



Significant Weather Observation Program



Teresa Thompson
Philadelphia 2S
July 28, 2009



Doug Weiler
Near Clay City
June 19, 2009

Fall 2009 Meeting

Matt Barnes
Chuck Schaffer

What We Do For You

WEEKLY WEATHER DISCUSSION

An early fall-like airmass will settle across the Midwest this weekend, courtesy of a strong ridge of surface high pressure transporting a Canadian airmass into the region. This will produce partly cloudy skies and temperatures 5-10 degrees below normal through Monday. In fact, a few favored "cold spots" could drop into the upper 40s or lower 50s by early Sunday morning - which would be the coolest readings observed since early June. By early next week the high pressure ridge will move well east of the region, and with the upper level flow turning southwesterly, a good warm-up should begin.

What We Do For You

E-MAIL NOTIFICATION

The Storm Prediction Center (SPC) has indicated that a **SLIGHT RISK** for severe weather exists across parts of central Illinois on Monday, August 10th.

A slow-moving cold front currently draped from the Upper Peninsula of Michigan southwestward into northern Kansas will slowly push eastward on Monday, triggering scattered thunderstorms across central and southeast Illinois. The atmosphere ahead of the front will be extremely moist, so any storms that develop will be efficient rain-producers. In addition, upper-level winds will remain light, leading to slow-moving thunderstorm cells. The end result will be locally heavy rainfall and potential flash flooding in a few locations.

What We Do For You

SIGNIFICANT WEATHER SUMMARIES

August 19, 2009

Severe thunderstorms impacted parts of central Illinois on Wednesday, August 19th...bringing damaging winds, heavy rainfall, and several possible tornadoes. The storms developed along a warm frontal boundary during the early afternoon, then tracked east-northeast through the area. The hardest hit locations were along the I-72 corridor...with the bulk of the damage occurring across parts of Scott, Morgan, Sangamon, Logan, and DeWitt counties eastward to the Indiana border.

What We Do For You

ALL FEATURES ARE E-MAILED TO YOU DIRECTLY OR CAN BE ACCESSED VIA THE SWOP WEBPAGE AT:

<http://www.crh.noaa.gov/ilx/?n=swop>

What You Can Do For Us

- ⦿ Let us know when you experience significant weather such as:
 - ⦿ Hail
 - ⦿ High Winds
 - ⦿ Storm Damage
 - ⦿ Heavy Rain/Snow

Hail



- ⦿ Compare size to coin or other common object
- ⦿ Pea and BB-sized stones are important to report as well!

Hail Size Chart

Hail Diameter (inches)	Description
1/4	Pea
1/2	Plain M&M
3/4	Penny
7/8	Nickel
1	Quarter
1 1/4	Half-dollar
1 1/2	Ping-Pong Ball
1 3/4	Golfball
2	Hen Egg
2 1/2	Tennis Ball
2 3/4	Baseball
3	Teacup
4	Grapefruit
4 1/2	Softball

High Winds



- ⦿ Not vital to provide an actual measurement or estimate
- ⦿ The **damage** you report will help us determine the wind speed

Storm Damage

- Trees or tree branches down...try to provide an estimated diameter and whether the tree was healthy or partially dead
- Powerlines down
- Shingle or siding damage to your home
- Broken windows or other structural damage
- Other

Heavy Rain/Snow

- Use NWS-issued 4" rain gauge to report rainfall
- Use NWS-issued snowstick or standard yardstick for snow
- Report amounts **during** event if possible
- Report storm total **after** event concludes

How to Report



- E-mail: nwslilx@noaa.gov
- Checked regularly, but **not** the fastest way to get information to us

How to Report



- ◎ <http://espotter.crh.noaa.gov/>
- ◎ **FASTEST** way to get weather data to us
- ◎ Automatically alerts on NWS forecaster computers!

eSpotter

[Main Menu](#) | [Location](#) | [Create Report](#) | [Messages](#) | [Log Out](#)

eric.helgeson@noaa.gov-NWS Office (Pennington SD)
06/09/2003 02:53 MDT (08:53 UTC)

WEATHER REPORT STATUS

Submitted: 0
Received: 0

CONNECTED TO UNR

eSpotter

Online Weather Reporting System



Main Menu

[Update Password](#)

This will allow you to update your login password.

[Directions/Help](#)

General help information. If you do not find what you need, send an email to the address at the bottom of the page.

[Weather Information](#)

[Local Radar Imagery](#)
[Satellite Imagery](#)

To submit a report, click the "Create Report" Link/Button at the top of the page.

Reports with time-sensitive, critical and life-saving information should be relayed through your ordinary communication methods FIRST!!

You may follow up by sending the information through eSpotter, with a note in your narrative noting that the information was relayed through an alternate method.

Recent Messages

Within the past 12 hours.

eric.helgeson@noaa.gov

Pennington

UNR

[[More Messages](#)]



Monday, May 12, 2003 9:56

Active Watches,
Warnings and
Advisories for
your area

eSpotter

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eric.helgeson@noaa.gov-NWS Office (Pennington SD)
06/09/2003 02:53 MDT (08:53 UTC)

- Click **Create Report** to access online form

How to Report

Severe Weather Report Form
[Click Here for the Winter Weather Report Form](#)

Date & Time

Date: Jun / 10 / 2003 Time: 02 : 30 MDT Estimated
 Exact

Location

Select County, State: Pennington, SD (103) City/Town: NWS Office

Weather

Tornado
 Funnel Cloud
 Wall Cloud * Note if there is rotation in narrative.
 Hail Size:
 High Wind Wind Speed: MPH Measured
 Estimated
 Flood
 Flash Flood
 Other

Damage, Injuries, Narrative

Any Damage? Yes No
Was Anyone Hurt? Yes No

Please describe what you observed, movement and any associated damage, including injuries:

Type rainfall/snowfall
or additional
information here

Field Observation

- ◎ Clouds...three main types
- ◎ Other interesting clouds...shelf clouds, wall clouds, scud
- ◎ Tornadoes

Clouds

Clouds are visible pools of water droplets or ice crystals that are suspended in the atmosphere with a bit of dust and dirt mixed in



High Clouds

- Usually occur above 20,000 ft
- Made mostly of ice crystals
- Wispy in appearance



Cirrostratus



Cirrocumulus

Middle Clouds

- Occur between 6,500 and 20,000 ft
- Made mostly of water droplets, ice crystals possible if cold enough



Altocumulus



Altostratus

Low Clouds

- Occur below 6,500 ft
- Made mostly of water droplets



Stratocumulus



Stratus

Other Interesting Clouds



Cumulonimbus:

Thunderstorm



Mammatus:

Form from sinking air within a developed storm system

Convection



Convection



Other Interesting Clouds



Shelf Cloud:

Leading edge of strong outflow winds, often associated with squall lines

Other Interesting Clouds



Wall Cloud:

Persistent lowering of the cloud base, almost always ROTATES

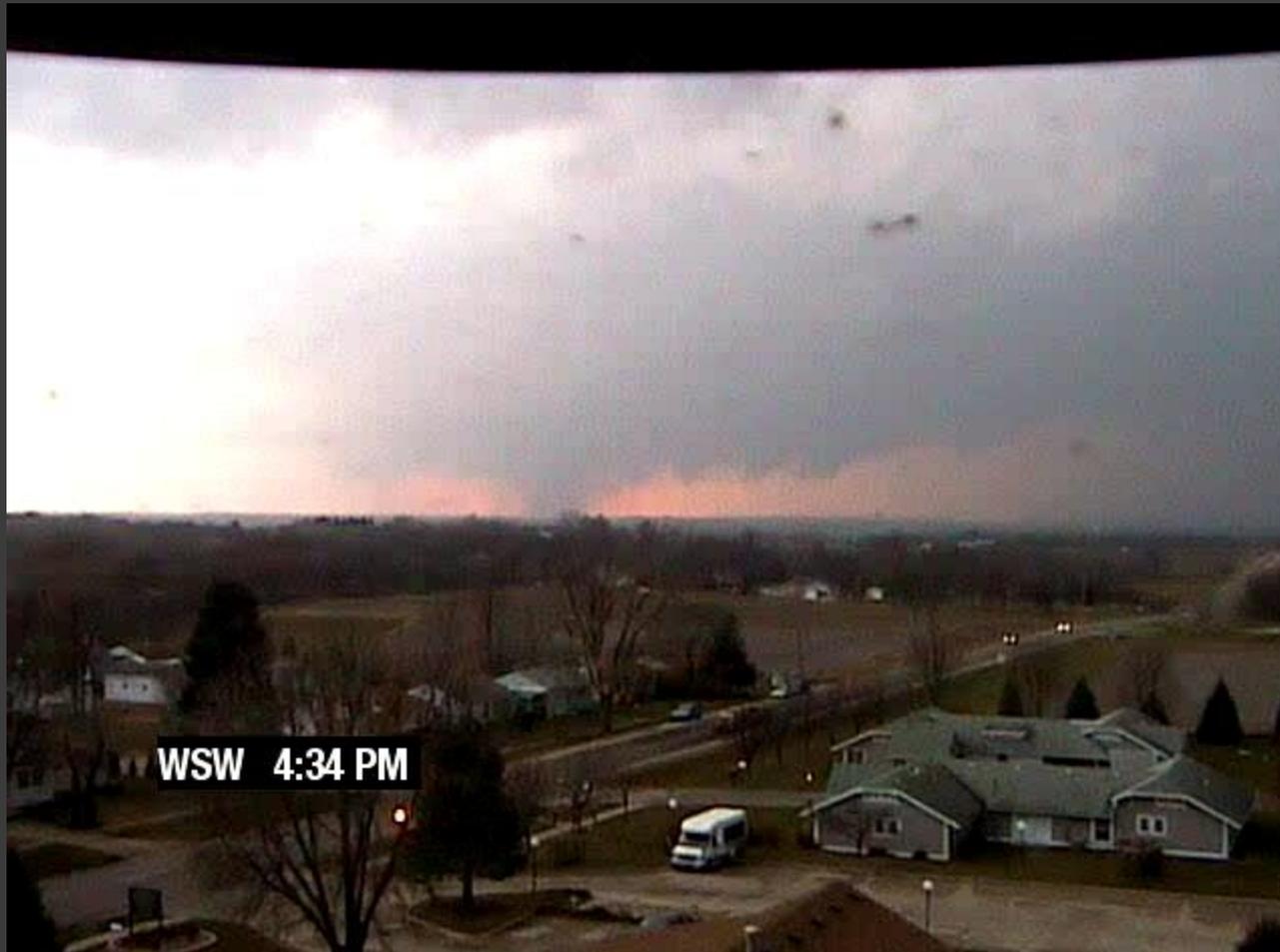
Other Interesting Clouds



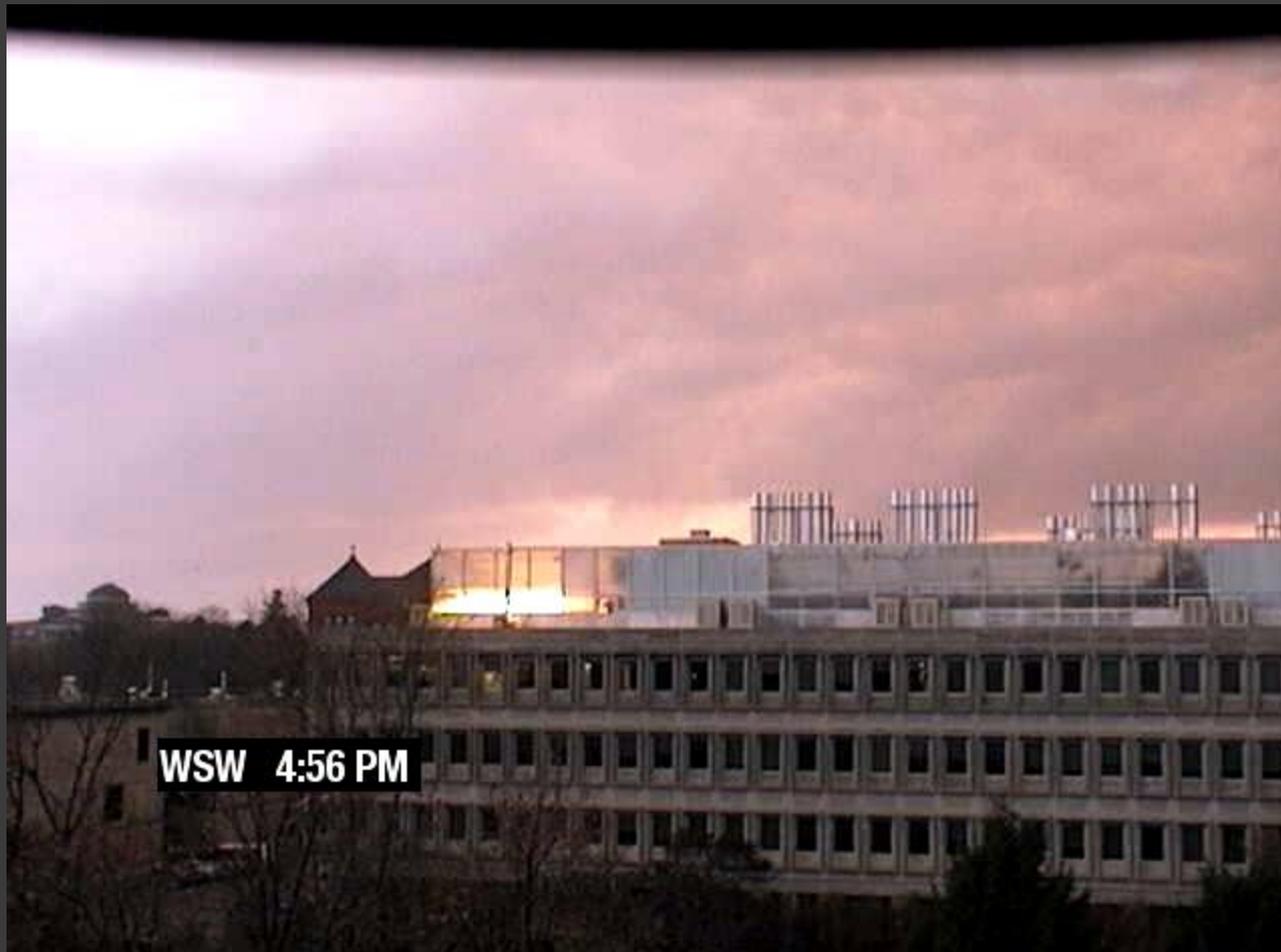
Scud Cloud:

Low-hanging cloud, usually fast-moving but shows NO rotation

Tornado (Madrid, IA)



Tornado (Ames, IA)



Switching Gears to Winter



Winter Reporting

- ◎ **Snowfall:** measurements during the event (not more often than every 3 hrs)
- ◎ **Snowfall:** final event total after snow ends
- ◎ **Precipitation Type:** rain, snow, sleet, freezing rain
- ◎ **Time Precipitation Begins**

Snow Measurement



For More Information...

- **SWOP Training Page:** rainfall/snowfall measurement tips, hail size and wind estimation charts
- <http://www.crh.noaa.gov/ilx/?n=swop>
- Click **“Training”** at top of page

2009 Significant Events

- January 26-28 Heavy Snow

8 to 12 inches along and south of I-70

- August 19 Tornadoes

6 tornadoes across central Illinois

January 26-28: Heavy Snow



© Classic "overrunning" set-up

January 26-28: Heavy Snow

- A major winter storm affected a large part of the central and northeast U.S.
- Warm & moist air began to overrun an Arctic airmass in place
- A frontal boundary served as the primary focusing mechanism for widespread wintry precipitation.
- An upper level disturbance tracked northeast along this front on the 26th, producing snow along and south of a Shelbyville, to Paris line through much of the night, resulting in accumulations from 2 to 4 inches.



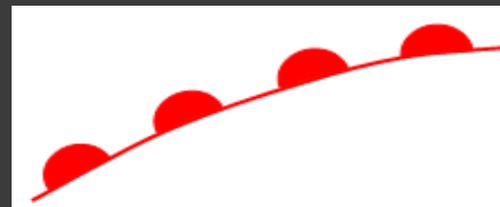
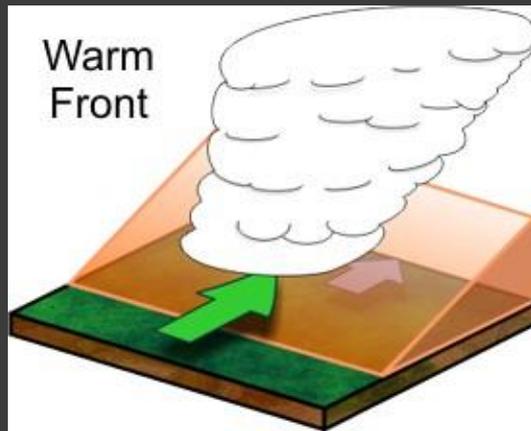
January 26-28: Heavy Snow

- A break in the precipitation was observed for much of the day on the 27th before the main wave began lifting northeastward by afternoon.
- The snow was heavy at times through the night of the 27th, particularly along and southeast of a Taylorville to Danville line. Meanwhile, two bands of lighter snow developed further north across the Illinois River Valley after midnight, then tracked eastward across the remainder of central Illinois.
- The snow finally came to an end by the morning of the 28th, with many areas across east-central and southeast Illinois picking up their most significant snowfall in several years. The heaviest snow fell south of I-70, where 9-11" totals were common.



August 19: Tornadoes

- ◉ A warm and humid airmass approached the region as a warm front tracked north into Missouri & Illinois
- ◉ Scattered showers and thunderstorms began developing along the advancing warm front around midday, then became severe during the afternoon, as an upper-level disturbance moved in from the west.



August 19: Tornadoes

- ◉ The storms continued to strengthen, as they drew energy from a moderately unstable atmosphere.
- ◉ Wind shear was present along the warm front...with southeasterly winds at the surface, gradually turning to southwesterly a few thousand feet above ground.
- ◉ Numerous wind damage reports were received as a line of severe thunderstorms with embedded supercells marched across central Illinois.
- ◉ Several supercells took advantage of the strong wind shear, as a total of 6 tornadoes developed across central IL. One of these tornadoes was ranked an EF3 with winds estimated at 140 mph.

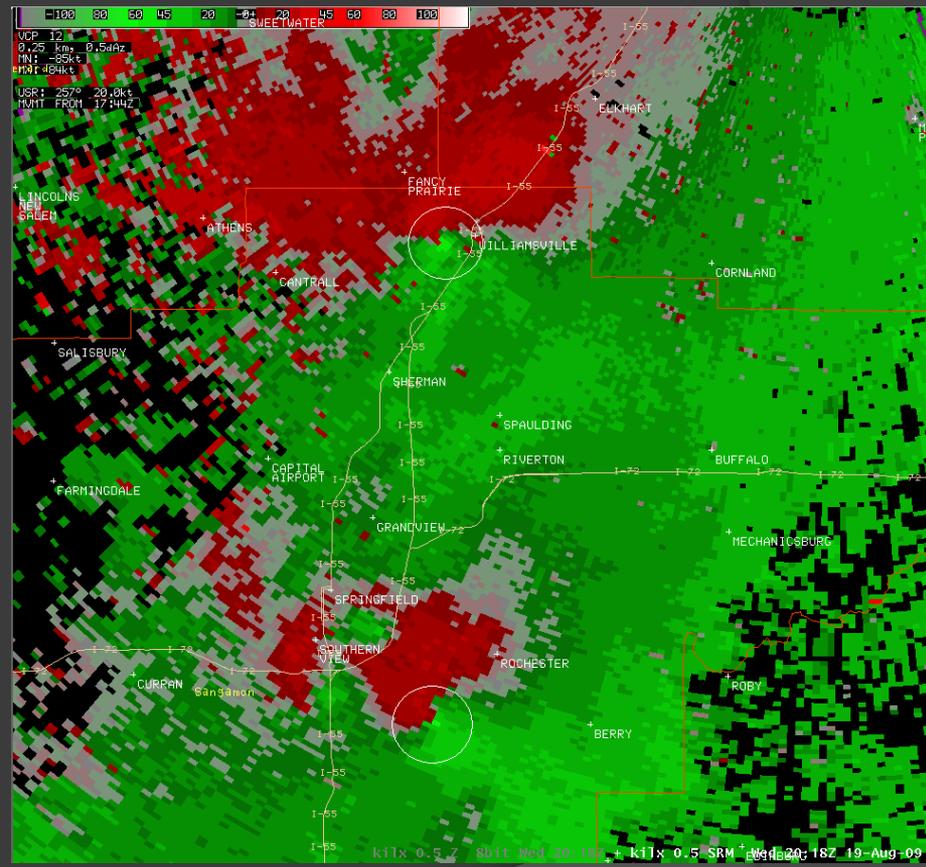
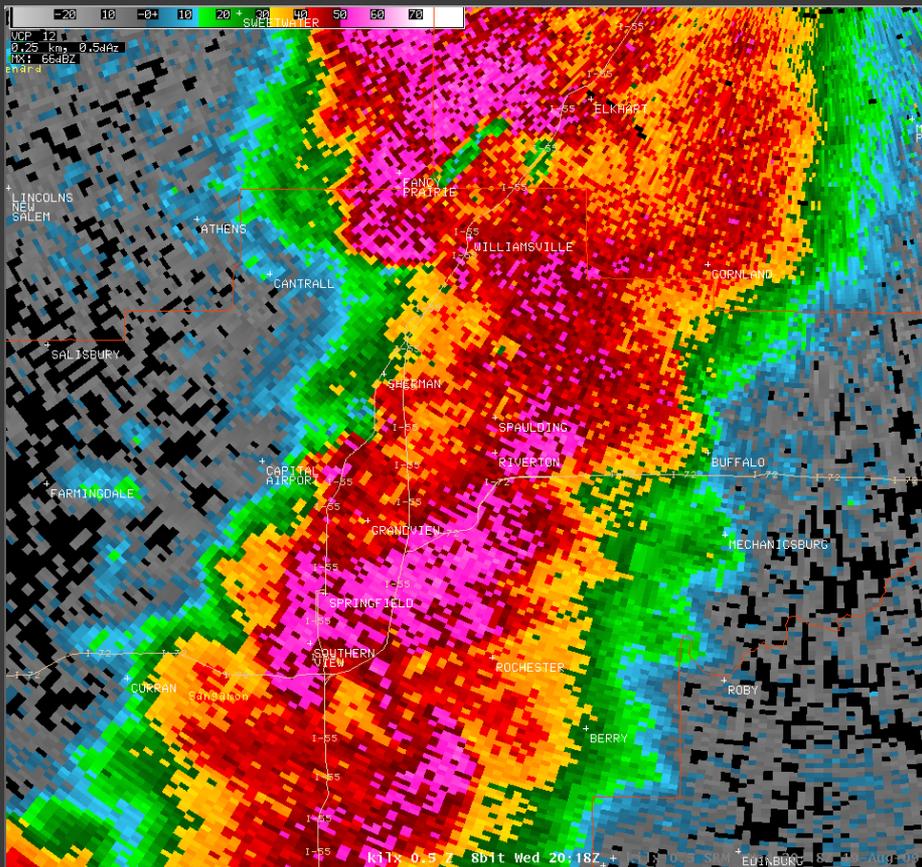


August 19: Damage



- T - Tornado
- H - Large hail
- D - Wind damage
- G - Wind gust
- F - Flash flood
- E - Minor flood
- R - Heavy rain

August 19 – 3:18 PM



August 19



More Notes About SWOP

- ⦿ We do **NOT** expect you to “chase” severe weather
- ⦿ We do **NOT** expect you to risk injury or death to get reports to us
- ⦿ **SAFETY FIRST!**

More Notes About SWOP

- If you are a **trained spotter**:
Follow your local county or city reporting guidelines **FIRST**. Then if you choose, you can pass the info onto us later.
- If you cannot contact your local agency, or only have precipitation/non severe weather to report, then contact us.

Thanks for attending!

