

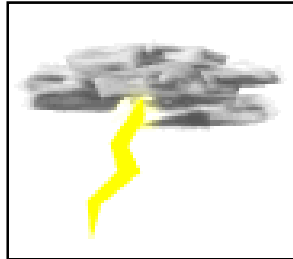
# The Storm Chaser

A Publication of the National Weather Service Cleveland and Skywarn

Fall 2007

## Severe Weather Season In Review

The 2007 Severe Weather Season will long be remembered for devastating flash floods and hail storms. Over \$500 million in damages occurred in the Cleveland National Weather Service's area of responsibility this summer. Severe thunderstorms were reported on 42 days and tornadoes on five.



The season got off to a quick start with several severe thunderstorms reported on March 14<sup>th</sup>. One of these spawned an EF0 tornado in Lorain County. This tornado touched near a shopping mall in Elyria and damaged several buildings. Severe weather was reported on four days in April and seven days in May.

The biggest event of the year occurred on May 1<sup>st</sup> when 63 severe thunderstorms and two tornadoes were reported in northern Ohio and northwestern Pennsylvania. An EF0 tornado touched down near Portage in Wood County and caused minimal damage. A stronger EF1 tornado downed many trees and damaged around 10 homes southeast of Meadville in Crawford County Pennsylvania.

The next significant event of the year occurred on June 8<sup>th</sup> when several supercell thunderstorms moved across northern Ohio and northwestern Pennsylvania. Hail the size of softballs

pummeled Akron and surrounding areas in Summit County. Over 29,000 insurance claims were filed for an estimated \$105 million in damages in Summit County alone. Hail the size of tennis balls was also observed in Portage County. Other noteworthy events occurred on June 19<sup>th</sup> and June 27<sup>th</sup>. Severe thunderstorms toppled dozens of trees on these days.

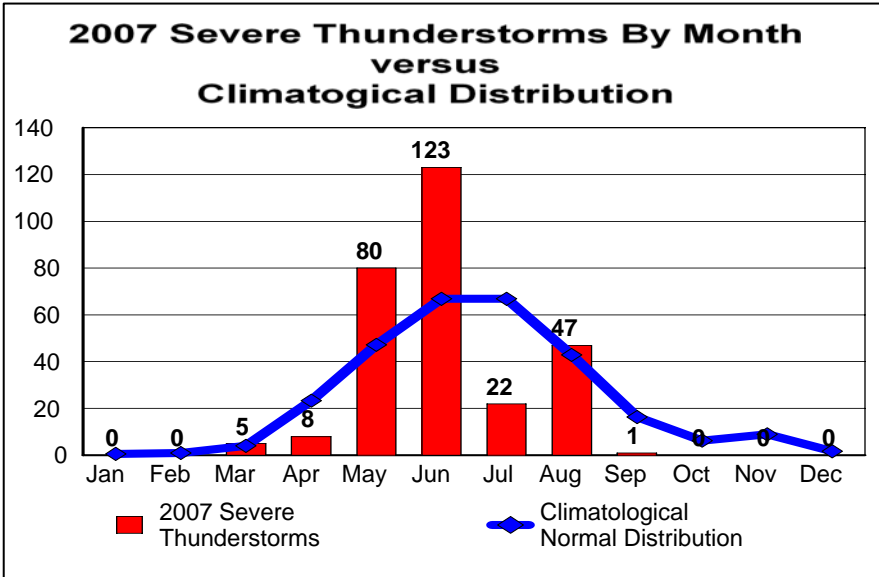
The month of July was relatively quiet with sporadic thunderstorm activity. Activity picked up again in early August. Severe thunderstorms on the 5<sup>th</sup> spawned two tornadoes. An EF0 tornado touched down on a farm southwest of Bettsville in Seneca County and caused minor damage. A second EF0 tornado touched down southeast of Carey in Wyandot County and damaged a home and flattened a couple of barns. A few days later on the 9<sup>th</sup>, over 20 severe thunderstorms and three more tornadoes occurred.

An EF0 tornado damaged a factory and downed dozens of trees in Shelby (Richland County). A stronger EF1 tornado touched down in extreme northeastern Ashland County and caused over a \$1 million in damages to a school building. A third tornado, another EF1, touched down a few miles to the east of the school in western Medina County. A barn northwest of Lodi was leveled and many trees

downed by this tornado. A downburst hit the City of Marion causing unprecedented damage. Hundreds of trees and power poles were toppled and many homes damaged. A 22 year old woman was killed when her car was struck by a tree. Heavy rains fell on most of the area on August 19<sup>th</sup> and 20<sup>th</sup>. The rains continued into the 21<sup>st</sup>

## 2007 Tornadoes

Date	County	Enhanced Fujita Scale
03/14/07	Lorain	EF0
05/01/07	Wood	EF0
05/01/07	Crawford, PA	EF1
07/05/07	Seneca	EF0
07/05/07	Wyandot	EF0
07/09/07	Richland	EF1
07/09/07	Ashland	EF1
07/09/07	Medina	EF1
08/20/07	Morrow-Richland	EF1



buildings and a house. Hundreds of trees were toppled along the damage path. The parent thunderstorm responsible for this tornado also produced a damaging downburst which downed hundreds of trees in western portions of Richland County.

Fortunately, the remainder of the severe weather season was quiet. Only a few severe thunderstorms occurred during the later portion of August and during the months of September and October. A

leading to catastrophic flooding in portions of Hancock, Wyandot, Crawford and Richland Counties during the morning hours. Hundreds of homes were destroyed and thousands more damaged by the flooding. Observers in Crawford and Wyandot Counties measured over nine inches of rain. Findlay (Hancock County) was especially hard hit. Homes and businesses along the Blanchard River, Eagle Creek and Lye Creek were devastated by flooding. The river crested at its highest level since 1913 and over 2300 homes and businesses in Hancock County sustained damage. In Richland County, the city of Shelby was devastated by flooding from the Black Fork of the Mohican River. Water rescue teams from throughout northern Ohio converged on the city to assist in rescuing dozens of stranded residents. Coast Guard helicopters from Detroit plucked residents from rooftops. The north end of Mansfield was also hard hit by flooding. Local officials in both Crawford and Wyandot Counties stated that the flooding in their counties was the worst ever. Hundreds of homes in each were either destroyed or damaged.

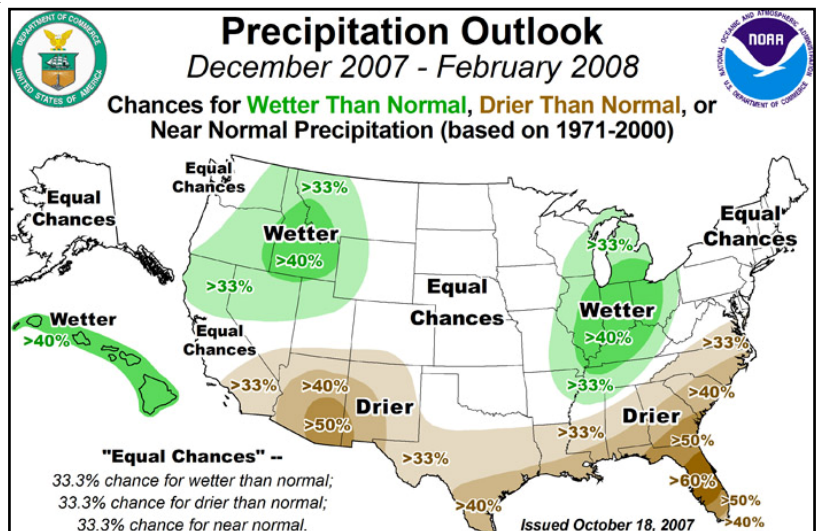
total of 286 severe thunderstorms and nine tornadoes occurred this season

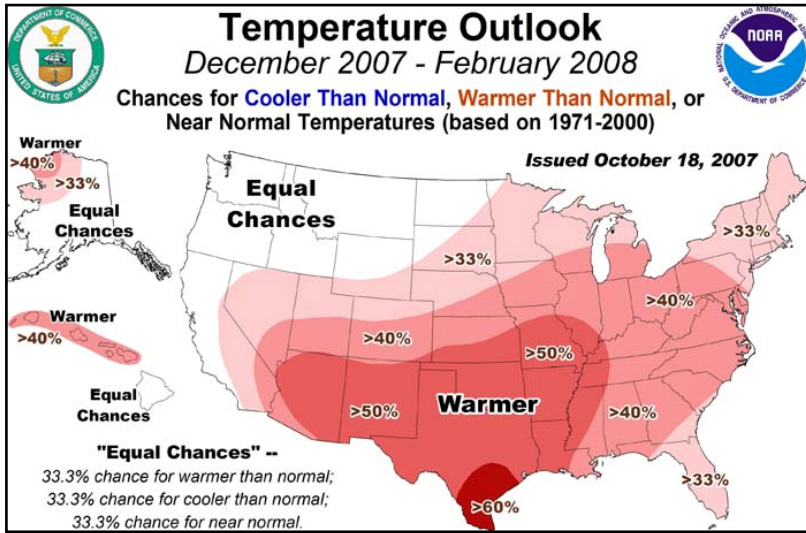
### Winter Outlook

In the first scheduled update to the 2007-08 U.S. winter outlook, NOAA seasonal forecasters say the latest data and model runs confirm their earlier prediction for above-average temperatures over most of the country and a continuation of drier-than-average conditions across much of the Southwest and Southeast.

Additionally, the onset of La Niña means that drought will likely persist in the Mid Atlantic and the Southwest from Southern California into Arizona. In contrast, the drought forecast shows continued improvement for the Northeast and

The final tornado of the year occurred on August 20<sup>th</sup>. An EF1 tornado touched down in northeastern Morrow County and then moved southeast into western Richland County. This tornado remained on the ground for about five miles and caused damaged to farm





Great Lakes region, as well as the Northwest and northern Rockies.

Even though December, January and February are likely to be milder than average for much of the country, people should still expect some typical winter weather this season.

For the country as a whole, NOAA's updated heating degree day forecast for December through February projects a 3.4 percent warmer winter than the 30-year normal, but a 0.7 percent cooler winter than last year.

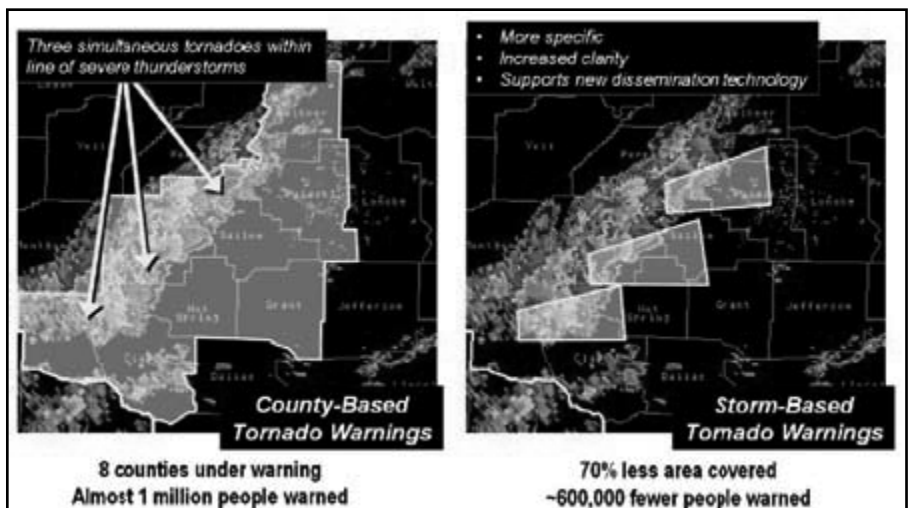
### Storm Based Warnings

On October 1, NWS began issuing warnings for geographically specific areas rather than for entire counties. This major service change affects warnings for tornadoes, severe thunderstorms, flash floods, areal floods and marine hazards. This storm-based warning technique allows NWS forecasters to warn for specific geographic areas where threats to life and property are greatest. Forecasters define the storm-based warning area by a set of latitude and longitude points easily ingested by graphical applications (see Figure 1). This reduction in the area unnecessarily warned (potentially as much as 70 percent) offers

important benefits to the American public. NWS is making this major service change without significant changes in the text warning products. The header information, the format of the warnings with bullets followed by specific information, and the list of latitude/longitude points at the bottom of the warning have not changed. There will be a few more cities and landmarks listed in the fourth bullet, especially in rural areas. Users will also see the addition of some tracking information at the bottom of the warning (see below).

So what does change? Although the text product will look the same, the focus of the product changes from a list of counties to the polygon described by latitude and longitude points. The valid area of the warning is no longer entire county or counties, but only the area inside the polygon.

Users who receive warnings via weather radio or text products will still rely on the list of impacted counties, cities, towns and landmarks. Those who receive warnings that include graphics via TV, Internet, PDA or other media that can be geographically located (e.g., cell phones and satellite radio) will benefit from the more specific storm-based area. For example, a user will be able to see exactly where a storm is moving in relation to where they are in a vehicle.





Users as diverse as store managers, airlines staff, broadcast meteorologists and emergency managers can expect to benefit by using these graphics for their operations. For instance, a store owner will no longer have to move customers to shelters or take other emergency precautions if a tornado is not expected to go through that part of a large county. There will be one minor addition to these warnings. A tracking line will be added to the bottom of the warning. This line, beginning with the characters: TIME...MOT...LOC, will include location, speed and direction of movement of the event being tracked: tornado, hail core, leading edge of gust front, etc. This line can provide additional graphical information, but is not meant for those who do not receive a graphic. For more information, including a list of Frequently Asked Questions, go to: [www.nws.noaa.gov/sbwarnings](http://www.nws.noaa.gov/sbwarnings)

## NOAA Weather Radio News

**A**s the number of on-the-air NOAA Weather Radio (NWR) transmitters approaches 1000, more of them (as well as the audio files that are broadcast over them) are becoming available through the Internet. There are two kinds of NWR audio available: “live streaming audio” and “downloadable audio files,” which includes podcasts.



### Live Streaming Audio

At the present time, NWS offices are not hosting live streaming audio, but many third parties have stepped in to do it for us. FCC regulations allow NWR signals to be rebroadcast. In fact, many broadcast and cable television stations have aired NWR over their second audio or local weather channels for years. There are currently more than 140 different transmitters available “live” over the

Internet, some through multiple feeds. The streams originate through universities, media and other private companies, and through individuals who capture our signal through their receiver and rebroadcast it through their own Website or through an audio aggregator such as WeatherUnderground. Some of the streams have been active for years, while others come and go quickly. The NWS streaming audio Website at [www.weather.gov/nwr/streamaudio.htm](http://www.weather.gov/nwr/streamaudio.htm) is updated every few weeks.

### Downloadable Audio Files, Podcasts

A few dozen NWS offices are uploading audio files of Weather Radio messages to their Websites, either as mp3 files or as podcasts.

The audio files available vary by site, but typically contain routine messages such as forecasts, hourly weather roundups and climate summaries. Because of timeliness issues, event-driven messages such as watches and warnings normally are not included. Those sites with Really Simple Syndication (RSS) feeds or audio podcasts are labeled as such.

For the list of downloadable audio sites, go to [www.weather.gov/nwr/streamaudio-d.htm](http://www.weather.gov/nwr/streamaudio-d.htm). NWS expects to add more downloadable audio sites in the coming months. In addition, NWS Eastern Region is working on a “NWR on the Web” project to make content from all of their transmitters available online.

## Looking For Online Fall/Winter Awareness Resources?

For severe weather and winter weather awareness brochures, booklets, state awareness events links and more go to:

[www.weather.gov/os/severeweather/index.shtml](http://www.weather.gov/os/severeweather/index.shtml)

and

[www.weather.gov/os/winter/index.shtml](http://www.weather.gov/os/winter/index.shtml)

## Severe Weather Awareness Weeks

The following are the dates for the Ohio and Pennsylvania Severe Weather Awareness Weeks for 2008. Skywarn will staff the National Weather Service office in Cleveland for the Ohio Statewide Tornado Test. Check in's from all amateur radio stations are encouraged.

### Ohio Severe Weather Awareness Week

*March 23<sup>rd</sup> - 29th, 2008*

### Ohio Statewide Tornado Test

*March 26<sup>th</sup> at 9:50 am*

### Pennsylvania Severe Weather Awareness Week

*March 9<sup>th</sup> - 15th, 2008*

### Pennsylvania Severe Weather Test

*March 13<sup>h</sup>, 2008*

### National Flood Awareness Week

*March 17<sup>th</sup> - 21<sup>st</sup>, 2008*

### National Lightning Safety Week

*June 22<sup>nd</sup> - 28<sup>th</sup>, 2008*

### Ohio Winter Weather Awareness Week

*Nov 16<sup>th</sup> - 22<sup>nd</sup>, 2008*

## Google Earth/GIS Users:

National Weather Service data, forecasts and observations continue to become more GIS friendly. Here are a few National Weather Service links that contain information that is friendly for Google Earth and other GIS applications.

<http://www.srh.noaa.gov/gis/kml>

<http://wdssii.nssl.noaa.gov>

**Visit us on the Web at:**  
<http://www.erh.noaa.gov/cle>

## Skywarn Training

All training this year will be conducted in March, April, May and the first week of June. Please have three potential dates in mind when you call. Also, class sizes must be 25 individuals or greater. Classes will be offered Monday through Thursday. If planning an evening class, a **6:00 PM or 6:30 PM** start time is preferred. **Please ensure a screen is available.** We are trying to consolidate classes so please coordinate with other interested groups. Because of resources, we must limit the number of visits to each county to one or two. Large groups and Emergency Management Agencies (EMA) get schedule priority. We will require that all talks be coordinated with your local EMA. Schedule the training early and promote the talk. You will get much better attendance. To schedule a Skywarn training session you should do the following:



1. Coordinate with the County EMA
2. Ensure at least 25 people (Give an estimate of attendance)
3. Have a **location, date and time** established!
4. Provide me with a volunteer to help with registration.
5. Call Gary Garnet at 216-265-2382 ext 223 or Email at [gary.garnet@noaa.gov](mailto:gary.garnet@noaa.gov) to schedule training.

Skywarn spotters are required to update training every two to three years. Spotters who do not update their training will be removed from the Skywarn program.

The training schedule for SKYWARN will be posted on our web page [www.weather.gov/cle](http://www.weather.gov/cle) in the Skywarn section.



**Summit County Shelf Cloud**  
**August 9th, 2007**  
*photo courtesy Skywarn*



**Shelby Ohio Flooding (Richland County)**  
**August 21st, 2007**  
*photo courtesy Skywarn*

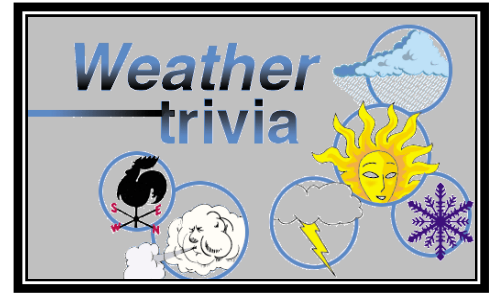


**Medina Tornado Damage**  
**August 9th, 2007**  
*NWS photo*



**Ashland County Tornado Damage**  
**August 9th, 2007**  
*NWS photo*

1. The "Fresh Water Fury" or the "White Hurricane" occurred in what year?
  - a) 1913
  - b) 1925
  - c) 1950
  - d) 1978
  
2. The greatest 24 hours snowfall in Cleveland?
  - a) 13.4 inches
  - b) 15.5 inches
  - c) 17.4 inches
  - d) 20.1 inches
  
3. The highest pressure ever recorded in Cleveland?
  - a) 31.20 inches
  - b) 31.05 inches
  - c) 30.97 inches
  - d) 30.88 inches
  
6. The greatest seasonal snowfall total for Mansfield?
  - a) 78.0 inches
  - b) 91.0 inches
  - c) 100.2 inches
  - d) 103.5 inches
  
5. What is the least amount of snow for a winter season in Erie, PA?
  - a) 12.5 inches
  - b) 15.1 inches
  - c) 19.6 inches
  - d) 25.2 inches
  
6. Spring 2008 will arrive?
  - a) March 20<sup>th</sup> 1:48 a.m.
  - b) March 20<sup>th</sup> 2:32 p.m.
  - c) March 21<sup>st</sup> 1:27 a.m.
  - d) March 21<sup>st</sup> 2:07 p.m.



**Answers to Trivia Questions:**

1. c) 0v 7-10, 1913
2. b) 17.4 inches on Nov9-10, 1913
3. c) 30.97 inches Feb 1934
4. a) 91 inches 1995-1996
5. a) 19.6 inches in 1932-33
6. a) March 20<sup>th</sup> 1:48 am

*Thank You For Your Support!!!!*