



# Central Illinois Lincoln Logs

Volume 6 Issue 1

Spring 2003

## Spring Has Sprung!!!

### Snow Rollers Observed Across Central Illinois

by Chris Geelhart, HMT

People in central Illinois observed a strange phenomenon February 11 and 12. Log-shaped "snowballs" showed up on lawns, fields, and other open areas. This is a phenomenon referred to as "snow rollers". These are formed under specific weather conditions:

- The ground surface must have an icy, crusty snow, on which falling snow cannot stick.
- About an inch or so of loose, wet snow must accumulate.
- Gusty and strong winds are needed to scoop out chunks of snow.

Snowfall of 1 to 4 inches occurred across central Illinois the morning of February 11. That evening, as a strong cold front pushed through the area, wind gusts of 40 to 60 mph were noted in many areas.

Once the initial "seed" of the roller is started, it begins to roll. It collects additional snow from the ground as it rolls along, leaving trails behind it. The appearance is similar to building snowmen, except the snowball is more log-

shaped rather than spherical, and many times they are hollow. They can be as small as a golf ball, or as large as a 30 gallon drum, but typically they are about 10 to 12 inches in diameter.



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This photo was taken by Karen Thompson of Buffalo. It shows the varying size of the rollers, plus the tracks of clear ground behind the rollers. Additional photos can be seen on our web site, at <http://www.crh.noaa.gov/ilx/events/roller.htm>.

Media reports indicated the phenomenon was also observed across many parts of Indiana and Ohio.

## Lightning Safety Awareness Week

June 22<sup>nd</sup> through 28<sup>th</sup>, 2003

Every thunderstorm that moves across central Illinois produces lightning. Very few produce large hail and damaging straight line winds. Even fewer produce tornadoes. But every single one produces lightning.

All lightning is potentially deadly! More people are killed in the United States by lightning than tornadoes and hurricanes combined. Lightning is to be respected. In conjunction with the threat of lightning, the National Weather Service has proclaimed June 22 - 28th as "Lightning Safety Awareness Week" across the nation. This is a way of reaching athletic coaches and physical education teachers who have charge of children on playfields and swimming pools. This will carry this over into the rest of the summer when children are involved in athletic teams, camping, boating and hiking. For information on safety rules and characteristics of lightning, go to the website [www.lightningsafety.noaa.gov](http://www.lightningsafety.noaa.gov).

## Illinois Science Olympiad

by Science Olympiad Team

On April 5, 2003 the Illinois Science Olympiad was held at the University of Illinois in Champaign, Illinois. The science olympiad mission is "to improve the quality of K-12 science education throughout the nation." The WFO Lincoln, Illinois (ILX) has been involved with the Illinois Science Olympiad since the Spring 2001. This years event involved weather and climate and was designed to test students knowledge in these areas. Seeking additional expertise, the team involved the Illinois State Water Survey, whose participants included, Jim Angel, Illinois State Climatologist, and Maria Peters of the Illinois State Water Survey. Matt Barnes, Ed Holicky, and Jim Angel were the State Supervisors of the event.

As the result of WFO ILX's participation in previous years and the outstanding results received, ILX has been invited to participate in the National Science Olympiad which will be held on May 10, 2003 in Columbus, Ohio. Forecasters Ed Holicky and Matt Barnes will be Supervisors of the National event, which involves the best schools across the nation.



Matt Barnes, WFO ILX Intern; Jim Angel, State Climatologist; and Ed Holicky, WFO ILX Forecaster supervise the Illinois Science Olympiad.

## Notes From the WCM

by Chris Miller, Warning Coordination  
Meteorologist

Springtime is already upon us, and with it has come a good dose of severe weather. The severe weather that affected parts of central and southeast Illinois on April 4<sup>th</sup> was the biggest event, in terms of numbers of warnings and reports received, in the past 3 years. A lot of hail and wind damage was accompanied by 6 tornadoes. The tornadoes, all weak, were reported in Logan, McLean, DeWitt and Edgar counties. The most damage with the storms was in Lincoln, where there were many reports of downed trees, power lines and structural damage to roofs and garages. The reports from the spotters in the field were very good and timely...keep up the good work! I can not stress enough, the importance of timely reports during a severe weather event. That was our "theme" during spotter training this year, and will continue to be a major theme during all severe weather events.

Speaking of severe weather spotter training, we are starting to wind down the training for this year. We have given 23 training sessions so far, and have trained more than 1100 spotters! There are 5 more training sessions scheduled for the rest of April into May, covering 8 additional counties. A big thank you goes out to all of the groups we have trained, for their hospitality and terrific comments regarding this year's presentation.

The final severe weather statistics for 2002 are available, and they indicate a slightly higher than normal number of tornadoes in Illinois. There were 37 tornadoes reported, with 31 being normal. Of the 37 tornadoes, 10 occurred in April, 17 were in May, 8 happened in June, with 2 in November. There were 19 F0s, 13 F1s, 2 F2s, and 3 F3s. Specifically in central and southeast Illinois there were 9 tornadoes and 163

events that contained either large hail or damaging winds. The average leadtime of our warnings was 13 minutes with a Probability of Detection (percentage of time the warning was issued before the event occurred) of 77%. These both exceeded national goals set by the NWS. This is a testimony to the dedicated forecasters at our office and the timely reports we have received from our spotter network.

A previous article in this newsletter stated that June 22-28 is Lightning Awareness Week. In the past five years, Illinois ranked 8<sup>th</sup> in the country for the average number of lightning flashes per square mile, according to Vaisala's U.S. National Lightning Detection Network®. Research done by NOAA revealed that Illinois ranks 15<sup>th</sup> in the nation for the number of lightning fatalities over the past 45 years, and ranked 2<sup>nd</sup> in the nation for lightning deaths in the year 2001. These kinds of statistics illustrate the importance of lightning awareness and safety for our region. Links to lightning safety information will be posted on our web page during all of June, press releases will be issued, items will be broadcast on NOAA Weather Radio, and information will be available for emergency managers to highlight this important awareness campaign.



## NOAA Weather Radio News

by Chris Geelhart, NWR  
Focal Point

You may have recently noticed that the computer voices in the NOAA Weather Radio cycle have been changed. Due to recent suggestions, we have set "Craig" to do routine products, and "Donna" to do the severe weather and other special products. The hope is that when you hear the "uncommon" voice (Donna), the listener will pay a bit more

attention to the message. Let us know how you like this setup.

Coming this summer to a NWR receiver near you will be “Tom”, a new voice to replace Craig. According to NWS Headquarters, Tom’s voice was developed using actual weather messages, in order to fine-tune some of the pronunciations for common weather terms. Of course, we will also have the ability to adjust pronunciations locally to correct any problems.

One of our more frequently asked NWR questions is in regards to broadcast availability over the Internet. At this time, none of our 9 stations are available via Internet. We are interested in such a capability, but due to bandwidth and reception issues (several of the stations are distant from Lincoln, and cannot be received via a regular NWR receiver here), we are unable to host this service ourselves. If any local entity would be interested in hosting an NWR Internet broadcast, please contact Chris Miller, our Warning Coordination Meteorologist, at [chris.miller@noaa.gov](mailto:chris.miller@noaa.gov).

## April 4th, 2003 Severe Weather Event

The Importance of Damage Surveys in Combination with Radar Data

by Ernest H. Goetsch, MIC

**O**n April 4, 2003, the first major severe weather event of the 2003 season hit central Illinois. Fifty warnings were issued during the afternoon of the 4<sup>th</sup>, 19 of which were tornado warnings with the rest being for severe thunderstorms. Much of the severe weather that hit the area was large hail, however so far, 6 tornadoes have been confirmed over the region. One of the more interesting damage

areas was in Logan county, where a supercell storm moved across the area.

A severe thunderstorm warning was first issued for Logan county at 2:29 PM, and was then upgraded to a tornado warning at 2:47 PM. Initial reports during the event indicated that a possible tornado hit the city of Lincoln around 3:15 PM, as a semi trailer truck was blown off the interstate, power poles were snapped, trees and a mobile home were damaged, etc. With this information and after coordination with county ESDA, it was determined a damage survey was needed.

The first job to prepare for the survey was to review the WSR-88D radar data. Once a thorough overview and possible path of the storm was obtained, the survey was conducted the day after the event via detailed coordination with county ESDA officials. Even though a large amount of the debris had already been cleaned up, a street by street criss-cross pattern was accomplished to determine the exact extent of the damage. Additional damage locations were discovered via this method that were not previously identified. Interviews of the public were also conducted where possible, which in two instances resulted in the identification of other damage areas located out of town.



Destroyed construction trailer on north side of Lincoln.

As a result of the detailed survey in Lincoln, the storm damage was found to be three quarters of a mile wide and with structural damage only in a few “open locations”. The wide pattern of the damage and limited “ground level” damage in the city was an important clue. Because of one of the interviews, an area west of town was investigated and more damage was found. This damage, 5 to 6 miles west of Lincoln was narrow in nature and contained some structural damage.

After the survey was completed, the final result still required another view of the meteorology of the event. The WSR-88D radar data was again reviewed in a detailed manner. By comparison of the radar data and the ground truth survey information, it became evident that this supercell had produced not a simple damage pattern, but a complex one. Here are the results of this highly detailed investigative process.



Roof of mobile home was blown off into the nearby trees.

The radar data indicated that the supercell reached its peak of intensity as it entered western Logan county on its way towards Lincoln. The typical “hook echo” signature seen on many tornadic storms strengthened enough to produce a small tornado (about 30 yards wide with a path of about 1 mile) between 5 and 6 miles west of Lincoln at 3:08 PM. It’s peak was short lived

though, as it quickly transitioned into a damaging wind producing severe thunderstorm. This storm produced a “microburst” (area of damaging high speed winds) that hit the western parts of Lincoln near Route 10 and Interstate 55 at 3:12 PM, then continuing to the east through the northern sections of town for about 3 and a half miles.



A tornado destroyed the roof and back wall of this garage.

To summarize, the storm system that hit Logan county produced a complex pattern of damage. Without a detailed comparison of radar data and ground truth damage survey information, this type of event could never have been accurately identified. It is critical that such information be combined to correctly determine what happens in each event. Central Illinois is affected by severe weather each year that is highly peculiar to only this region of the country. It is unlike anywhere and to understand it, such studies need to be done. The goal of the NWS is to continue to improve our severe weather forecasting abilities. Without going back and doing post storm event investigations such as this, we will never be able to improve the science, learn what is actually happening in the atmosphere, and ultimately produce better warnings with increased lead times.

The Central Illinois Lincoln Logs is a quarterly review of NWS activities in Central Illinois and is available on our internet page at <http://www.crh.noaa.gov/ilx>

Your comments are welcomed and can be addressed to either editor at our office. Summer Central Illinois Lincoln Logs Issue to be issued by the end of June 2003.

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