



SPC Convective Watch Product Improvement Plans

+ new products, watch hazards & request partner ideas

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National Severe Weather Workshop

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Where Americas Weather and Climate Services Begin

NOAA NWS Storm Prediction Center

- Forecast tornadoes, thunderstorms, and wildfires nationwide
- Forecast information from 8 days to a few minutes in advance
- Partner with over 120 local National Weather Service offices
- Partner with Emergency Management, Media, and Private Sector



- **New SPC Products and Services**
- **Convective Watch Probabilities**
- **Convective Watch Product Improvements**



TORNADO 1 LOOKING WEST FROM AK-SAR-BEN TRACK 5/6/75 4:45pm



Storm Prediction Center

[Site Map](#)

[News](#)

[Organization](#)

Local forecast by "City, St" or "ZIP"

UTC/GMT/Zulu Time

00:34:44

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[Meso. Discussions](#)

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Top News of the Day

The following Weather Watches are currently in effect:

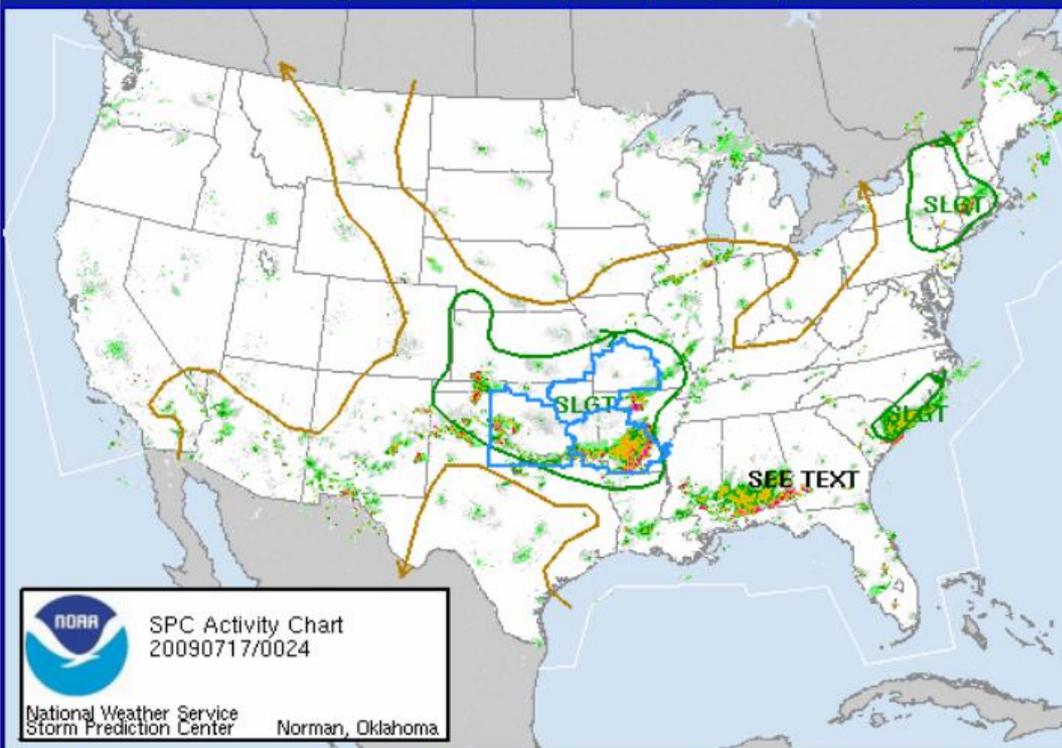
588...589...590...

The following Mesoscale Discussions are currently in effect:

1587...1589...

More news items below the overview graphic. Updated: 2009-07-16 19:28:19 CDT

[Overview](#) | [Conv. Outlooks](#) | [Watches](#) | [MDs](#) | [WWA](#) | [Reports](#) | [Mesoanalysis](#) | [Fire](#)



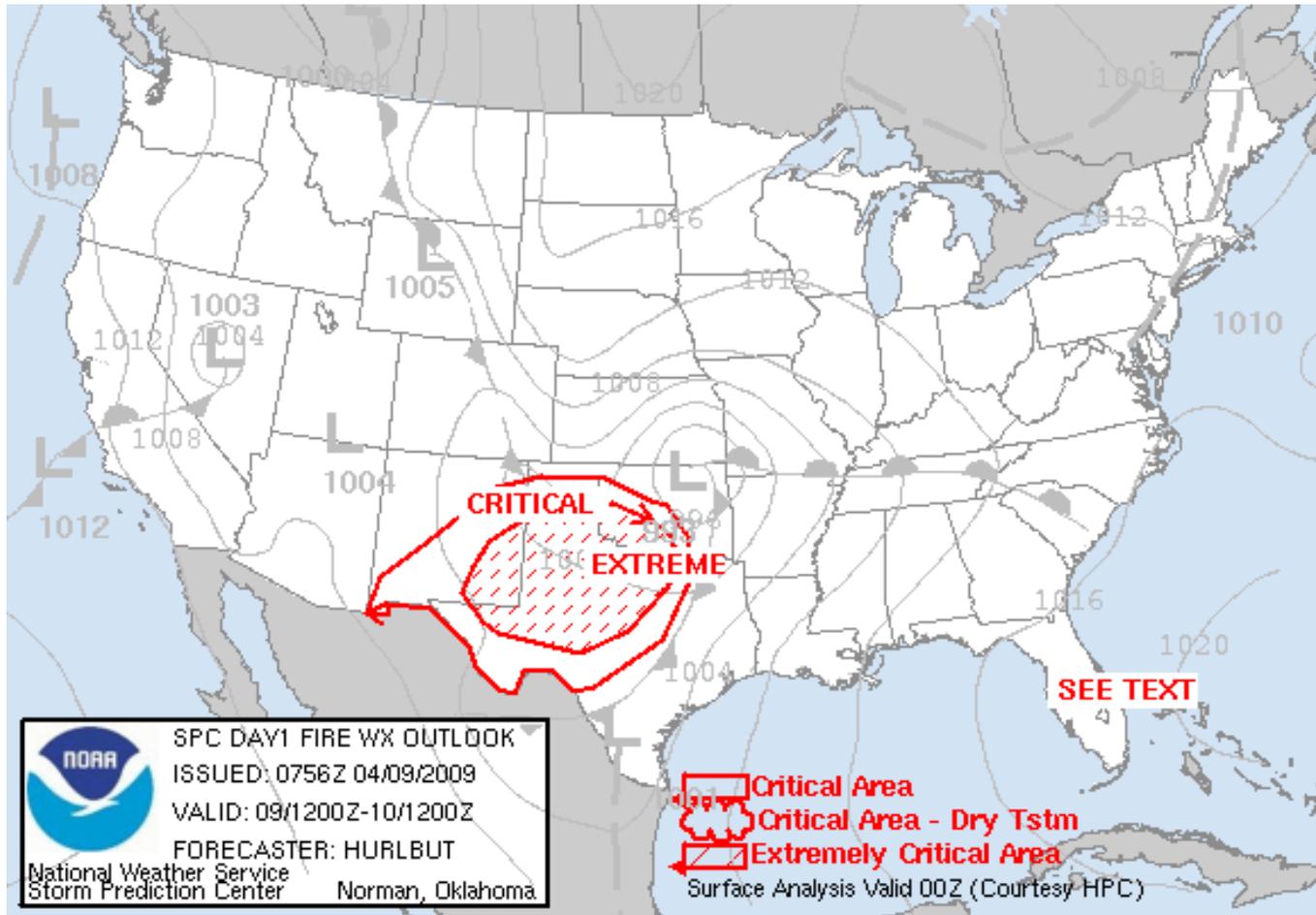
Hazard	Thu (07/16)	Fri (07/17)	Sat (07/18)	Sun (07/19)	Mon (07/20)	Tue (07/21)	Wed (07/22)	Thu (07/23)
Severe	Slight	Slight	See Text	No Area				
Fire	No Critical	No Critical	No Area					

Click on the hazard matrix cell to navigate to the specific forecast

National Weather Service • Since 1870

Fire Weather Outlooks

23 March: daytime updates through Day 8

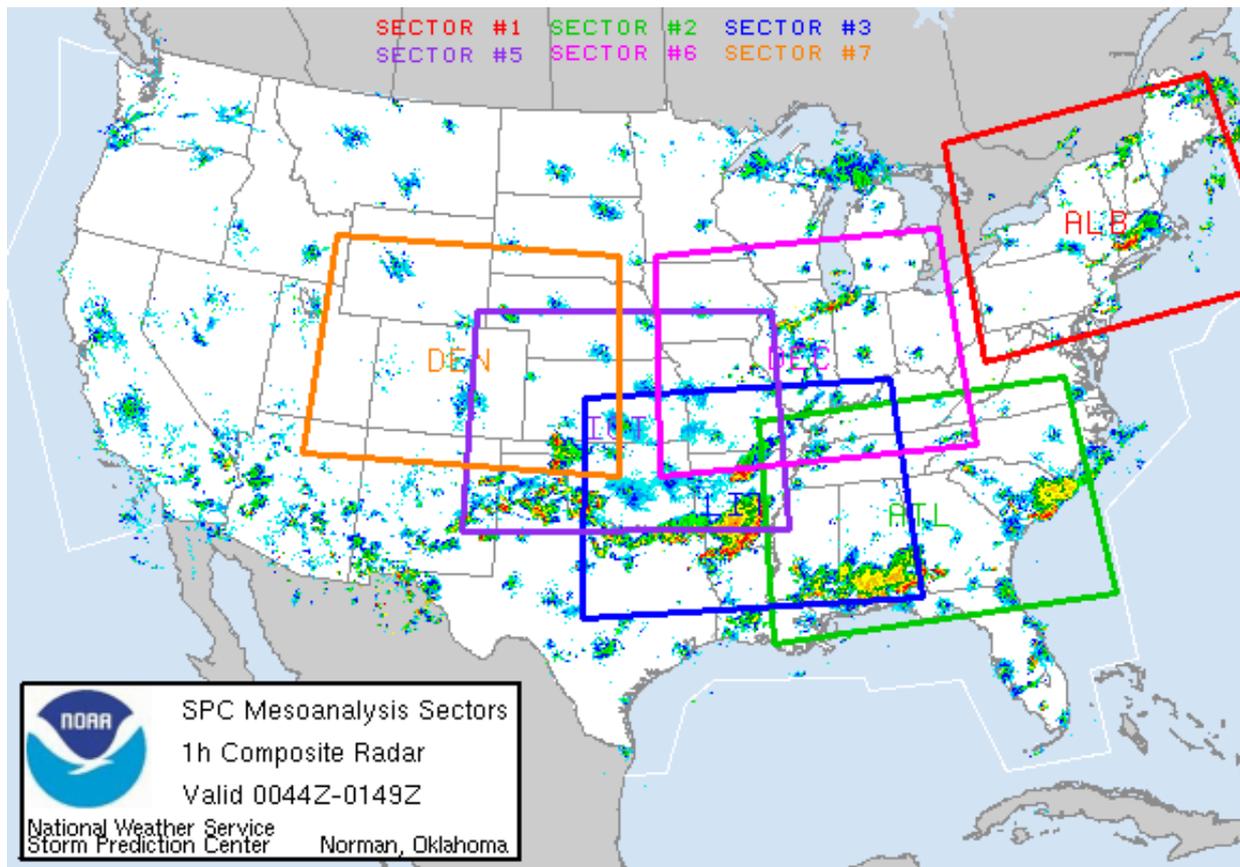


A more collaborative fire weather outlook



Mesoscale Analysis Graphics

... revised this Spring with new capabilities



A sector for your area every day



SPC Mesoscale Analysis

Auto-refresh is set to every minute [\[OFF 1 min 5 min\]](#)

[Change Sector](#)

[Recent Image Archive & Loops](#)

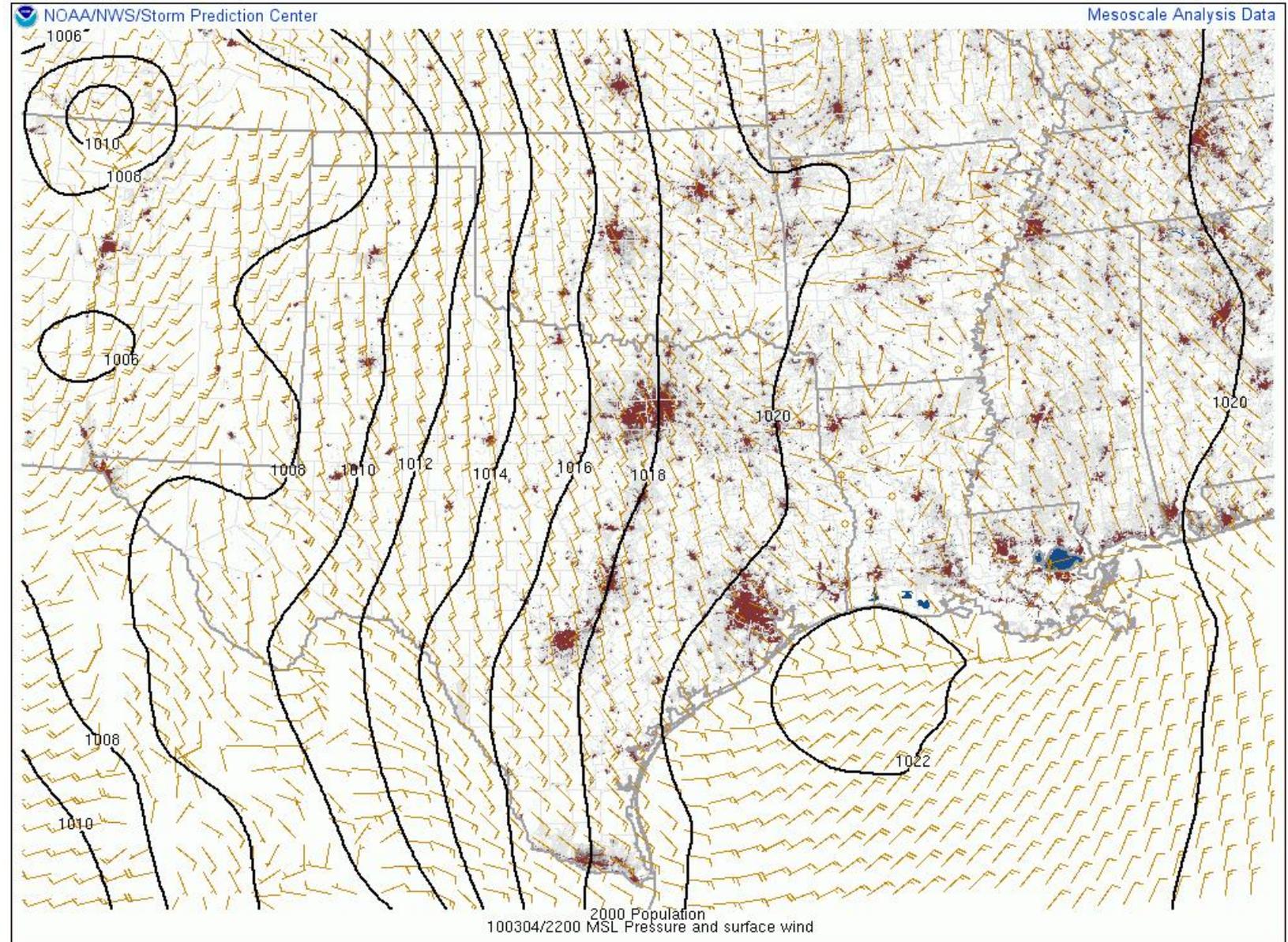
[SPC Homepage](#)

[Mobile Version](#)

Surface: **03/04/10 22 UTC**

RUC: **10030421f001**

- [Observations](#)
- [Basic Sfc](#)
- [Basic UA](#)
- [Kinematics](#)
- [Thermodynamics](#)
- [Wind Shear](#)
- [Composite Indices](#)
- [Multi-Parameter Fields](#)
- [Heavy Rain](#)
- [Winter Weather](#)
- [Fire Weather](#)



- Image overlays:
- County Boundaries
 - County Warning Areas
 - Hi ways & Cities
 - NWS Watches & Warnings
 - SPC Day1 Outlook
- Image underlays:
- None
 - Radar
 - Terrain
 - Population
 - Sfc Obs

Watch Probabilities

... what the SPC *is* thinking

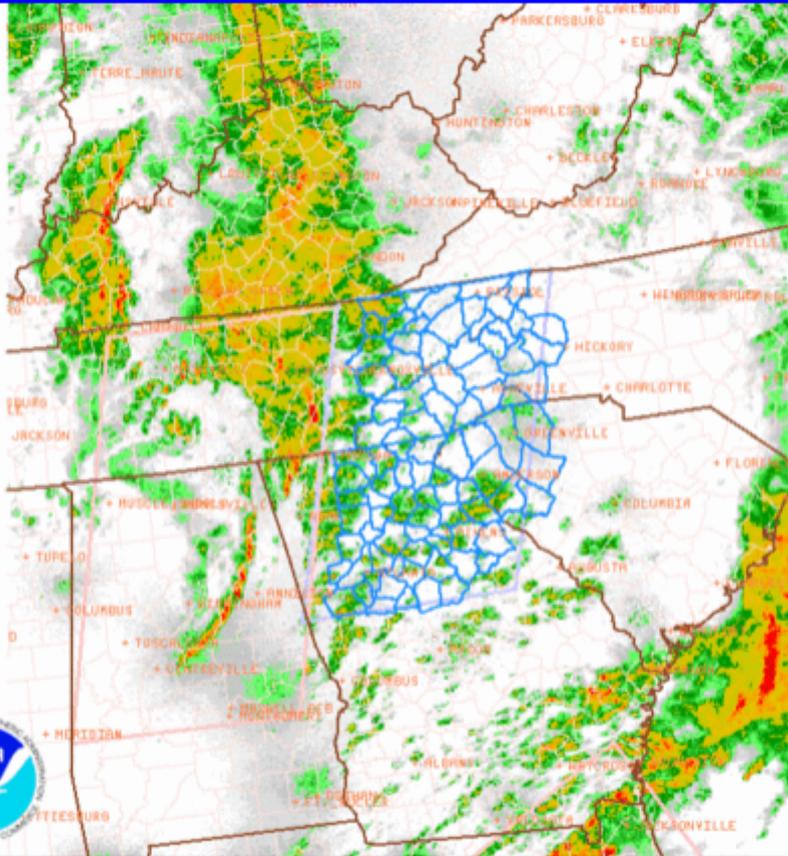


Watch Issued: what is the greatest hazard?

Severe Thunderstorm Watch 115

< Previous WW Next WW >

Public | Counties | Probabilities | Aviation | Warnings | Initial RADAR | Related MD



Severe Thunderstorm Watch # 115 - Valid from 1135 PM until 700 AM EDT

NOAA/NWS Storm Prediction Center

Updated: 20090403/0336 UTC

Hazard	Tornadoes	EF2+ Tornadoes	Severe Wind	65 kt+ Wind	Severe Hail	2"+ Hail
Likelihood	Low	Very Low	High	Low	Low	Very Low

Tornadoes

Probability of 2 or more tornadoes	Low (20%)
Probability of 1 or more strong (F2-F5) tornadoes	Low (5%)

Wind

Probability of 10 or more severe wind events	High (70%)
Probability of 1 or more wind events > 65 knots	Low (20%)

Hail

Probability of 10 or more severe hail events	Low (20%)
Probability of 1 or more hailstones > 2 inches	Low (<5%)

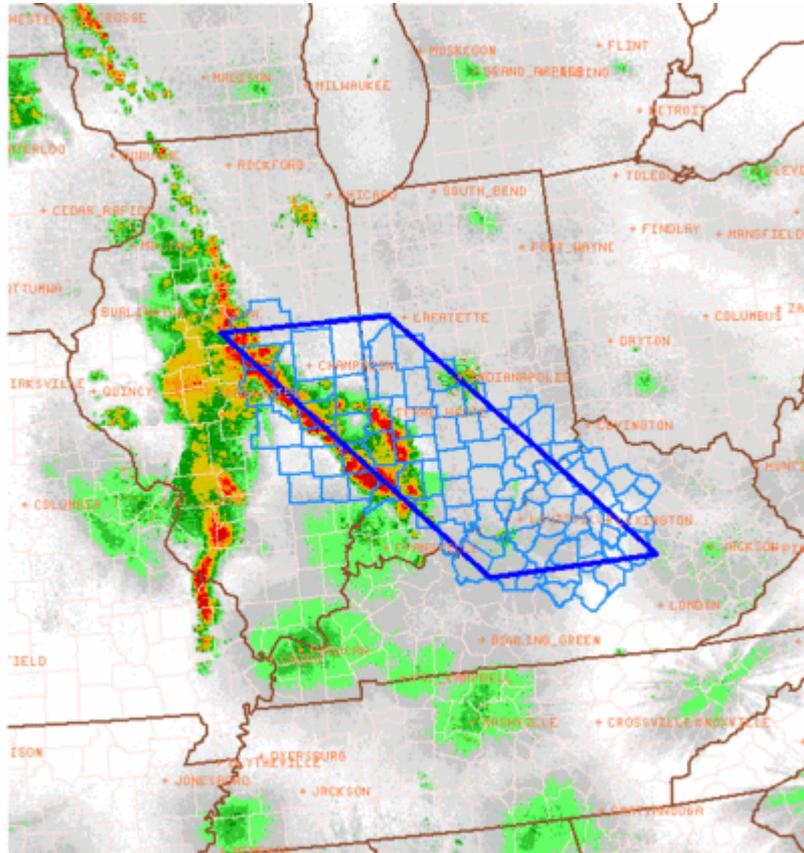
Combined Severe Hail/Wind

Probability of 6 or more combined severe hail/wind events	High (>95%)
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For each watch, probabilities for particular events inside the watch (listed above in each table) are determined by the issuing forecaster. The "Low" category contains probability values ranging from less than 2% to 20% (F2-F5 tornadoes), less than 5% to 20% (all other probabilities), "Moderate" from 30% to 60%, and "High" from 70% to greater than 95%. High values are bolded and lighter in color to provide awareness of an increased threat for a particular event.



Severe Thunderstorm Watch 204 (19 April 2006)



Severe Thunderstorm Watch # 204 - Valid from 1250 AM until 800 AM CDT

NOAA/NWS/Storm Prediction Center

Updated: 20060419/0544 UTC

Watch Hazard Probabilities

Tornado (2+ reports): **10%**

EF2+ Tornado: **>2%**

Wind (10+ reports): **20%**

75 mph Wind: **5%**

Hail (10+ reports): **60%**

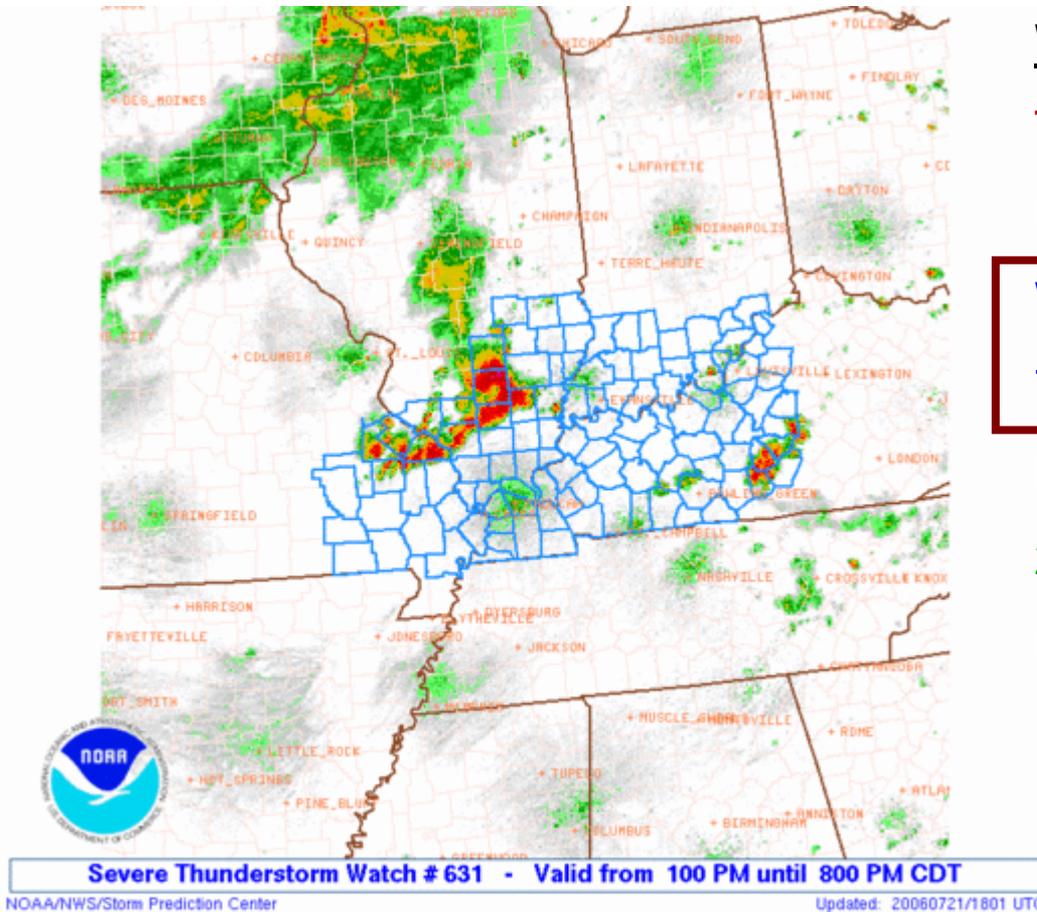
2"+ Hail: **20%**

Hail & Wind (6+ reports): **70%**

“Elevated” Severe Thunderstorms



PDS Severe Thunderstorm Watch 631 (21 July 2006)



Watch Hazard Probabilities

Tornado (2+ reports): **20%**

EF2+ Tornado: **5%**

Wind (10+ reports): **95+%**

75 mph Wind: **90%**

Hail (10+ reports): **40%**

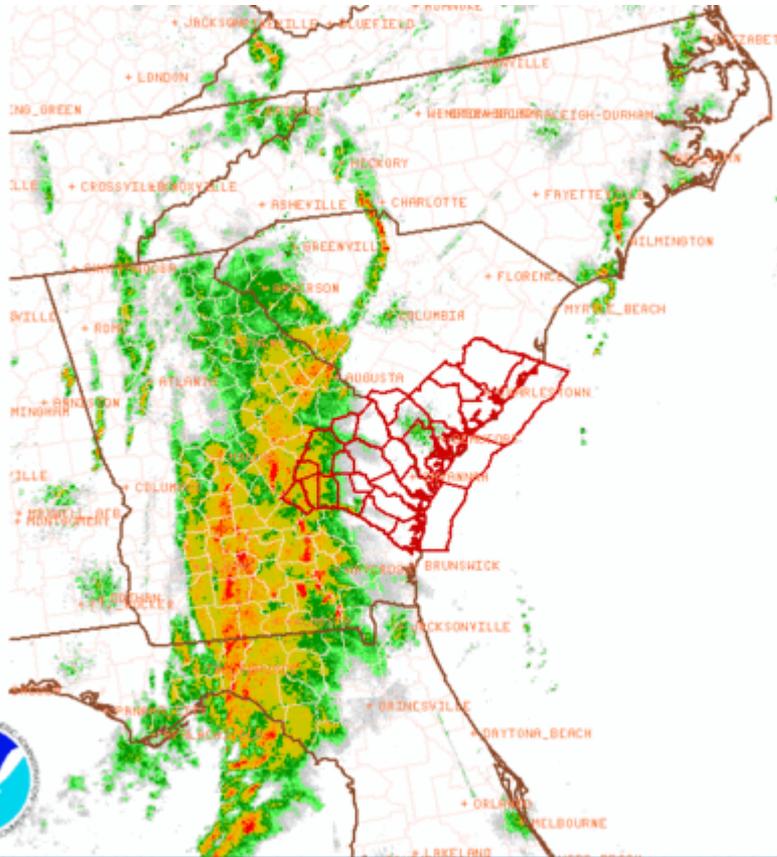
2"+ Hail: **20%**

Hail & Wind (6+ reports): **95+%**

Midwest Derecho



Tornado Watch 7 (5 January 2007)



Tornado Watch # 7 - Valid from 435 PM until 1200 AM EST

NOAA/NWS/Storm Prediction Center

Updated: 20070105/2136 UTC

Watch Hazard Probabilities

Tornado (2+ reports): 30%

EF2+ Tornado: 20%

Wind (10+ reports): 30%

75 mph Wind: 30%

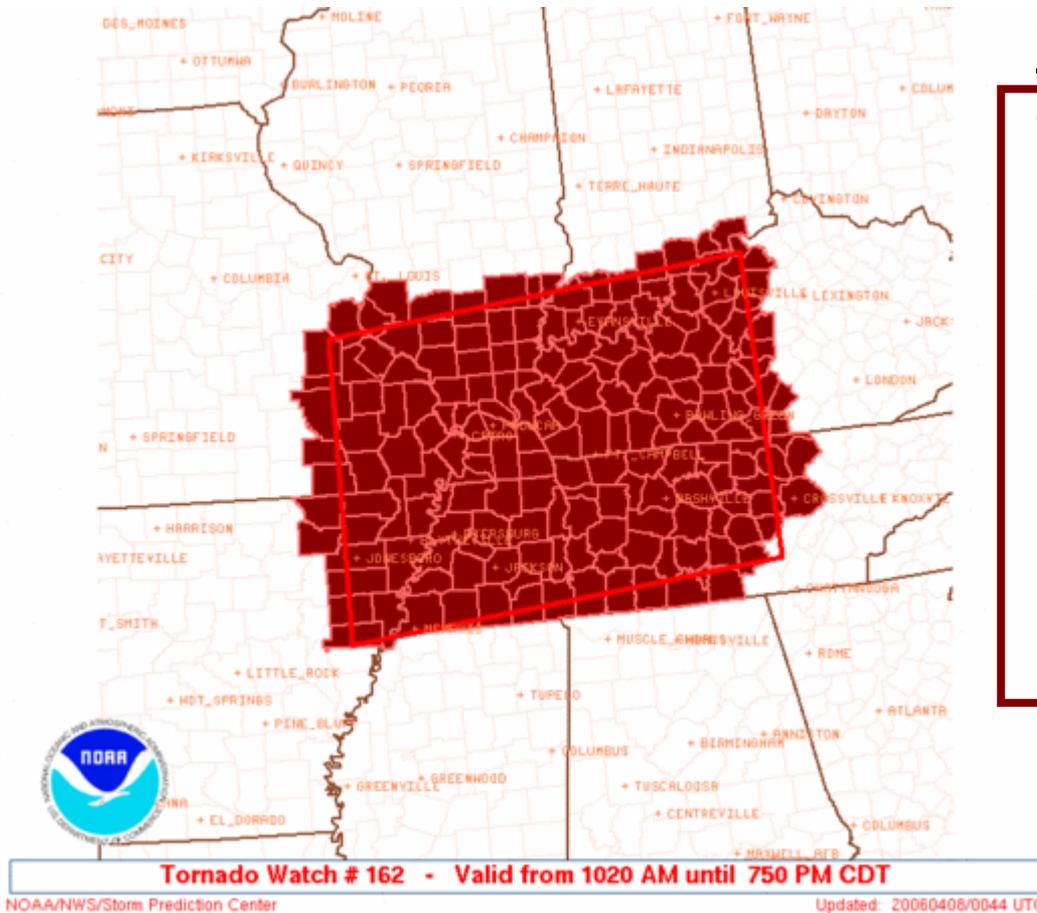
Hail (10+ reports): 30+%

2"+ Hail: 10%

Hail & Wind (6+ reports): 60%



PDS Tornado Watch 162 (7 April 2006)



Watch Hazard Probabilities

Tornado (2+ reports):	80%
EF2+ Tornado:	50%
Wind (10+ reports):	90%
75 mph Wind:	40%
Hail (10+ reports):	95+%
2"+ Hail:	70%
Hail & Wind (6+ reports):	95+%

Tennessee Tornado Outbreak



Watch Product Improvements



Pop Quiz

1. On what product would you find turbulence, storm tops, and hail aloft information?
 - A. Watch Outline Update
 - B. Aviation Watch Notification
 - C. Public Watch Notification
 - D. Watch Hazard Probabilities
 - E. Watch Status Message



Pop Quiz

1. On what product would you find turbulence, storm tops, and hail aloft information?
 - A. Watch Outline Update
 - B. Aviation Watch Notification**
 - C. Public Watch Notification
 - D. Watch Hazard Probabilities
 - E. Watch Status Message



Pop Quiz

2. What product would normally be the first product announcing a new watch?
- A. Watch Outline Update
 - B. Aviation Watch Notification
 - C. Public Watch Notification
 - D. Watch Hazard Probabilities
 - E. Watch Status Message



Pop Quiz

2. What product would normally be the first product announcing a new watch?

A. Watch Outline Update

B. Aviation Watch Notification

C. Public Watch Notification

D. Watch Hazard Probabilities

E. Watch Status Message



Pop Quiz

3. On what product could you find: “LARGE SCALE ASCENT STRENGTHENS ON SE FRINGE OF STRONG NEGATIVE TILT SHORT WAVE TROUGH”?
- A. Watch Outline Update
 - B. Aviation Watch Notification
 - C. Public Watch Notification
 - D. Watch Hazard Probabilities
 - E. Watch Status Message



Pop Quiz

3. On what product could you find: “LARGE SCALE ASCENT STRENGTHENS ON SE FRINGE OF STRONG NEGATIVE TILT SHORT WAVE TROUGH”?

- A. Watch Outline Update
- B. Aviation Watch Notification
- C. Public Watch Notification
- D. Watch Hazard Probabilities
- E. Watch Status Message

The meteorological discussion delays the Public Watch



Some Proposed SPC Watch Changes

DISCUSSION...TSTMS NOW IN S CNTRL GA EXPECTED TO MOVE/DEVELOP RAPIDLY NE THROUGH LATE MORNING AS LARGE SCALE ASCENT STRENGTHENS ON SE FRINGE OF STRONG/NEG TILT AL SHORT WAVE TROUGH. COMBINATION OF INCREASING LOW LVL MOISTURE...50+ KT DEEP WSWLY SHEAR...AND STRONG LOW LVL DIRECTIONAL SHEAR SUGGEST POTENTIAL FOR A FEW SUPERCELLS WITH TORNADOES AND SMALL SCALE BOWS WITH DMGG WIND.

THE TORNADO WATCH AREA IS APPROXIMATELY ALONG AND 65 STATUTE

AVIATION...TORNADOES AND A FEW SEVERE THUNDERSTORMS WITH HAIL SURFACE AND ALOFT TO 0.5 INCH. EXTREME TURBULENCE AND SURFACE WIND GUSTS TO 60 KNOTS. A FEW CUMULONIMBI WITH MAXIMUM TOPS TO 450. MEAN STORM MOTION VECTOR 21050.

THREATENING WEATHER CONDITIONS AND LISTEN FOR LATER STATEMENTS AND POSSIBLE WARNINGS.

OTHER WATCH INFORMATION...CONTINUE...WW 810...

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AVIATION...TORNADOES AND A FEW SEVERE THUNDERSTORMS WITH HAIL SURFACE AND ALOFT TO 0.5 INCH. EXTREME TURBULENCE AND SURFACE WIND GUSTS TO 60 KNOTS. A FEW CUMULONIMBI WITH MAXIMUM TOPS TO 450. MEAN STORM MOTION VECTOR 21050.



Revise SPC Watch Product Formats

... to better meet user needs

- **Realign information in watch product suite**
 - Hazard info collocated with routing info
 - **Simultaneous: Public, Aviation , Outline, and Probabilities (WPP) followed by Discussion (MD)**
 - Aviation information in aviation products
 - Meteorological discussion moved to MD
 - Create computer friendly products more amenable to parsing and partner redistribution
- **Partner ideas are critical to success !**





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