Central Illinois Lincoln Logs

Volume 17, Issue 3 **Fall 2014**

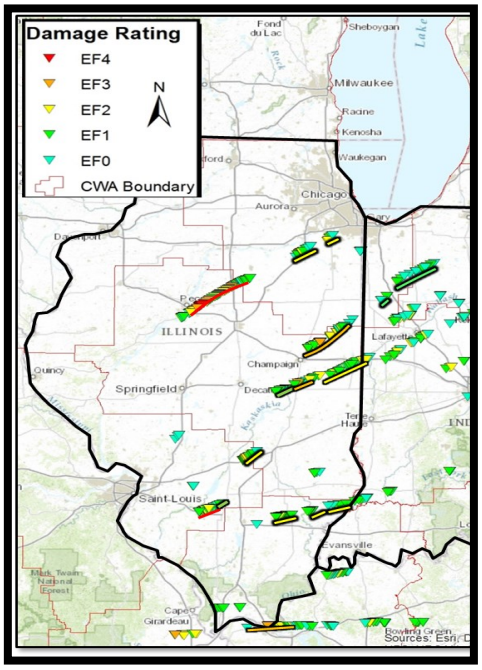
The 1-Year Anniversary of the 11/17/13 Tornado Outbreak: Lessons Learned

By: Chris Miller, Warning Coordination Meteorologist

Inside this issue:

During a 3 ½ hour period, from the late morning into the early afternoon hours on Sunday, November 17, 2013, the fourth largest tornado outbreak in Illinois history impacted the state - literally from one end to the other. By the time the sun set on that tragic day, 25 tornadoes wreaked havoc for a combined 242 miles in 26 Illinois counties, killing eight people and injuring more than 180. Damages were estimated to be $1.3 billion. Two of the tornadoes were rated as EF-4: the Washington tornado and the New Minden tornado. In fact, these were the first two violent tornadoes (EF-4 or EF-5) ever recorded in Illinois during the month of November, going back to 1885. The 25 tornadoes were also the most to occur in the month of November, breaking the previous mark of 8 in November 1965.

The past year has given us the opportunity to speak to many people across Illinois who were impacted by this tornado outbreak. Emergency managers, elected officials, first responders, media outlets and those that lost homes, pets or loved ones have all shared their stories with us at the National Weather Service. There have been several lessons learned from this historic event, which need to be shared.



A mapping of tornado paths across Illinois and adjacent areas from the November 17 tornado outbreak.

1) Tornadoes can occur ANY time of the year

I am often asked "What is the tornado season in Illinois?" My response is always the same – January through December. We have a "peak" season in April, May and June, but when certain weather conditions are present, the date on the calendar does not matter. During

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November 17, 2013 Tornado Outbreak Anniversary *(cont.)*

the past several years our most active tornado days have been in February (*2/29/12 – Harrisburg EF-4 tornado, as well as 12 tornadoes in central & southern IL on 2/20/14*), October (*eight tornadoes on 10/13/14*) and November (*25 tornadoes on 11/17/13*). In fact, during the past five years, there have been 79 tornadoes in Illinois from October through February – compared to 86 during April and May that same five year period!

The lesson learned is that even during the fall and winter, if you hear about the potential for severe storms, or there are active watches and warnings for severe thunderstorms or tornadoes – pay close attention and seek safe shelter quickly. "Cool season" thunderstorms often move much faster than spring or summertime storms, so you may have less time to act. The thunderstorms on November 17th last year were moving at 55 to 65 mph – more than twice the normal speed.

2) Having a tornado safety plan and secure shelter is CRITICAL

Many of the people we have spoken to during the past year have told us that having a plan to stay safe and a secure shelter to go to is very important in surviving tornadoes. A basement offers the best protection, especially from strong or violent tornadoes. Today, I am still asked "With the strength and number of tornadoes that occurred on November 17th, why was the death toll in Illinois lower when compared to other, similar strength tornadoes that took dozens or even hundreds of lives in other parts of the country?" There were a number of factors which played a role on November 17th – but one of the most significant was that numerous people (most likely thousands) took shelter in basements.

We are fortunate in central and southeast Illinois, that many permanent homes have basements. That is not the case in other parts of the country including southwest Missouri (Joplin), much of the southern Plains, and Gulf Coast states. Having a basement to go to saved many lives in Washington and Gifford.

3) It is imperative to have MULTIPLE ways of receiving warnings/critical information

I have said it before, and will say it many times again: **do NOT just rely on sirens as your only method of being alerted to tornadoes**. Relying only on sirens will significantly reduce the amount of time you have to get to a secure shelter. Sirens do play a role in alerting people who are outdoors. However, there are numerous other ways to receive warnings for tornadoes. Survivors of the November 17th tornadoes shared some of the most common ways they were alerted to the danger.

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November 17, 2013 Tornado Outbreak Anniversary *(cont.)*

The Wireless Emergency Alert system – which sends a brief message to your cell phone – played an enormous role in warning people on November 17th. Local media broadcasters on TV and radio highlighted the significance of the November 17th storms days in advance. Weather alert radios gave people in Washington and Gifford anywhere from 12 to 18 minutes of advance notice that a tornado was headed their way. Social media posts on Facebook, Twitter and other services also alerted people to the approaching dangers of recent tornado outbreaks.

4) Education about the potential risks and how to stay safe in hazardous weather is vital

There is a compelling story about a young boy in Washington who urged his family to go to the basement because he learned about severe weather safety in school. After being quite persistent with his pleas, his family decided to seek shelter in the basement only minutes before their house was destroyed. It is vital that children and adults alike learn how to stay safe in various types of hazardous weather. Most important, is the action of physically going to a secure shelter or taking some type of protective action!

Too often we hear that people don't take action because of various "myths" that tornadoes can't occur in their town or during a certain time of year. The type of storm that produced the tornadoes in Washington and Gifford can occur ANYWHERE in Illinois, at any time of the year, day or night. There is NOTHING (no valley, river, lake, bluff, hill, buildings, etc…) that will stop a large tornado from advancing into a city, town or rural area. Some cities or towns may have never experienced a damaging tornado in Illinois (that we know of) in the past 200 years. This does not necessarily mean that you are tornado-proof or something is protecting you. We also know that tornadoes can occur at any time of the year (see lesson learned #1). The bottom line – be ready at all times, in all locations for the impacts of hazardous weather.

Chris Miller, Warning Coordination Meteorologist, spoke at the Tazewell County board meeting on Wednesday, November 19, to designate the county as StormReady. StormReady is a program that encourages communities to better prepare for natural disasters, by providing guidelines on improving hazardous weather programs. Dawn Cook, director of the Tazewell County Emergency Management Agency, had actually applied for the StormReady designation earlier in 2013, so the requirements had already been implemented prior to the tornado outbreak. Image courtesy of WEEK-TV.

90°F Degree Days Kept in Check This Year

The cool and wet weather pattern that prevailed during the summertime helped keep the number of very hot days under control. Area cities saw only a small fraction of the number of 90 degree days that normally occur in a year. Here's a look at these statistics for central and southeast Illinois.

Location	Total in 2014	Annual Average Number	Record Fewest
Decatur	4	38	4 (2014)
Effingham	21	35	2 (1904)
Jacksonville	13	36	2 (1915)
Lincoln	7	33	5 (1981)
Normal	16	35	5 (1992)
Olney	14	40	10 (1982)
Peoria	13	29	4 (2004)
Springfield	15	31	4 (1904)
Urbana	4	25	1 (1915)

Summer Climate Statistics

(June 1 through August 31)

Peoria:

- Average temperature: 74.1°F (0.4°F above normal)
- Total precipitation: 18.10" (7.48" above normal)
- Highest temperature: 96°F on August 25
- 8th wettest summer on record

Lincoln:

- Average temperature: 71.4°F (2°F below normal)
- Total precipitation: 17.33" (4.03" above normal)
- Highest temperature: 94°F on August 25
- Tied for 8th coolest summer on record, and was the 8th wettest summer on record

Springfield:

- Average temperature: 74.1°F (0.1°F below normal)
- Total precipitation: 18.04" (6.40" above normal)
- Highest temperature: 96°F on August 25
- 4th wettest summer on record

Weather Observer Appreciation Day

By: Matt Barnes, Meteorologist

The National Weather Service in Lincoln hosted a Weather Observer Appreciation Day on Saturday, August 16. The event was designed to honor our many dedicated weather observers, including members of both the Cooperative Weather Observer Program (COOP) and the Significant Weather Observation Program (SWOP). A total of 55 people turned out for the event, making the day a nice success!

Forecaster Matt Barnes leads a tour of our operations area during the Weather Observer Appreciation Day.

With so many people planning to attend, we broke the day into two sessions in order to ease congestion. The morning session ran from 9 AM to noon, while the afternoon was from 1 PM to 4 PM. Several activities were planned for the day, with both sessions enjoying an introduction PowerPoint presentation in the conference room, a tour and question/answer period in the operations area, and even a tour and demonstration of our upper air balloon launch facility outside.

At the conclusion of the event, several special awards were handed out to observers who have gone "above and beyond" with either outstanding service during a significant weather event or a continuous record of daily reports. Special Service Awards were given to SWOP members from the following communities: Effingham, Watson, Canton, Bloomington, Normal, Astoria, Champaign, Knoxville, and Pana. A few additional awards will be distributed in the coming weeks to other observers who either were unable to attend or left before we had a chance to catch them. In addition, three SWOP members travelled a great distance to join us at our Appreciation Day event, and we decided to honor them with a certificate for their efforts. Members making the over 2 -1/2 hour trip included: Clay City 4SE, Olney 4SW, and Centralia.

Billy Ousley, our Data Acquisition Program Manager, gives an introduction to the office functions.

We would like to thank everyone who took time out of their busy schedules to attend this special event. This was the first outreach activity within the SWOP program in the past 2 years, and it turned out to be a great success! Hopefully we will be able to plan other such events in the future, in an effort to maintain a close working relationship with our entire network of weather observers across central and southeast Illinois. Without your continued support and dedication, we would not be able to do our jobs. We sincerely thank you for everything you have done for us over the years and hopefully will continue to do for years to come!

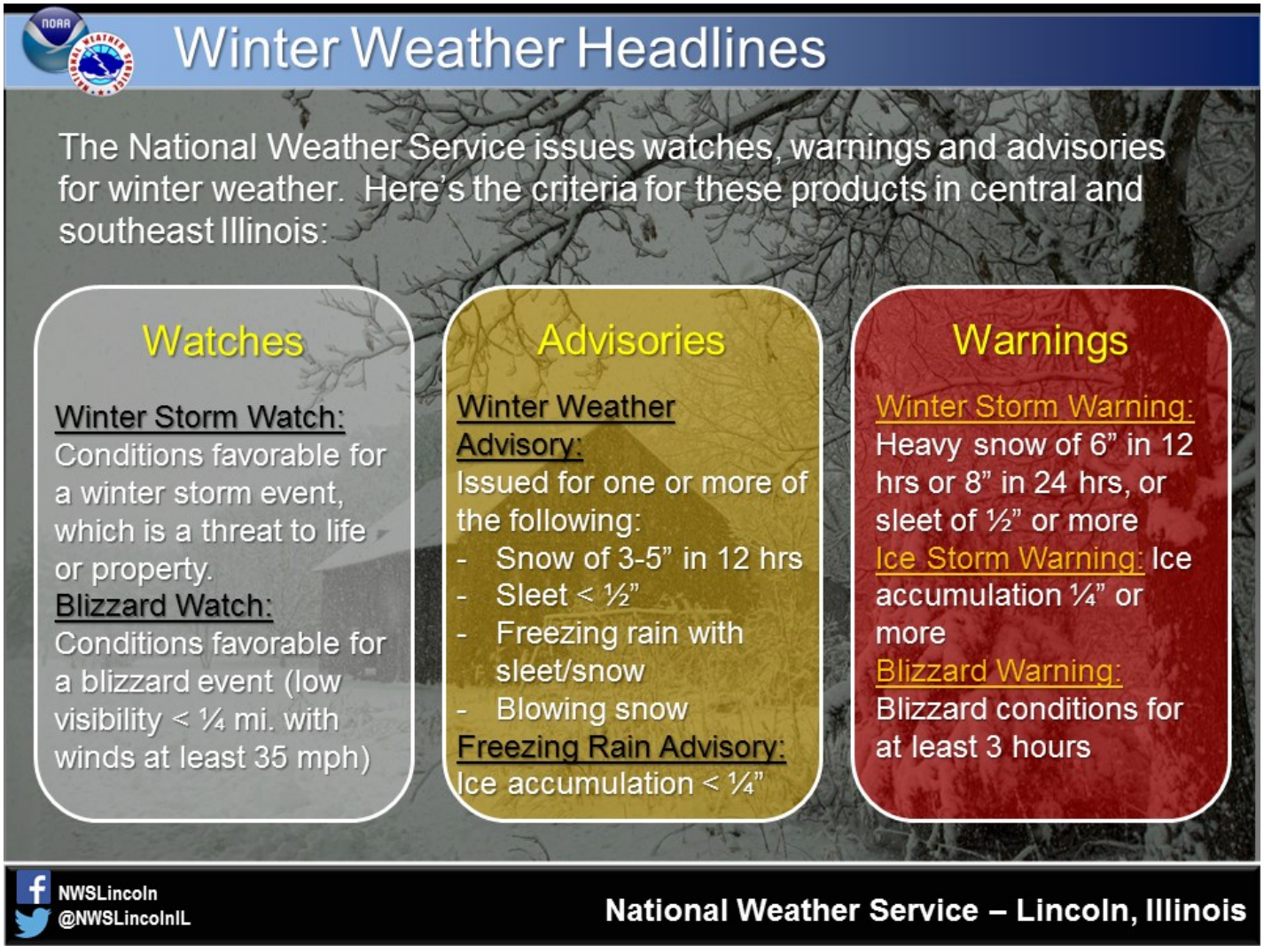
NWS Staff Member Receives Regional Cline Award

Matt Barnes, who is in charge of our Significant Weather Observer Program, recently received the Central Region's Isaac Cline Award in the category of Data Acquisition Management. He was recognized for outstanding achievement in expanding the SWOP program, and developing an approach for training the observers using YouTube and other social media methods.

The award is named after Isaac Cline, who was the Meteorologist in Charge of the Weather Bureau office in Galveston, TX, during the 1900 hurricane.

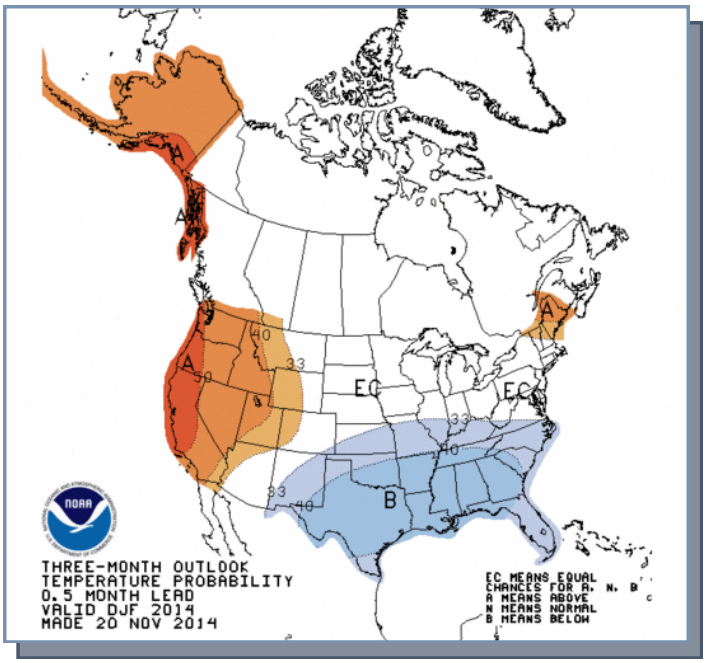
Congratulations, Matt!

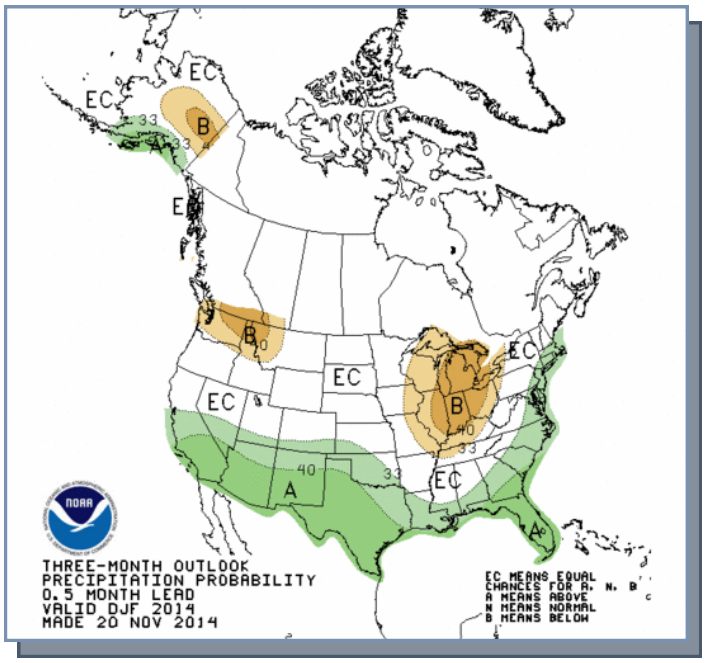
Do You Know the Meaning Behind Winter Weather Headlines?



Does a Cold November Point to a Cold Winter?

The latest winter outlooks, issued November 20th by the NWS's Climate Prediction Center, are below. The temperature outlook is on the left, and the precipitation outlook is on the right. A good portion of the southern U.S., as far north as southern Illinois, is showing some tendencies to be





colder than normal (blue shades). Areas most likely to be warmer than normal (orange shades) include the areas west of the Rockies, as well as Alaska and northern New England. Much of the Northern Plains, Great Lakes, and Northeast U.S. does not show any particular tendencies, meaning there area equal chances of it being warmer than normal, near normal, or colder than normal.

Precipitation is expected to be below normal over most of the Midwest and the Pacific Northwest (brown shades), with the southern and eastern parts of the U.S. more likely to be wetter than normal (green shades).

Much of the year, indications have been that an El Niño situation would set up in the east Pacific. As of late November, there are still some indications of this developing, but is now appearing to be weak if it does occur. As such, it is not expected to play as much of a role in our temperatures this winter as first thought.

Winter Weather Preparedness Information:

http://www.weather.gov/lincoln/?n=winter-prep

How to Measure Snowfall

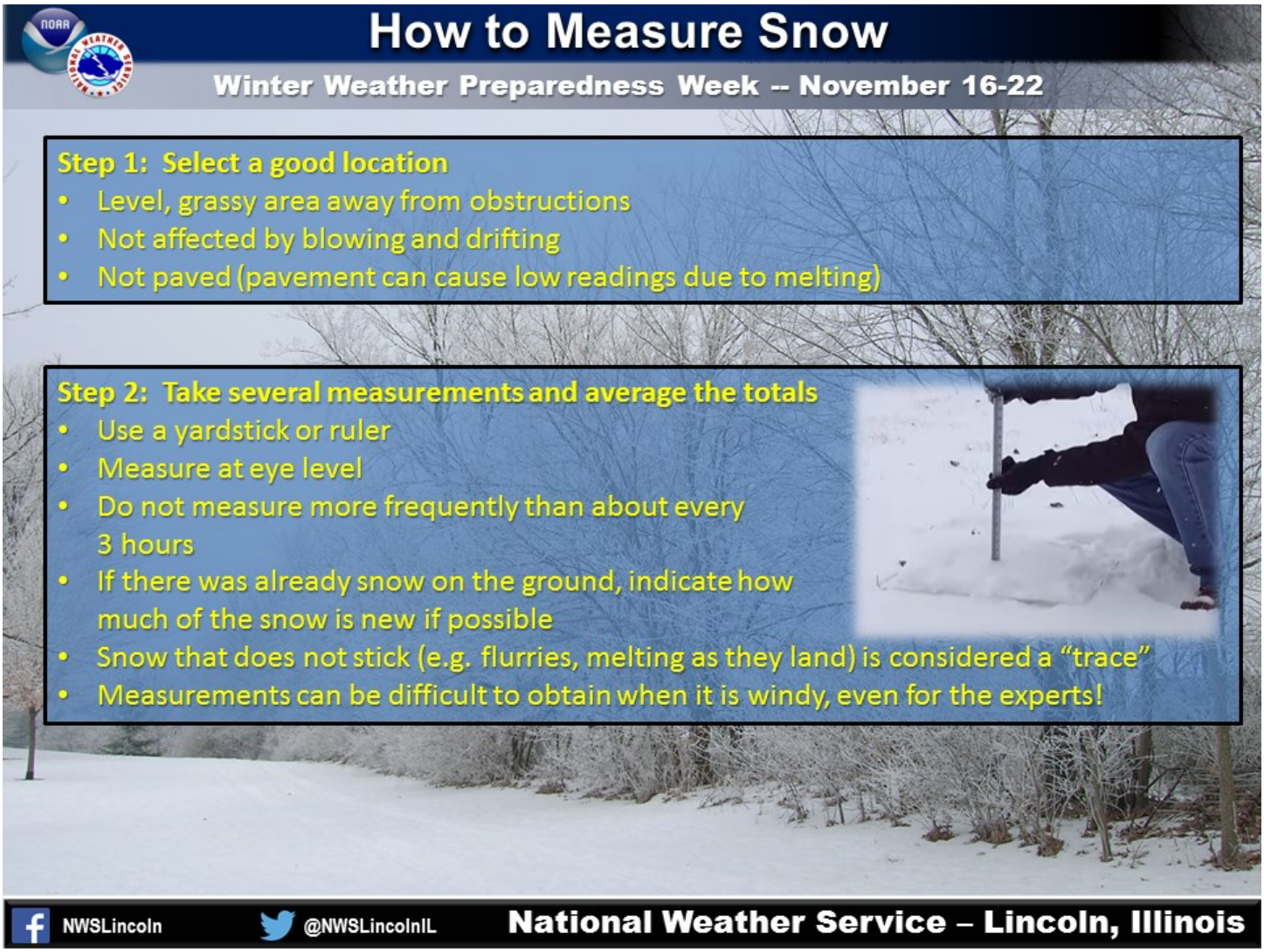
By: Chris Geelhart, Meteorologist

Ever hear snowfall totals for your area and think, “That can’t be right!”? There is a method for measuring snowfall. It may seem like all you have to do is stick a ruler in the snow, but it’s a bit more involved than that.

We posted this graphic to our social media pages during Winter Weather Preparedness Week, giving tips on how to measure snow. Some of the key points are:

- The measurements need to be in a level area that is not affected by blowing and drifting.
- The official total is actually based on the average of several measurements.
- Snow totals cannot be measured too often, as the snow needs some time to settle. Rapid measurements of snow totals can result in overinflated amounts.

Our YouTube channel has some tips and “how-to” information on measuring snow. It is available [at this link](#).



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The *Central Illinois Lincoln Logs* is a quarterly publication of the National Weather Service office in Lincoln, Illinois. It is available on our Internet page at

www.weather.gov/lincoln

Facebook Page:
www.facebook.com/NWSLincoln

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Atlantic Hurricane Season Stays Quiet

The Atlantic hurricane season officially ends November 30, and will be remembered as a relatively quiet season as was predicted.

"Fortunately, much of the U.S. coastline was spared this year with only one landfalling hurricane along the East Coast. Nevertheless, we know that's not always going to be the case," said Louis Uccellini, Ph.D., director of the National Weather Service. "The 'off season' between now and the start of next year's hurricane season is the best time for communities to refine their response plans and for businesses and individuals to make sure they're prepared for any potential storm."

How the outlooks verified:

	Actual Total	August Outlook	May Outlook
Named storms	8	7 to 12	8 to 13
Hurricanes	6	3 to 6	3 to 6
Major hurricanes (winds >110 mph)	2	0 to 2	1 to 2

"A combination of atmospheric conditions acted to suppress the Atlantic hurricane season, including very strong vertical wind shear, combined with increased atmospheric stability, stronger sinking motion and drier air across the tropical Atlantic," said Gerry Bell, Ph.D., lead hurricane forecaster at the Climate Prediction Center. "Also, the West African monsoon was near- to below average, making it more difficult for African easterly waves to develop."

Meanwhile, the eastern North Pacific basin (extending westward to 140°W) was extremely active, with 20 named storms, the most since 1992. This included 14 hurricanes.

In the central North Pacific (between 140°W and 180°), there were 5 named storms, including 4 hurricanes. The most notable storm was Hurricane Iselle, which hit the Big Island of Hawaii in early August as a tropical storm, and was the first tropical cyclone to make landfall in the main Hawaiian Islands since Hurricane Iniki in 1992. Hurricane Ana was also notable in that it was the longest-lived tropical cyclone (13 days) of the season and the longest-lived central Pacific storm of the satellite era.