Central Illinois Lincoln Logs

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StormReady Program Continues to Grow

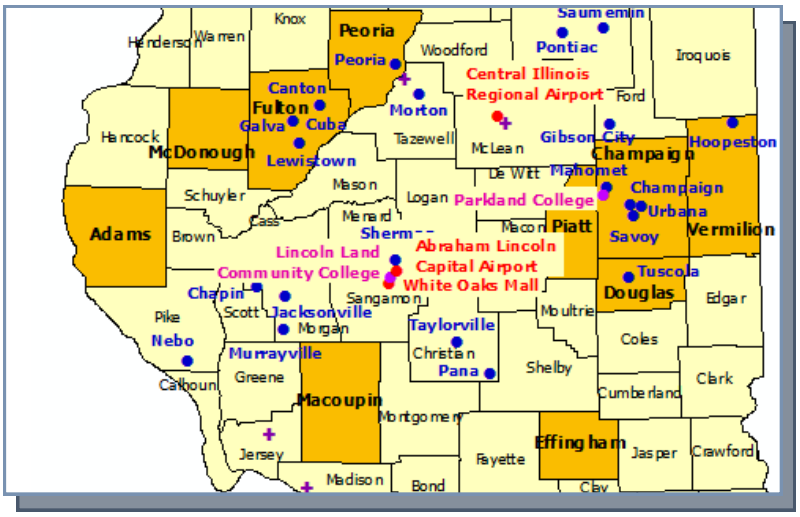
By: Chris Miller, Warning Coordination Meteorologist

Two separate locations in Champaign County were declared StormReady by the NWS Lincoln office on July 16th. Busey Bank was declared a StormReady Supporter and Parkland College in Champaign was declared a StormReady College. In fact, the StormReady Supporter designation for Busey Bank applied to all 38 of their branch offices and locations (30 in Illinois, 7 in Florida and 1 in Indiana).

The StormReady program uses a grassroots approach to help colleges, businesses and communities develop plans to prepare for, monitor and seek shelter from local hazardous weather and flooding threats. StormReady started in 1999 with seven communities in the Tulsa, Oklahoma area. There are now more than 2,220 StormReady communities across the country, including 104 in Illinois, with 34 designations in central and southeast Illinois.

(cont. on page 2)

Inside this issue:



StormReady designations in central & southeast Illinois. Darker shaded counties denote a designation for the entire county.

StormReady Program *(cont.)*

To become a StormReady Community, County, College/University, or Commercial Site there are six criteria that need to be met.

- There must be an established 24-hour warning point and emergency operations center (EOC)
- Multiple, redundant ways to receive severe weather forecasts and warnings from the NWS must exist
- A system (or systems) to monitor local weather conditions must be established
- There must be numerous methods to disseminate warning information to the community. In addition, weather alert radios need to be located in government buildings accessed by the public (City or Village Hall, schools, etc…). Other highly recommended locations include libraries, hospitals, nursing homes, parks & recreation areas, places of worship, community centers, restaurants, and businesses.
- Community preparedness activities must be conducted by local emergency management agencies
- A formal hazardous weather plan must be created, which includes stipulations for training severe weather spotters, reporting storm damage to the local NWS office and holding emergency exercises.

To start the process, a community/county, college or commercial site completes an application, which is reviewed by the local NWS office and local or regional emergency managers (if applicable). After the review, a site inspection visit of the 24 hour warning point and EOC is done. If the criteria are met, the applicant is declared StormReady by the NWS and a ceremony is conducted

(cont. on page 3)

Parkland College StormReady Ceremony, Champaign. From left: Bonita Burgess, Assoc. Dir., Parkland College Police; Chief William Colbrook, Parkland College Police; John Carlson, Parkland College Public Safety; Chris Miller, WCM, WFO Lincoln; Patrick Bak, Lead Forecaster, WFO Lincoln; Dan Smith, Region 7 Coordinator, Illinois Emergency Management Agency

Busey Bank – StormReady Supporter, Urbana. From left: Chris Miller, WFO Lincoln; Patrick Bak, WFO Lincoln Lead Forecaster; Jeremy McAfee, Busey Bank, Branch Security Administrator; Don Schlorff, Busey Bank, Exec. VP; Chris Shroyer, Busey Bank, President & CEO

StormReady Program *(cont.)*

which highlights the planning and accomplishments of the applicant. StormReady designations are renewed every 3 years. If the criteria are not met, then recommendations are made to the applicant outlining possible improvements.

The StormReady Supporter program is not as rigorous, but it does take into account the major aspects of "All Hazards" preparedness and weather safety awareness for schools, businesses and other non-government entities. To be considered as a StormReady Supporter, an organization needs to meet the following "minimum" requirements:

- Multiple ways to receive all hazards warnings
- Redundant methods to relay warnings
- A formal hazardous response plan
- Adequate sheltering locations for ALL people in the facility
- Training, hazardous weather preparedness activities and drills

Ultimately, the NWS StormReady program ensures that organizations are prepared in advance for various hazards, have the infrastructure in place to alert people, and manage recovery efforts after a disaster strikes. For more information about the NWS StormReady program, go to our web page at: http://www.stormready.noaa.gov/ .

Personnel Changes at the Lincoln NWS

The last month or so has been active with personnel changes at our office!

Daryl Onton is our new lead forecaster. He comes here from the Flagstaff, AZ NWS office, where he was a general forecaster. Daryl earned his Ph.D. in meteorology at the University of Utah.

Amanda Wertz is our new meteorologist intern. A Pekin native, she served in the same capacity at the Goodland, KS office for about a year. She earned her Bachelors' and Masters' Degree in meteorology from Western Illinois University.

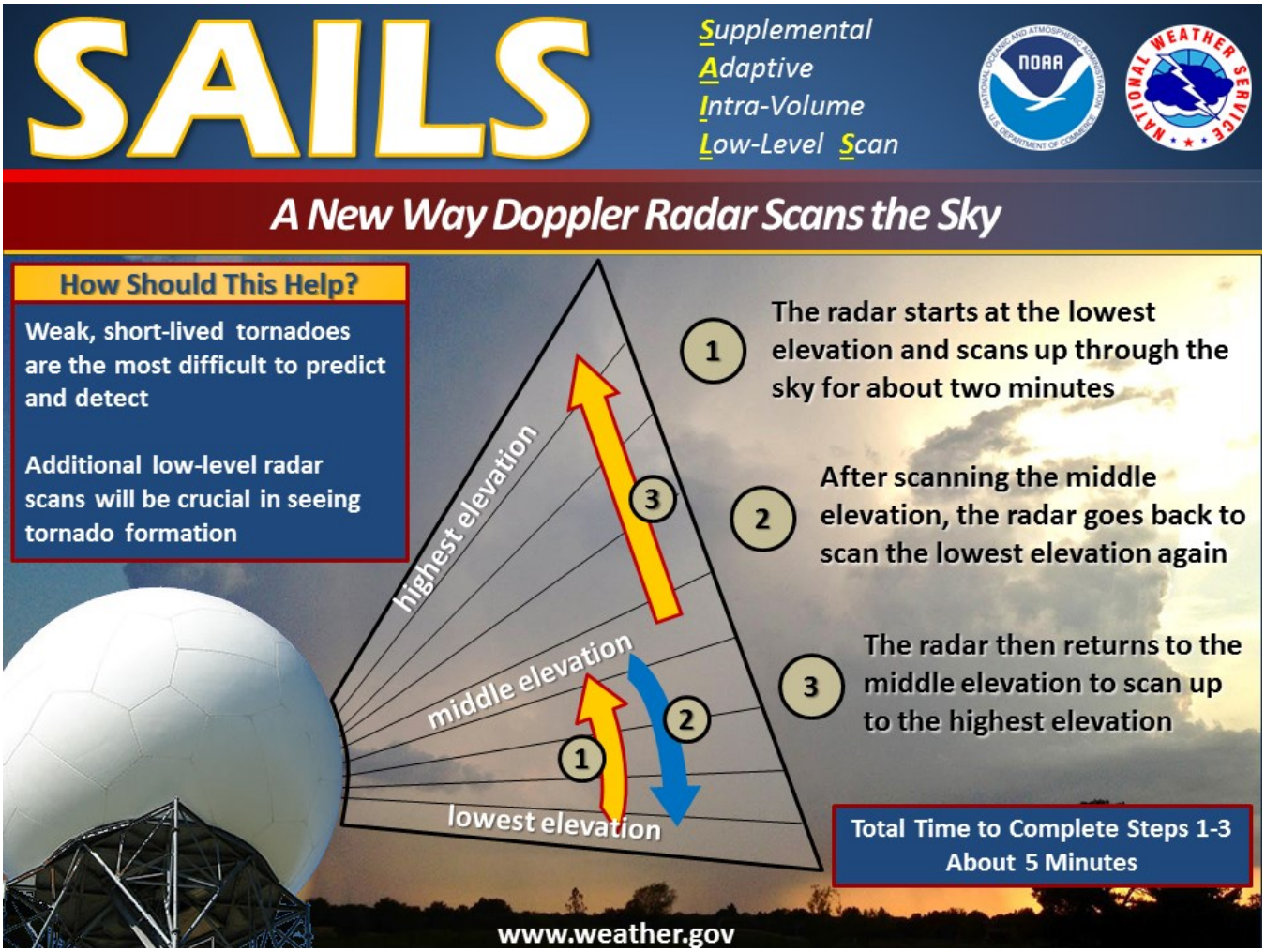
Gary Jones, one of our electronics technicians, has decided to call it a career after 30 years of Federal service. He started his NWS career as an electronics technician at the Peoria office, then transferred to Lincoln once the Peoria office closed in 1995. He actually had 3 stints at our office, also spending some time at the NWS forecast office in Slidell, LA, as well as the Pacific Tsunami Warning Center in Hawaii.

Radar Changes to Result in Faster Low-Level Scans in Severe Weather

The Doppler radar in Lincoln will soon be upgraded to implement a couple new features, that will help with faster scans in severe weather.

The main upgrade is called the Supplemental Adaptive Intra-Volume Low-Level Scan, or SAILS for short. Normally, the radar sequentially scans fixed elevations, ranging from 0.5 degrees to 19.5 degrees above the horizontal plane. This takes some time to complete, generally just over 4 minutes during the severe weather scanning procedure. With some of the types of storms we have in our area, a low-level tornadic circulation can spin up and dissipate in between the times that the radar is scanning the 0.5 degree elevation. With SAILS, the radar will stop in the middle of the scanning sequence, return to the 0.5 degree level to do another scan, then resume where it left off. This will result in a new low-level scan approximately every 2 minutes.

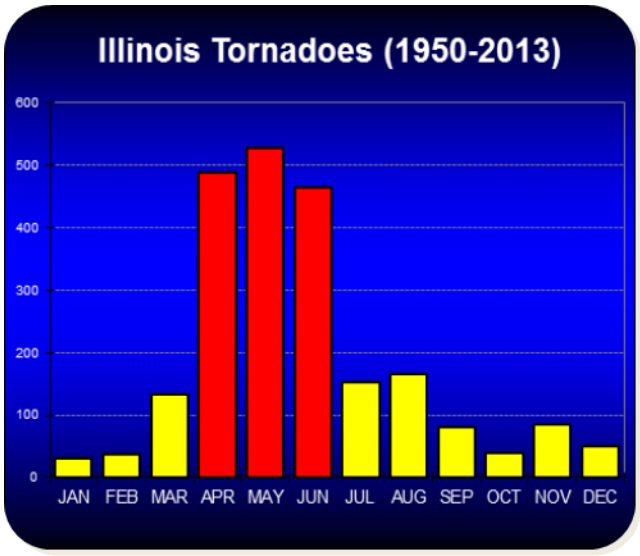
An earlier upgrade to the radar included a feature called AVSET (Automated Volume Scan Evaluation and Termination). AVSET automatically restarts the volume scanning sequence if no echoes are detected above the 5-degree level. This previously had to be manually activated, but will now be the default once the new software load is completed. This also will allow for faster updates.



Quiet Tornado Season So Far

By: Ed Shimon, Lead Meteorologist

The peak period for tornadoes in central Illinois has come and gone on a quiet note this year. On average, the months of April, May, and June usually provide the most active severe weather in Central Illinois each year.



Tornadoes observed across Illinois from 1950 to 2013, broken down by month. The peak months are April, May, and June, although they have occurred during every month.

However, this year the only tornadoes reported during that period were on May 28th, when some landspouts developed and were captured with phone cameras. One developed near El Paso, and another near Le Roy. Landspouts are considered tornadoes since the rotating column of air is in contact with the ground and the parent cloud above. However, they are not associated with a rotating thunderstorm tower. As a result, they are generally weaker with a translucent appearance, and do not normally cause much damage. Not all landspouts are visible, and many are first sighted as debris swirling at the surface before eventually filling in with condensation and dust. They typically move slowly if at all, and any damage that does occur is normally not more than EF-0 in severity (wind speeds 65-85 mph). The strongest landspout ever recorded produced EF-3 damage (136-165mph). We can issue tornado warnings for landspouts since they fit the definition of a tornado. However, many times landspout reports come into the office before anything is even visible on radar since rain has not developed yet. That is mainly because landspouts typically form during the updraft phase of storm development, when storms initiate along a stationary front or wind convergence line. Landspouts life cycle is usually no more than a few minutes, but they have lasted as long as 15 minutes.

Landspout tornado near El Paso on May 28. Photo courtesy of Kim Barth.

So far this calendar year, central Illinois has only had 10 reported tornadoes, with 8 of those coming on February 20th. One of those tornadoes produced low-end EF-2 damage (111-135mph) near Tower Hill in Shelby County, two were low-end EF-1 (86-110mph), and five were EF-0. Just because the year has started out slowly does not mean we will not have many tornadoes the remainder of the year. Tornadoes have occurred in every month of the year across central and southeast Illinois. So always keep your tornado safety procedures in mind and be ready to take cover if threating weather approaches.

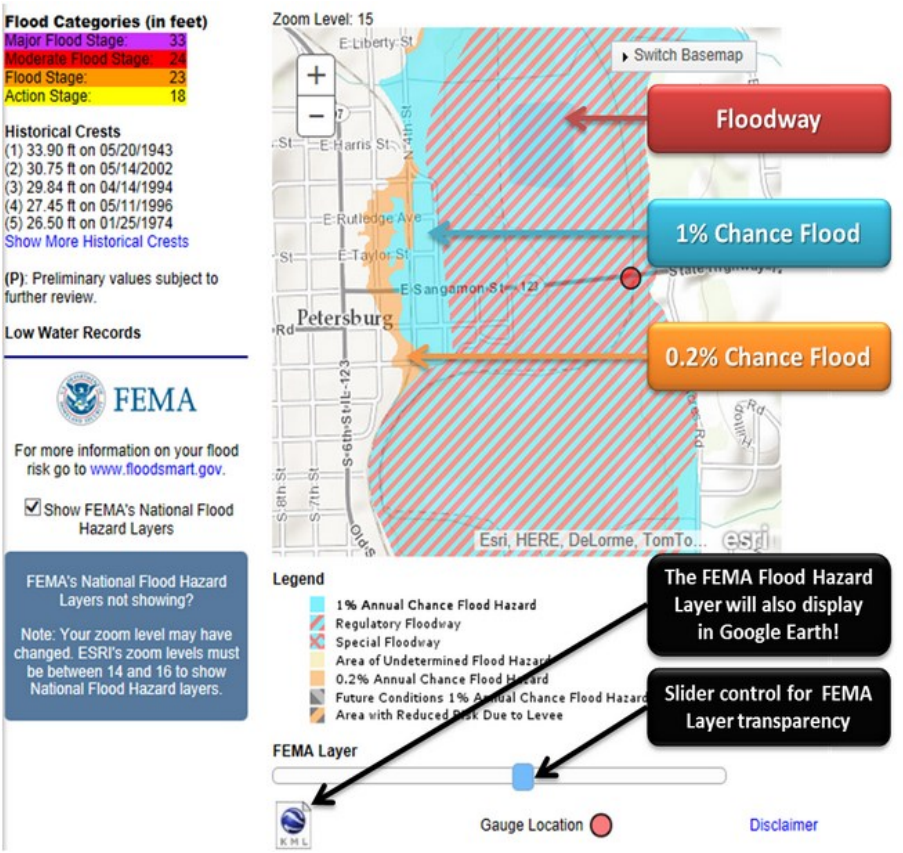
FEMA Flood Layers Added to AHPS Maps

By: Darrin Hansing, Service Hydrologist

The National Weather Service, in coordination with FEMA, has recently added the option to display FEMA Flood Hazard Layers on top of AHPS river gage maps. AHPS is available on our web page at http://water.weather.gov/ahps2/index.php?wfo=ilx

The goal of this enhanced service is to increase flood risk awareness in and around your community.

Through its Flood Hazard Mapping Program, FEMA identifies flood hazards, assesses flood risks and partners with states and communities to provide accurate flood hazard and risk data to guide them to mitigation actions. Flood Hazard Mapping is an important part of the National Flood Insurance Program, as it is the basis of the NFIP regulations and flood insurance requirements. FEMA maintains and updates data through Flood Insurance Rate Maps (FIRMs) and risk assessments. FIRMs include statistical information such as data for river flow, storm tides, hydrologic/hydraulic analyses and rainfall and topographic surveys. FEMA uses the best available technical data to create the flood hazard maps that outline your community's different flood risk areas.



FEMA flood layer example for the Sangamon River at Petersburg.

The flood hazard layers will only be visible at zoom levels between 14 and 16. Not all areas of the country will have flood hazard layers defined. However, if these currently unmapped areas are defined in the future then they will appear on AHPS automatically. Also, not all areas with these layers will have the 0.2% risk and floodway areas delineated.

The National Weather Service is happy to work with FEMA in making flood risk areas in your community better known.

A Climb up the Lincoln Radar Tower

By: Chris Geelhart, Meteorologist

As a meteorologist, I am frequently using the radar imagery from our Doppler radar, but have had little experience with the mechanics of the radar. In the nearly 19 years I have worked at this office, I had only been up the radar tower once. The radar is a well-known landmark along Highway 10 coming east from Lincoln, and people touring our office have asked us on several occasions if they could go up the radar tower (the answer is always no). Because of this popularity, and because I like to post educational material to our Facebook and Twitter pages as well as our homepage, I took advantage of a pleasant June weather day to climb the tower and take pictures. Kyle Clark, one of our electronics technicians, graciously agreed to escort me up the tower.

The radar tower is approximately 100 feet from the ground to the base of the radome (the fiberglass ball that covers the radar antenna). The radome adds another 39 feet; the antenna inside is 28 feet in diameter.

Looking up from the base of the tower. Our radar is one of the higher ones in the radar network, so there are a lot of stairs to the top.

As I climbed the tower, I was reminded of the main reason I have not made more visits — heights significantly bother me. The fact that it was Friday the 13th wasn't boosting my confidence level, either. The higher I went, the more I found myself tightly gripping the railings. The fact that the stairs and landings were steel grates that could be seen through wasn't helping.

I brought our office iPad with me to take pictures and video. I stopped at each level to take pictures from that height. The view was quite impressive, with skies crystal clear. I was able to see the Railsplitter Wind Farm about 7 miles north of our office, as well as Elkhart Hill about 10 miles southwest. Westward visibility was limited due to the number of trees that were located in Lincoln, which was a short distance away.

At the 90-foot level, I found myself unable to go further. My main concern was dropping the iPad off the tower as I was entering and exiting the radome, since I firmly needed both hands on the railings at that point. I was also feeling more unsteady by that point, especially with the winds over 10 mph. Kyle was gracious enough to take the iPad and go into the radome to take pictures there. We then climbed back down, where I resisted the temptation to kiss the solid ground on our arrival.

(cont. on page 8)

A Climb Up the Lincoln Radar Tower *(cont.)*

Once back in the office, I posted the pictures to Twitter and Facebook, where they were well received, and created a short tour for our homepage. I later created a 3-minute video for our YouTube channel as well.

Overall, it was an interesting experience, although not one I want to repeat often. Kudos go to the electronics staff who have to make that climb much more often, especially when carrying equipment parts with them!

Left: Tour guide Kyle stops at the 90-foot level for a picture. Center: The stairs to the access hatch that were too much for me to overcome. Right: The pedestal holding the radar antenna as seen from inside the dome.

Spring Climate Statistics

(March 1 through June 30)

Peoria:

- Average temperature: 51.2°F (0.6°F below normal)
- Total precipitation: 7.11” (3.65” below normal)
- Total snowfall: 7.4” (4.1” above normal)

Lincoln:

- Average temperature: 50.7°F (1.5°F below normal)
- Total precipitation: 6.66” (3.71” below normal)
- Total snowfall: 4.7” (2.7” above normal)
- 10th driest spring on record

Springfield:

- Average temperature: 53.0°F (0.1°F below normal)
- Total precipitation: 8.86” (1.52” below normal)
- Total snowfall: 3.4” (0.6” above normal)

Central Illinois Lincoln Logs

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New York Weather Observer Serves for 84 Years

When Richard G. Hendrickson logged his first weather observation for the U.S. Weather Bureau, the precursor to the National Weather Service, Herbert Hoover occupied the White House. Since then, the Bridgehampton, NY farmer has filed twice daily reports, tallying more than 150,000 individual weather observations - playing a critical role in building our nation's climate history.

As part of the NWS Cooperative Observer Program, Hendrickson collects data from the weather observing station on his farm and calls in his observations – temperature, precipitation, wind and any other significant weather factors – to the weather service.

On July 27, Hendrickson, age 101, received an award for his long standing service – 84 years – to the nation. Since Hendrickson is first in the history of the program to serve for more than eight decades, the new 80-year service award is named in his honor.

Hendrickson started volunteering as a weather observer when he was 18 years old. His lifelong commitment stems from personal interest in weather and a sense of patriotism. "I enjoy observing the weather, it's what I do for my country," he said.

Over 8,700 volunteer observers participate in the nationwide program to provide daily reports on temperature, precipitation, and other weather factors such as snow depth, river levels and soil temperature. Long and continuous weather records provide an accurate picture of a locale's normal weather and give climatologists a basis for predicting future trends. These data are invaluable for scientists studying floods, droughts, and heat and cold waves.

The first extensive network of cooperative stations was set up in the 1890s as a result of a Congressional Act that established the U.S. Weather Bureau. Many historic figures maintained weather records, including Benjamin Franklin, George Washington and Thomas Jefferson. Jefferson maintained an almost unbroken record of weather observations between 1776 and 1816, and Washington took weather observations just a few days before he died.