nws.noaa.gov/floodsafety>

* Lightning Safety Awareness Week, June 24-30, 2007

<http://www.lightningsafety.noaa.gov>

* National Safe Boating Week, May 19-25, 2007

<http://www.safeboatingcouncil.org>

NEW!

A new scale for damage surveys is in effect. The new Enhanced Fujita Scale (EF Scale) went into effect on Feb. 1, 2007. For more information on this change, go to <http://www.spc.noaa.gov/efscale/>

Winds of Change...

New Graphical Hazardous Weather Outlook and NOWcast coming in March!



The graphical forecasts will become operational this March. Now, instead of just reading about expected hazards, you can see a picture of what the forecaster is predicting! When first implemented, the graphics will cover the very short term forecast period; from one hour up to 24 hours. Eventually, all seven days of the Hazardous Weather Outlook will be depicted graphically. To see what these will look like, check out the Minneapolis NWS web site where they have been testing the Graphicast. <http://www.crh.noaa.gov/mpx/graphicast.php>

Don't forget to check back to your local office web site during March for your local graphical forecast!

NEW WARNING TECHNOLOGY COMING SOON!

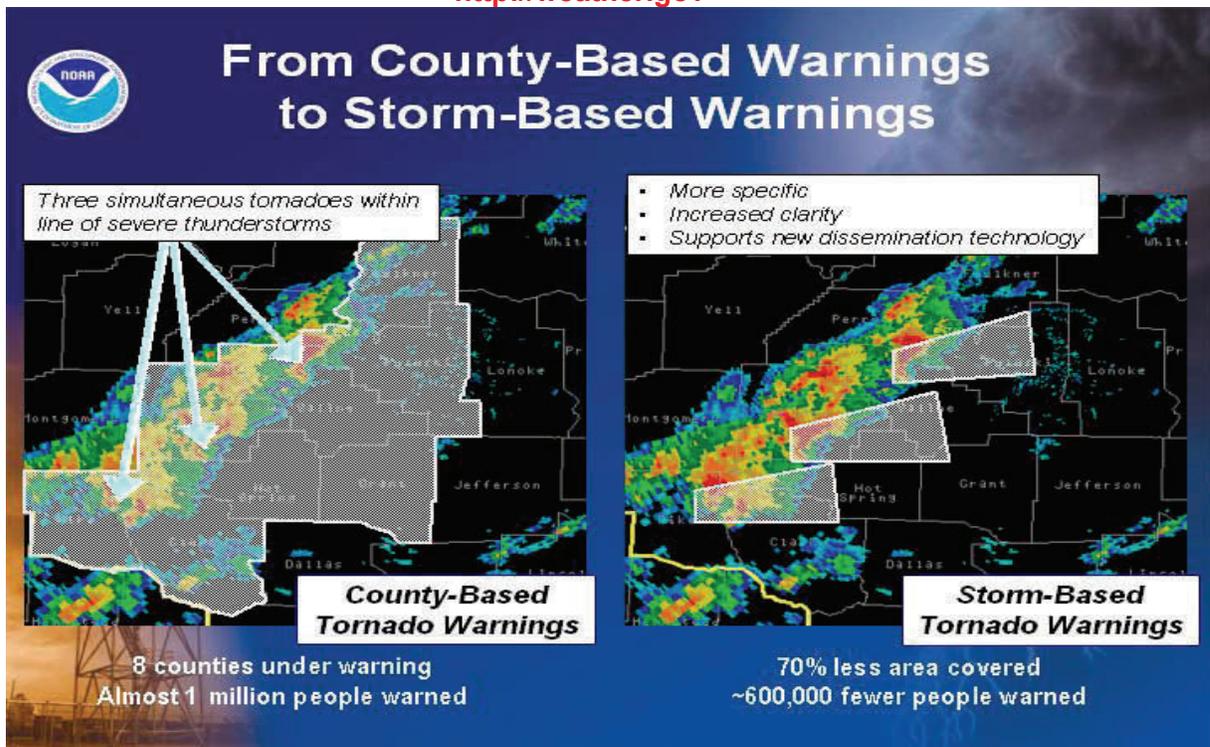
This fall, the National Weather Service will introduce storm based warnings for tornadoes, severe thunderstorms, flash floods and marine hazards that are more geographically specific for these short-duration weather events.

Currently, such warnings are issued county wide. "Weather doesn't follow geopolitical boundaries," said retired Air Force Brig. Gen. David L. Johnson, director of the National Weather Service.

When issuing a warning, the National Weather Service will specify areas within a county and refer to commonly known landmarks such as highways or rivers.

"This is a fundamental change in our warning procedures and a major enhancement in our service capability" said Johnson. **The new warnings will take effect October 1, 2007.** Check our web site for more information on this important change!

<http://weather.gov>



Severe
Weather
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Week



Weather Enthusiasts Wanted!

Volunteers are wanted to join the CoCoRaHS network in Indiana! Anyone can participate; old, young, and anywhere in between. The only requirement is a desire to learn more about how the weather impacts our daily lives.

The project website is located at <http://www.cocorahs.org>

The CoCoRaHS network is a unique, non-profit community based network of volunteer observers who measure and record daily amounts of precipitation (rain, hail, and snow). The high quality data collected by our volunteers will help weather forecasters and resource managers better understand the highly variable patterns that make up Indiana's weather. Qualified observers will be eligible to receive a free rain gauge for use in the project.

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

Flood and Flash Flood Information

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://www.crh.noaa.gov/ahps>

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.



FLOOD FACTS

According to FEMA:

The average annual U.S. flood losses from 1996-2005 was more than \$2.4 billion.

Hurricanes, winter storms and snow melt are common (but often overlooked) causes of flooding.

In 2006, only three Indiana counties had FEMA Major Disaster Declarations for severe storms and flooding: Lake, Vanderburgh and Warrick.

Flood Safety Week March 19-23, 2007 <http://www.nws.noaa.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. River flooding mostly occurs with longer periods of rain which result in slower rises in flood waters and a prolonged flood event.

TORNADOES

During the test tornado drill, the EAS codes used will be the RWT (required weekly test) or RMT (required monthly test).

- A tornado is a violently rotating column of air extending from a thunderstorm to the ground.
- The average forward speed is 30 mph but may vary from nearly stationary to 70 mph.
- Tornadoes can occur at any time of the year.

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. Crouch down and cover your head.

IN HIGH-RISE BUILDINGS:

Go to interior small rooms or halls. Stay away from exterior walls or glassy areas.

IN CARS OR MOBILE HOMES:

ABANDON THEM IMMEDIATELY!! Most 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.

heat wave

How can I be prepared and stay safe?

- 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.
- Do not overexert yourself.
- Eat light meals.
- Stay out of the sun when possible.

Relative Humidity (%)

°F	40	45	50	55	60	65	70	75	80	85	90	95	100	With Prolonged Exposure and/or Physical Activity
110	136													Extreme Danger
108	130	137												Heat stroke or sun stroke highly likely
106	124	130	137											Danger
104	119	124	131	137										Sunstroke, muscle cramps and/or heat exhaustion likely
102	114	119	124	130	137									Extreme Caution
100	109	114	118	124	129	136								Sunstroke, muscle cramps and/or heat exhaustion likely
98	105	109	113	117	123	126	134							Extreme Caution
96	101	104	108	112	116	121	126	132						Sunstroke, muscle cramps and/or heat exhaustion likely
94	97	100	103	106	110	114	119	124	129	135				Caution
92	94	96	99	101	105	108	112	116	121	126	131			Fatigue possible
90	91	93	95	97	100	103	106	109	113	117	122	127	132	
88	88	89	91	93	95	98	100	103	106	110	113	117	121	
86	85	87	88	89	91	93	95	97	100	102	105	108	112	
84	83	84	85	86	88	89	90	92	94	96	98	100	103	
82	81	82	83	84	84	85	86	88	89	90	91	93	95	
80	80	80	81	81	82	82	83	84	84	85	86	86	87	

SEVERE WEATHER TERMS AND DEFINITIONS

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

Watch - An NWS product indicating that a particular hazard is possible, i.e., that conditions are more favorable than usual for its occurrence. A watch is a recommendation for planning, preparation, and increased awareness (i.e., to be alert for changing weather, listen for further information, and think about what to do if the danger materializes).

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

Severe Thunderstorm - A thunderstorm which produces tornadoes, hail 0.75 inches or more in diameter, or winds of 50 knots (58 mph) or more.

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

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 it occurs within 6 hours of a rain event.

Slight Risk (of severe thunderstorms) - Severe thunderstorms are expected to affect between 2 and 5 percent of the area. A slight risk generally implies that severe weather events are expected to be isolated.

Moderate Risk (of severe thunderstorms) - Severe thunderstorms are expected to affect between 5 and 10 percent of the area. A moderate risk indicates the possibility of a significant severe weather episode.

High Risk (of severe thunderstorms) - Severe weather is expected to affect more than 10 percent of the area. A high risk is rare, and implies an unusually dangerous situation and usually the possibility of a major severe weather outbreak.

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.

Squall Line - A solid or nearly solid line or band of active thunderstorms.

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.

Funnel Cloud - A condensation funnel extending from the base of a towering cumulus or Cb, associated with a rotating column of air that is *not* in contact with the ground (and hence different from a tornado). A condensation funnel is a tornado, *not* a funnel cloud, if either a) it is in contact with the ground or b) a debris cloud or dust whirl is visible beneath it.

Cold-air Funnel - A funnel cloud or (rarely) a small, relatively weak tornado that can develop from a small shower or thunderstorm when the air aloft is unusually cold (hence the name). If a touchdown does occur, it lasts only a few minutes and is much less violent than other types of tornadoes.

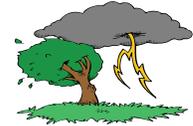
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Lightning Safety!



LIGHTNING SAFETY AWARENESS WEEK JUNE 24-30, 2007

<http://lightningsafety.noaa.gov>



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

Lightning often strikes as far as 10 miles away from any rainfall. Many deaths from lightning occur ahead of the storm because people try and 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!!

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.

- ◇ Be the lowest point. Lightning hits the tallest object. Crouch down if you are in an exposed area.
- ◇ If you can't get to a shelter, stay away from trees. If there is no shelter, crouch in the open, keeping twice as far away from a tree as it is tall.
- ◇ Avoid leaning against vehicles. Get off bicycles and motorcycles. Avoid metal! Don't hold on to metal items such as 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.

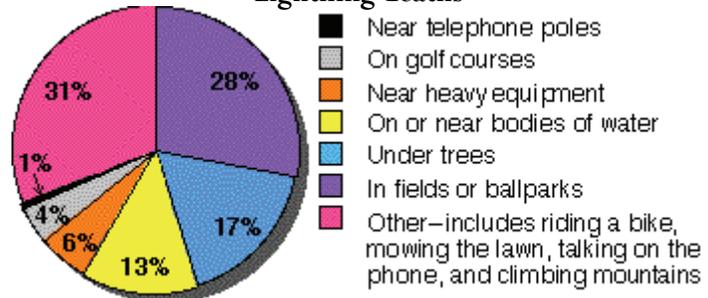


25 million cloud-to-ground lightning strikes occur in the United States each year



Lightning can heat its path **five times hotter** than the surface of the sun

Lightning deaths



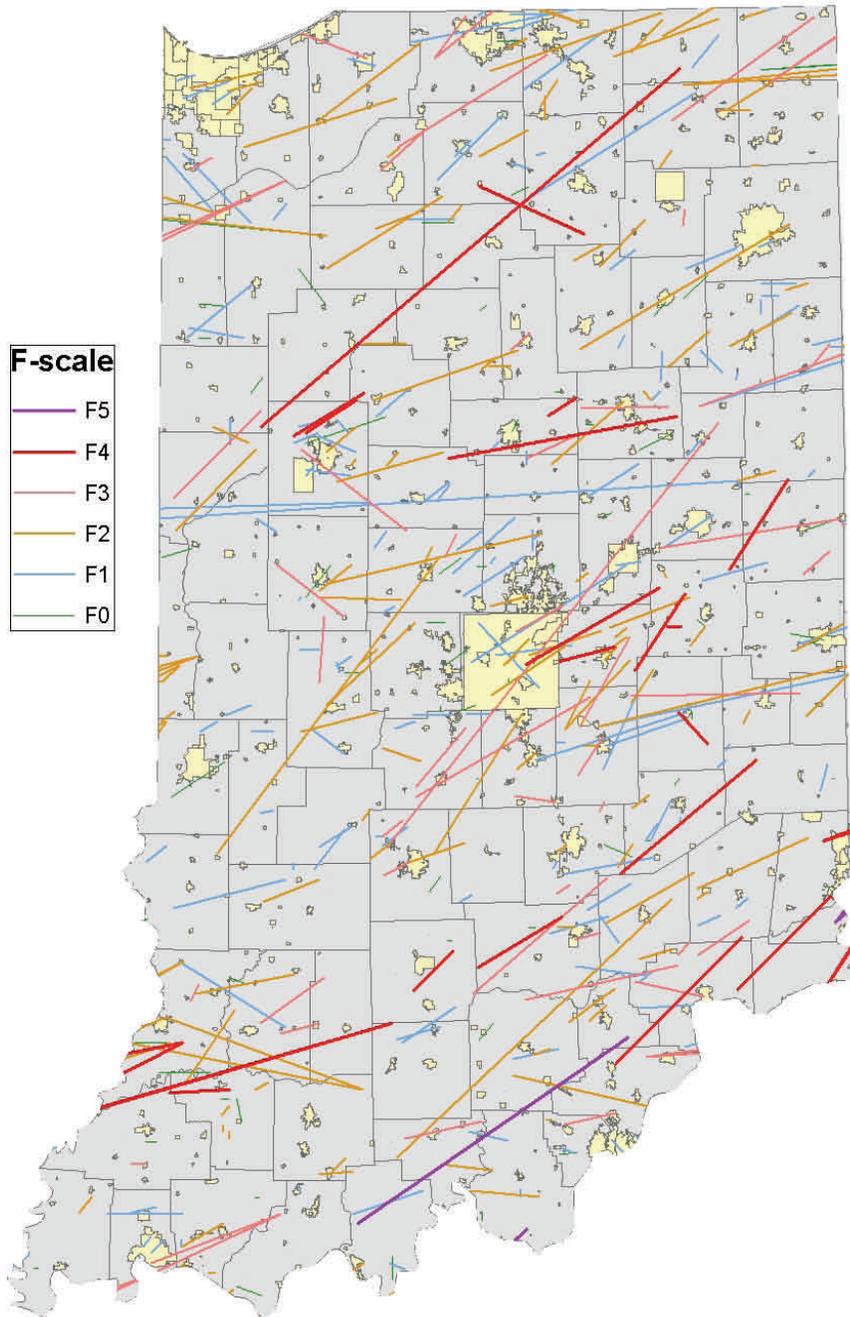
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This map depicts historical tornado tracks in the state of Indiana. To see a full color version of this map included in the newsletter, go to our web site at <http://www.weather.gov/ind>



Indiana Tornado Tracks 1950-2005



NATIONAL WEATHER SERVICE INDIANAPOLIS
6900 WEST HANNA AVENUE
INDIANAPOLIS, IN 46241
<http://weather.gov/ind>



NATIONAL WEATHER SERVICE CONTACTS



INDIANAPOLIS, IN—David Tucek, david.tucek@noaa.gov, 317-856-0360 x726

NORTHERN INDIANA—Steven Eddy, steven.eddy@noaa.gov, 574-834-1104 x726

CHICAGO, IL—Jim Allsopp, jim.allsopp@noaa.gov, 815-834-0600 x726

LOUISVILLE, KY—Joe Sullivan, joe.sullivan@noaa.gov, 502-969-8842

PADUCAH, KY—Ricky Shanklin, ricky.shanklin@noaa.gov, 270-744-0321 x726

WILMINGTON, OH—Mary Jo Parker, mary.parker@noaa.gov, 937-383-0428

