



Central Illinois Lincoln Logs

National Weather Service, Lincoln, IL

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In This Issue

- Severe Weather Preparedness
- Enhanced Fujita Scale
- Illinois Severe Weather Statistics for 2006
- Mid-February Blizzard Strikes Central Illinois
- USA National Phenology Network
- 2006 Annual Climate Statistics
- Local 3-Month Temperature Outlooks
- Is La Niña Returning?
- NOAA Marks 200 Years

Preparedness is Critical to Surviving Severe Storms

by Chris Miller, Warning Coordination Meteorologist



Severe storms and tornadoes struck central and eastern Illinois with a vengeance last year, including two strong tornadoes which ripped through the state capital of Springfield during the evening of March 12th. The city of more than 100,000 residents suffered more than \$100 million in damage to homes and businesses, but there were no fatalities and

only 19 injuries. Plenty of time to respond to the approaching storm and knowing what to do when severe weather threatened was the key to the low casualty total.

Nearly one third of all tornadoes and more than 40% of severe thunderstorms affect Illinois during the night. In light of what recently occurred when tornadoes struck central Florida, it is imperative that someone in each home and business monitor weather conditions at night, particularly when severe weather watches and warnings are in effect. The best way to do this is to monitor a weather alert radio. They are inexpensive, as important as a smoke alarm, and can be your personal storm siren. There were a total of 34 people injured by tornadoes and severe thunderstorm winds in central Illinois during 2006, 28 of which occurred when it was dark.

The state of Illinois experiences more than 40 tornadoes, 200 reports of large hail, and more than 300 reports of severe wind or wind damage each year. The following information will help you stay safe from these inevitable forces of nature:

- **Develop a severe weather safety plan for use at home, in the workplace, at schools, in your vehicle, and for outdoor activities**
- In a home with a basement, take shelter under a sturdy table or workbench.
- In homes without a basement, go to the lowest floor possible, and seek shelter in an interior hallway, closet, or bathroom without windows.
- In mobile homes, seek shelter before the storm approaches. Go to a sturdy building. Do not try to ride out the storm in a trailer.
- In the workplace, go to the designated storm shelters on the lowest floor possible. If your employer has not assigned storm shelters, or you are not sure where they are, ask your company's safety manager.

Preparedness Week Campaigns:

March 4-10 – Severe Weather Awareness Week (<http://www.weather.gov/lincoln/n=svr-prep>)

March 19-23 – Flood Safety Awareness Week (<http://www.weather.gov/floodsafety>)

June 24-30 – Lightning Safety Awareness Week (<http://www.lightningsafety.noaa.gov>)

Storm Spotter Training



Severe weather spotters provide critical information to their communities and NWS forecasters during hazardous weather events. Anyone with an interest is welcome to attend a spotter class. There are no fees - only 2 to 3 hours of your time!

Sessions are being conducted through May. Visit <http://www.weather.gov/lincoln/spotter2.php> for a complete listing of sites and times.

- In schools, the safest place to go is in an interior hallway on the lowest floor, away from windows and doors.
- In your vehicle, if a tornado is bearing down on you, take shelter in a sturdy building. If no building is nearby, then lie flat in a ditch or ravine, and cover your head. Do NOT seek shelter under a bridge or highway overpass.
- Outdoors, try to get into a sturdy building. If there is no building nearby, then lie flat in a ditch or low spot and cover your head.

Know the terms related to tornadoes and severe storms.

- A **TORNADO** is a violently rotating column of air that extends from the base of the thunderstorm cloud to the ground.
- A **SEVERE THUNDERSTORM** can produce large hail $\frac{3}{4}$ " in diameter or larger, and/or wind gusts around 60 mph or higher that can result in damage to trees, structures, or power lines. Severe thunderstorm winds can be stronger, and produce more damage, than 70% of the tornadoes that affect Illinois.
- A **WATCH** means that tornadoes or severe thunderstorms are possible, and you need to watch the weather closely.
- A **WARNING** means that a tornado or severe thunderstorm has been detected by radar, or has been reported by a trained storm spotter. Seek safe shelter immediately if your location is in the path of the storm.

Have multiple sources at hand to monitor threatening weather conditions. It is critical to monitor watches, warnings and other storm information. A tone alert weather radio is the most efficient way to do this. Most weather radios can be easily programmed, so you only receive the watches and warnings for your county, or any other nearby counties you choose.

Monitoring local television and radio stations that are participating members of the Emergency Alert System (EAS) is another good way to keep abreast of approaching storms.

Don't just rely on outdoor warning sirens. They may not be heard indoors, and may not wake you up. If you hear an outdoor warning siren, turn on your weather radio, or other radio or TV station for more information.

Severe storms often produce flash flooding from torrential rain. In fact, more people die from flash floods every year in the United States than from tornadoes. A vast majority of the fatalities and injuries occur when people try to cross a flooded roadway in a vehicle. It only takes about 1 to 2 feet of water to cause a vehicle to become buoyant – including SUVs and pickup trucks.

Every thunderstorm, not just the strong ones, has lightning. Lightning kills dozens of people every year, and injures hundreds, across the country. If you hear thunder, or see a flash of lightning, go indoors into a secure building immediately. Don't stand under a tree, or out in an open area. A closed, hard-topped vehicle is another alternative place to seek shelter from lightning.

Illinois Severe Weather Statistics for 2006:

- 124 tornadoes reported statewide, breaking the record of 120 set in 2003.
- 73 were F-0 in strength.
- Strongest tornado: Between Joppa and the Metropolis airport in Massac County, F-3 on 9/22.
- Longest tornado track: 66 miles, from Hillview (Greene County) to Springfield on 3/12.
- Largest hail: 3" in Pocahontas on 4/2, Normal on 4/16 and Lewistown on 5/24.
- Highest measured wind gust: 107 mph at the Quad City Airport in Moline on 3/12.

Severe weather climatology information can be found at <http://www.weather.gov/ilx/svrclimo.php>



Blizzard conditions at NWS office, February 14

Enhanced Fujita Scale Now Operational

The new Enhanced Fujita Scale (EF Scale) became operational on February 2. The first tornado in central Illinois to be rated by this scale was on March 1. A tornado in Elwin, near Decatur, was rated as EF-0, with winds around 80 mph.

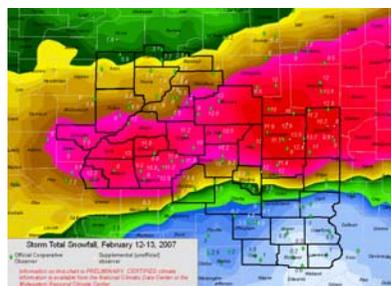
The original Fujita scale was developed in 1971 to rate tornadoes and estimate associated wind speed based on the damage they cause. The EF Scale refines and improves the original scale. It was developed by the Texas Tech University Wind Science and Engineering Research Center, along with a forum of wind engineers, universities, private companies, government organizations, private sector meteorologists and NOAA meteorologists from across the country.

Limitations of the original Fujita scale may have led to inconsistent ratings, including possible overestimates of associated wind speeds. The EF Scale incorporates more damage indicators and degrees of damage than the original Fujita scale, allowing more detailed analysis and better correlation between damage and wind speed. However, the original Fujita scale historical data base will not change. An F5 tornado rated years ago is still an F5, but the wind speed associated with the tornado may have been somewhat less than previously estimated.

F Scale Number	Fastest ¼ mile wind (mph)	EF Scale Number	3 Second Gust (mph)
0	40-72	0	65-85
1	73-112	1	86-110
2	113-157	2	111-135
3	158-207	3	136-165
4	208-260	4	166-200
5	261-318	5	201 and up

For more information, visit the Storm Prediction Center's EF-Scale web page at <http://www.spc.noaa.gov/efscale/>

Mid-February Blizzard Strikes Central Illinois



One of the most significant snowstorms in nearly a decade struck central Illinois on February 13, producing blizzard conditions in many locations. Snow began falling during the late evening hours of February 12 and did not come to an end until 24 hours later. The extended period of snow produced impressive accumulations across parts of central Illinois, particularly along the I-72 corridor where between 10 and 15 inches was common.

During this storm, winds gusted from 35 to 45 mph in many areas, with some 50+ mph gusts in Champaign County, as well as near Springfield. This combined with the new snow to produce blizzard conditions across



After the cold February and the rapid snowmelt following the blizzard, ice jams formed on some area rivers. This ice jam occurred on the Middle Fork Vermilion River near Oakwood on February 27.

much of central Illinois. The Lincoln NWS issued only its second blizzard warning of its 11+ year existence during the event.

A review of the event can be found on our web page at <http://www.crh.noaa.gov/ilx/?n=13feb07>

USA-National Phenology Network (USA-NPN)

Phenology is the science of periodic events in the animal and plant world as influenced by the environment, especially weather and climate. Sprouting and flowering of plants in the spring, color changes of plants in the Autumn, bird migration, insect hatches, and animal hibernation are all examples of phenological events. Phenological observation networks in the USA were developed in the late 1950's and early 1960's, as part of agricultural planning programs sponsored by regional projects in the Agricultural Experiment station network. Many of the Weather Bureau's volunteer observers were also a part of phenological networks, and some remain to this day. The networks have waned over the years, but are still alive. In the last decade, the value of such networks for global change studies monitoring the biological effects of climate change, and improving understanding and ability to model atmosphere-biosphere carbon and energy flux interactions, has become apparent. With a grant from the National Science Foundation and contributions from other agencies, a USA-National Phenology Network is being implemented this Spring. Existing Phenology Networks that are a part of other Federal and State Agencies, and so forth, will be assimilated into the USA-NPN.

While not a part of the Cooperative Observer Program, COOP observers would be a natural source of this kind of data.

If you would like to help out the USA-NPN, you will have the option to indicate your willingness to participate in just the indicator program (observing only one type of plant) or the full program (observing the indicator plant and several native species). The time requirement would be a few minutes each day during the leafing and flowering period in the spring, and (only if observing native plants) similar time during the leaf coloring period in autumn. Since it will take several years to produce and provide cloned plants to new sites, and these plants will be distributed to produce the broadest geographical coverage, alternative observation options will be available to interested observers involving either existing plants at your sites or nearby, which would allow immediate participation starting in spring 2007. Instructions to obtain and plant specific species from a nursery will also be provided as an additional option. The USA-NPN observation program will be primarily designed to function using the Internet for providing instructions, gathering observations, and providing access to data. However, we will also provide a means for those without Internet access to fully participate.

If you are interested, you can go to <http://www.npn.uwm.edu> for more information and to register.

Winter 2006/07 Climate Statistics:

Peoria:

- * Average temperature 27.3°F (1.1°F above normal)
- * Precipitation 8.10" (2.53" above normal)
- * Snowfall 23" (2.1" above normal)

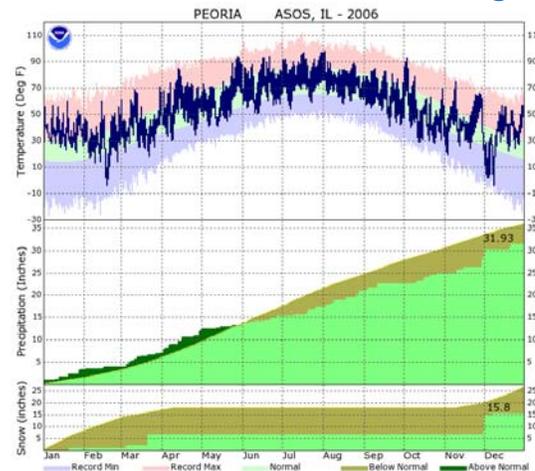
Springfield:

- * Average temperature 29.5°F (0.8°F above normal)
- * Precipitation 8.43" (2.47" above normal)
- * Snowfall 23.8" (4.6" above normal)

Lincoln:

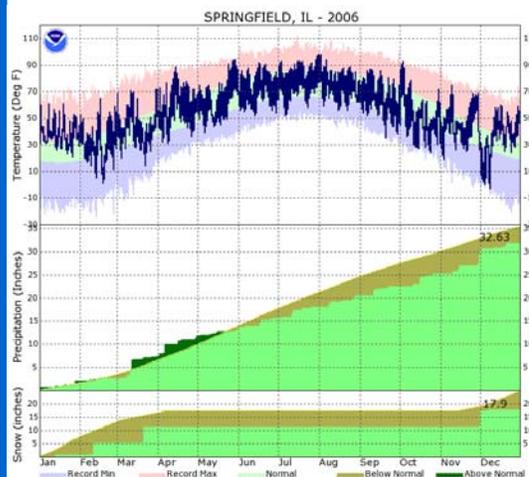
- * Average temperature 27.9°F (0.7°F above normal)
- * Precipitation 7.57" (1.69" above normal)
- * Snowfall 26.4" (10.3" above normal)

2006 Annual Climatological Statistics



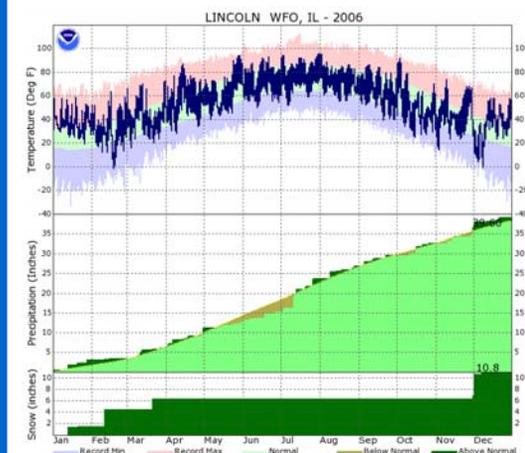
Peoria:

- * Average temperature 53.8°F (3°F above normal). Extremes: 98° on 8/2; -4° on 2/18 and 12/08.
- * Precipitation 31.93" (4.09" below normal). Most in 24 hours: 1.81" on 11/29-30.
- * Snowfall 15.8" (11.4" below normal). Most in 24 hours: 6.8" on 12/1.
- * Highest wind gust: 51 mph on 5/24.



Springfield:

- * Average temperature 54.7°F (2°F above normal). Extremes: 98° on 7/31 and 8/2; -3° on 12/8.
- * Precipitation 32.63" (2.93" below normal). Most in 24 hours: 2.18" on 3/12.
- * Snowfall 17.9" (7" below normal). Most in 24 hours: 5.5" on 12/1.
- * Highest wind gust: 59 mph on 4/18.



Lincoln:

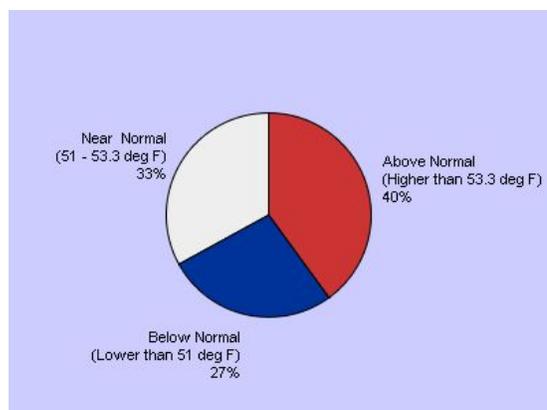
- * Average temperature 53.6°F (2.4°F above normal). Extremes: 96° on 7/31; -2° on 2/18.
- * Precipitation 39.60" (1.30" above normal). Most in 24 hours: 2.93" on 7/11.
- * Snowfall 10.8" (9.5" below normal). Most in 24 hours: 3.7" on 12/1.

These graphs, along with monthly graphs for 2006 and 2007 for these and several other sites, are available on our homepage at

<http://www.crh.noaa.gov/ilx/?n=cli-graph>

Local 3-Month Temperature Outlooks Now Official

The National Weather Service has transitioned its Local 3-Month Temperature Outlooks (L3MTO) to official status.

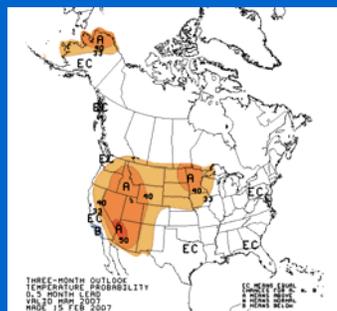


L3MTO takes the existing 90-day outlooks from the Climate Prediction Center, and “downscales” them for local cities. The available cities in central Illinois are Decatur, Effingham, Galesburg, Havana, Normal, Olney, Paris, Peoria, Springfield, and Urbana. The graph at left (for Springfield, for March through May) is an example of one of the

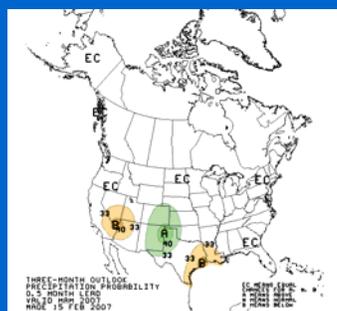
elements that is available; Springfield has a 40% chance of seeing above normal temperatures for spring.

These forecasts are available at the following web page:

http://www.weather.gov/climate/calendar_outlook.php?wfo=ilx

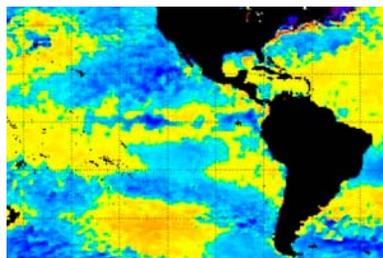


National temperature outlook for March through May; orange areas indicate above normal temperatures.



National precipitation outlook for March through May. Above normal precipitation indicated in green; below normal in brown.

La Niña May Soon Arrive



On the heels of **El Niño**, its opposite, **La Niña** may soon arrive. In late February, scientists at the Climate Prediction Center noted that as the 2006-2007 El Niño faded, surface and subsurface ocean temperatures have rapidly decreased. Recently, cooler-than-normal water (indicated in the blue shades on the map to the left) temperatures have developed

at the surface in the east-central equatorial Pacific, indicating a possible transition to La Niña conditions.

Typically, during the U.S. spring and summer months, La Niña conditions do not significantly impact overall inland temperature and precipitation patterns, however, La Niña episodes often do have an effect on Atlantic and Pacific hurricane activity.

La Niña conditions occur when ocean surface temperatures in the central and east-central equatorial Pacific become cooler than normal. These changes affect tropical rainfall patterns and atmospheric winds over the Pacific Ocean, which influence the patterns of rainfall and temperatures in many areas worldwide.

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National Weather Service
1362 State Route 10
Lincoln, IL 62656

Phone (217) 732-3089
(8:30 am to 4 pm weekdays)

The *Central Illinois Lincoln Logs* is a quarterly newsletter of the NWS office in Lincoln, and is available on our Internet page at

<http://www.weather.gov/lincoln>

Your comments are welcomed and can be addressed to either editor at our office.

Co-editors.....

Chris Miller, Warning
Coordination Meteorologist
Chris.Miller@noaa.gov

Billy Ousley, Data Acquisition
Program Manager
Billy.Ousley@noaa.gov

Newsletter designer/editor....

Chris Geelhart, HMT
Chris.Geelhart@noaa.gov

Meteorologist-In-Charge.....
Ernie Goetsch
Ernest.Goetsch@noaa.gov



200 Years of Science, Service & Stewardship



Our parent agency, the National Oceanic and Atmospheric Administration (NOAA), is marking 200 years of scientific service to the nation.

In 1807, President Thomas Jefferson founded the U.S. Survey of the Coast, to provide nautical charts to the maritime community, for safe passage into American ports and along the coastline. It was renamed to the U.S. Coast Survey in 1836. It was joined by the U.S. Army Signal Service in 1870, which provided the nation's first weather service, and by the U.S. Commission of Fish and Fisheries in 1871. By this time, the Coast Survey was also conducting surveys into the interior of the U.S., and was renamed in 1878 to U.S. Coast and Geodetic Survey.

In 1891, the functions of weather prediction were transferred from the Army to the Department of Agriculture, marking the beginning of the U.S. Weather Bureau. In 1917, the Commissioned Officers Corps was created from field corps of the Coast and Geodetic Survey, and is still in operation today (known as the NOAA Corps).

In 1965, the Coast and Geodetic Survey, as well as the Weather Bureau, were organized under the Environmental Science Services Administration. In 1970, NOAA was created and combined the Weather Bureau (renamed the National Weather Service), the Bureau of Commercial Fisheries, the Coast and Geodetic Survey, the Environmental Data Service, the National Oceanographic Data Center, the National Satellite Center, and research libraries.

NOAA currently consists of the following sub-agencies:

- National Weather Service
- National Ocean Service
- National Marine Fisheries Service
- National Environmental Satellite, Data, and Information Service
- Office of Oceanic and Atmospheric Research
- Office of Marine and Aviation Operations

More information can be found at: <http://celebrating200years.noaa.gov>