



Central Illinois Lincoln Logs

National Weather Service, Lincoln, IL

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Record Number of Tornadoes in 2006

by: **Chris Miller, Warning Coordination Meteorologist**



Central and southeast Illinois has seen more than its share of tornadoes in 2006, as 72 twisters have descended upon the area. This breaks the previous yearly record of 63 tornadoes set only three years ago, in 2003. To put this into perspective, the average annual number of tornadoes in the 35 counties of central and southeast Illinois is 16!

The majority of the tornadoes occurred in April, when 40 were reported. This was followed by May (11 tornadoes), March (9), July (9), June (2), and January (1). The biggest tornado outbreak was Sunday, April 2nd, when 26 tornadoes formed. However, the long track tornadoes during the evening of March 12th produced the most damage (in excess of \$300 million) and injured 24 people.

More than 60% of the tornadoes (a total of 44) were rated F0 on the Fujita Scale of damage assessment, followed by 28% rated as F1 (20), and 12% rated as F2 (8). Five of the F2 tornadoes occurred in a one hour period, between 8:00 and 9:00 PM on the evening of March 12.

The counties along, and just north and south, of the I-72 corridor saw the most tornadoes. The top six included Sangamon (11), Logan (9), Christian (9), Macon (8), Piatt (6) and Champaign (6) [see the accompanying map].

There are still a few months left in 2006, so don't let your guard down yet. Typically, in the state of Illinois an average of five tornadoes occur between September 1 and December 31. The peak times are the first half of September and the entire month of November. Since 2006 has already proven to be an active tornado year, keep an eye to the sky, heed the warnings for your area, and stay safe during this coming autumn.

Winter Weather Preparedness Week Around the Corner

by: **Chris Miller, Warning Coordination Meteorologist**

The week of November 12 – 18, 2006 has been designated as Winter Weather Preparedness Week in the state of Illinois by the National Weather Service, the American Red Cross, and several state agencies including the Illinois Emergency Management Agency. Each year, winter weather takes its toll with numerous travel disruptions, accidents, property damage due to snow and ice, and heating costs. Bitter cold temperatures are responsible for more than two dozen fatalities each year in the United States.



Photo by Andrew Ziegler



Photo by Patrick Steadman

Winterizing your home, preparing your auto for winter travel, and keeping abreast of the latest winter weather watches, warnings and advisories are just some of the things you can do to be ready. On average, 2 to 3 major winter storms strike parts of central and southeast Illinois with either heavy snow or damaging ice accumulations. In fact, the 35 county area in central and southeast Illinois has the highest frequency of ice accumulation (days with freezing rain) than any other location between the Rocky Mountains and the Appalachians!

For more information about Winter Weather Preparedness and Safety, visit our website at: <http://www.weather.gov/Lincoln/winter/winter.php>

Summer 2006 Climate Statistics:

Peoria:

- Average temperature 74.9°F (1.8°F above normal)
- 7.56 inches of rain (3.46" below normal)

Springfield:

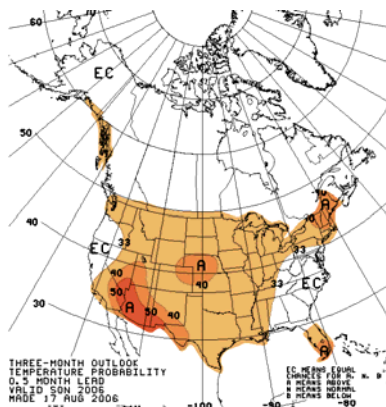
- Average temperature 74.9°F (0.5°F above normal)
- 7.19 inches of rain (3.52" below normal)

Lincoln:

- Average temperature 73.6°F (0.4°F above normal)
- 13.96 inches of rain (1.64" above normal)

Local 3-Month Temperature Outlooks

The National Weather Service has begun to issue experimental 3-month temperature outlooks for site-specific areas.



For several years, the Climate Prediction Center has issued 90-day outlooks for "rolling" periods (for example, the August issuance would include outlooks for September through November, October through December, November through January, etc.). These outlooks have been for the entire nation, as shown at left. They show areas where temperatures are likely to be one of 3 categories: Above Normal, Near Normal, or Below Normal. However, there are still chances (albeit smaller) of one of

the other two categories actually occurring, and these are not indicated by the maps.

Winter Temperature Outlooks for Central Illinois

Based on September issuance, for the period December 1 through February 28

Peoria:

- 40% chance of above normal temperatures
- 34% chance of near normal temperatures
- 26% chance of below normal temperatures

Springfield:

- 48% chance of above normal temperatures
- 32% chance of near normal temperatures
- 20% chance of below normal temperatures

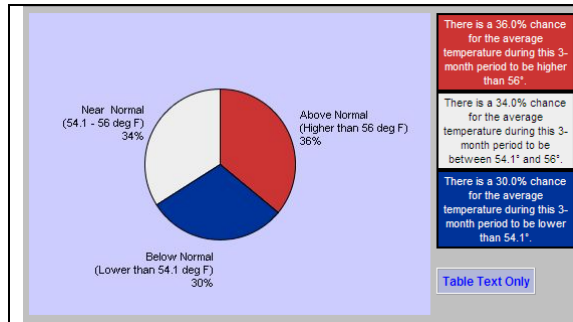
Decatur:

- 40% chance of above normal temperatures
- 34% chance of near normal temperatures
- 26% chance of below normal temperatures

Urbana:

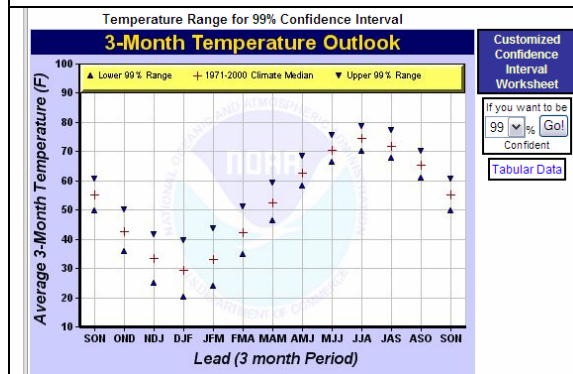
- 40% chance of above normal temperatures
- 34% chance of near normal temperatures
- 26% chance of below normal temperatures

The new outlooks are issued for specific locations within each NWS office's coverage area. In the Lincoln coverage area, these are available for Decatur, Effingham, Galesburg, Havana, Normal, Olney, Paris, Peoria, Springfield, and Urbana. These outlooks have several formats, detailed below. The examples below use Decatur's outlook for the period September through November.



Pie charts are available to determine the specific chances of above normal (red wedge), near normal (white wedge), or below normal (blue wedge) temperatures. The boxes at right indicate the specific temperature ranges that are considered to be above, near, or below normal.

In this example, Decatur has a 36% chance of temperatures being above normal ($>56^{\circ}\text{F}$), a 34% of near normal ($54.1-56^{\circ}\text{F}$), and a 30% chance of below normal ($<54.1^{\circ}\text{F}$) temperatures. The values are also available in text format, by clicking on the "Table Text Only" link.



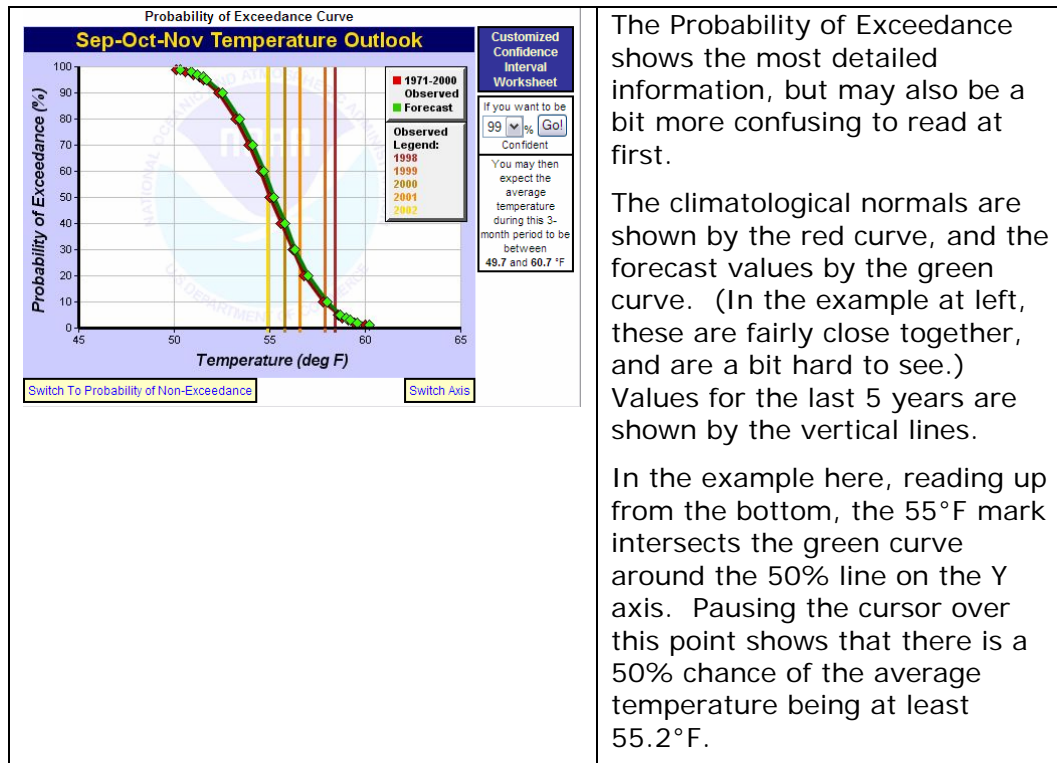
Temperature range graphs are available for the entire outlook period (the "rolling" 90-day outlooks go out to a year in advance). These graphs show the expected range of the average 3-month temperature for each period on the X-axis. The normal temperature ranges are indicated by the blue triangles, and the median ranges are indicated by the red plus signs. By default, this is shown for the 99% confidence level. Lower confidence levels can be selected on the right side of the graph, as well as obtaining output in text format.

El Niño and Illinois

According to the Illinois State Climatologist's Office, the effects of El Niño conditions on Illinois' weather patterns will depend on the intensity of the El Niño. Some of the more typical effects are:

- Cooler and wetter autumns
- Warmer and drier winters
- Drier than normal springs
- Slightly cooler and wetter summers
- Below normal snowfall (about 70% to 90% of average)

More information can be found at:
<http://www.sws.uiuc.edu/atmos/statecli/EINino/elnino.htm>
 (all on one line)



The Probability of Exceedance shows the most detailed information, but may also be a bit more confusing to read at first.

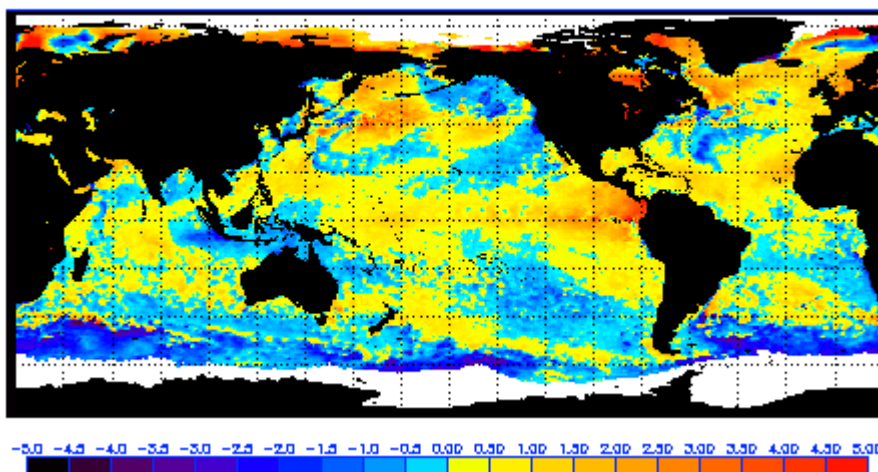
The climatological normals are shown by the red curve, and the forecast values by the green curve. (In the example at left, these are fairly close together, and are a bit hard to see.) Values for the last 5 years are shown by the vertical lines.

In the example here, reading up from the bottom, the 55°F mark intersects the green curve around the 50% line on the Y axis. Pausing the cursor over this point shows that there is a 50% chance of the average temperature being at least 55.2°F.

The Internet address for the 3-month temperature outlooks is:
http://www.weather.gov/climate/calendar_outlook.php?wfo=ilx&lead=1

El Niño Makes a Comeback

NOAA Current SST Anomalies (C), 9/26/2006
 (white regions indicate sea-ice)



Departure from normal of ocean temperatures, as of September 26. Yellow, orange and red shades indicate increasingly warmer-than-normal conditions.

The Climate Prediction Center reports that El Niño conditions have returned to the Pacific, and are likely to continue into early 2007. El Niño refers to a periodic warming of ocean temperatures near the equator, in the eastern and central Pacific Ocean, from the International Date Line east toward the South American coastline.

North America is typically affected by an El Niño as follows:

- Warmer than normal average temperatures across western and central Canada, and over the western and northern United States.
- Wetter than normal conditions across the Gulf Coast region and Florida.
- Drier than normal conditions over the Ohio Valley and the Pacific Northwest.

The Climate Prediction Center posts updates on its web page at:

http://www.cpc.ncep.noaa.gov/products/analysis_monitoring/enso_advisory/

How I Spent My Summer Vacation

The NWS office hosted two student volunteers this summer, Sarah Love from Northern Illinois University, and Priscilla Lowery from Western Illinois University. During the time they were here, they worked with the staff on many aspects of NWS operations, from forecasting to data collection.

Priscilla wrote the following about her experiences:

My summer at the Weather Service in Lincoln was very exciting and fun. I definitely learned a lot about different weather products. Although I had used many of the products before it was very insightful and fun to learn more. I will most certainly apply what I have learned over the summer to my future schoolwork.

I was also able to work with many kinds of different people. Everyone was helpful and fun to work with in their own ways. Most weekends experienced fair weather, making for time to get to know the people I was working with. At first it was a little overwhelming remembering everyone's names, but after a while I really settled in and felt like I was in my place.

I can say that there was never a dull moment or anytime that I felt unwelcome. It also seemed that most of the time when I was in, there "happened" to be severe weather in the area. My apologies to those who know what I'm talking about!

So overall, my summer was everything I expected and more. I learned a ton and got to meet new people who shared the same passion as me. Thank you to everyone who made me feel welcome. I hope to be back sometime in the future.

The NWS also hosts "job shadows", where high school students spend a day at the NWS office to evaluate potential careers in meteorology. For more information, contact Billy Ousley at our office (billy.ousley@noaa.gov).

National Weather Service Cooperative Program History

The Cooperative Observers Climatological Network was created in 1880. The program is currently administered by the National Weather Service, a line office of the National Oceanic and Atmospheric Administration, an agency within the Department of Commerce. One of the responsibilities of the National Weather Service is to take meteorological observations which are used to record the climate of the United States. The National Weather Service relies heavily on a vast network of cooperative observer volunteers to achieve this objective.

The National Weather Service determines where observations are needed and furnishes standard meteorological instruments to individuals who volunteer their time to take and record daily observations of the weather. Currently, there are about 8000+ published volunteer observing stations located in the United States and its territories. In addition to the thousands of cooperative observation stations operated by individuals, many are maintained by institutions and commercial firms such as universities and utility companies. All cooperative observers submit a monthly report summarizing daily weather observations. These contributions to the climate record of the United States are invaluable.

Cooperative Observer News

By: Billy Ousley, Data Acquisition Program Manager

Winter is near...snow will soon be here!

When it snows, three measurements are taken for your daily report and B91 weather forms. These measurements are the amount of water in the snow, snowfall since yesterday's observation, and the depth of snow at observation time.

Measuring the amount of water in the snow

The funnel and measuring tube should be removed from the 8 inch rain gage before any snowfall. If not removed, snow won't fall in representative quantity into the gage, and readings will not be accurate!

- Pour warm water into the measuring tube that you've removed before the snow
- Measure the warm water in the measuring tube
- After measuring the warm water, pour it into the overflow can to melt the snow
- After the snow has melted in the overflow can, empty the overflow can into the measuring tube.
- Measure the water in the measuring tube.
- Subtract the amount of warm water you poured into the tube.
- Record the difference (to the nearest hundredth of an inch) in the "Melted Snow" column.

Measuring snowfall since yesterday

Find some place where the freshly fallen snow is least drifted and is about average depth for your area. If the snow melted before observation time, report an estimated snowfall amount, if you were able to view the snowfall before melting.

Report snowfall since yesterday's observations to the nearest tenth of an inch. If less than 0.1 inch, record "T". When a significant amount of new snow has occurred, round off to the nearest inch and record as, for example 2.0 and 3.0 (Record as 2.0 not 2, 3.0 not 3).

Depth of the snow on the ground at observation time

Record snow depth in this column to the nearest WHOLE inch. If less than ½ inch, record "T". Any time there is snow on the ground at observation time record the average depth on the ground at the time you take your observation. Your measurement will be a total snow depth measurement of the old snow as well as newly fallen snow.

We have SNOW MEASUREMENT GUIDES and Winter Storms...the Deceptive Killers brochures available - if you'd like a copy of either just give us a call or drop us a letter and we'll get them in the mail to you.

Monthly Reports

Over the past year we've noted a significant decrease in the number of "late" B-91 reports. However, there is still room for improvement. We need your B-91 report forms as soon after the month ends as possible. When your forms arrive in our office they must be logged in, checked for errors, and corrections entered. The forms have to arrive at NCDC no later than 25th of each month. We will begin sending out "reminders" if we haven't gotten your forms by around the 10th of each month - if you've mailed your forms early and we still don't have them by the middle of the month you may need to send us another copy. You can also fax your B-91 forms to us at (217)732-3546.

Supplies and Equipment

If you need any supplies, or any of the observation equipment needs repairs, please give our office a call. All you need to do is let the staff know that you are a Coop observer and tell them you are reporting equipment problems or in need of supplies. If you want to, you can ask to speak to the DAPM Billy Ousley, as he is usually here during the daytime business hours. Supplies will be sent or delivered as soon as possible. Emergency equipment repairs are usually taken care of as quickly as possible, general "cleaning" and upkeep visits are scheduled to fit your schedule. We do have a few Cotton Region Weather Shelters available to replace existing ones that are in need of significant repair. These newer shelters will be used to replace the oldest ones in our area. Additionally, we have Maximum/Minimum Temperature Systems (MMTS) that have a sensor outside connected to a display unit in your home or residence that also is used for measuring daily temperatures (max/min/current) if you would prefer one of these to be installed.

WXCODER II & B-91 Forms

In this age of computers, it was only a matter of time before the B-91 form (Record of River and Climatological Observations) was computerized. We have a program called WXCODER II available to any Cooperative Weather Observer that would like to use it. It allows you to enter your daily observation report (or a special report) directly via the web (internet) and it is transmitted to us (and the world). It also now archives your daily reports and allows you continuous access to the data and can also be printed for viewing. One of our staff will be happy to assist you with this form of data entry via the web and provide any necessary training.

If you'd like more information about the program or would like to use it, please give our office a call or via e-mail to: billy.ousley@noaa.gov

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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.weather.gov/lincoln>

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

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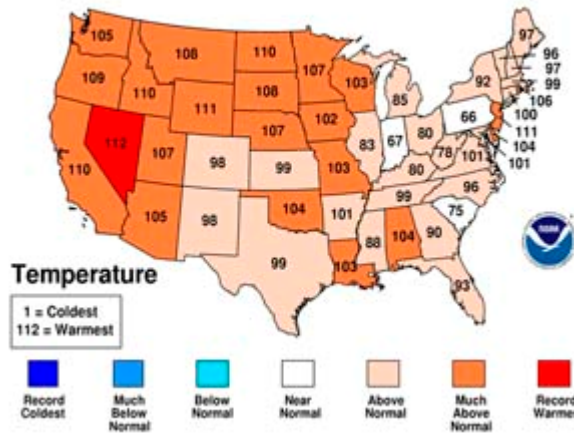
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U.S. Has 2nd Warmest Summer on Record

June-August 2006 Statewide Ranks

National Climatic Data Center/NESDIS/NOAA



Summer 2006 was the second warmest June-to-August period in the continental U.S. since records began in 1895, according to scientists at the National Climatic Data Center.

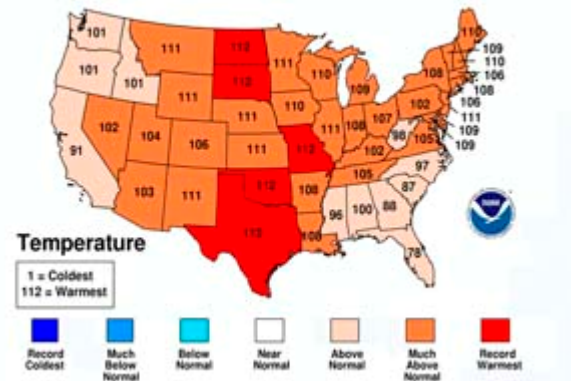
Additionally, the January to August period was the warmest on record for the continental U.S. Above-average rainfall in August in the central and southwestern U.S. improved drought conditions in some areas, but moderate-to-extreme drought continued to affect 40 percent of the country

The average June-August 2006 temperature for the contiguous United States (based on preliminary data) was 2.4°F above the 20th century average of 72.1°F. This was the second warmest summer on record, slightly cooler than the record of 74.7°F set in 1936 during the Dust Bowl era. This summer's average was 74.5°F. Eight of the past ten summers have been warmer than the U.S. average for the same period.

The persistence of the anomalous warmth in 2006 made this January-August period the warmest on record for the continental U.S., eclipsing the previous record of 1934.

January-August 2006 Statewide Ranks

National Climatic Data Center/NESDIS/NOAA



A blistering heat wave in July impacted most of the nation, breaking more than 2,300 daily records and more than 50 all-time high temperature records. Additional high temperature records were broken during the first part of August.

The Residential Energy Demand Temperature Index (REDTI) ranked this summer as the sixth highest index in the 112-year record. Using this index, NOAA scientists determined that the nation's residential energy demand was approximately 10 percent higher than what would have occurred under average climate conditions for the season.