



# Weather Safety Basics



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US National Weather  
Service Nashville



# Outline



- About the National Weather Service
- Middle TN Severe Weather Climatology
- NWS Products
- Weather Safety Rules
- Thunderstorm Basics and Storms Features
- Reporting Severe Weather
- Questions and Advertisements



# Who Are We?

Department of  
Commerce

NOAA

National  
Weather  
Service

NESDIS

NOAA  
Research

Ocean  
Service

Fisheries

Marine and  
Aviation  
Operations

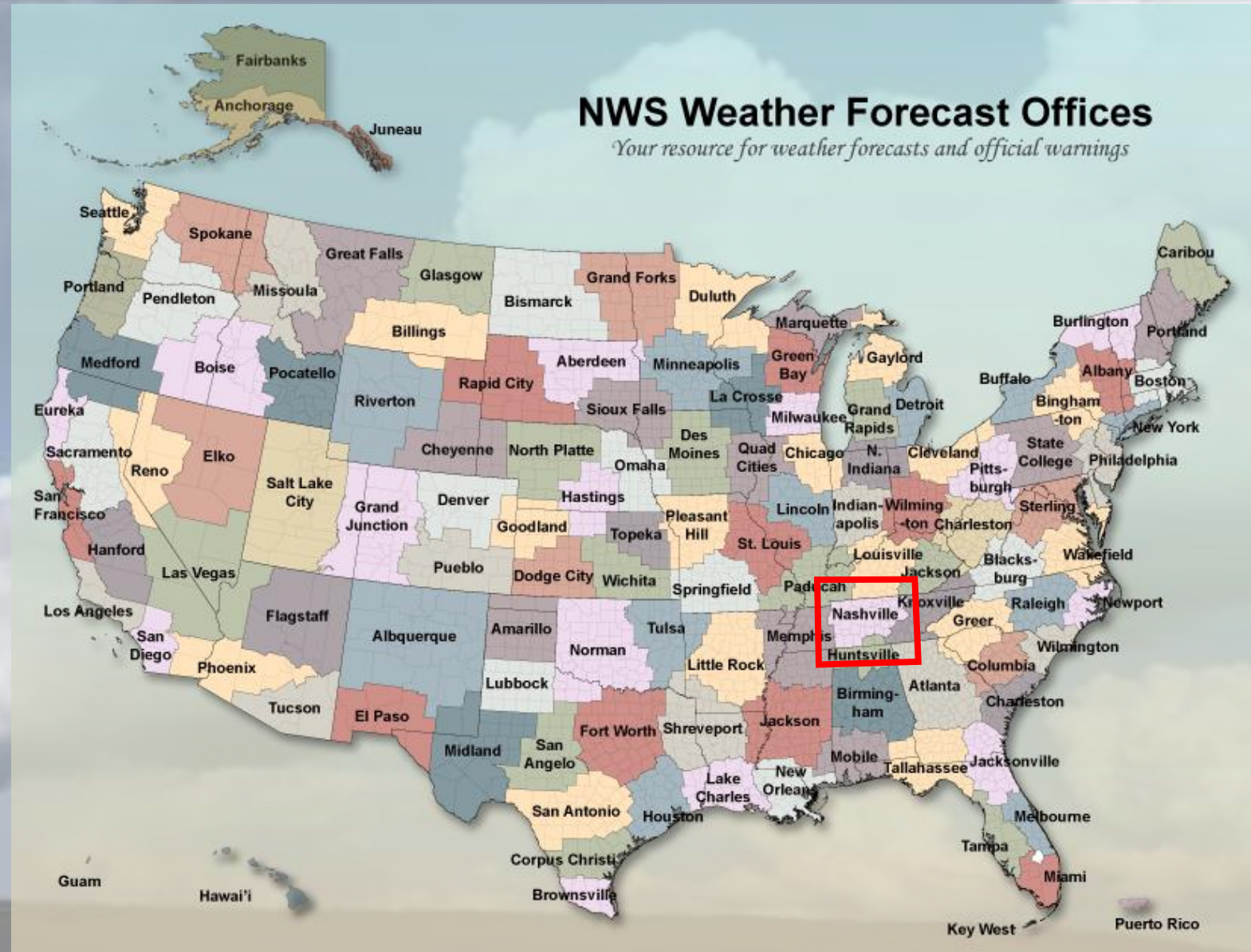




# The National Weather Service



- 122 Local Weather Forecast Offices
- About 4800 employees
- National and Region Centers:
  - Storm Prediction Center
  - National Hurricane Center
  - Climate Prediction Center
  - National Water Center
  - River Forecast Centers
  - Center Weather Service Units







# NWS Nashville County Warning Area







# Local NWS Operations



8-12 people on duty Monday – Friday  
2-3 meteorologists on the weekend and overnight  
**OPEN 24 HOURS A DAY, 7 DAYS A WEEK, 365 DAYS A YEAR**



# Local NWS Operations



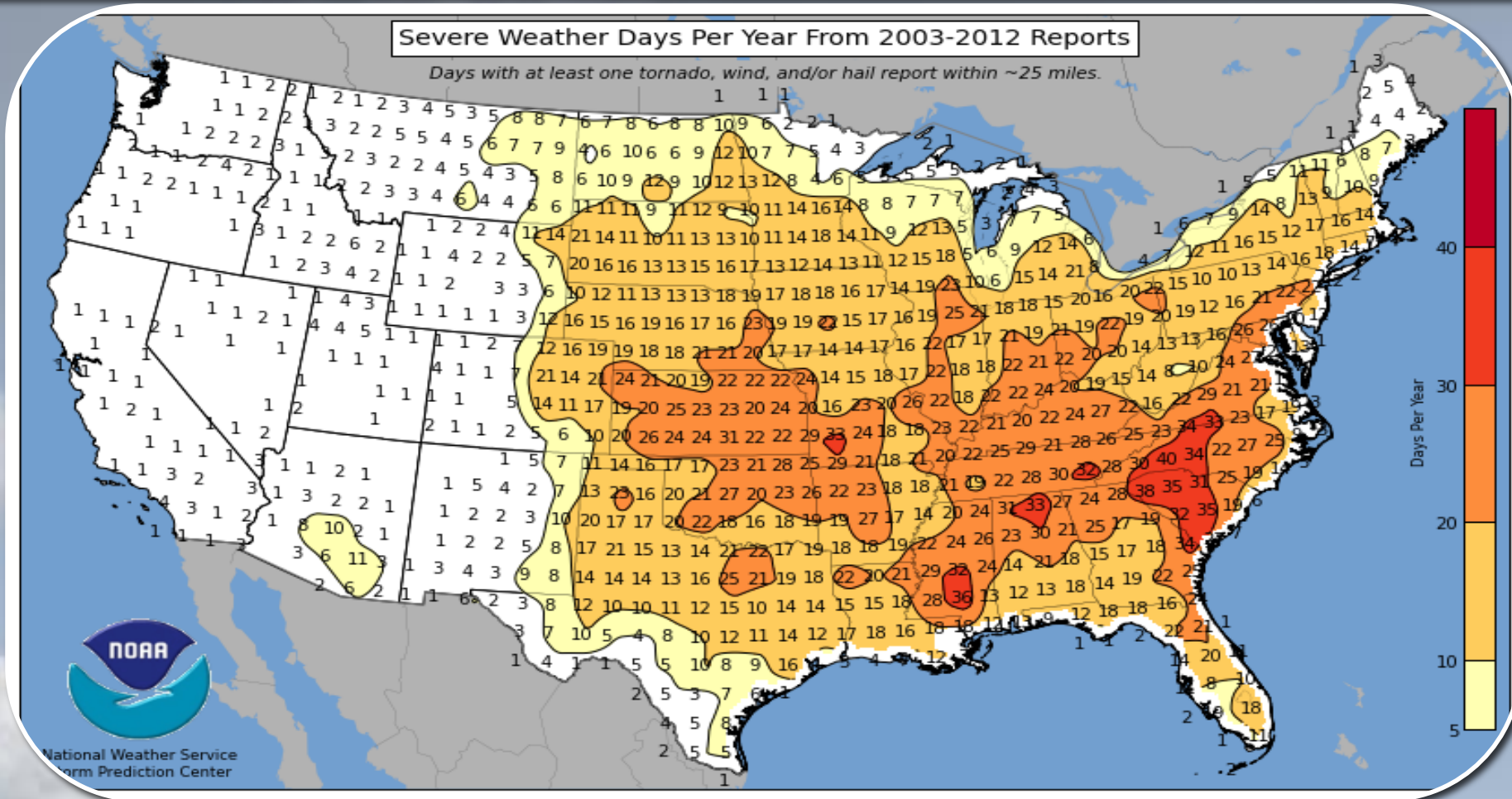
## What do we do?

- Issue local forecasts and warnings
- Sole entity responsible for issuing watches, warnings, and advisories
- Create aviation forecasts for FAA, airports, airlines, private pilots, etc.
- Maintain internal and external equipment
- Conduct community outreach
- Provide expert advice to emergency operations centers (DSS)
- Train volunteer observers and public



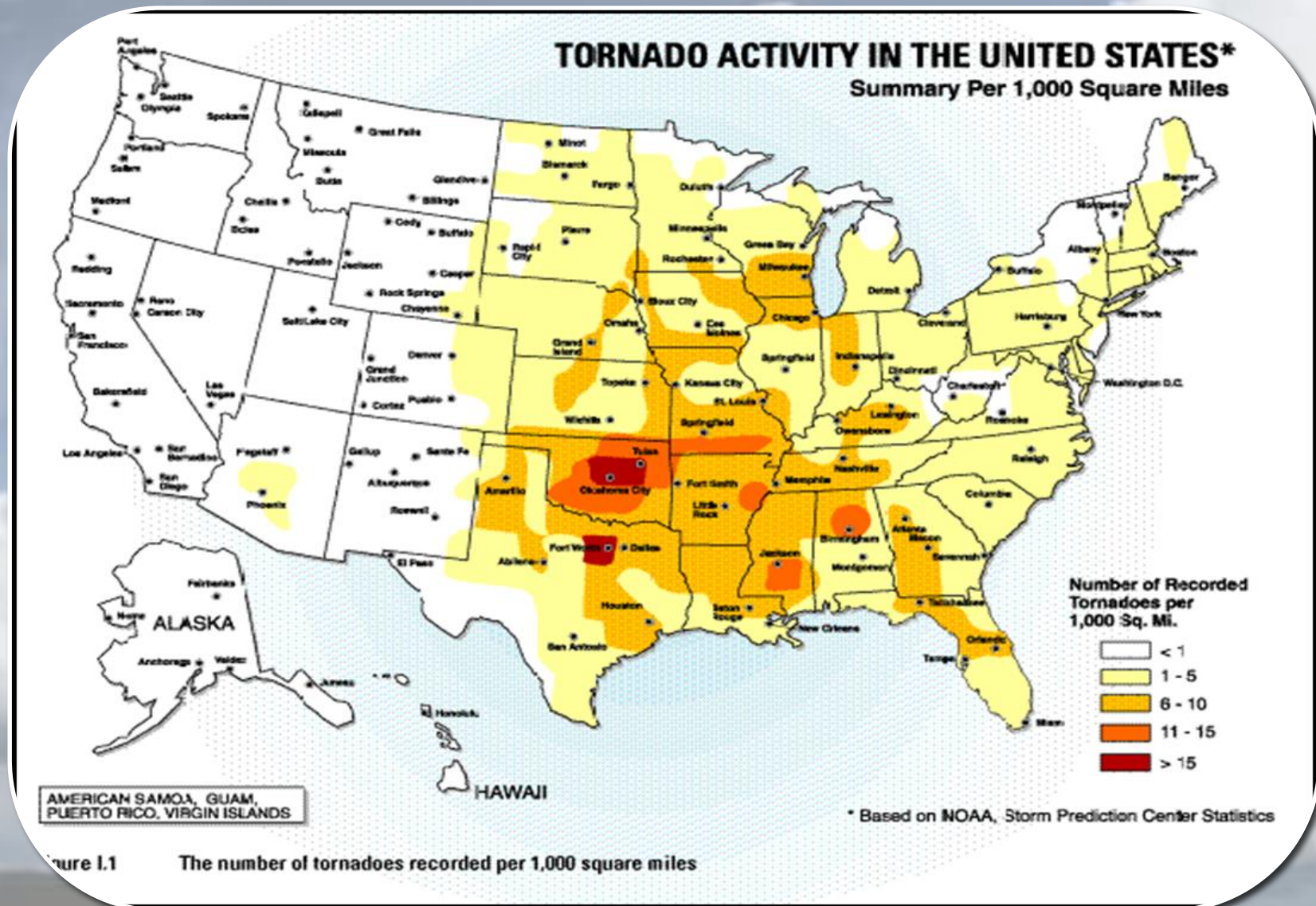


# Climatology



Middle TN has 20-30 days of severe weather every year!

What do you think of when you hear “Tornado Alley”?



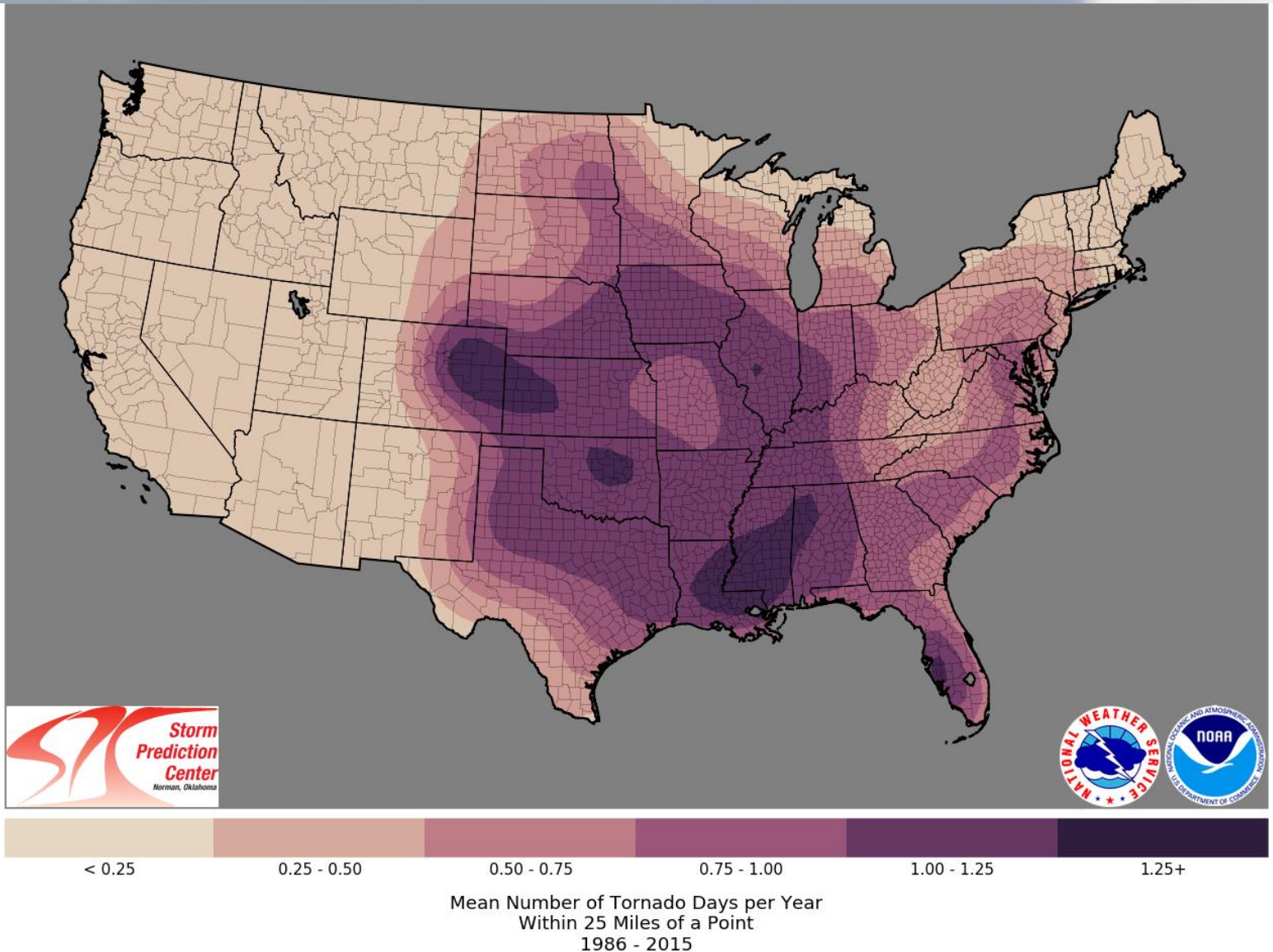




# Climatology



But where is the real  
“tornado alley”?



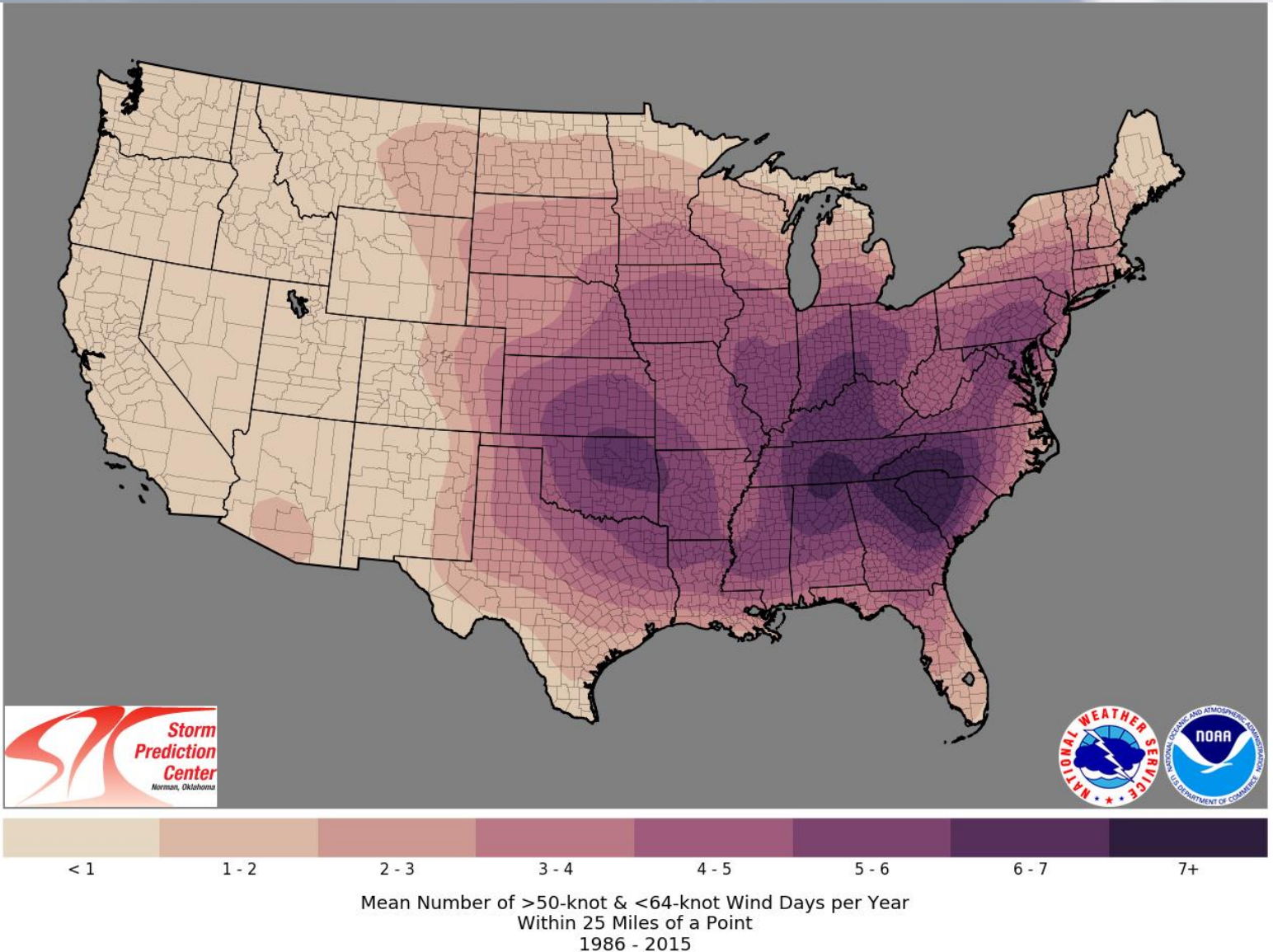




# Climatology

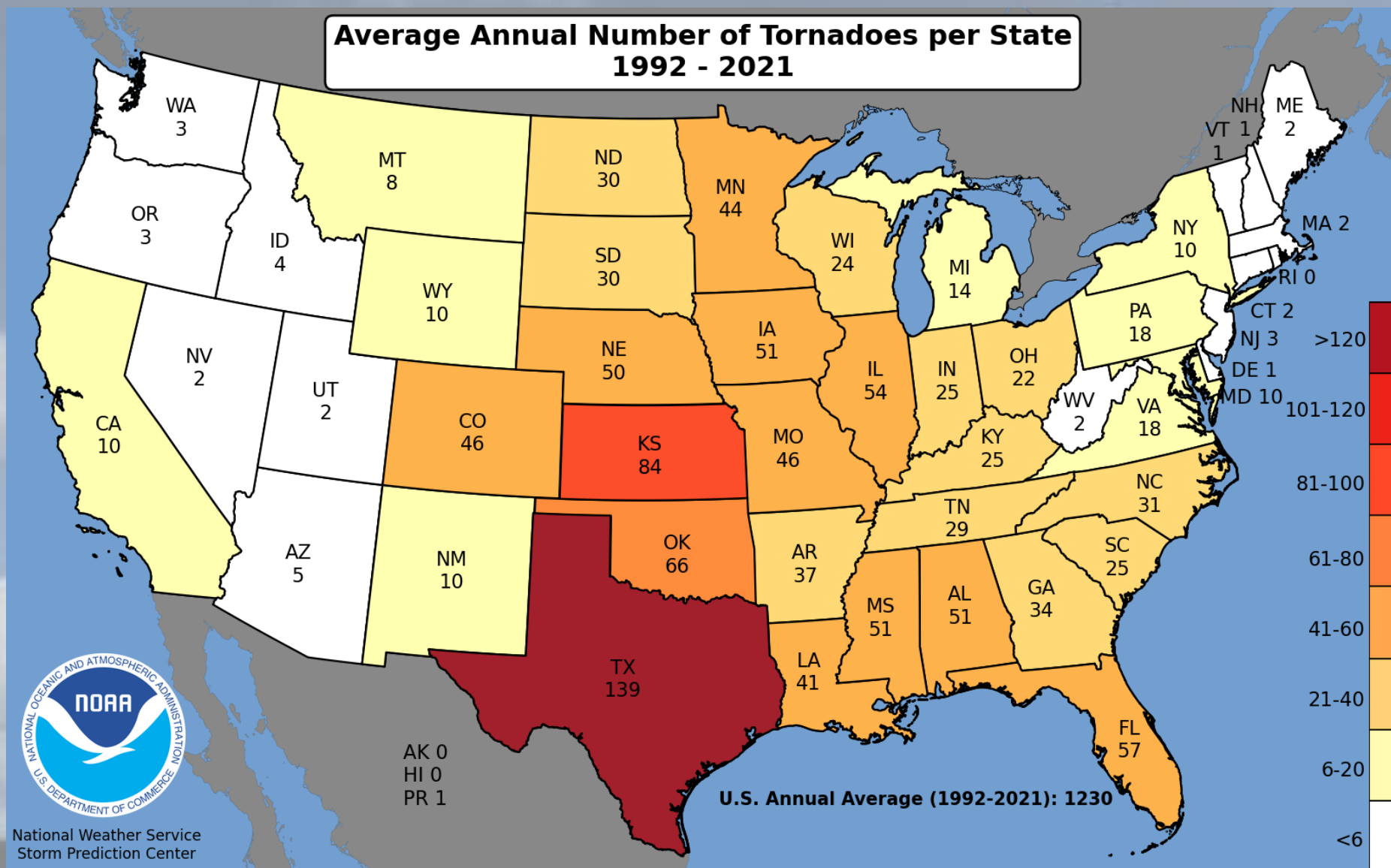


How about  
damaging winds?



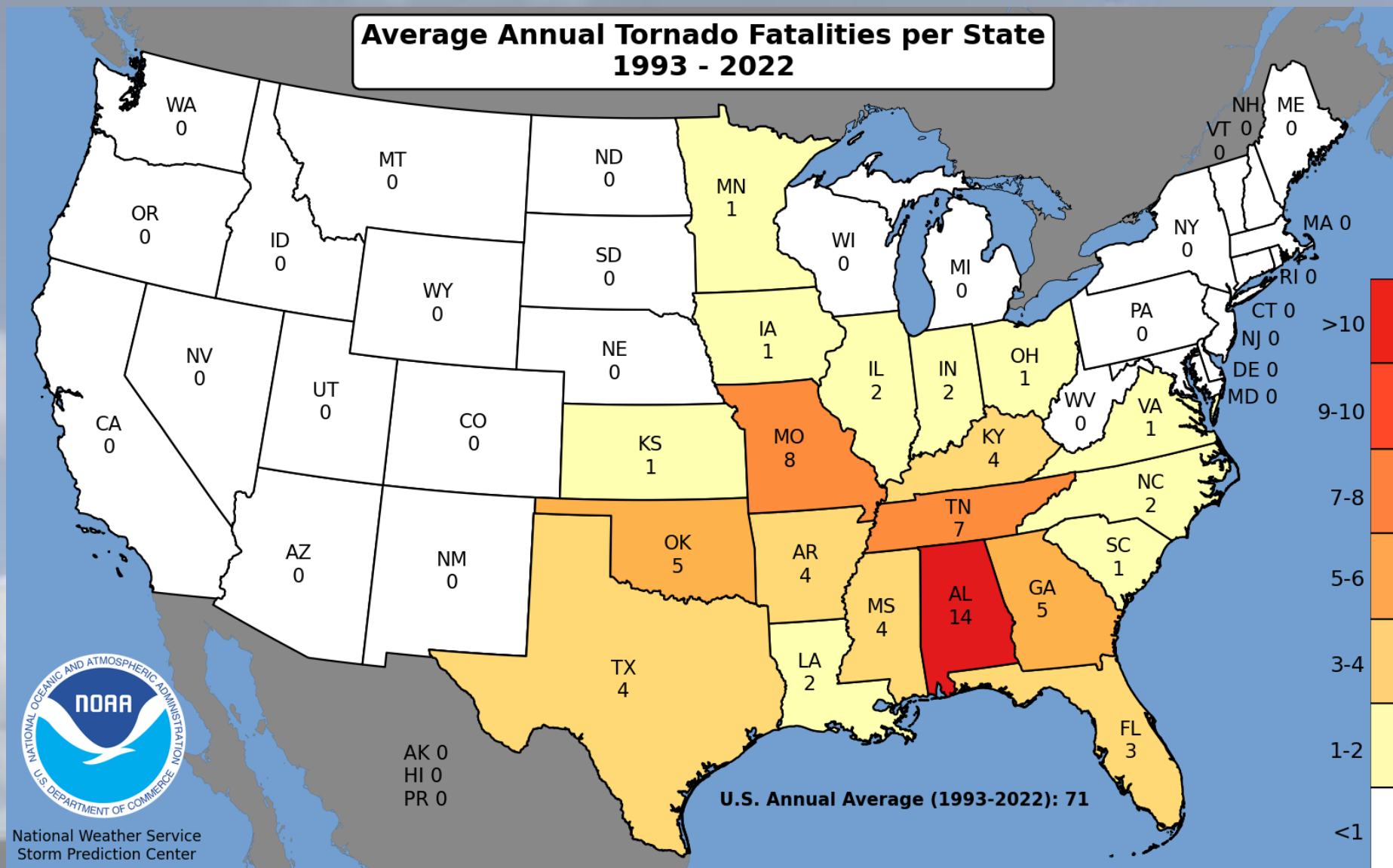


# Climatology





# Climatology



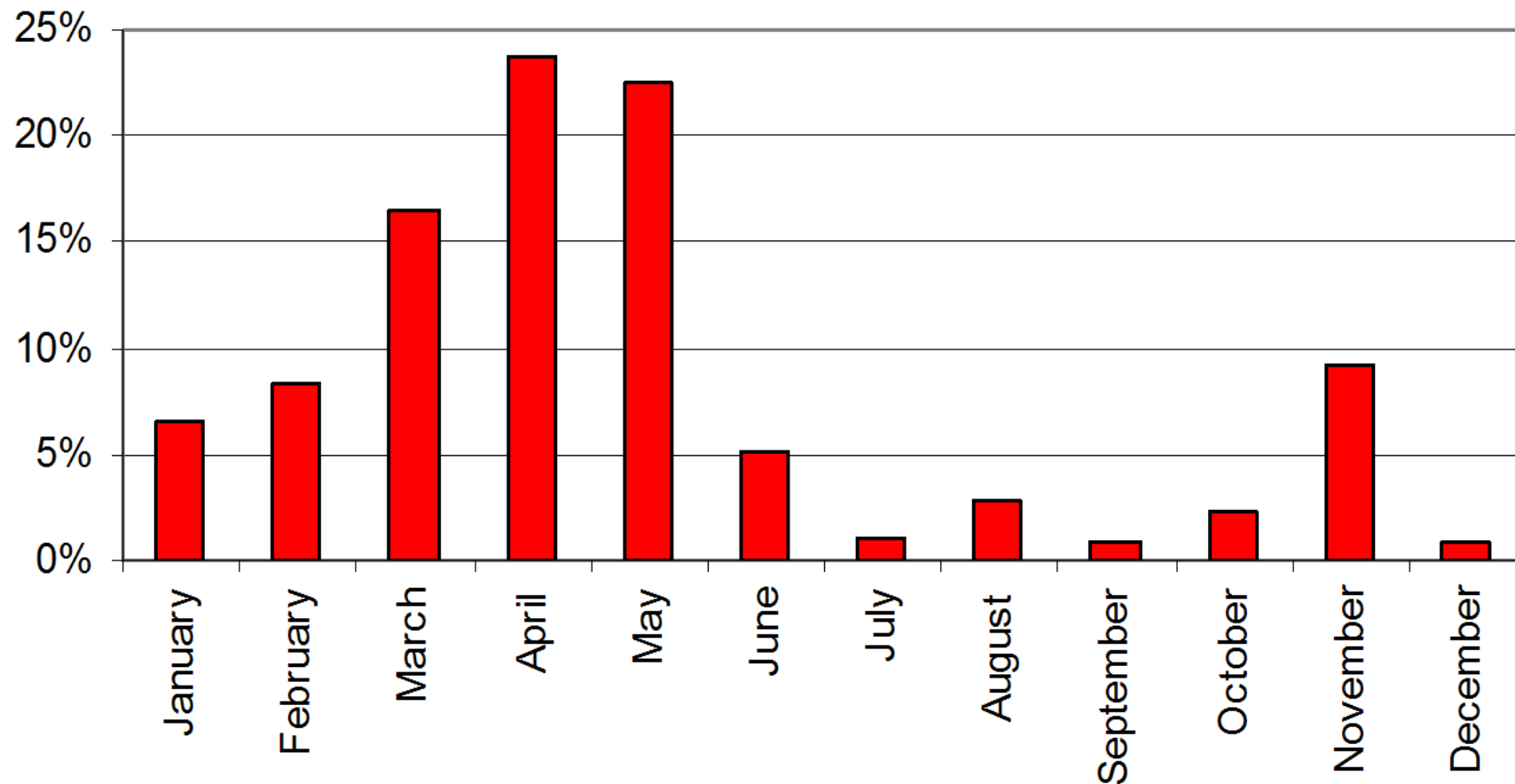
National Weather Service  
Storm Prediction Center





# Climatology

**Tornado Occurrences by Month**

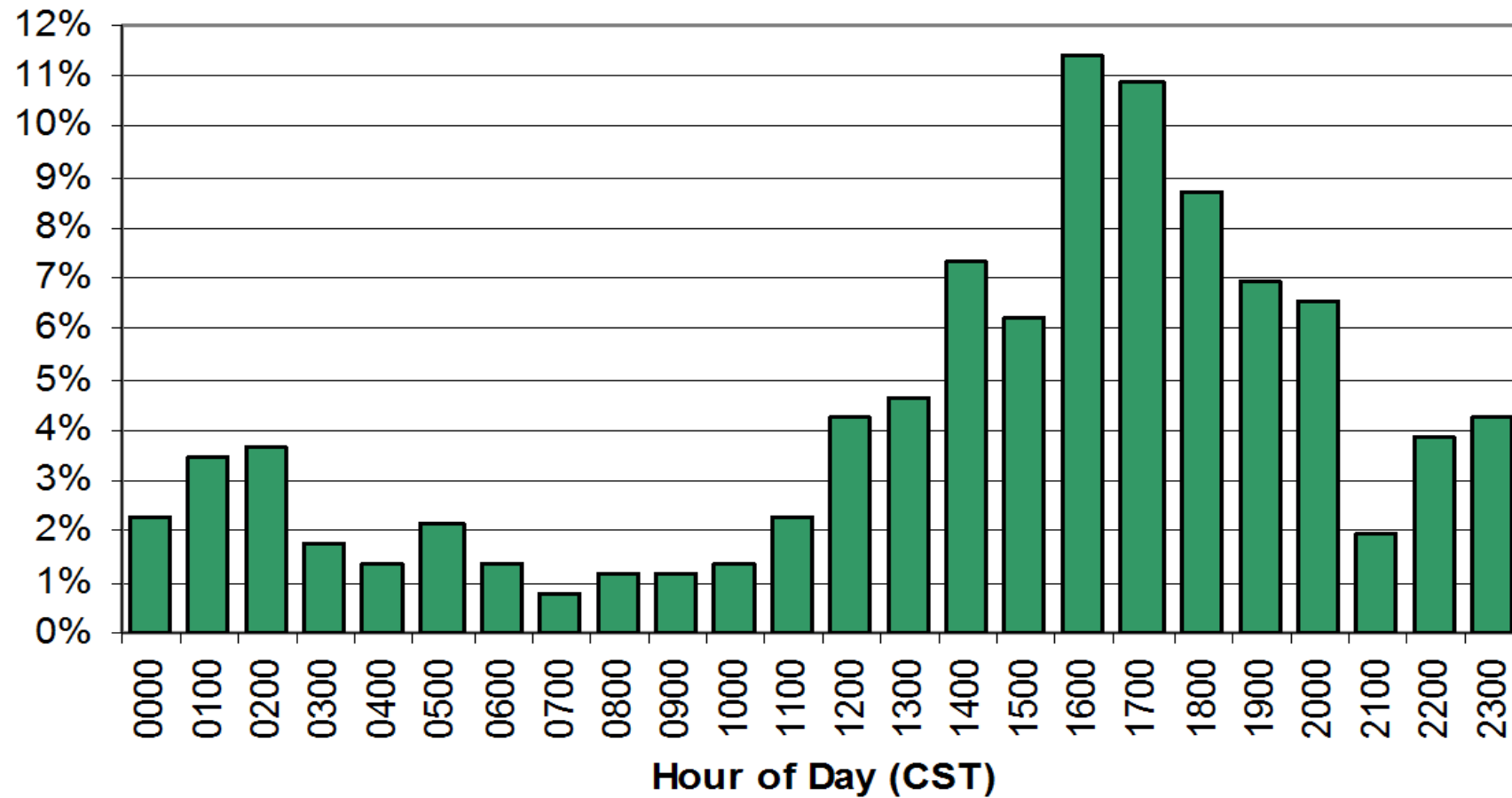




# Climatology



**Tornado Occurrences by Hour of Day**





# NWS Products



## NWS Watch, Warning, Advisory Periodic Table



|   |   |   |   |   |  |                                       |   |  |   |   |   |  |   |  |  |  |  |
|---|---|---|---|---|--|---------------------------------------|---|--|---|---|---|--|---|--|--|--|--|
| 500<br>TO<br>Tornado<br>Warning             | <div><p>NWS Directive (Prefix 50-54)<br/>(*"WW" may be in multiple directives)</p><p>513<br/>WW ← VTEC Phenomena or AWIPS ID<br/>Winter Weather ← VTEC Phenomena Full Name</p><p>VTEC Significance → Advisory</p><p>Background color according to <a href="http://www.weather.gov/helpmap">http://www.weather.gov/helpmap</a><br/>Text color is chosen to be most viewable</p><p>Questions/Comments? <a href="mailto:andrew.anoerge@noaa.gov">andrew.anoerge@noaa.gov</a></p></div> |   |   |   |  |                                       |   |  |   |   |   |  |   |  |  |  | 513<br>BZ<br>Blizzard<br>Warning             |
| 511<br>SV<br>Severe Thunderstorm<br>Warning | 511<br>SV<br>Severe Thunderstorm<br>Statement   |   |   |   |  |                                       |   |  |   |   |   |  |   | 513<br>WW<br>Winter Weather<br>Advisory      | 513<br>WS<br>Winter Storm<br>Watch           | 513<br>WS<br>Winter Storm<br>Warning       | 513<br>BZ<br>Blizzard<br>Watch               |
| 512<br>TO<br>Tornado<br>Watch               | 512<br>SV<br>Severe Thunderstorm<br>Watch   |   |   |   |  |                                       |   |  |   |   |   |  |   | 513<br>LE<br>Lake Effect Snow<br>Watch       | 513<br>LE<br>Lake Effect Snow<br>Advisory    | 513<br>LE<br>Lake Effect Snow<br>Warning   | 513<br>IS<br>Ice Storm<br>Warning            |
| 601<br>HU<br>Hurricane<br>Warning           | 601<br>HU<br>Hurricane<br>Watch   | 601<br>TS<br>Tropical Storm<br>Warning                      | 601<br>TS<br>Tropical Storm<br>Watch                    | 601<br>TY<br>Typhoon<br>Warning                           | 601<br>TY<br>Typhoon<br>Watch                  | 601<br>EW<br>Extreme Wind<br>Warning  | 601<br>HL<br>Hurricane Local<br>Statement | 601<br>HL<br>Tropical Storm Local<br>Statement | 601<br>HL<br>Typhoon Local<br>Statement | 601<br>HL<br>Tropical Depression Local<br>Statement | 922<br>FF<br>Flash Flood<br>Warning         | 922<br>FF<br>Flash Flood<br>Watch        | 922<br>FF<br>Flash Flood<br>Statement   | 513<br>WC<br>Wind Chill<br>Watch             | 513<br>WC<br>Wind Chill<br>Advisory          | 513<br>WC<br>Wind Chill<br>Warning         | 513<br>ZR<br>Freezing Rain<br>Advisory       |
| 922<br>FL<br>Flood<br>Warning               | 922<br>FL<br>Flood<br>Advisory  | 922<br>FL<br>Arroyos and Small Streams<br>Flood<br>Advisory | 922<br>FL<br>Small Stream Flood<br>Advisory             | 922<br>FL<br>Urban and Small Streams<br>Flood<br>Advisory | 922<br>FL<br>Flood<br>Watch                    | 922<br>FL<br>Flood<br>Statement       | 922<br>HY<br>Hydrologic<br>Advisory       | 922<br>ESF<br>Hydrologic<br>Outlook            | 922<br>CF<br>Coastal Flood<br>Warning   | 922<br>CF<br>Coastal Flood<br>Advisory              | 922<br>CF<br>Coastal Flood<br>Watch         | 922<br>CF<br>Coastal Flood<br>Statement  | 922<br>LS<br>Lakeshore Flood<br>Warning | 922<br>LS<br>Lakeshore Flood<br>Advisory     | 922<br>LS<br>Lakeshore Flood<br>Watch        | 922<br>LS<br>Lakeshore Flood<br>Statement  | 922<br>RP<br>Rip Current<br>Statement        |
| 320<br>SU<br>High Surf<br>Warning           | 320<br>SU<br>High Surf<br>Advisory  | 320<br>BH<br>Beach Hazard<br>Statement                      | 321<br>MA<br>Special Marine<br>Warning                  | 324<br>MW<br>Marine Weather<br>Statement                  | 325<br>AF<br>Avalanche<br>Warning              | 325<br>AF<br>Avalanche<br>Advisory    | 325<br>BW<br>Brisk Wind<br>Advisory       | 325<br>FG<br>Dense Fog<br>Advisory             | 325<br>SM<br>Dense Smoke<br>Advisory    | 325<br>ZY<br>Freezing Spray<br>Advisory             | 325<br>GL<br>Gale<br>Warning                | 325<br>GL<br>Gale<br>Watch               | 325<br>SE<br>Hazardous Seas<br>Warning  | 325<br>SE<br>Hazardous Seas<br>Watch         | 325<br>UP<br>Heavy Freezing Spray<br>Warning | 325<br>UP<br>Heavy Freezing Spray<br>Watch | 325<br>HF<br>Hurricane Force Wind<br>Warning |
| 315<br>HF<br>Hurricane Force Wind<br>Watch  | 315<br>LO<br>Low Water<br>Advisory  | 315<br>SC<br>Small Craft<br>Advisory                        | 315<br>SC<br>Small Craft for Hazardous Seas<br>Advisory | 315<br>RB<br>Small Craft for Rough Bar<br>Advisory        | 315<br>SI<br>Small Craft for Winds<br>Advisory | 315<br>SR<br>Storm<br>Warning         | 315<br>SR<br>Storm<br>Watch               | 701<br>TS<br>Tsunami<br>Warning                | 701<br>TS<br>Tsunami<br>Advisory        | 701<br>TS<br>Tsunami<br>Advisory                    | 401<br>FW<br>Fire Weather<br>Warning        | 401<br>FW<br>Fire Weather<br>Watch       | 401<br>FW<br>Fire Weather<br>Danger     | 517<br>HWO<br>Hazardous Weather<br>Outlook   | 517<br>NOW<br>Now<br>Forecast                | 517<br>SPS<br>Special Weather<br>Statement | 517<br>AQA<br>Air Quality<br>Alert           |
| 515<br>AS<br>Air Stagnation<br>Advisory     | 515<br>DU<br>Blowing Dust<br>Warning  | 515<br>DU<br>Blowing Dust<br>Advisory                       | 515<br>EH<br>Excessive Heat<br>Warning                  | 515<br>EH<br>Excessive Heat<br>Watch                      | 515<br>EC<br>Extreme Cold<br>Warning           | 515<br>EC<br>Extreme Cold<br>Watch    | 515<br>FZ<br>Freeze<br>Warning            | 515<br>FZ<br>Freeze<br>Watch                   | 515<br>ZF<br>Freezing Fog<br>Advisory   | 515<br>FR<br>Frost<br>Advisory                      | 515<br>HZ<br>Hard Freeze<br>Warning         | 515<br>HZ<br>Hard Freeze<br>Watch        | 515<br>HT<br>Heat<br>Advisory           | 515<br>HW<br>High Wind<br>Warning            | 515<br>HW<br>High Wind<br>Watch              | 515<br>LW<br>Lake Wind<br>Advisory         | 515<br>WI<br>Wind<br>Advisory                |
| 518<br>AV<br>Avalanche<br>Warning           | 518<br>AV<br>Avalanche<br>Advisory  | 518<br>AV<br>Avalanche<br>Watch                             | 518<br>TOE<br>911 Telephone Outage<br>Message           | 518<br>ADR<br>Administrative<br>Message                   | 518<br>CAE<br>Child Abduction<br>Emergency     | 518<br>CDW<br>Civil Danger<br>Warning | 518<br>CEM<br>Civil Emergency<br>Message  | 518<br>EQ<br>Earthquake<br>Warning             | 518<br>EVI<br>Eviction<br>Immediate     | 518<br>FR<br>Fire<br>Warning                        | 518<br>HM<br>Hazardous Materials<br>Warning | 518<br>LEW<br>Law Enforcement<br>Warning | 518<br>LAE<br>Local Area<br>Emergency   | 518<br>NUW<br>Nuclear Power Plant<br>Warning | 518<br>RH<br>Radiological Hazard<br>Warning  | 518<br>SP<br>Shelter in Place<br>Warning   | 518<br>VO<br>Volcano<br>Warning              |





# NWS Products



## DISCUSSION

DAY 3 CONVECTIVE OUTLOOK  
NWS STORM PREDICTION CENTER NORMAN OK  
0227 AM CDT WED JUN 27 2012

VALID 291200Z - 301200Z

...OH VALLEY/CNTRL APPALACHIAN HTNS/MID-ATLANTIC...  
A WEST TO NORTHWEST FLOW PATTERN IS FORECAST ON FRIDAY FROM THE UPPER MIDWEST ESEAD ACROSS THE GREAT LAKES REGION INTO THE NERN STATES. AT THE SFC...A QUASI-STATIONARY FRONTAL BOUNDARY SHOULD BE IN PLACE FROM NEAR CHICAGO END TO THE MID-ATLANTIC WITH DENPOINTS SOUTH OF THE BOUNDARY FROM THE MID 60S TO AROUND 70 F. THE MOIST BOUNDARY LAYER SHOULD ALLOW FOR MODERATE TO STRONG DESTABILIZATION ACROSS A BROAD CORRIDOR BUT CONVECTIVE DEVELOPMENT SHOULD BE CONFINED TO THE FRONTAL BOUNDARY. FORECAST SOUNDINGS ALONG THE BOUNDARY AT 00Z/SAT IN THE OH VALLEY SHOW MLCAPE VALUES ABOVE 3000 J/KG WITH 40 TO 50 KT OF DEEP LAYER SHEAR SUGGESTING SUPERCELLS WILL BE POSSIBLE. HOWEVER...THE MAGNITUDE OF THE SEVERE THREAT REMAINS UNCERTAIN DUE TO WARM AIR ALOFT AND A LACK OF LARGE-SCALE ASCENT. ANY STORM THAT CAN DEVELOP IN SPITE OF THESE LIMITING FACTORS COULD HAVE AN ISOLATED SEVERE THREAT LATE FRIDAY AFTERNOON.

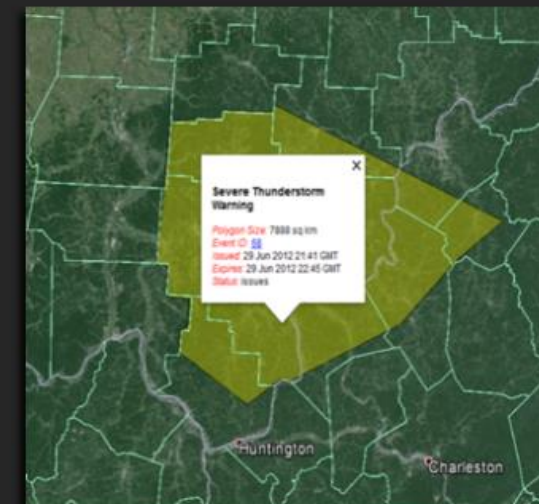
## OUTLOOK



## WATCH



## WARNING



REGIONAL → LOCAL AREA → COUNTIES

**ACTION:** ask yourself if the forecast mentions possible hazardous weather in your area

**ACTION:** review your severe weather preparedness plans and monitor the forecast

**ACTION:** listen for warnings and be prepared to take action if a warning is issued

**TAKE  
SHELTER  
NOW!**

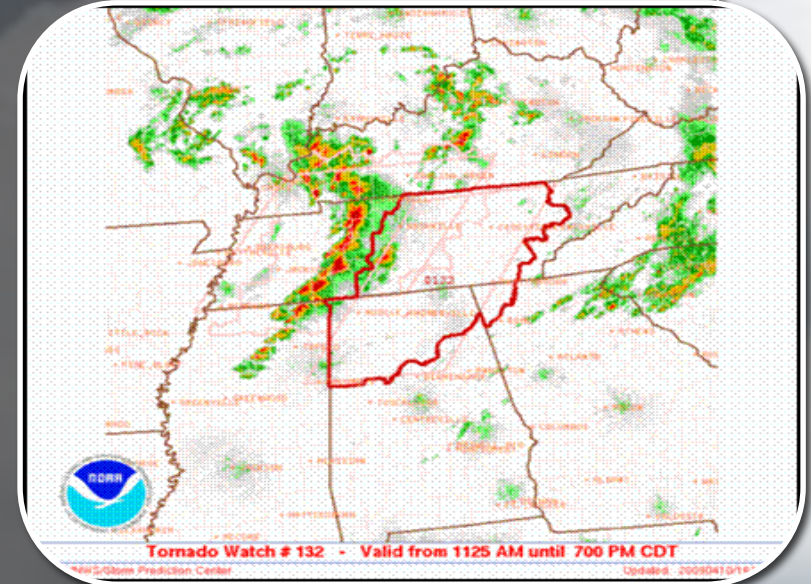
1 WEEK → 1 to 3 DAYS → HOURS → MINUTES



## Watches

Tornado/Severe Thunderstorm/Flash Flood

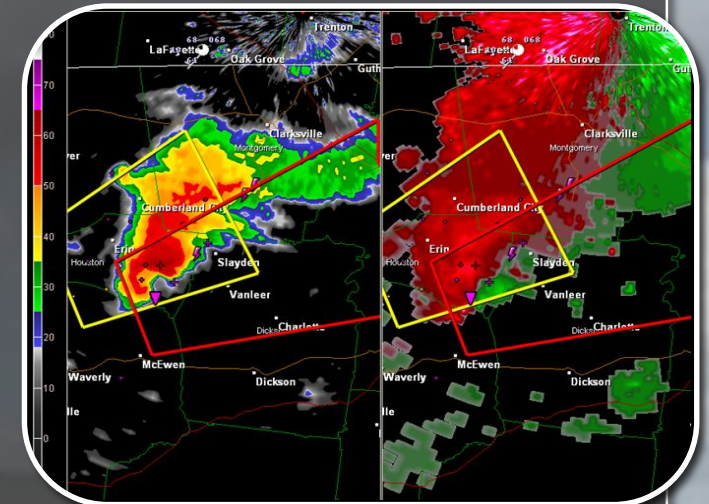
- Conditions are favorable
- Usually last 3 to 6 hours
- Watch the sky, be sure your NOAA Weather Radio is plugged in with fresh batteries



## Warnings

Tornado/Severe Thunderstorm/Flash Flood

- Conditions are occurring or about to occur
- Issued by local NWS office, last 30-60 minutes
- Take Shelter if you go under a warning!



## What is a Special Weather Statement (for strong storms)?

*A thunderstorm that contains one or more of the following:*

- Large amounts of cloud to ground lightning
- Winds of 30-58 mph
- Hail of 0.25" to 0.88" in diameter (pea to nickel-size)
- Rotation, but not strong enough to warrant Tornado Warning





## Severe Thunderstorm Warning

*A severe thunderstorm contains one or more of the following:*

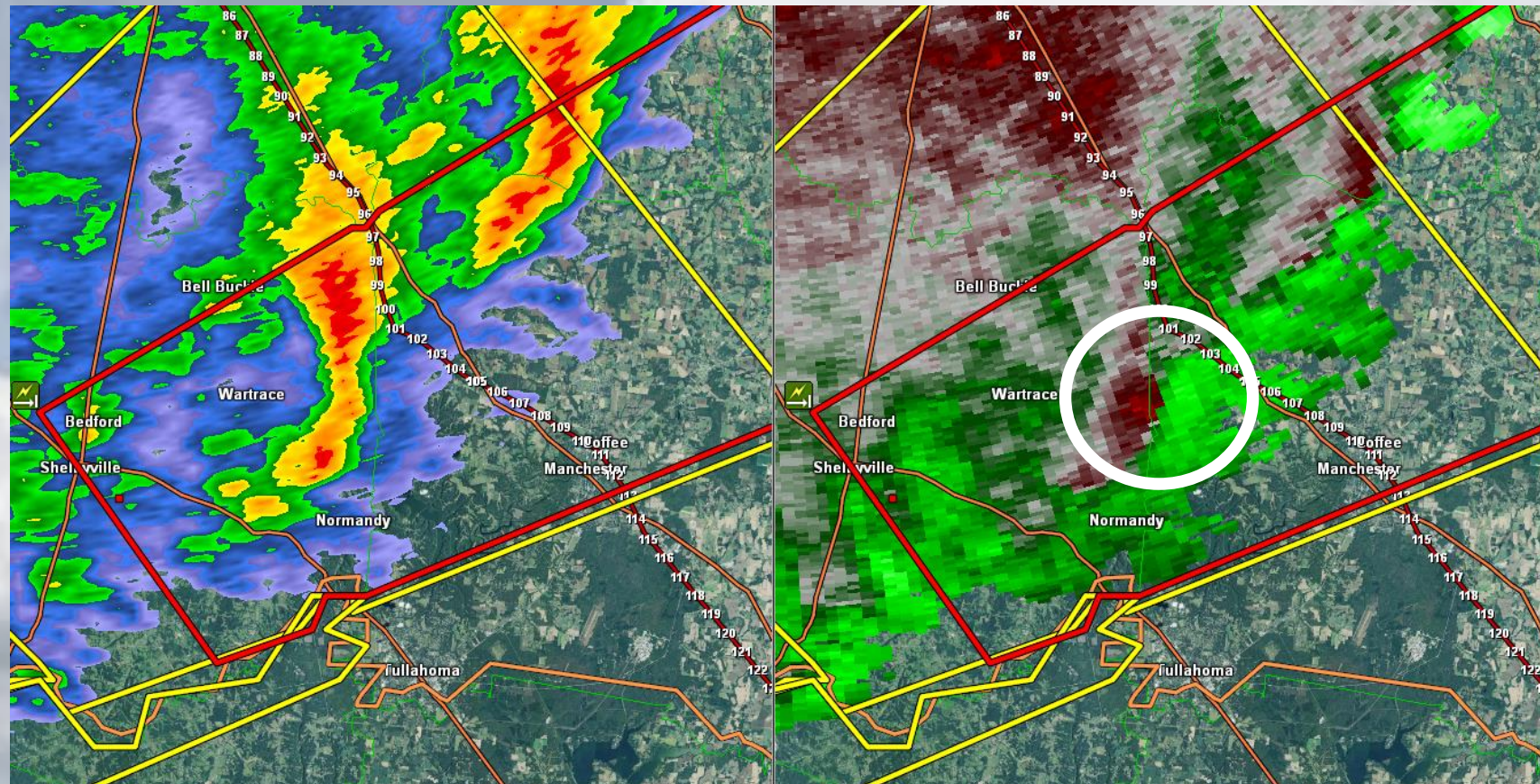
- Winds of 58 mph or higher
- Hail of 1" in diameter or larger (quarter-size)
- Tornado





## Tornado Warning: Radar Indicated

- Tornado is likely to develop or is already occurring



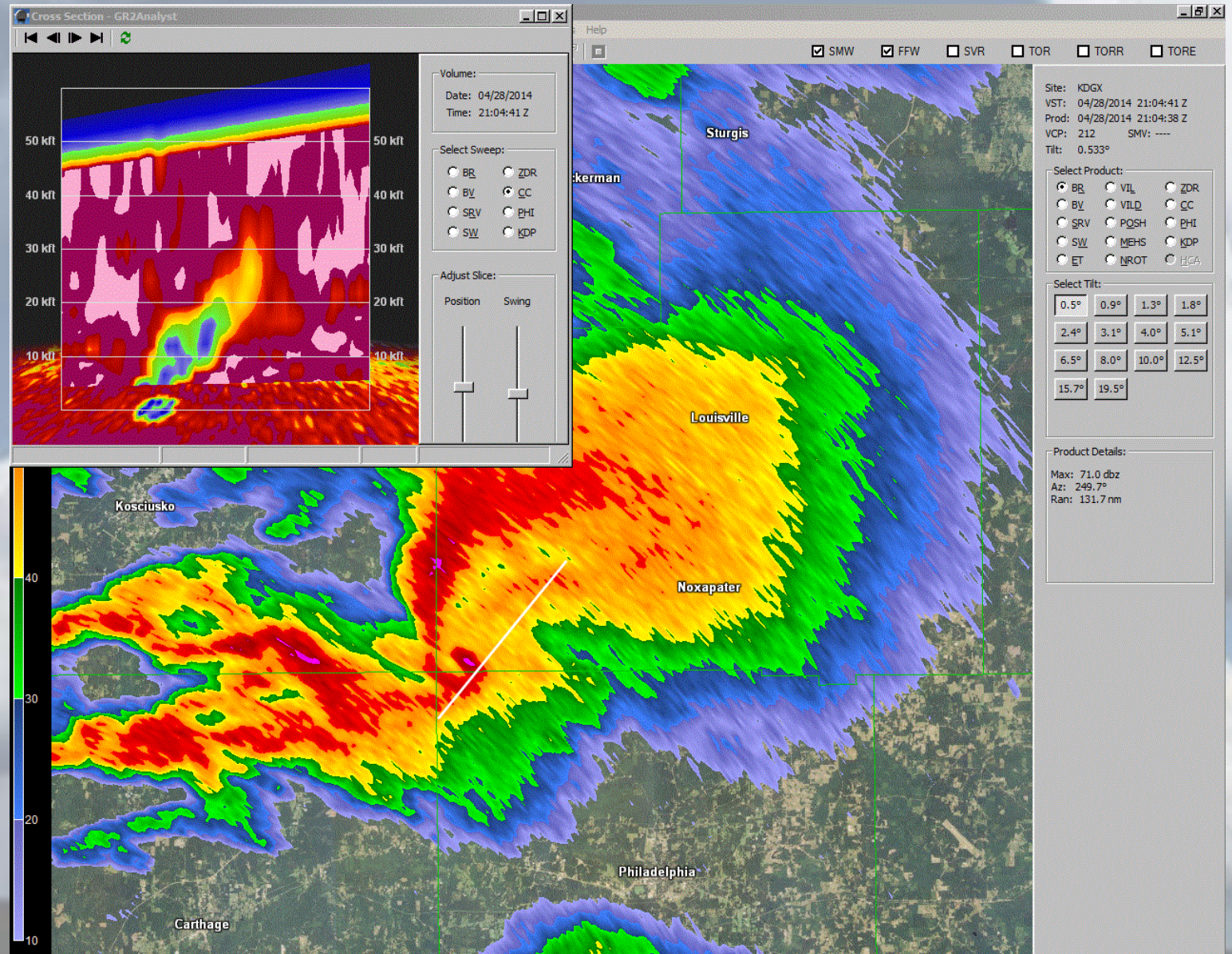




# NWS Products



Tornado  
Warning:  
Radar Confirmed







# NWS Products



## *Considerable- Confident of strong tornado (EF-2 – EF-3)*

...A TORNADO WARNING REMAINS IN EFFECT UNTIL 645 PM CST FOR EAST CENTRAL PERRY...NORTHWESTERN LEWIS AND SOUTHWESTERN HICKMAN COUNTIES...

AT 629 PM CST...A CONFIRMED LARGE AND EXTREMELY DANGEROUS TORNADO WAS LOCATED 8 MILES NORTH OF HOHENWALD...MOVING NORTHEAST AT 70 MPH.

THIS IS A PARTICULARLY DANGEROUS SITUATION.

## *Catastrophic- Confident of violent tornado (EF-4 – EF-5)*

...TORNADO EMERGENCY FOR HOLLY SPRINGS...

...A TORNADO WARNING REMAINS IN EFFECT UNTIL 445 PM CST FOR NORTHWESTERN LAFAYETTE...MARSHALL...SOUTHEASTERN TATE AND NORTHEASTERN PANOLA COUNTIES...

AT 416 PM CST...A CONFIRMED LARGE AND DESTRUCTIVE TORNADO WAS LOCATED NEAR MARIANNA...OR 8 MILES WEST OF WALL DOXEY STATE PARK...MOVING NORTHEAST AT 55 MPH.

TORNADO EMERGENCY FOR HOLLY SPRINGS. TAKE COVER NOW. THIS IS A PARTICULARLY DANGEROUS SITUATION.



# NWS Products



## Flood Advisory

*Heavy rainfall resulting in:*

- Minor ponding on roadways or localized flooding
- Rises on area creeks & rivers







# NWS Products



## Flash Flood Warning

*Heavy rainfall, typically from thunderstorms, resulting in:*

- Significant flooding of roadways
- Cars stalling in flood waters
- Flooding of businesses & homes





# Communicating Threats



Cell Phone Apps



Weather Radio

WEAs



TV/ Radio



Social Media





# Communicating Threats



## NOAA Weather Radio

- Fastest way to get warnings!
- Operates 24/7
- Program for just your county or multiple counties
- Available in most stores and online
- Have multiple ways to receive warnings!





# Communicating Threats



## Wireless Emergency Alerts

- Emergency messages sent by authorized government bodies through mobile carriers
- 360 character max
- Uses cell phone towers within a warning to broadcast

| Warning Type         | WEA Message   |
|----------------------|---|
| Tsunami Warning      | Tsunami danger on the coast. Go to high ground or move inland. Listen to local news. -NWS |
| Tornado Warning      | Tornado Warning in this area til hh:mm tzT. Take shelter now. Check local media. -NWS     |
| Extreme Wind Warning | Extreme Wind Warning this area til hh:mm tzT ddd. Take shelter. -NWS                      |
| Hurricane Warning    | Hurricane Warning this area. Check local media and authorities. -NWS                      |
| Typhoon Warning      | Typhoon Warning this area til hh:mm tzT ddd. Check local media and authorities. -NWS      |
| Flash Flood Warning  | Flash Flood Warning this area til hh:mm tzT. Avoid flooded areas. Check local media. -NWS |
| Dust Storm Warning   | Dust Storm Warning in this area til hh:mm tzT ddd. Avoid travel. Check local media. -NWS  |







# Weather Safety Rules



## Tornadoes

- Seek inside shelter in a basement or interior room on the lowest floor away from windows. *Put as many walls between you and outside as possible.*
- Go to designated shelter in office buildings, hotels, and shopping malls
- Find nearest available shelter in open country





# Weather Safety Rules

## Tornadoes: Schools

- Follow school tornado drills
- Go to interior hallways and small rooms away from windows
- Avoid large rooms like gymnasiums and cafeterias







# Weather Safety Rules



## Tornadoes: Mobile Homes

- Mobile homes are easily damaged and destroyed by tornadoes
- Can very easily be overturned
- If possible, abandon mobile homes for community shelter or sturdier building



Mobile Home vs Well Built  
Structure both with EF-2 damage





# Weather Safety Rules



## Vehicles

- *Automobiles are not safe in tornadoes!*
- Abandon cars and trucks for a storm shelter or sturdy buildings if possible
- If sturdy shelter is not possible, get down in your car and cover your head or seek shelter in low lying ditch







# Weather Safety Rules



## Damaging Winds

- Take shelter inside a building away from glass
- If caught outdoors, stay away from trees and power lines

MILTON, Tenn. - A man was killed in Rutherford County when a tree fell on him during a thunderstorm.

The storm passed through the area around 6:12 p.m. bringing with it reports of hail and strong winds.

Fire Chief, Larry Farley, said the 64-year-old man was riding a ATV toward his house when a large hickory tree fell on top of him.







# Weather Safety Rules



## Large Hail

- Take shelter inside a building away from glass
- If in a vehicle, stay inside and wait for hail to end



Quarter to  
Ping Pong Ball Hail







# Weather Safety Rules



## Lightning

- *When thunder roars, go indoors!*
- Take shelter inside a building or automobile
- Stay away from all wired electronics and plumbing



# Weather Safety Rules

Do You Really Know  
How Deep the Water is?

12 inches of fast-moving water can  
carry away a small car.



6 inches of fast-moving water can  
knock over and carry away an adult.

18-24 inches of fast-moving water can  
carry away most large SUVs, vans and trucks.



# Weather Safety Rules

## Flash Flooding

- Never drive around barricades – the water may be deeper than you think
- Don't cross flooded roadways – the road may not be there!



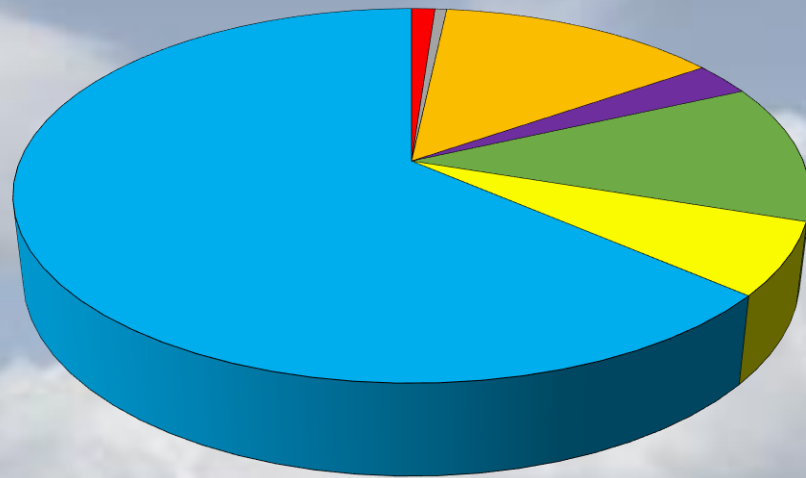


# Weather Safety Rules



## Flash Flooding: *The #1 weather-related killer*

2015 Flash Flood Fatalities  
Activities of Victims



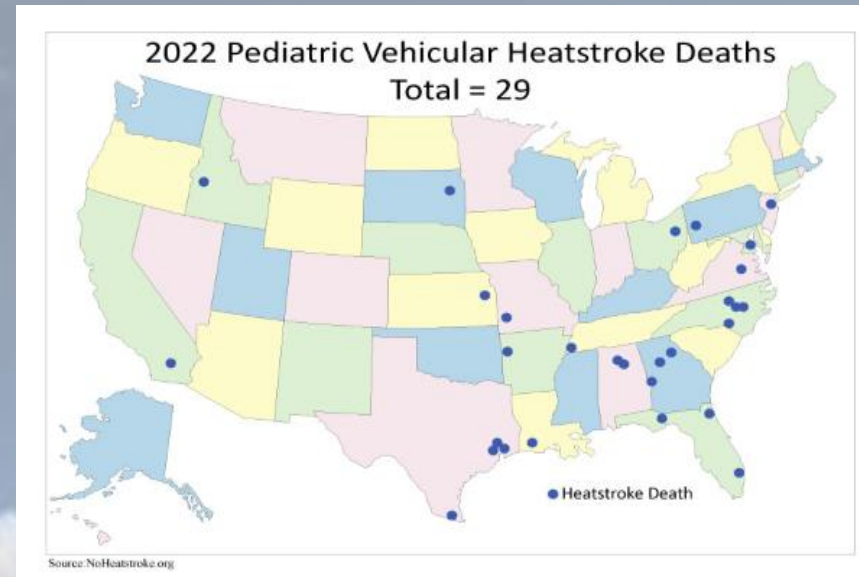
- |                  |               |           |
|------------------|---------------|-----------|
| ■ Boating        | ■ Business    | ■ Camping |
| ■ In Water       | ■ Mobile Home | ■ Other   |
| ■ Permanent Home | ■ Vehicle     |           |





## Heat

- Look before you lock
- Pets in cars / outdoors
- Elderly
- People with chronic health issues
- Pregnant women



| Heat Exhaustion  | Heat Stroke   |
|--|---|
| <p><b>ACT FAST</b></p> <ul style="list-style-type: none"> <li>• Move to a cooler area</li> <li>• Loosen clothing</li> <li>• Sip cool water</li> <li>• Seek medical help if symptoms don't improve</li> </ul> | <p><b>ACT FAST</b></p> <p><b>CALL 911</b></p> <ul style="list-style-type: none"> <li>• Move person to a cooler area</li> <li>• Loosen clothing and remove extra layers</li> <li>• Cool with water or ice</li> </ul> |
| <p>Dizziness</p> <p>Thirst</p> <p>Heavy Sweating</p> <p>Nausea</p> <p>Weakness</p>   | <p>Confusion</p> <p>Dizziness</p> <p>Becomes Unconscious</p>  |
| <p>Heat exhaustion can lead to heat stroke.</p>  | <p>Heat stroke can cause death or permanent disability if emergency treatment is not given.</p>   |

Stay Cool, Stay Hydrated, Stay Informed!



# Weather Safety Rules



## Cold / Winter

- Prepare: Emergency kit for your car
- Exposure kills: dress in layers and protect skin
- Driving: slow down and leave extra distance between vehicles

## ICE & SNOW, TAKE IT SLOW

Each year in the U.S., there are over **1,000 deaths** and **100,000 injuries** due to vehicle crashes during winter weather.

DID YOU KNOW?



**Clean off your vehicle before driving.**  
Flying snow from cars causes accidents.



**Keep it slow, and don't use cruise control.**  
Roads can be slick even if they just look wet.



**Leave extra distance between vehicles.**  
Stay especially far from snow plows.



weather.gov



## DON'T FORGET YOUR PETS



Even with a natural fur coat, **winter can be deadly** for your pets unless proper care is given.



**Keep them warm and dry,**  
and indoors whenever possible.



**Provide plenty of food and water.**  
Dehydration is especially dangerous in winter.



**When outside, keep them bundled up.**  
Limit outside time, and thoroughly clean (including paws) when bringing them in



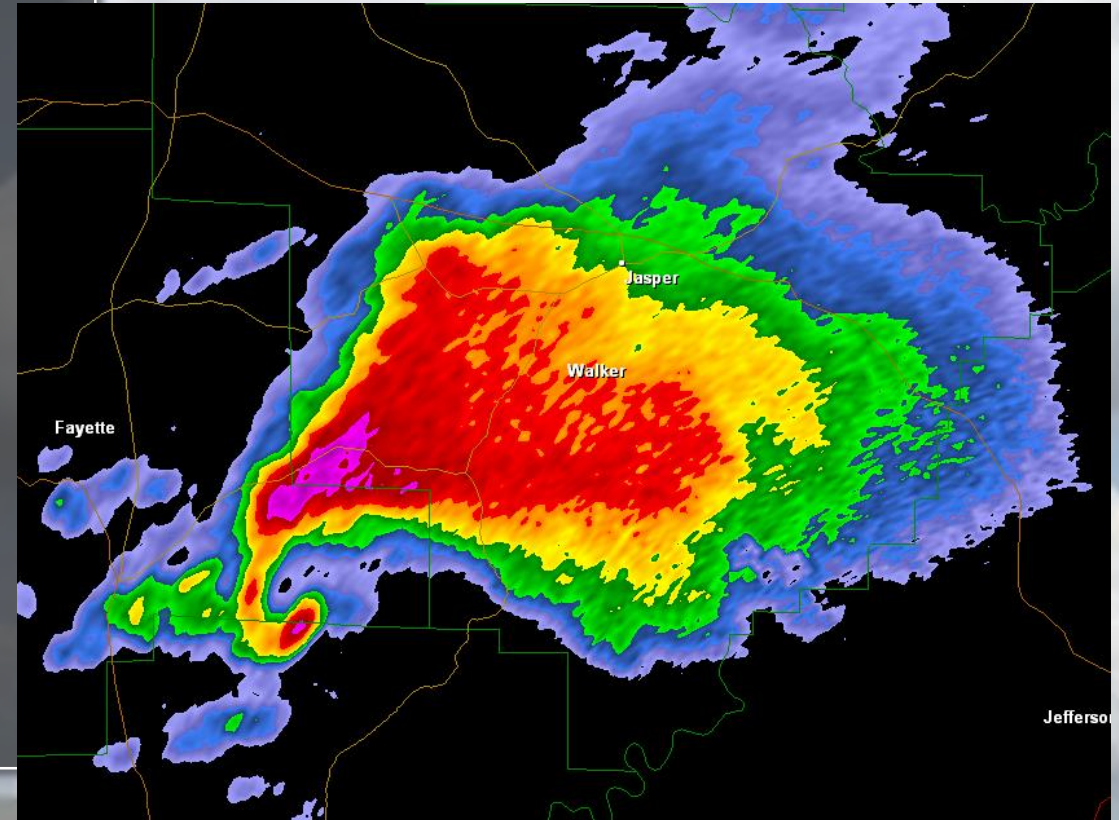
weather.gov





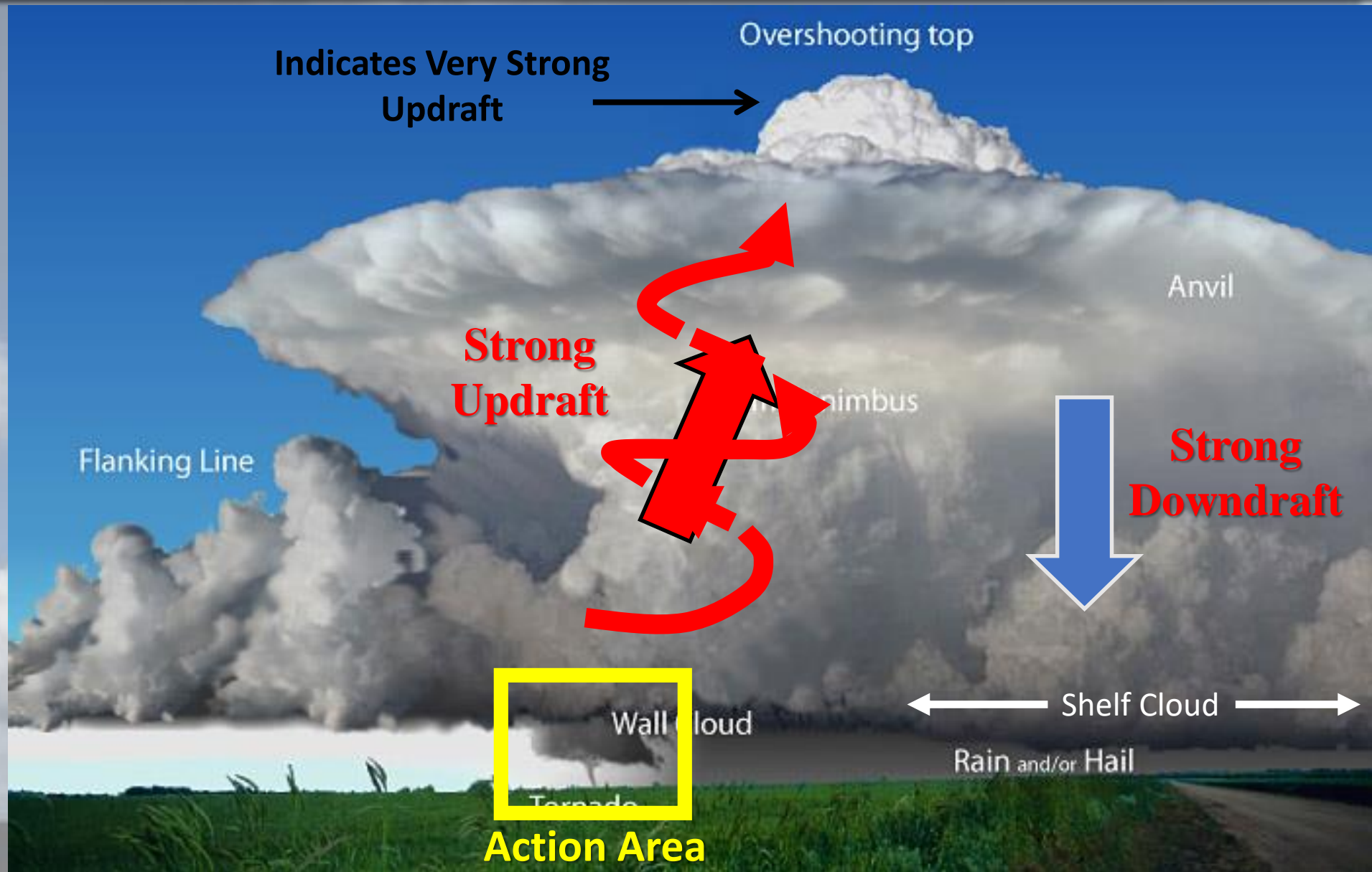
## Supercell Thunderstorms

- Strongest and longest lasting type of thunderstorm
- Contains a rotating updraft called a mesocyclone
- High severe potential
- Can produce very large hail and the most violent tornadoes
- *Typically* move from southwest to northeast in Middle Tennessee





# Thunderstorm Basics





## Wall Cloud

- Lowering of the rain-free cloud base
- Appears due to lower pressure causing condensation
- Slopes down and towards the rain
- Tornadoes typically drop from wall clouds





# Thunderstorm Basics



## Wall Cloud: Checklist

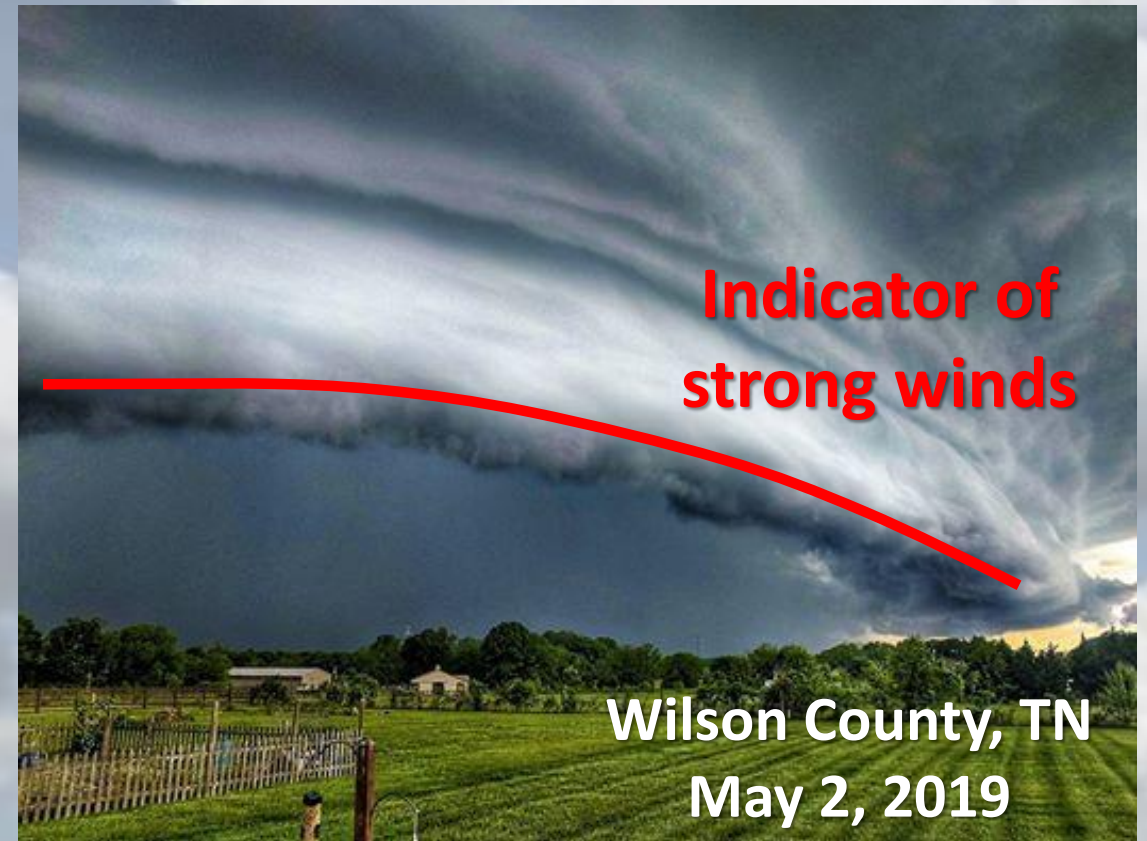
- *Rotation*
- *Persistence*
- *Rising Motion*
- *Wall cloud does not always mean tornado!*





## Shelf Cloud: Checklist

- Appears as wedge-shaped cloud
- Occurs on leading edge of a gust front
- Slopes downward away from rain/hail
- While mostly associated with squall line, can occur with any type of thunderstorm
- *Occupies large expanse of horizon*

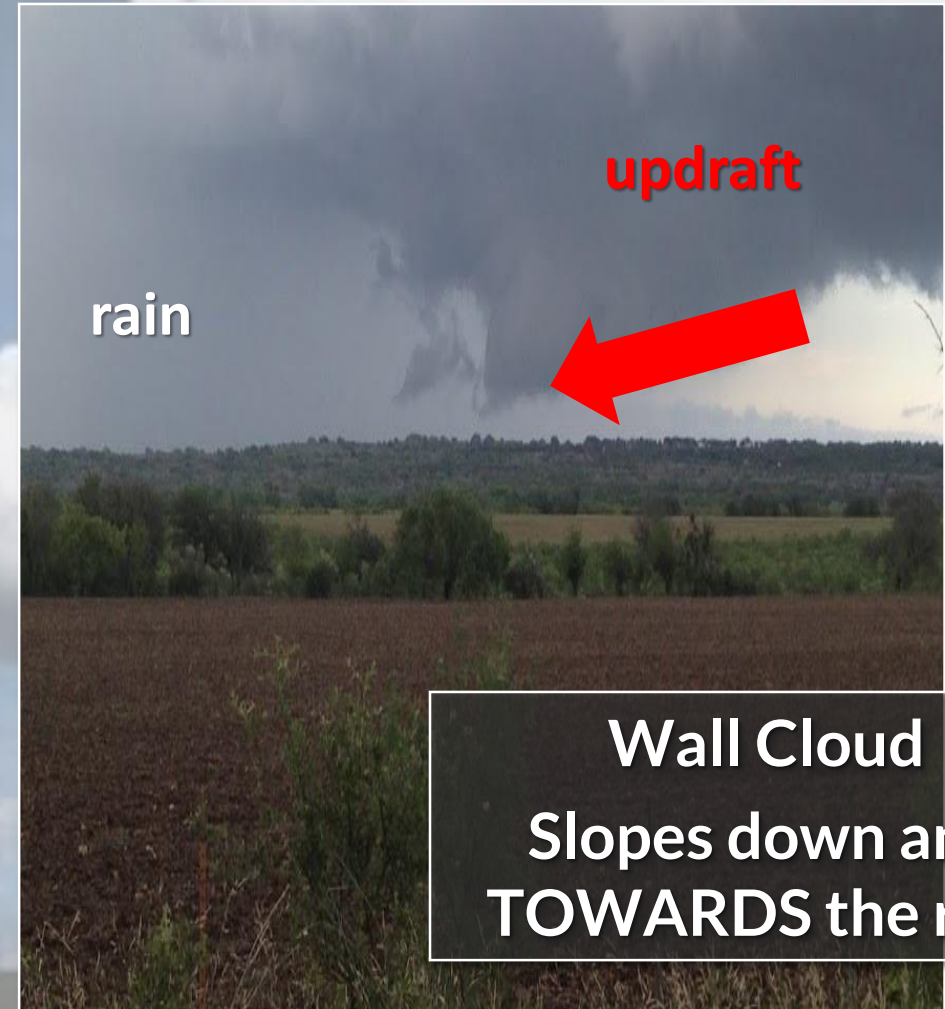
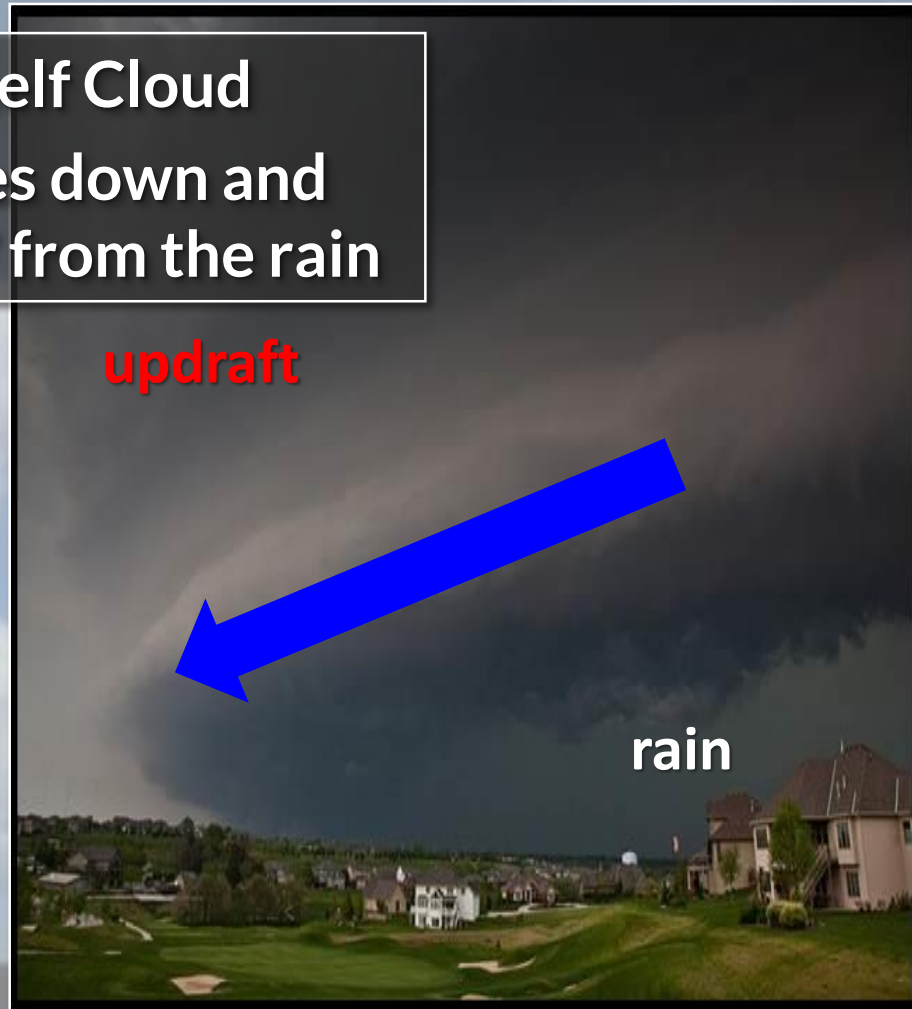




# Thunderstorm Basics

## *Shelf Cloud or Wall Cloud?*

Shelf Cloud  
Slopes down and  
**AWAY** from the rain



Wall Cloud  
Slopes down and  
**TOWARDS** the rain



# Thunderstorm Basics

## Funnel Cloud

- Typically forms from rotating wall cloud
- Watch for debris at the surface
- Debris under the funnel or visible contact with the ground makes it a tornado
- Attached to the cloud base



## Tornado

- *Definition: A violently rotating column of air in contact with the ground and extending from the base of a thunderstorm*
- Tornadoes are not always classic looking or well defined
- If you see a rotating wall cloud or funnel cloud, look for debris!



Grady Dixon 2016



## Scud Cloud

- Ominous-looking but harmless clouds
- Can occur with wall cloud or shelf cloud
- *No rotation*
- *No rapid vertical motion*
- *No inflow*





# Testing Your Knowledge







# Testing Your Knowledge





# Testing Your Knowledge







# Testing Your Knowledge







# Testing Your Knowledge





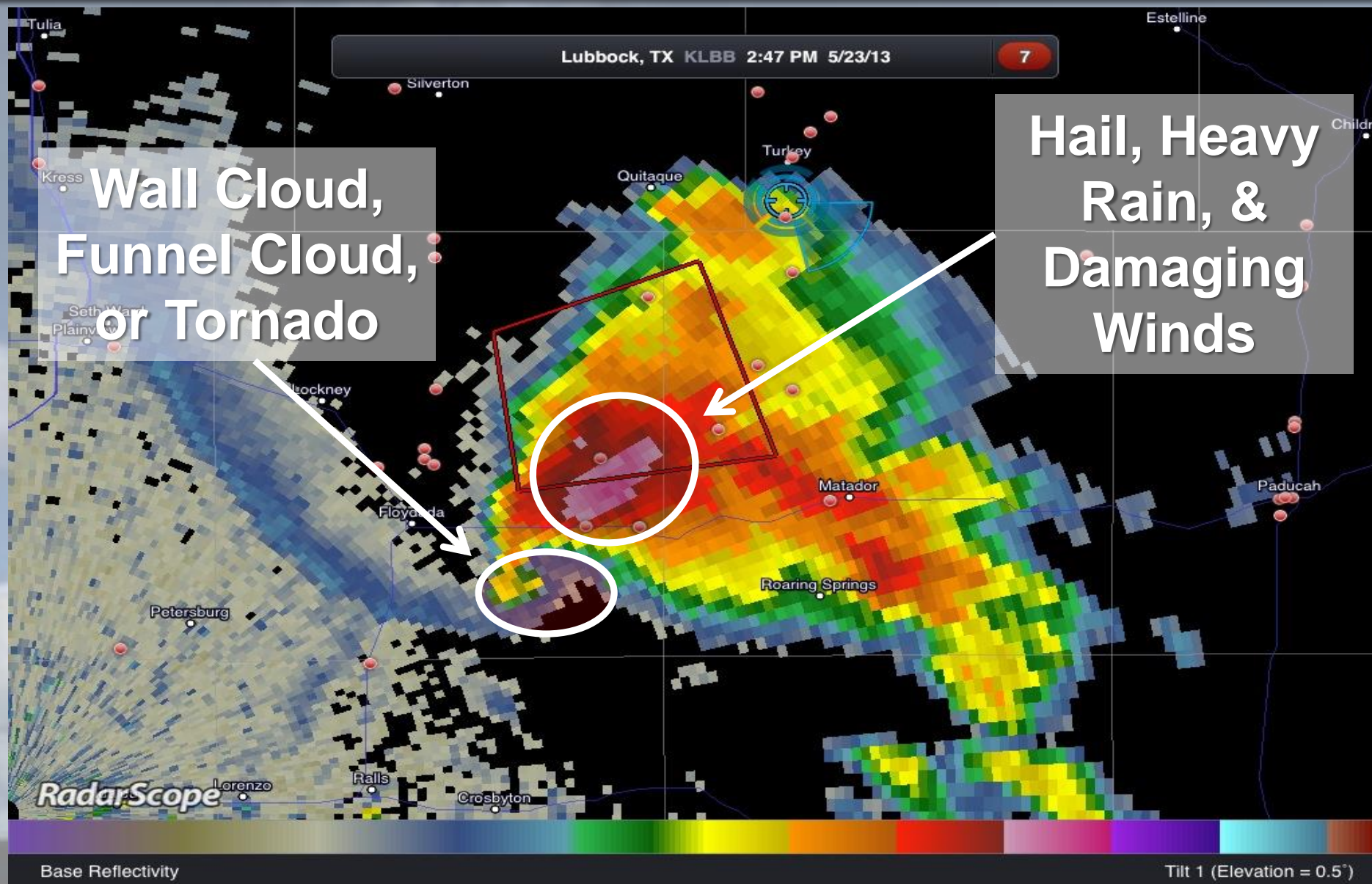


# Testing Your Knowledge





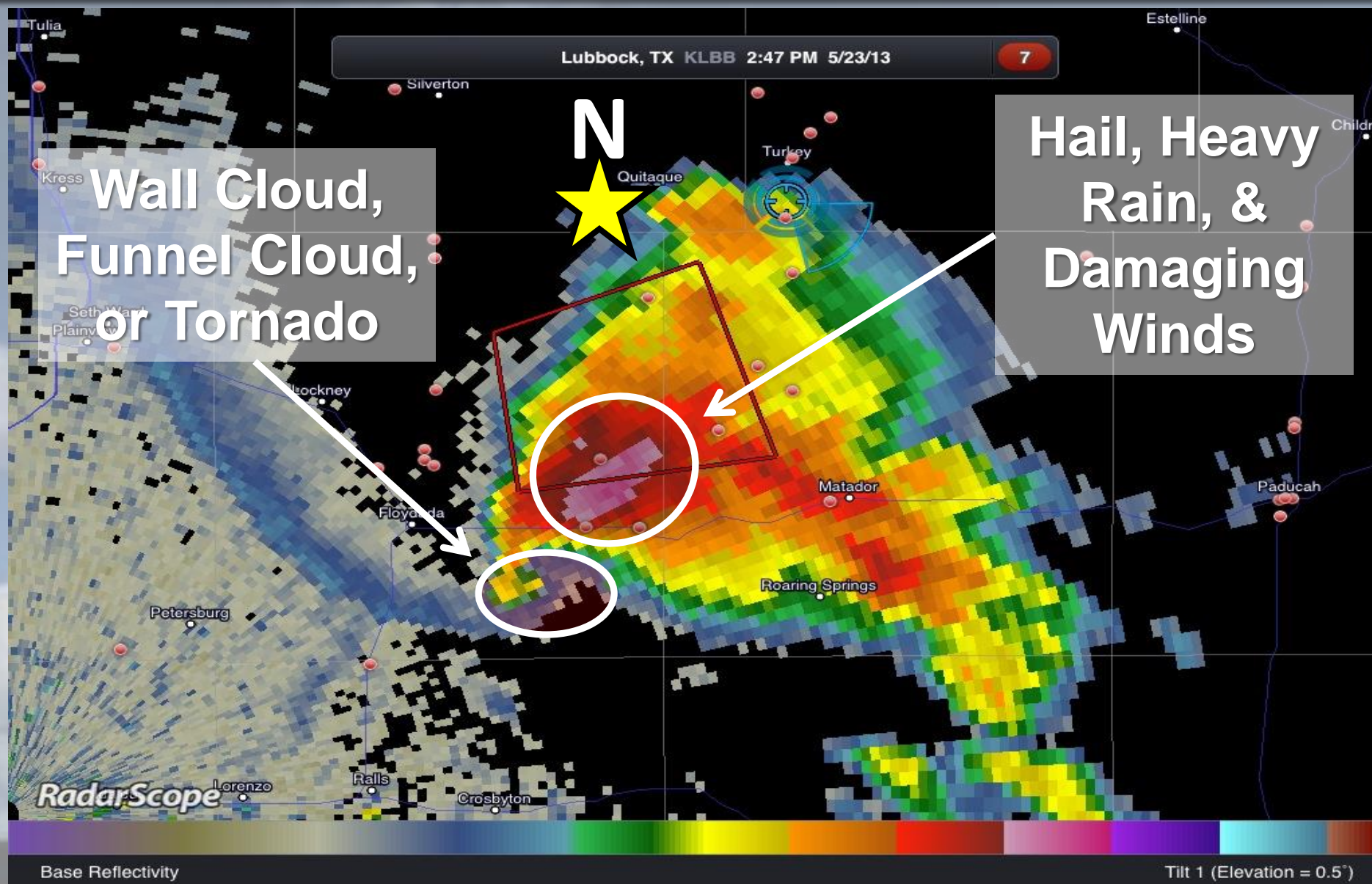
# Your Location Relative to a Storm





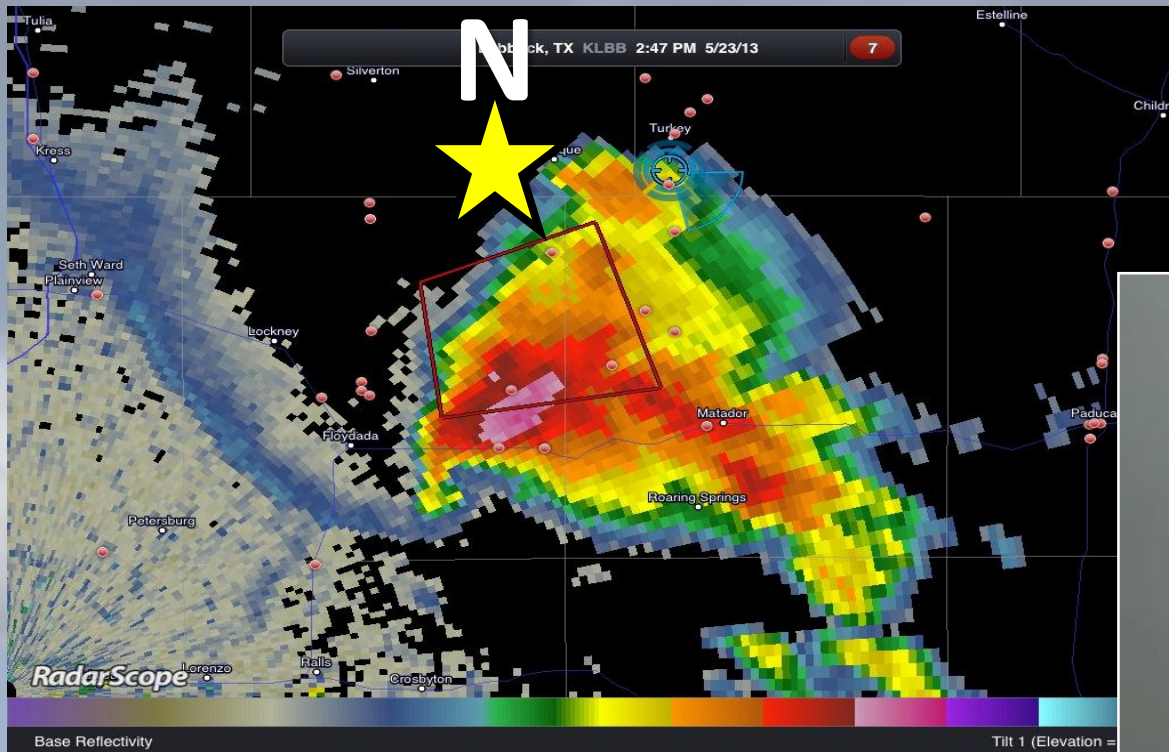


# Your Location Relative to a Storm





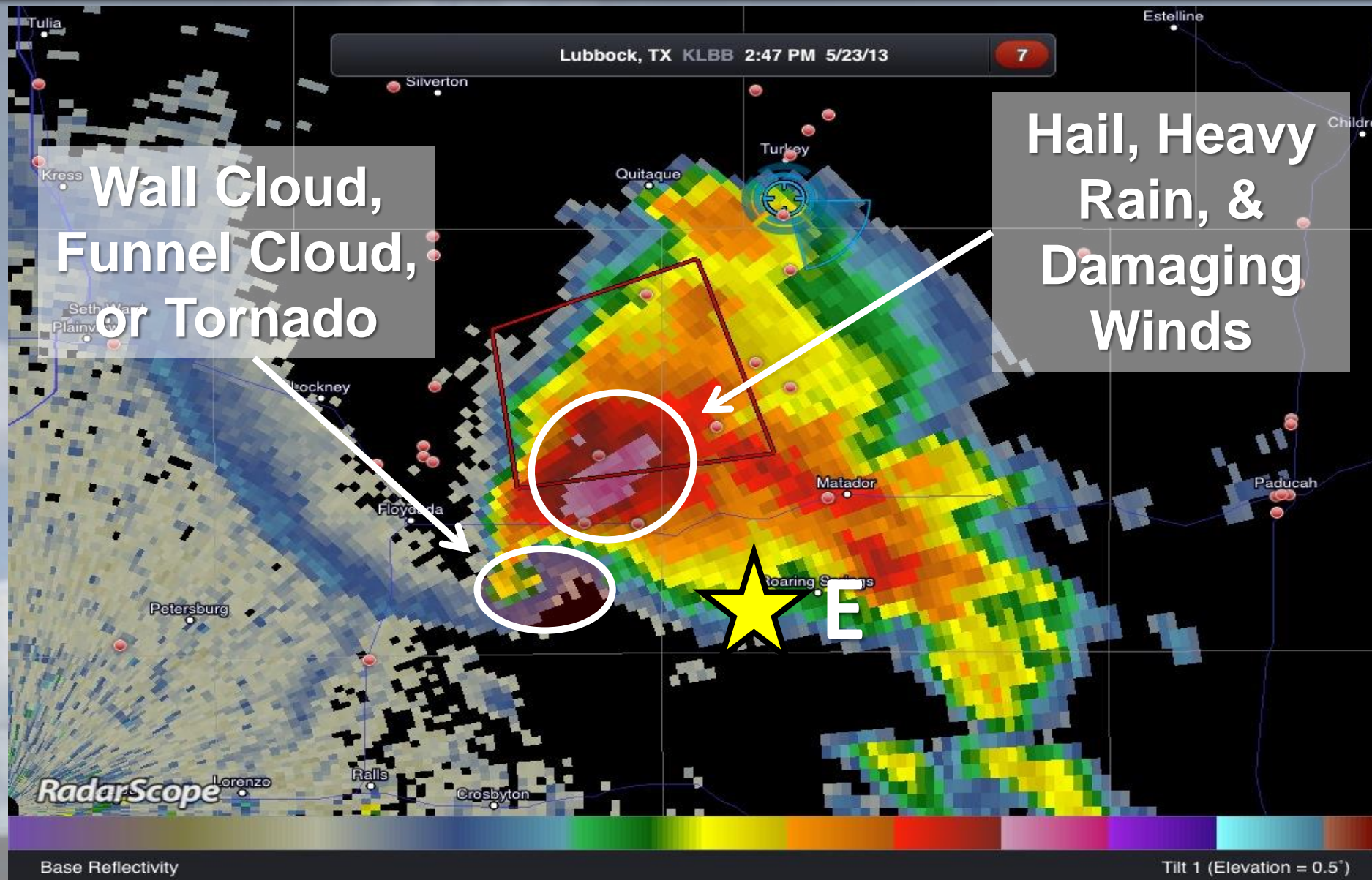
# Your Location Relative to a Storm





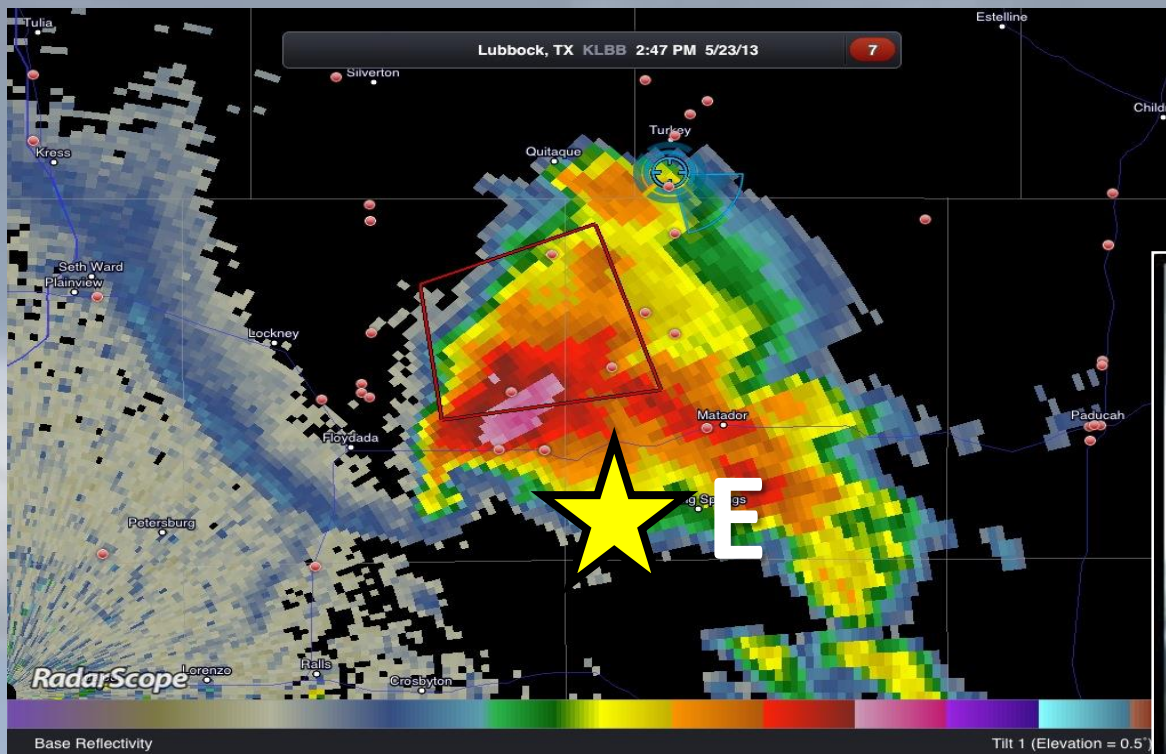


# Your Location Relative to a Storm





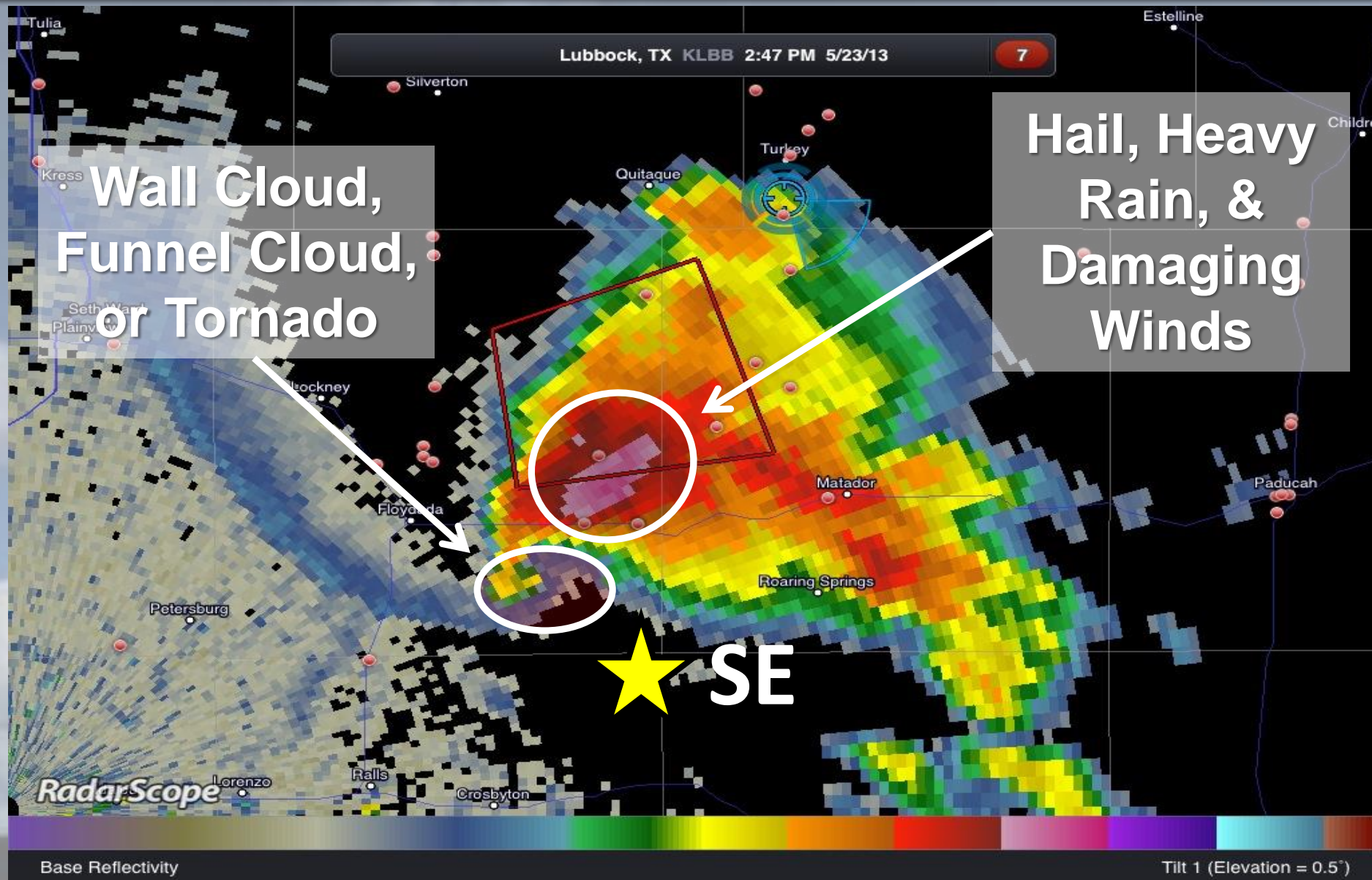
# Your Location Relative to a Storm





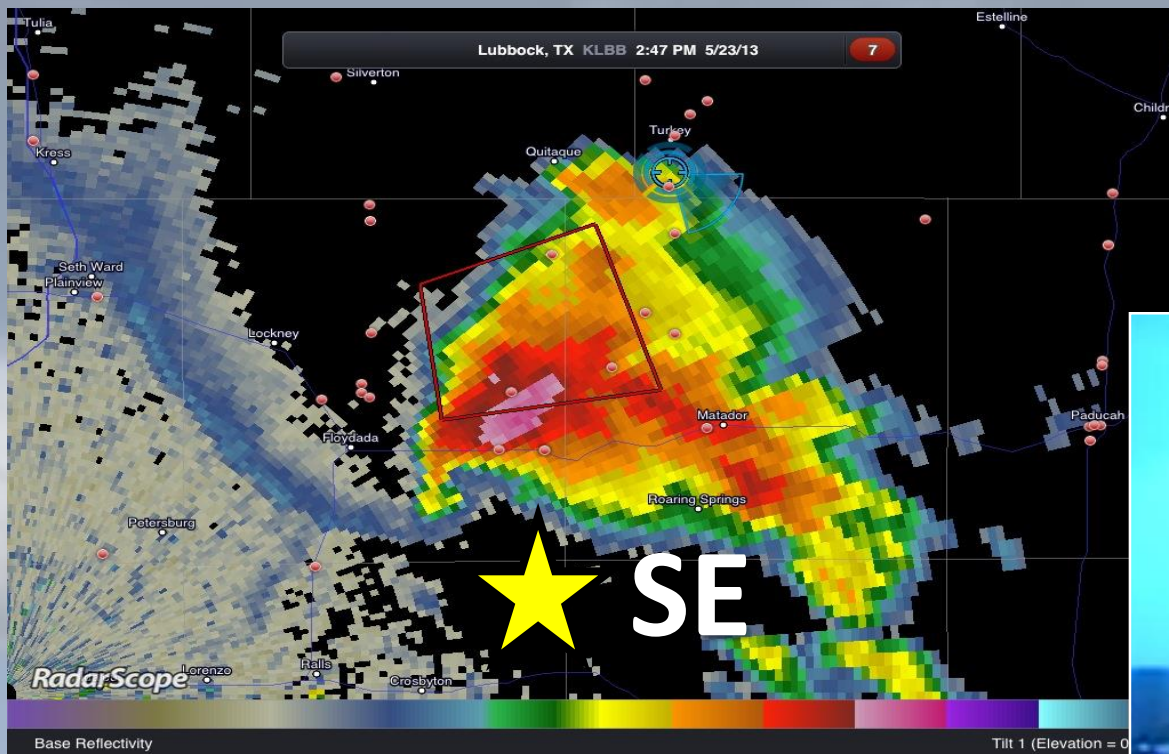


# Your Location Relative to a Storm





# Your Location Relative to a Storm







# Reporting Severe Weather to NWS



## NWS Needs To Know:

What  
When  
Where



**What** type of severe weather is occurring?

**When** did the severe weather occur?

**Where** was the severe weather?



# What Severe Weather to Report

**NWS needs reports of:**

**Flooding**



**Hail**



**Ice and Snow**



**High Winds & Wind Damage**



**Funnel Clouds and Tornadoes**





# What Severe Weather to Report

## Hail

- Report the largest size stone you see
- Compare to common objects



|                |             |
|----------------|-------------|
| Penny          | 0.75 inches |
| Nickel         | 0.88 inches |
| Quarter        | 1.00 inches |
| Half Dollar    | 1.25 inches |
| Ping Pong Ball | 1.50 inches |
| Golf Ball      | 1.75 inches |
| Hen Egg        | 2.00 inches |
| Tennis Ball    | 2.50 inches |
| Baseball       | 2.75 inches |
| Tea Cup        | 3.00 inches |
| Grapefruit     | 4.00 inches |
| Softball       | 4.50 inches |



# What Severe Weather to Report



**What's wrong with this picture?**







# What Severe Weather to Report



## Wind Damage and Estimates

- Wind damage is just as important as wind speed measurements
- Specify if gust is measured or estimated
- Most estimates are too high







# What Severe Weather to Report



## Flash Flooding



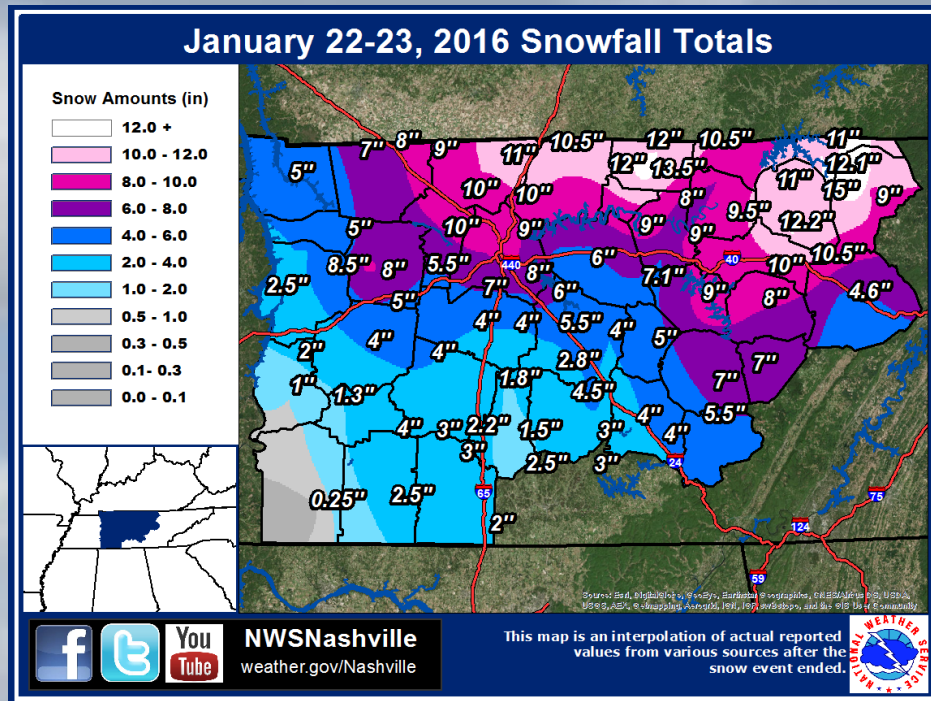




# What Severe Weather to Report



## Snowfall or Ice Accumulations



# Reporting the Where

## Reporting Location

- Be clear with your location using intersections or crossroads if at all possible
- Use caution with addresses on social media



**Example:** I'm on Couchville Pike about half a mile east of the intersection of Weakley Lane. There are trees down on powerlines and on the road.





# How to Report Severe Weather

- Do not assume that if a warning is issued, the NWS knows for certain that severe weather has occurred. (we want to hear from you!)
- Never assume your report is not important.
- Do not exaggerate your report!



**NWS Nashville**



**@NWSNashville**

**TN NWS Spotter Hotlines**

**NWS Nashville 1-800-267-8144**

**NWS Memphis 1-800-432-0875**

**NWS Morristown 1-800-679-0075**



# Social Media Reporting



## US National Weather Service Nashville Tennessee

Strong to severe thunderstorms are moving southward out of Kentucky into northern parts of Middle Tennessee this afternoon. Any reports of high winds or hail would be greatly appreciated!

2,384 Impressions · 0.08% Feedback

August 18 at 3:18pm · [Like](#) · [Comment](#)



cool beans

August 18 at 4:07pm · [Like](#)



Between 3:20pm and 3:40pm, wind gusts of

60+ miles an hour in Adams, TN

August 18 at 5:19pm · [Like](#)

Remember to report: WHAT, WHEN & WHERE





# Social Media Reporting



The screenshot shows a Twitter interface. On the left is a navigation sidebar with links to Home, Explore, Notifications, Messages, Bookmarks, Lists, Profile, and More. The main feed displays a tweet from NWS Nashville (@NWSNashville) dated Aug 20, mentioning a microburst in Lobelville and using the hashtag #tspotter. Below the text is a video showing a view from a covered patio looking out at a stormy landscape with trees and a fence. The video has 6K views. Below the video are engagement icons for replies (2), retweets (7), and likes (45). Below the tweet is another tweet from NashSevereWx (@NashSevereWx) dated Aug 20, providing instructions on how to use #tspotter to report storm damage. The right sidebar shows 'Near you' search, 'Advanced search', 'Nashville trends' with a list of hashtags like #DollarVampire, #NCTMNash19, #RELENTLESS, #NationalBoyfriendDay, and #ThursdayThoughts, and 'Who to follow' with a list of accounts including NOAA Satellites, The Weather Channel, and Alexandria Ocasio-Cortez.

When tweeting, use #tspotter



NWS Nashville Presents

# Weather101

- Global Circulations
- Hurricanes
- Fire Weather
- NWS Damage Surveys
- Severe Storm Elements
- Satellites

- Flash Flooding
- METARs and Upper Air Patterns
- Upper Air Soundings
- The Radar
- Quasi-Linear Convective Systems
- Weather Models

[weather.gov/ohx/weather101](https://weather.gov/ohx/weather101)  
No more than 1 hour classes with Q&A  
Totally FREE!





# Questions?

Thank You for Attending!

Scott Unger

[scott.unger@noaa.gov](mailto:scott.unger@noaa.gov)

615-754-8500

If you were not alone during this presentation, please send an email with the number of people in attendance