



Winter 2008

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Top Ten Weather Events for 2008 for Northern Illinois and Northwest Indiana

by Jim Allsopp, Warning Coordination Meteorologist

Here is a list of some of the big-impact weather events to affect north central and northeast Illinois, and northwest Indiana from January 1, 2008 through December 17, 2008.

January 7 - Record Warmth and Rare Winter Tornado

Strong south winds brought unseasonably mild and humid air into northern Illinois and northwest Indiana on January 7. The high temperature of 65 and low temperature of 51 at Chicago O'Hare were both new records for the date. Rockford's high of 63 was also a record. Thunderstorms developed by early afternoon, and a tornado watch was issued for northern Illinois. A supercell thunderstorm developed over Ogle County and produced a swath of hail over the west and north sides of Rockford, as it continued to gather strength over Winnebago County. The storm eventually produced a tornado from just north of Poplar Grove, in Boone County, to just east of Lawrence, in McHenry County. The storm continued northeast producing additional tornadoes in southern Wisconsin.

The Boone-McHenry tornado was rated EF3. The twister damaged an apple orchard, several homes and farm outbuildings, and it derailed a freight train. This was only the second tornado ever documented in northern Illinois in the month of January. The only other tornado produced F2 damage in Kankakee County on January 25, 1950. There were many similarities between the 1950 and 2008 events. Chicago also set a record high temperature (67 degrees) on January 25, 1950.



Tornado debris on a pile of old snow near Poplar Grove, IL. Photo by Jim Allsopp



January 8 to 11 – Flooding at Pontiac, Watseka, Rensselaer

After thunderstorms produced tornadoes along the Illinois-Wisconsin border on January 7, additional storms dumped heavy rain over parts of east central Illinois and northwest Indiana on the 8th. Three to five inches of rain fell over Livingston, Ford and Iroquois Counties in Illinois eastward into Newton and Jasper Counties in Indiana. The heavy rain combined with snow melt, resulted in flooding of the Iroquois and Vermilion Rivers, which inundated sections of Pontiac, Watseka and Rensselaer. One man drowned while trying to evacuate his home in Remington.



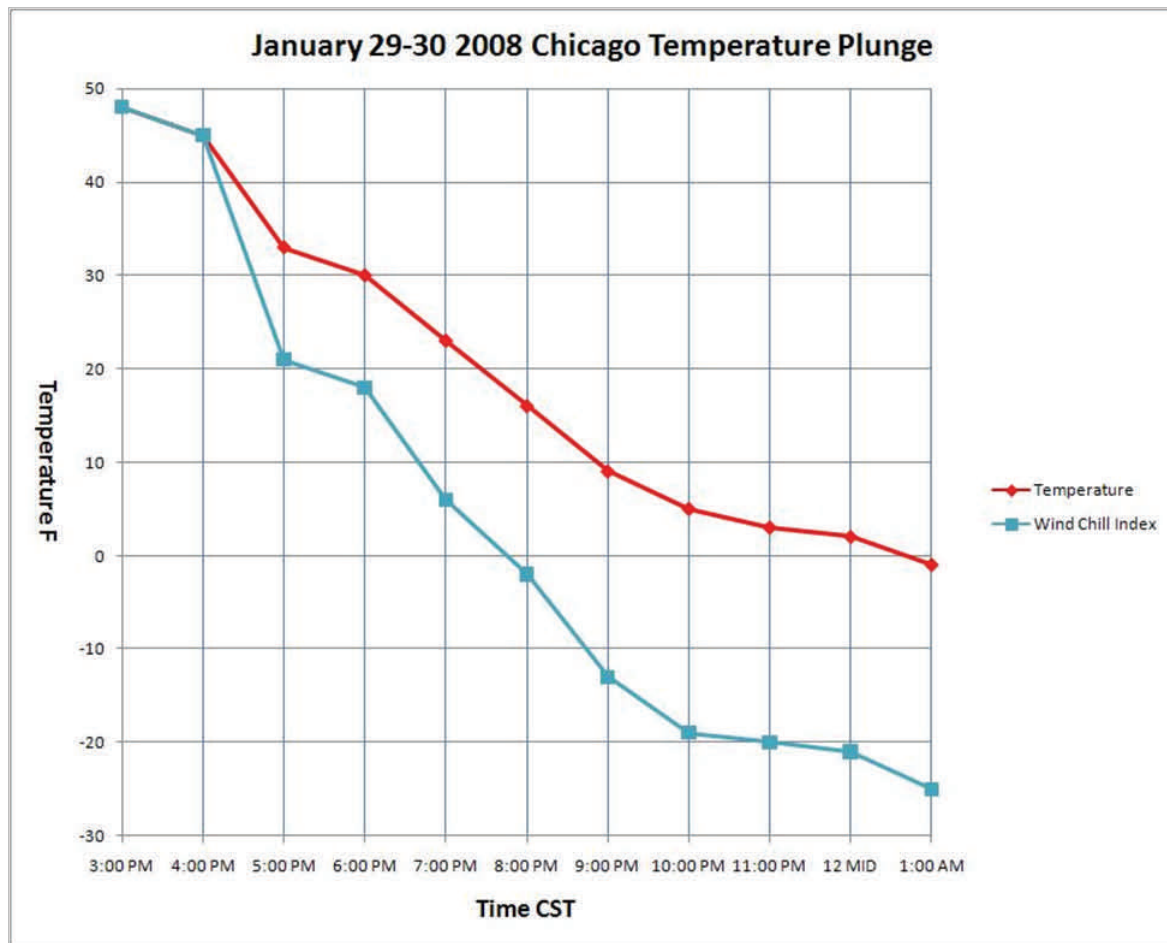
Flooding in Pontiac. Photo by Scott Petersen - Pontiac Flying Service

Late January, Early February - Winter Weather

The winter of 2007-2008 was long, wet, and snowy. Chicago had 60.3 inches of snow for the season, making it the 7th snowiest all-time. Rockford had 72.9 inches of snow, the second greatest seasonal snowfall in history. There were many winter events to consider for this list, but the worst of winter was a series of events that occurred over a two week period in late January and early February.

January 29 through Feb 1 – Winter Blast and Snow Storm

On January 29 a sharp cold front blasted through the area. Ahead of the front temperatures climbed into the upper 40s and showers and thunderstorms developed. Behind the front, snow and winds gusting to near 50 mph created near-blizzard conditions in the evening. The mercury tumbled and by shortly after midnight of the 30th, temperatures had plunged 50 degrees to near zero. Wind chill temperatures dipped to 25 to 35 degrees below zero across northern Illinois and northwest Indiana.



This was followed by a snow storm on January 31 and February 1. Six inches to nearly a foot of snow fell, with the heaviest in the Fox Valley. Aurora reported 12 inches and Batavia had 11.5 inches.

February 5 and 6 – Super Tuesday Snowstorm

Old Man Winter wasn't done yet. A few days later, on February 5 and 6, another snow storm blanketed the far northern part of Illinois with 6 to 15 inches of snow. Some of the larger totals included 15.1 inches at Antioch, 14.0 inches at Woodstock, and 11.3 inches at Rockford.

This snow fell on the cold side of a powerful storm system. On the warm side, a major tornado outbreak occurred over the lower Mississippi and Tennessee River Valleys. There were 84 tornadoes which resulted in 57 fatalities. Five of the tornadoes were rated EF4. It was the deadliest tornado outbreak since the "Superoutbreak" of April 1974.

February 10 - Frigid Weather

Four days later on Sunday, February 10 the coldest day of the winter occurred. Temperatures dipped below zero and winds howled at 20 to 30 mph, with a few gusts to near 40 mph. The resulting wind chill temperatures were -25 to -35.

March 21 - Welcome to Spring

After a long, wet, snowy winter, many residents were anxiously awaiting the arrival of spring. On March 21, the first full day of spring, 5 to 11 inches of snow fell across part of northern Illinois, affecting an area from Rockford to the north suburbs of Chicago. The heaviest snow was 11.0 inches at Gurnee, and 10.0 inches at Beach Park.

June 7 - Tornadoes southwest of Chicago

Supercell thunderstorms developed across LaSalle and Livingston Counties during the afternoon of Saturday June 7. The Livingston County storm produced a couple of tornadoes west of Odell and Dwight. The storm reorganized and produced a series of tornadoes from northwest Kankakee County, across Will County and into south suburban Cook County before dissipating at the Indiana state line. A total of eight tornadoes occurred, four of them were rated EF-2. At one point, one of the tornadoes was estimated to be at least a quarter of a mile wide in rural Will County. Several homes were destroyed in Will County. Large, metal trussed, high tension power line towers were damaged near Monee, closing I-57. Apartments and businesses were damaged in Richton Park, University Park, and Chicago Heights.



Large “wedge” tornado near Wilton Center in Will County June 7 – photo by Amy Pavlik

June 15 to 18 - Fox, Des Plaines, and Rock River Flood

A wet and snowy winter and spring left the ground saturated and rivers swollen over southern Wisconsin and northern Illinois. Several rounds of thunderstorms with additional heavy rain occurred in early June. This sent area rivers to near record levels. June rainfall totals of 5 to 9 inches were reported from Winnebago to Lake Counties in far northern Illinois, while some locations in southern Wisconsin recorded in excess of 10 inches. The Fox River set a record crest at New Munster, Wisconsin on the 15th. Downstream in Lake and McHenry Counties many homes and businesses were impacted as well as the Chain of Lakes State Park. In Winnebago County, the Rock River reached the second highest crest on record at Rockton on June 18. An area from Roscoe through Machesney Park and Loves Park, north of Rockford, was hardest hit by the flood. Several hundred homes were inundated.



Flooding of the Rock River in Machesney Park. Photo by Jim Allsopp

August 4 - Derecho

A well organized, long lasting, bowing line of thunderstorms, known as a derecho, marched across northern Illinois on August 4. The powerful storms produced a widespread swath of 50 to 70 mph winds, knocking down trees, limbs, and power lines. Localized wind gusts of 70 to 90 mph occurred. The storms were also accompanied by thousands of cloud to ground lightning strikes and heavy downpours. Wrigley Field was evacuated during a Cubs game. There were six small, brief tornadoes embedded along the front flank of the line of storms. Tornadoes struck twice in Bloomingdale, and also hit Bolingbrook, Orland Park, and Griffith, Indiana. The strongest tornado was at Griffith, where EF-2 damage occurred. A separate storm produced a tornado near Boswell in Benton County Indiana later that night.



Tornado damage in Griffith, IN. Photo by Tim Halbach

September 13 and 14 - Flood

The remnants of Hurricane Gustav provided 2 to 4 inches of widespread rainfall across northern Illinois and northwest Indiana during the first week of September in an area that had been very dry. This was welcome relief at the time, though it set the stage for trouble.

One week later, remnants of tropical storm Lowell came out of the Pacific Ocean and moved across a stationary front, producing heavy rainfall across northern Illinois and northwest Indiana late Friday night September 12 and during the morning of Saturday September 13. One band of heavy rain was along the Illinois/Kankakee River Valley and another swath was across Kane, northern DuPage, and northern Cook Counties. Another wave of heavy rainfall came Saturday night and Sunday September 14 as remnants of tropical storm Ike moved up from Galveston and Houston. This time the heaviest rain was concentrated across the south suburbs, east central Illinois and northwest Indiana.

Rainfall totals for the weekend were 5 to 10 inches across much of the area. The heaviest amounts, up to eleven inches, fell near Valparaiso. The heavy rain caused flash flooding of roads, basements, creeks and small streams – including Salt Creek and the DuPage River in DuPage County, and the north branch of the Chicago River and Little Calumet River in Cook County and Lake County IN. The run off eventually reached the larger streams. There was record or near record flooding at Shelby, IN on the Kankakee River, at Des Plaines and Riverside along the Des Plaines River, and at Morris and LaSalle on the Illinois River. The heavy rain and flooding resulted in four fatalities and around 100 million dollars in damages.



Flooding in downtown Des Plaines. Photo courtesy of CLTV.

Ice Jams and River Ice Spotters

by William Morris, Service Hydrologist



Ice jam on the Kankakee River at the I-55 Bridge near Wilmington, IL.

January 2008.

Photo courtesy Will County EMA.

During the winter, ice jams can result in flash flooding. Water levels can rise rapidly in the vicinity of a jam. In addition to flooding, considerable damage can be done to homes and other structures as well as vegetation along the river from the ice movement. The 2007/08 winter saw extensive ice on many area rivers along with serious ice jam flooding.

There are generally two recognized types of ice jams, freeze-up and breakup.

Freeze-up jams form in early to midwinter after a period of subfreezing air temperatures. They consist primarily of frazil and broken border ice. Although they generally do not release suddenly, they can result in backwater flooding in the vicinity of the jam.

Break up jams occur when the ice cover is lifted and begins to break apart. This generally occurs from increased runoff into the stream through rain or snowmelt, or often a combination of both. A jam occurs when large chunks of broken ice encounter some obstruction. That obstruction could be a bridge or narrowing in the channel or at a sharp meander. A change in river bed slope can cause an ice jam as well. Breakup jams are very unstable and can release with little warning. A period of melt and refreezing can result in more than one breakup jam occurring in the same season. Breakup jams can result in rapid rises in the vicinity of the jam and flash flooding.

The National Weather Service (NWS) is responsible for the issuance of river forecasts and flood warnings. The NWS relies heavily on a network of river gages owned and operated by the U.S. Geological Survey, Corps of Engineers, as well as state and other local agencies. However, ice jams are typically localized and river gage readings do not always accurately indicate what is occurring when ice is involved. For accurate ice assessment, one needs to know information such as the extent of the existing ice cover, if there are any open areas, has the ice begun to breakup, etc. This information can only be obtained by visual observations.



*Ice jam on the Rock River in Winnebago County, IL.
January 2008.
Photo courtesy Winnebago County EMA.*



Large chunks of ice left along banks after a breakup jam on the Kankakee River. March 2007. Photo by Bill Morris.

In December 2007 the NWS Chicago office created a River Ice Spotter program in order to collect additional ice information from volunteer s that live or work near rivers prone to ice jams. This network consists of dedicated citizen scientists that provide the National Weather Service with information on ice formation in the river, percent of ice cover, as well as critical information on the location of any ice jams or ice jam flooding that may be occurring. This information is used by the NWS to issue flash flood or river flood warnings. Observers receive basic training in ice identification and reporting procedures.

Safety is priority one. All visual observations of ice conditions should be done from a safe location only. Under no circumstances should ice spotters venture out on the ice to take an observation.

The river ice spotter network has been a great success and last year the NWS Chicago office received many valuable reports from our ice spotters. The network has been expanded for the 2008/09 ice season to include additional spotters along the Fox, Rock, Des Plaines, and other rivers in northern Illinois.

If you live along an area prone to ice jams and would like to participate in the river ice spotter program, please contact Bill Morris, Hydrologist with the NWS Chicago office. Include your name, address, and phone number. Contact: William.morris@noaa.gov or phone 815-834-0600 x493.

Give the gift of All Hazards NOAA Weather Radio

by Amy Seeley, Port Meteorological Officer



Are you still looking for that perfect last minute holiday gift?

Here's a great idea, and its good for the entire family! All Hazards NOAA Weather Radio (NWR) is a great gift idea.

NWR is your single source for comprehensive weather and emergency information. NWR broadcasts official Weather Service warnings, watches, forecasts and other hazard information 24 hours a day, 7 days a week.

NWR also broadcasts warning and post-event information for all types of hazards – including natural (such as earthquakes or avalanches), environmental (such as chemical releases or oil spills), and public safety (such as AMBER alerts or 911 Telephone outages).

During severe weather, if power goes out, your NWR will still be used as most of them can run on battery. You can always have the latest information on the weather and what is happening in your area.

NOAA Weather Radios can be purchased at most boating, electronic and outdoor stores.

NWS Chicago to be at the Chicago Boat Show

by Amy Seeley, Port Meteorological Officer

January 14-18, 2009

If you are headed out to the Chicago Boat, RV & Outdoors Show, why not stop by the Chicago National Weather Service booth! We are booth #6626 and we will be handing out lots of pamphlets on weather and safety, talking about NOAA All Hazards Radio, and showing off our webpage. Find out the latest on the newest weather products and services we are offering.

Hope to see you there!



Skywarn Spotter Training

by Jim Allsopp, Warning Coordination Meteorologist

Skywarn severe storm and tornado spotter training will be conducted throughout northern Illinois and northwest Indiana from about mid February through mid April. A complete schedule of classes will be posted on our web page by January 23. The schedule will be just above the map, under "Top News of the Day".

Here is more information about Skywarn.

Spotter FAQ

Q. What is a storm spotter?

A. The National Weather Service's (NWS) primary mission is to save lives and protect property through the issuance of warnings for hazardous weather. The WSR-88D Doppler Weather Radar is a great tool for detecting and tracking potentially severe storms and most strong and violent tornadoes. However, NWS meteorologists also depend on real-time reports from trained spotters to know exactly what is occurring on the ground under a storm. The NWS trains people to identify severe storms and tornadoes and report them via organized communications networks (primarily local and county emergency management, law enforcement and amateur radio).

Q. I want to be a storm chaser. What should I do?

A. College of DuPage in Glen Ellen offers storm chasing field trips that are open to students and the public. The Valparaiso University Meteorology Department offers storm chasing as an educational tool to meteorology students. There are private firms, mostly in the Great Plains, which offer storm chase tours/vacations. Many can be found through an internet search.

Q. What is the difference between a storm spotter and a storm chaser?

A. A storm **spotter** is a volunteer or paid county or municipal employee who is spotting as a community service. Most spotters work as part of an organized network and are in communication with their community or organization, which is in turn in communication with the NWS. Some spotters are "mobile" spotters in vehicles, but most spot from fixed, strategic locations around the community or county. The purpose of spotting is to alert community officials and the NWS and assist them in warning the public. Schools, hospitals, and other facilities are encouraged to have spotters to alert people in their care of impending severe weather.

Storm **chasing** involves following a developing thunderstorm in a vehicle to view or photograph severe weather phenomena. Chasing may be done for educational purposes or scientific research but is mostly done for personal fulfillment.

Q. How do I become a spotter?

A. Attend a basic tornado and severe weather spotter class. Classes are held throughout the area, they are free and open to the public. The class takes about 1 ½ to 2 hours. Most classes are held weekday evenings, but there are a few daytime and Saturday classes. The training is generally done in late winter and early spring - before severe weather season. The training consists of a slide and video program which teaches potential spotters about severe storm structure, and how to identify cloud features and other environmental clues to identify severe storms and tornadoes. Communications systems and spotter networks are explained so the spotter knows where to report, and how that information is used by the NWS and local officials. A complete schedule of classes can be found on our website from about late January through April.

Q. Is there a minimum age requirement to become a spotter?

A. Because of the complexity of severe thunderstorm structure and development, and the potential danger involved, spotting is recommended for adults. High School and Junior High School or Middle School students are welcome to attend the class with a parent or other adult.

Q. I have already taken a spotter class. Where can I learn more?

A. The National Weather Service encourages spotters to be retrained every 2 years. In addition, spotters can attend the Advanced Severe Weather Spotter Workshop at Wheaton College. The Advanced Spotter class is usually held on a Saturday in early March. It is an all-day class. There is a registration fee that covers the cost of the facility, lunch and speakers.

Q. I have a few people at my office/school/community group that would like to become spotters. Can the NWS come out and give us training?

A. The NWS office in Romeoville serves about 9 million people across a 23 county area. Because of limited staffing and resources for spotter training, we try to conduct one or two classes per county in rural counties outside of Chicago, and 4 to 6 classes per county in the more densely populated counties of Chicago metro area. The most efficient way to provide the training is by working with our primary partners in severe weather operations – county and local emergency management agencies, law enforcement agencies, fire departments, and amateur radio clubs. Please check our schedule to find a class that is convenient to you.