

Sky Scoop

Issue 12

Spring/Summer 2004

Points of Interest

- 30th Anniversary of the 1974 Super Outbreak
- 2003-2004 Winter Summary
- January river flooding
- NWS takes part in Ohio State conference
- Snow Spotter Info

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30th Anniversary of the 1974 Super Outbreak

Robin L. Gerhardt



F-5 Tornado approaching Xenia, Ohio on the fateful afternoon of April 3,

break, there were 15 tornadoes on the ground at once. 330 people lost their lives during the Outbreak. 5,484 people were injured.

Some of the strongest storms of the Outbreak moved across the Ohio Valley that day. The Xenia and Saylor Park tornadoes were both classified as F-5 tornadoes on the Fujita scale. The Xenia tornado was the most devastating of the entire Outbreak. 36 lives were lost and 1,150 were injured. This was the highest number of deaths from a single tornado in the Outbreak. There was a total of \$250,000,000 in property damage. Another F-5 developed and moved into Saylor Park, Ohio. The tornado formed in Indiana, continued to track across Kentucky and moved across the Ohio River into Ohio. 210 people were injured and 3 lost their lives.

Meteorologists knew that severe weather was possible that fateful day in 1974. However, due to the lack of data, the extent of the event was not forecastable. On April 1, a developing low pressure system was depicted across the Southern Rocky Mountains. As the system moved east over the next few days, warm, moist air streamed into the Ohio Valley.

Technology has greatly improved since 1974. 30 years ago, the National Weather Service utilized radar that had been handed down from the military. The system was outdated and difficult to operate and repair. There were even areas that had no radar coverage. The quickest form of communication in 1974 was the telephone. There were only 50-60 NOAA Weather Radios across the country. Today, there are over 480. The National Weather Service 88-D radar is constantly undergoing upgrades and improvements. **(continued on page 4)**

April 3, 2004 marked the 30th Anniversary of the 1974 Super Outbreak. On this day in 1974, 148 tornadoes occurred in 16 hours and 10 minutes. This was the worst tornado outbreak in U.S. history. A tornado outbreak typically affects 2 or 3 states. The Super Outbreak affected 13 states, 10 of which were declared disaster areas. The Outbreak began at 1:10 PM on April 3 and ended at 5:20 AM on April 4. There were 6 F5 tornadoes during this time.

The total combined path lengths of the 148 tornadoes equaled an astonishing 2,598 miles. At the peak of the Out-

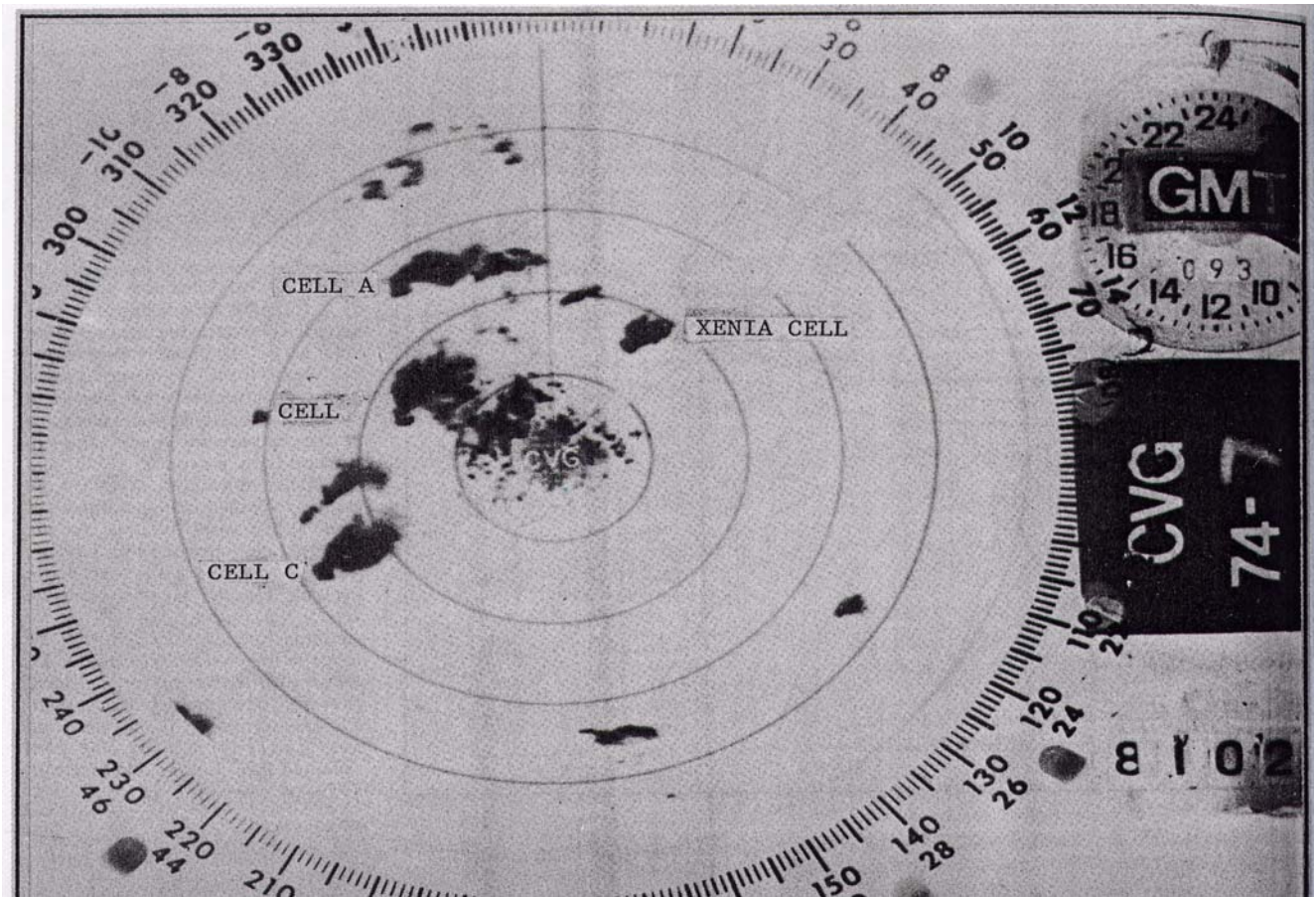
30th Anniversary of the Super Outbreak



Ariel view of Xenia, Ohio April 4, 1974.
AP Photo.



Tornado approaching Saylor Park, Ohio April 3, 1974. Photo courtesy Melissa Humphrey.



Covington, KY Radar 4:20 P.M. 4/3/1974

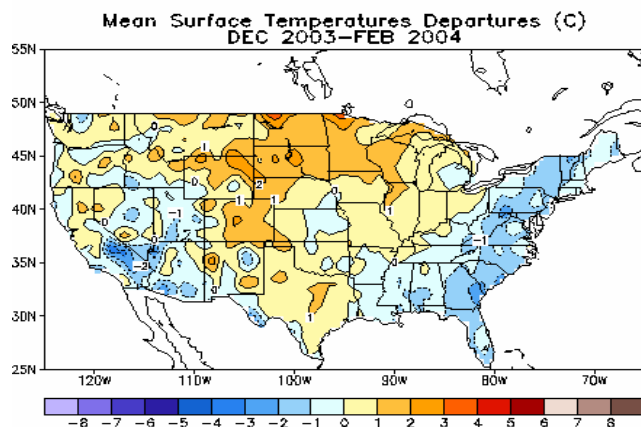
1974 Super Outbreak



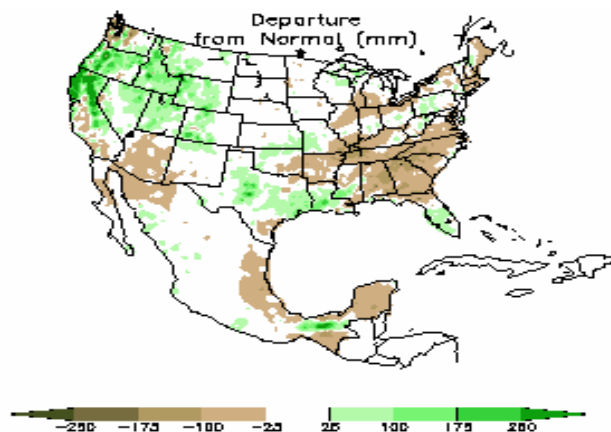
Winter Wrap-up

Robin Gerhardt

In the previous edition of Sky Scoop, NOAA's Climate Prediction Center had given the Ohio Valley an equal chance of a cold, snowy winter or a warm, wet winter. This was mainly due to a neutral phase of the El Nino Southern Oscillation (ENSO). However, some of the other oscillations could have turned things in either direction. Looking over the past winter, conditions remained near normal across the Ohio Valley. Temperatures were slightly below normal across the southern Ohio Valley and slightly above for the northern portion. Precipitation was near normal for the region. At the Cincinnati Northern Kentucky International Airport, January was the coldest month of the winter season. The average temperature for the month was -5.7°F below average. At the Columbus International Airport and Dayton Cox International Airport January was also the coldest month with the average temperatures -4.1°F and -2.8°F below average respectively. January was also the wettest month for all three stations. Cincinnati was 1.63 inches above average, Columbus was 2.55 inches above and Dayton 2.02 inches above. The current Climate Prediction Center's (CPC) Outlook for the 2004-2005 Winter is calling for above normal temperatures and near normal precipitation. CPC has also recently released a statement that a weak El Nino is developing. This could bring a quiet, less stormy winter with above average temperatures to the Ohio Valley. Only time will tell!



Average Temperature Departure from Normal for Winter 2003-2004. Most of the Ohio Valley was slightly below or above normal. Image courtesy www.cpc.noaa.gov



Average Precipitation Departure from Normal for Winter 2003-2004. Most of the Ohio Valley was near normal. Image courtesy www.cpc.noaa.gov

Super Outbreak continued...

An outbreak of tornadoes this devastating as not occurred since. During May of 2003, there were a record number of 516 tornadoes across 27 states. 38 people lost their lives. Tornado detection has improved immensely since the 1974 outbreak with the introduction of the WSR-88D radar in the early 1990s. Also, research into severe weather has greatly increased since the 1970s and communications have been greatly improved. The watches, warnings and advisories that are sent out by the National Weather Service are received by the media, law enforcement and Emergency Management Agency Officials within seconds of issuance. Reports of severe weather and damage reports are relayed to the National Weather Service more efficiently though the SKYWARN spotter program and amateur radio networks. With ongoing research, warning time and detection of severe weather can only improve in the future.

CINCINNATI

| Month | Average Monthly Temperature | Departure from Normal | Snowfall (inches) |
|----------------------|------------------------------------|------------------------------|--------------------------|
| December | 35.0° F | 0.4° F | 6.1 |
| January | 27.7° F | -5.7° F | 12.6 |
| February | 33.9° F | -0.3° F | 1.5 |
| March | 45.4° F | 1.5° F | 1.8 |
| Average/Total | 35.5° F | -1.0 ° F | 22.0 |

COLUMBUS

| Month | Average Monthly Temperature | Departure from Normal | Snowfall (inches) |
|----------------------|------------------------------------|------------------------------|--------------------------|
| December | 33.8° F | 0.3° F | 6.3 |
| January | 24.2° F | -4.1° F | 11.5 |
| February | 31.9° F | -0.2° F | 1.5 |
| March | 43.5° F | 1.5° F | 4.8 |
| Average/Total | 33.4° F | -0.6 ° F | 24.1 |

DAYTON

| Month | Average Monthly Temperature | Departure from Normal | Snowfall (inches) |
|----------------------|------------------------------------|------------------------------|--------------------------|
| December | 33.0° F | +1.6° F | 3.2 |
| January | 23.5° F | -2.8° F | 6.2 |
| February | 30.7° F | +0.3° F | 2.3 |
| March | 42.9° F | +2.7° F | 5.8 |
| Average/Total | 32.5° F | 1.0° F | 17.5 |

NWS Wilmington, Ohio takes part in 8th Annual Ohio Severe Weather Symposium

Robin L. Gerhardt

The Ohio Severe Weather Symposium has been a tradition in the Atmospheric Sciences Program at the Ohio State University for 8 years now. Jeff Dobur, a forecaster at the Peachtree City, GA office and OSU alumni, founded the event in 1997. Mr. Dobur presented his own research this year on the prediction of precipitation amounts. Several forecasters from the NWS in Wilmington attend the event yearly. Information Technology Officer Tom Johnstone gave a presentation on the implementation of an Ohio Valley Mesonet. Dan McCarthy from the NWS Storm Prediction Center in Norman, OK gave a presentation on the May 2003 Tornado Outbreak. Other speakers included Jim Kosarik and Chris Mello from NWS Cleveland, Ohio, Dongjun Seo from NWS Headquarters, and Dr. Carolyn Merry from the Ohio State University Department of Civil Engineering.

The event has always been organized by the students at the university. This year was no exception. The Meteorology Club at the Ohio State University and the Department of Geography funded the event. The NWSFO and Ohio River Forecast Center became sponsors of the event 3 years ago. Plans for the 9th Annual Ohio Severe Weather Symposium are already underway!

Early January Flooding

Mike Ryan

Heavy rain fell on the first weekend of the year as a frontal boundary stalled across the Ohio Valley. Warm moist air from the Gulf of Mexico brought unseasonably warm temperatures in the 60s and copious amounts of rain. The heaviest rain fell in a swath across the Whitewater Valley in eastern Indiana east into west central and central Ohio. Many locations in these areas received three to four inches of rain. Roads were flooded and impassable across the region, and numerous rivers and creeks rose out of their banks. Rivers that flooded included the Whitewater River in eastern Indiana, the Hocking, Licking and Scioto Rivers in central Ohio, and the Great Miami River in western Ohio. Some of the worst flooding was along the Great Miami River, with the river cresting at 27 feet at Miamitown in western Hamilton County. This was 11 feet above the flood stage of 16 feet, and the highest recorded stage since January 1959. This was the most significant flooding event to effect this region since the destructive Ohio River Valley floods in March 1997.



Great Miami River at Miamitown, January 5, 2004
11 feet above flood stage. Photo courtesy Len Mazarowski, Ohio River Forecast Center.



Big Walnut Creek January 5, 2004. Photo Courtesy Ben Gelber, WCMH-4, Columbus, Ohio.

A Letter from the Warning Coordination Meteorologist

THANK YOU GOES TO NWS WILMINGTON'S SEVERE WEATHER SPOTTERS

I would like to thank everyone who took time this year to attend a severe weather spotter's training class. The reliable reports that trained severe weather spotters provide to the National Weather Service are vital to the warning system. These reports can be used as a basis for warnings and/or to confirm warnings already issued. The reports can be used, along with the technology (i.e. radar, satellite, etc.) and the science involved in the warning situation to issue warnings. This allows us to provide the best warnings with the longest lead times possible which can help save lives.

We have finished our training and have conducted around 50 training classes across our county warning area. The total number of people trained this year ranged between 1900 to 2000 people. We will begin next year's training in early 2005 and will post the training schedule on our web site. We encourage each trained spotter to attend a session at least once every 2 to 3 years for review and to get any updated information.

It is hard to believe, but the winter season will be here before we know it! Please remember that we are interested in winter related reports as well. This includes snowfall amounts of one inch or greater, one inch or more of snow in one hour, total snow depth, freezing rain or freezing drizzle, and thundersnow.

Again, the staff of the Wilmington office of the National Weather Service would like to thank each of you for participating in the Skywarn Severe Weather Spotter program. You are a very important part of the warning process.

Sincerely,

Mary Jo Parker
Warning Coordination Meteorologist
National Weather Service
Wilmington, Ohio

Winter is approaching!!! Remember to report the following weather to the National Weather Service:

- ***Two inches or more of new snowfall***
- ***One inch or more of snow an hour***
- ***Freezing rain or freezing drizzle***
- ***Thundersnow***



Snow spotters needed this winter!

We are currently recruiting snow spotters for 2004/05 winter season. Approximately 200 of you signed up before the 2003/04 season and the information you provided us was extremely useful and very much appreciated! During this upcoming season we are interested in expanding our snow spotter network. If you are interested please email Greg.Tipton@noaa.gov or return the form below. We are particularly interested in recruiting spotters from the following counties.

Indiana

Franklin, Ripley, Wayne

Kentucky

Bracken, Grant, Lewis, Mason, Pendelton, Robertson

Ohio

Chapaign, Clinton, Darke, Franklin, Greene, Highland, Hocking, Licking, Pickaway, Pike, Preble, Ross, Scioto.

Being a snow spotter does not take up a whole lot of time. For those interested, a ruler and a good measuring spot is all that is needed. Further information will be sent to all Snow Spotters (new recruits and current ones) in October or November. Thanks for your time and participation!

WILMINGTON NWS SNOWFALL REPORTER APPLICATION

We are looking for spotters who are willing to call in snowfall reports after every winter event. We will select spotters based on location to try and get a representative view of snowfall across our area.

Name _____

County of Residence _____

Sector of County (NW, SE, etc.) _____

Distance and Direction of your residence from the nearest city, town or U. S. , state or county highway.

Email Address _____

Do you own a rain gauge? **Y** **N**

WILMINGTON NWS SKYWARN SPOTTER REGISTRATION

Name _____

County of Residence _____

Do you need a new ID Card? _____

ONLY FILL OUT PARTS OF SHEET WITH NEW INFORMATION (JUST FILL IN SECTIONS THAT HAVE CHANGED)

If your address has changed, what was your previous county of residence?

Mailing Address _____

street address and/or PO Box

apt # (if any)

city

state

zip

Distance and Direction of your residence from the nearest city, town or U. S. , state or county highway.

Email Address _____

May we call you for verification of suspected severe or hazardous weather events? **Y** **N**

Telephone __ (____) _____

* Give times we can call, otherwise we will assume that we can call *anytime day or night*.

Times: From _____ to _____

Affiliation, if any?

Amateur Radio (with Call Sign) _____

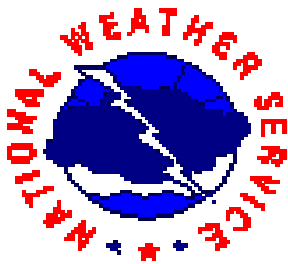
Emergency Management/Law Enforcement _____

Fire/Rescue Squad _____

Do you own any of the following weather observing equipment?

Electronic weather station _____

Rain Gauge _____



National Weather Service
1901 South State Route 134
Wilmington, Ohio 45177

www.erh.noaa.gov/er/iln/iln.htm