

# Tornadoes: Facts, Myths, Safety & Reporting



Photo courtesy NOAA Photo Gallery

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# Quick Facts!

- A tornado is a violently rotating column of air extending from a thunderstorm to the ground.
- Most tornadoes move from southwest to northeast, but tornadoes have been known to move in any direction.
- The average forward speed is 30 mph but may vary from nearly stationary to 70 mph.
- The average tornado lasts 10-30 minutes; however, it can also be less than a minute or several hours.

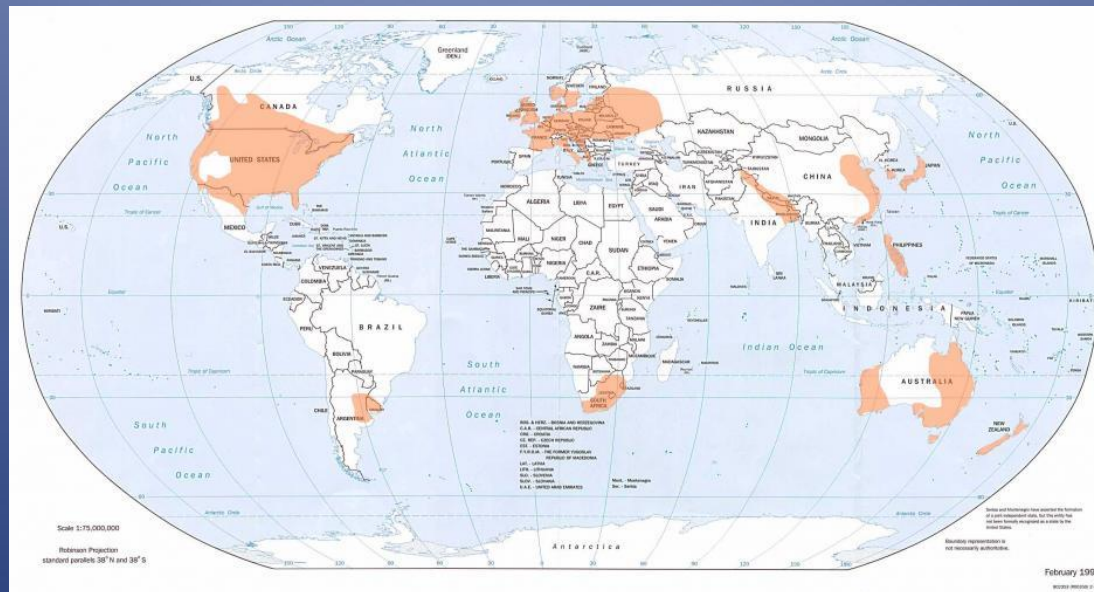


Photo courtesy of John Van Pelt

Sources: <http://www.nws.noaa.gov/om/brochures/ttl.pdf> and  
<http://www.newton.dep.anl.gov/askascl/wea00/wea00256.htm>

# Where do tornadoes occur

Tornadoes have been documented in every state of the United States, and on every continent, with the exception of Antarctica (even there, a tornado occurrence is not impossible).

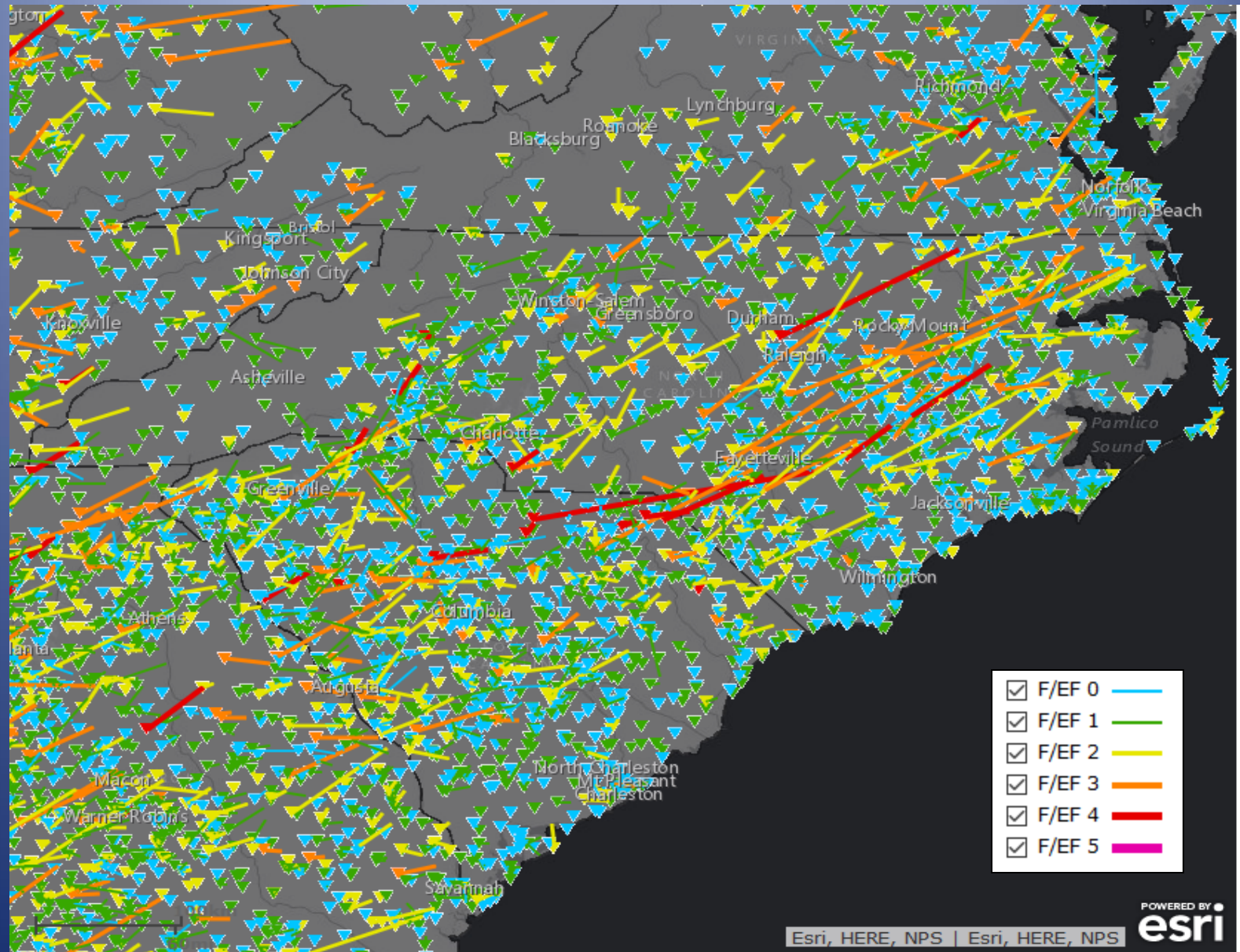


<https://www.ncdc.noaa.gov/climate-information/extreme-events/us-tornado-climatology>

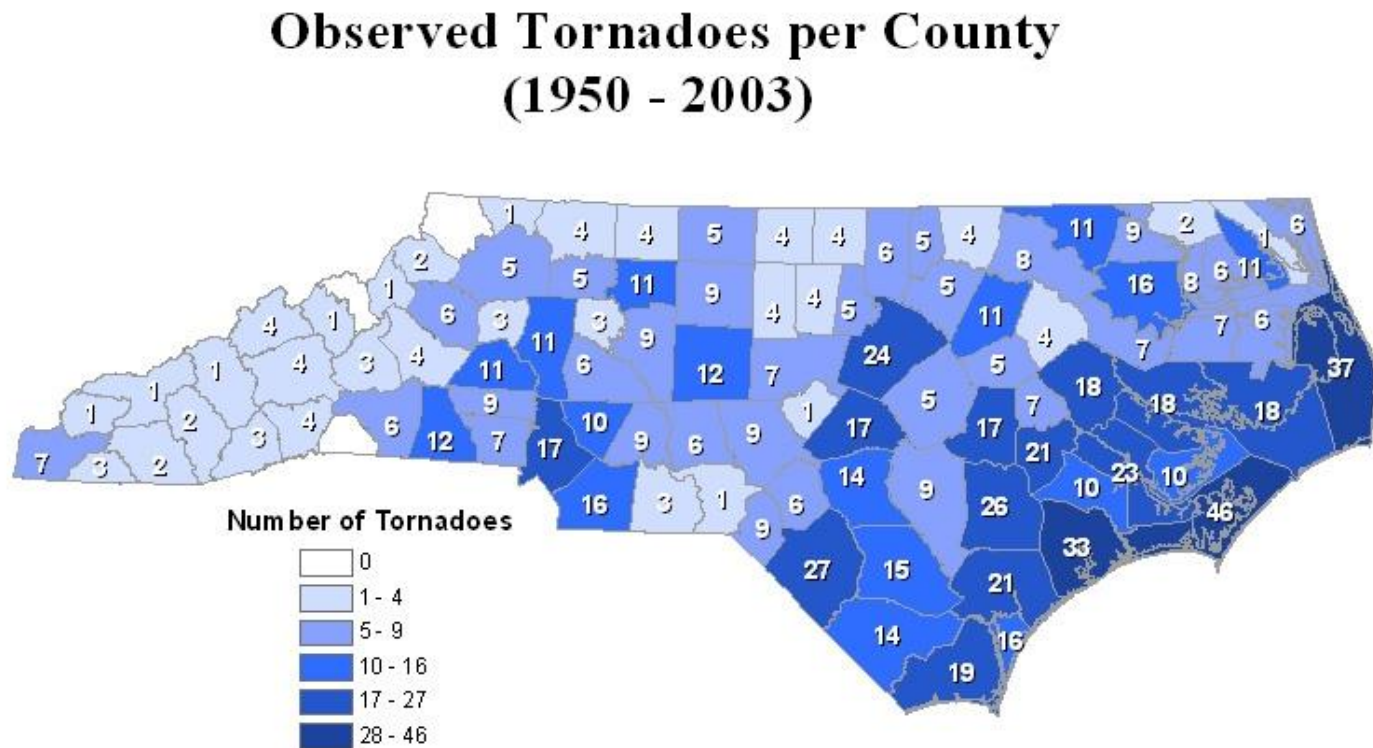
National Centers  
for Environmental  
Information



# NC Tornado Tracks 1950-2017



# Tornadoes: Nature's Most Violent Storms!



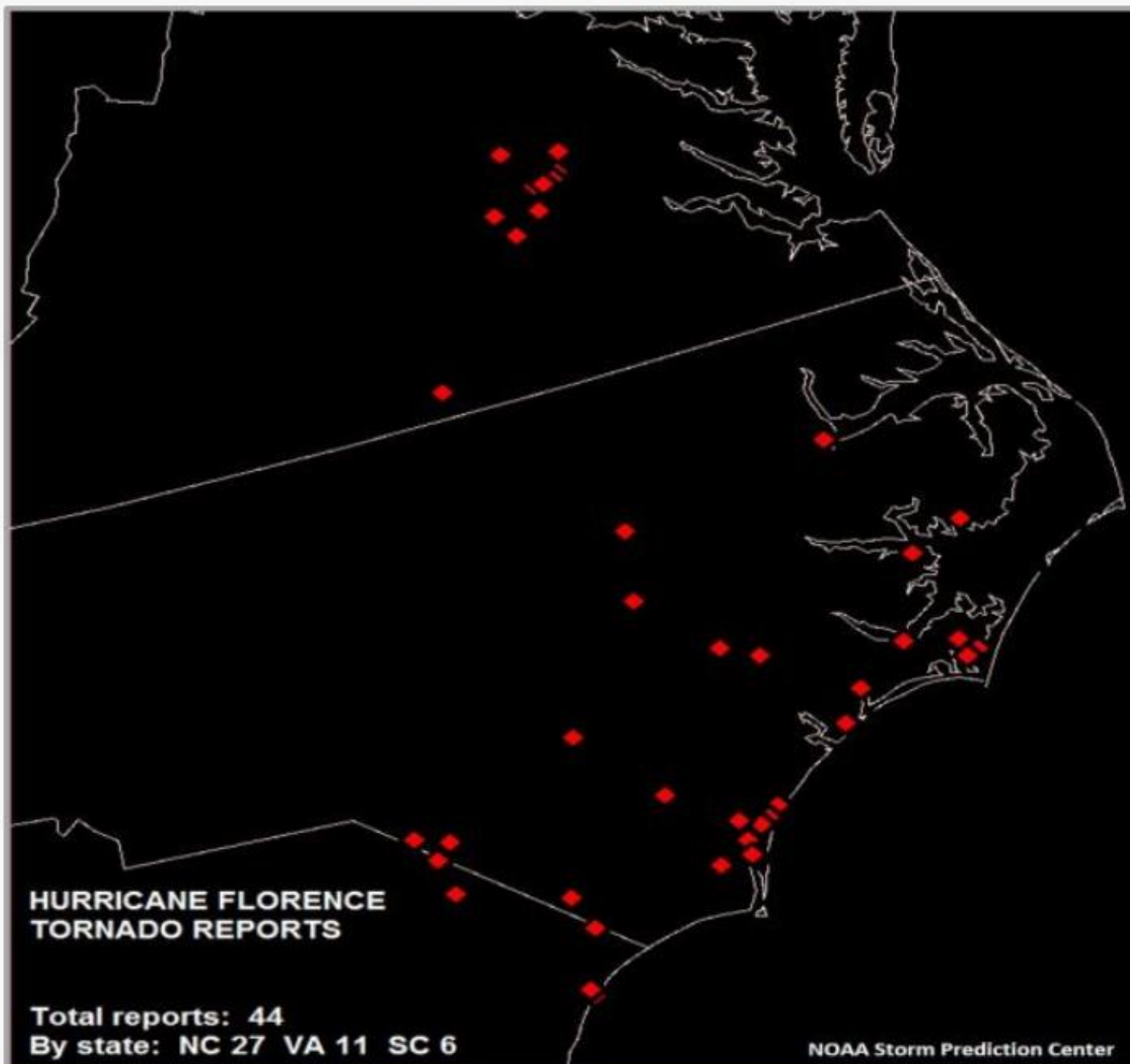
# NC Tornado Climatology

NC averages 26 – 31 tornadoes, 3 tornado fatalities & 39 tornado injuries each year.

Most tornadoes occur during March to May, with a peak in May. There is also a secondary peak in tornado frequency in September.

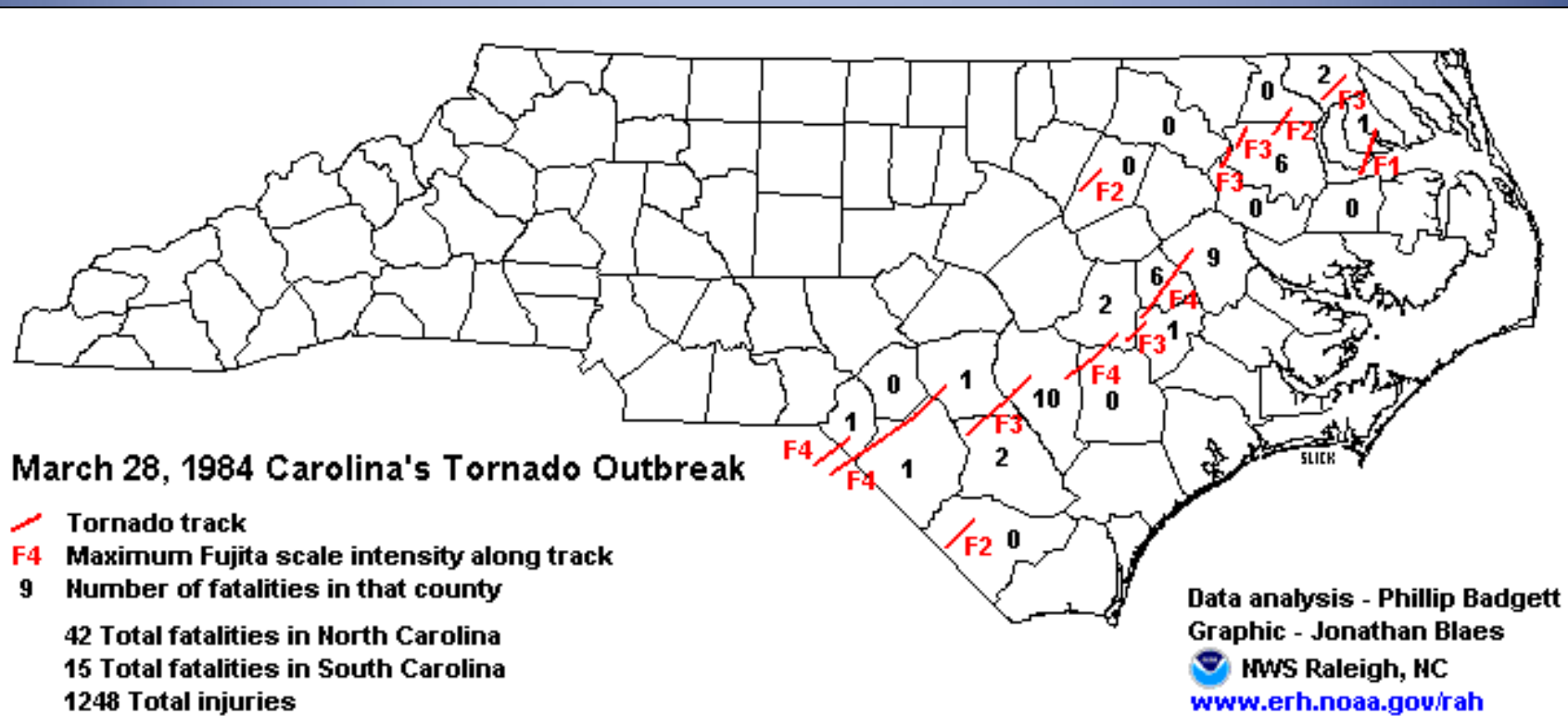
Tornadoes occur most frequently in the late afternoon and early evening hours; however, many killer tornadoes occur during the overnight hours when tornadoes are difficult to see and people are asleep.

# Hurricane Florence Tornado Reports

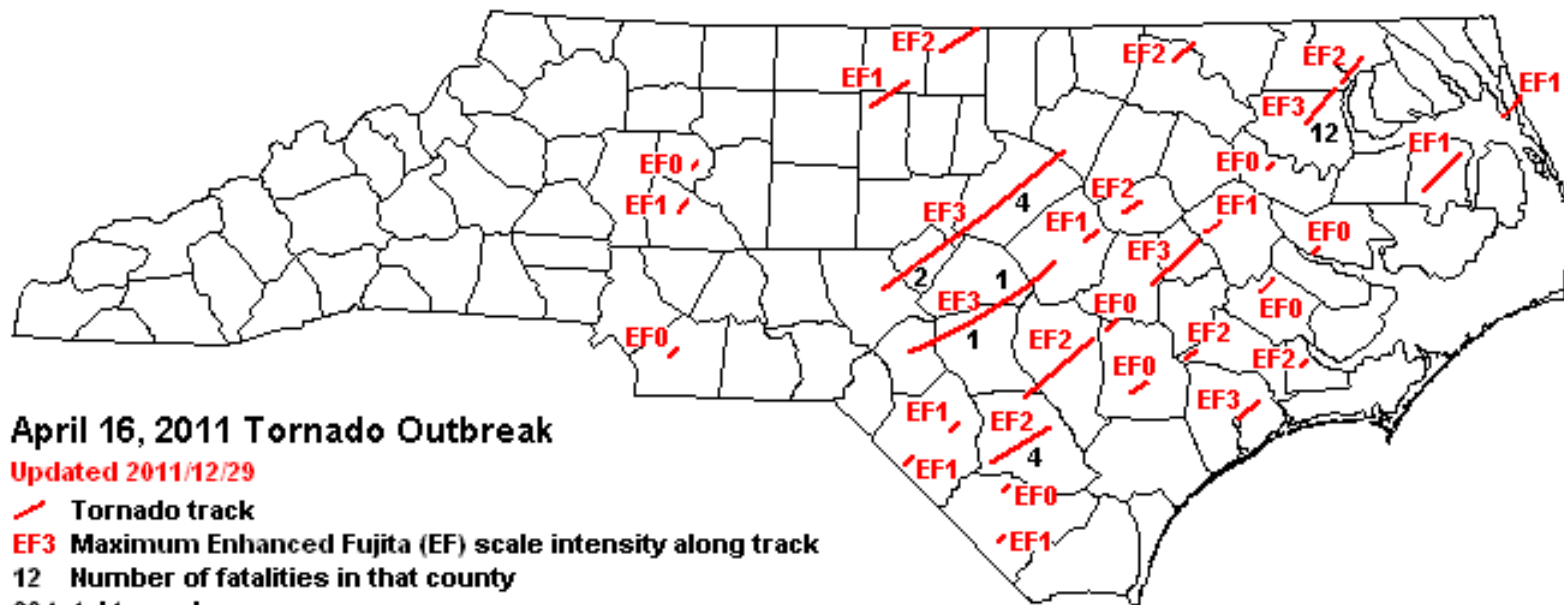




# NC's Deadliest Tornado Outbreak



# Greatest One Day Total of Tornadoes in NC



## April 16, 2011 Tornado Outbreak

Updated 2011/12/29

— Tornado track

EF3 Maximum Enhanced Fujita (EF) scale intensity along track

12 Number of fatalities in that county

30 total tornadoes

Tornadoes by Intensity :

EF0 - 8

EF1 - 9

EF2 - 8

EF3 - 5

Data Analysis - Gail Hartfield

Graphic - Brandon Vincent



MWS Raleigh, NC

[www.weather.gov/raleigh](http://www.weather.gov/raleigh)



# Fact or Myth?

- “Opening the windows in your house before a tornado will reduce damage by balancing the pressure inside and outside the structure.”
- “Bigger tornadoes are more dangerous than smaller tornadoes.”
- “Tornadoes have picked people and items up, carried them some distance and then set them down without injury or damage.”



- “To keep from being sucked into the tornado, I can tie myself to a well pipe, just like they did in the movie *Twister*.”
- “A tornado can drive a straw through a telephone pole.”



Photo courtesy of NOAA Photo Gallery



## Tornado Warning

A thunderstorm capable of producing a **tornado is imminent.**

**Take shelter now!**

Go to a **basement** or **interior room.** **Stay informed** of forecast updates.

**Take action.**



**[weather.gov/safety/thunderstorms](https://weather.gov/safety/thunderstorms)**

## Tornado Watch

**Conditions are favorable** for the development of thunderstorms capable of producing tornadoes.

**Stay informed** in case a warning is issued, and **know where** to take shelter.

**Be prepared.**

# Getting Watches and Warnings

- NOAA Weather Radio
- Local Media
- Internet
- Mobile alerts
  - WEA
  - County alerts
  - TV subscription phone alert
  - Mobile.weather.gov
  - FEMA



# NORTH CAROLINA TORNADOES AT NIGHT



28% OF NORTH CAROLINA TORNADOES OCCUR AT  
OCCUR AT NIGHT BUT ARE ALSO RESPONSIBLE FOR  
FOR 67% OF ALL TORNADO FATALITIES

NORTH CAROLINA IS #1 IN THE UNITED STATES FOR  
NIGHTTIME TORNADO FATALITIES

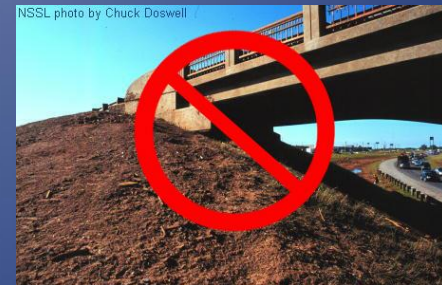


# Tornado Safety Rules

- At home or work, seek shelter in the basement. If there is no basement, go to a windowless interior room on the lowest level (a closet, bathroom, or interior hall). When sheltered, assume a safety position.
- Don't waste time trying to save personal belongings.
- No room is safe in a mobile home. Evacuate to a safe place.
- If outdoors, seek shelter. If there is no time, take cover by lying down flat in a ditch or depression. Stay as low as possible.
- If in your car, do not use an underpass for protection!
- Be aware of flying debris; flying debris causes most deaths and injuries.



Picture courtesy [www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)







<http://www4.ncsu.edu/~nwsfo/storage/cases/20110416/kml/20110416.rah.photos.tracks.kml>

Home destroyed in Sanford NC 4/16/2013; occupant survived in a bathtub.

Spotters should report rotating wall clouds, funnel clouds & tornadoes



NOAA Photo Library



Photo courtesy Rob Sers



*“If it doesn’t spin,  
don’t report it in.”*

Funnel cloud

National Weather Service Forecast Office, San Antonio, TX NOAA Central Library



NOAA Photo Library



# Don't be fooled by tornado look-a-likes!

© 2000 Tim Marshall



Photo from [http://www.erh.noaa.gov/rnk/SKYWARNonline\\_files/images/image144.png](http://www.erh.noaa.gov/rnk/SKYWARNonline_files/images/image144.png)



**Rain Shaft**

Photo from NSSL Photo Gallery; <http://www.erh.noaa.gov/iln/spotters/guide/>



NSSL photo

# Spotter Reporting Procedures

Briefly report:

**What:** The event observed

**Where:** Location of the event (lat. & long. or street & cross street, city, county)

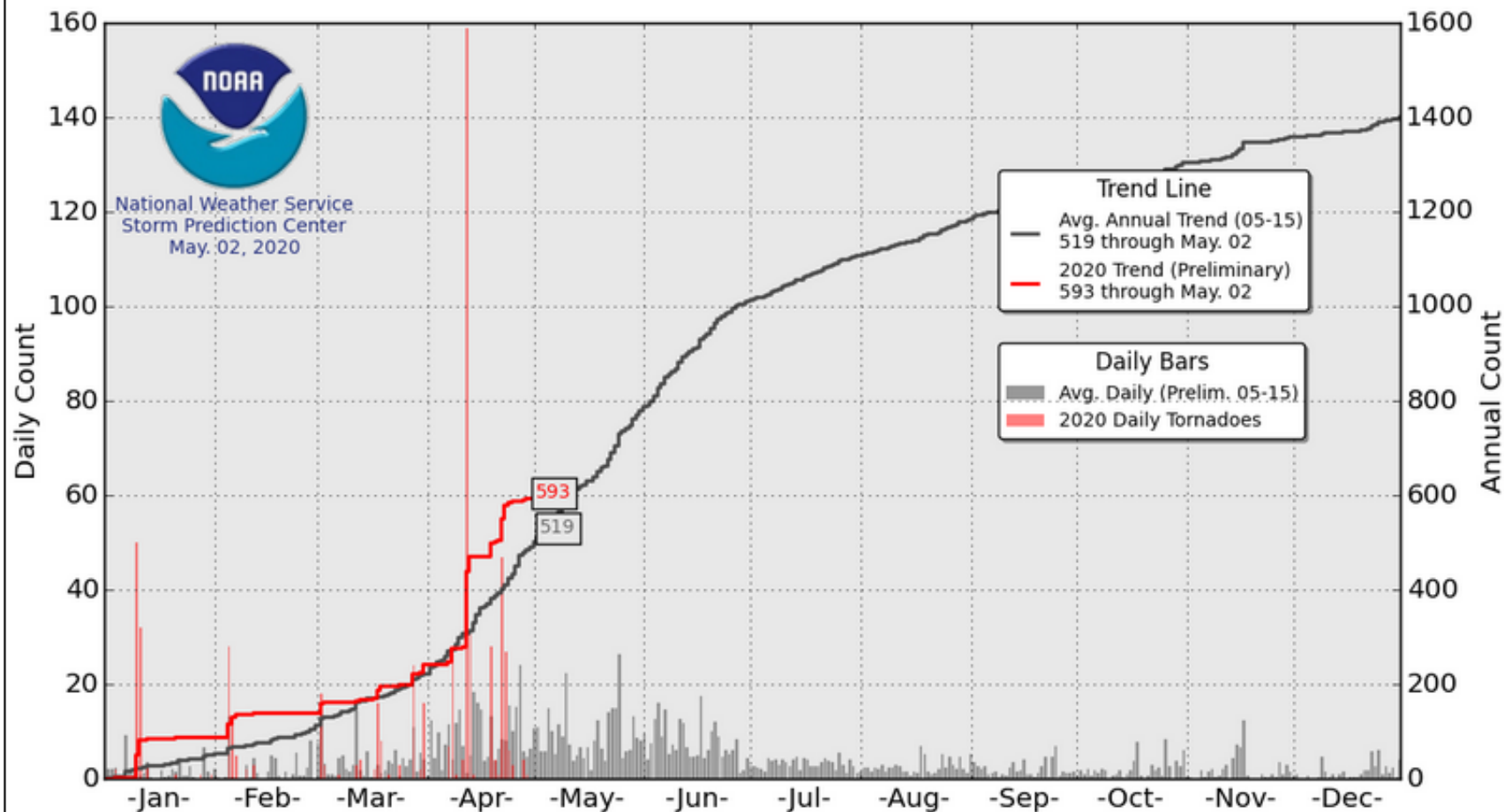
**When:** Time of the event and duration

**Who:** Spotter's name, callsign & contact information





## U.S. Tornadoes: Daily Count and Running Annual Trend\*



\*Preliminary tornadoes from NWS Local Storm Reports (LSRs)  
Daily and annual averages are based on preliminary LSRs, 2005-2015

# Interesting Websites

[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

[www.tornadoproject.com](http://www.tornadoproject.com)

[www.spc.noaa.gov/faq/tornado/](http://www.spc.noaa.gov/faq/tornado/)

[www.nssl.noaa.gov/education/svrwx101/tornadoes/](http://www.nssl.noaa.gov/education/svrwx101/tornadoes/)

