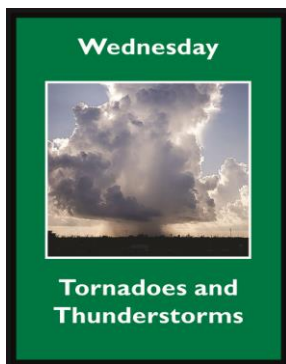




Florida's Severe Weather Awareness Week takes place from January 14-18, 2019. Severe Weather Awareness Week is an opportunity for Floridians to learn about the various weather hazards that frequently impact the state and how families and businesses can prepare for these natural events.



Each day focuses on a specific weather event. **Wednesday's focus is on thunderstorms and tornadoes.**

Thunderstorms occur frequently across Florida. In fact, Florida has the greatest number of thunderstorms in the United States. Florida averages over 70 thunderstorm days per year with much of the Gulf coast experiencing over 80 and even 100 days a year. Hazards within thunderstorms include lightning, hail, gusty winds, heavy rain that may cause flooding, and tornadoes.

One of the reasons Florida has so many thunderstorms is that many of the ingredients needed to create thunderstorms can be found here almost every day.

Three things are needed in the atmosphere for thunderstorms to develop and grow: the atmosphere needs to be moist, unstable, and have a source of lift. Since Florida is surrounded by water, not to mention the many inland lakes, rivers and swamps, there are plenty of sources of water vapor to feed thunderstorms.

When the weather conditions are right for thunderstorms to form, meteorologists call the atmosphere "unstable". Florida receives plenty of sunlight, which warms the air near the ground and causes the air to become unstable. All thunderstorms have an updraft, where air rises rapidly to seven to 10 miles above the ground. This causes the moisture to turn into liquid water or ice and that forms clouds and raindrops and forms the tall, towering clouds that we can easily distinguish as "thunderstorm clouds." However, these clouds cannot grow on their own. In order for an unstable atmosphere to produce the updrafts needed for strong thunderstorms, a little boost is needed to get the updraft started. Meteorologists call these boosts "lift". Sources of lift can be an approaching frontal system or a sea breeze boundary forming during a typical summer afternoon, and Florida has plenty of both during the year.



Thunderstorms come in different forms. Sometimes a storm has only one thunderstorm cloud and sometimes thunderstorms have a family of clouds, or cells, associated with them. Also, thunderstorms may go on for a very long time or be as brief as a few minutes.

Your local National Weather Service office has meteorologists and technicians working every hour of the day and every day of the year to issue warnings when thunderstorms become severe and these warnings give people time to move to a place of safety.

The Storm Prediction Center will issue **Convective Outlooks** depicting severe thunderstorm/tornado risk for each day and will also issue **Severe Thunderstorm or Tornado Watches** if conditions will soon be favorable for severe weather and warnings may be issued by the local National Weather Service office over the next 2-8 hours.

A Severe Thunderstorm Warning will be issued by the National Weather Service when a thunderstorm detected by radar is producing or capable of producing straight-line winds in excess of 58 mph (enough to down trees or large limbs, move unsecured outdoor objects, rip screens) and/or hail larger than 1" in diameter (size of a U.S. Quarter). Severe thunderstorms can also produce tornadoes with little or no advance warning. Lightning frequency is not a criteria for issuing a severe thunderstorm warning. They are usually issued for a duration of one hour and can be issued without a Severe Thunderstorm Watch being already in effect.

<p>WARNING</p> <p>A warning is issued when a hazardous weather or hydrologic event is occurring, imminent or likely. A warning means weather conditions pose a threat to life or property. People in the path of the storm need to take protective action.</p>
<p>WATCH</p> <p>A watch is used when the risk of a hazardous weather or hydrologic event has increased significantly, but its occurrence, location or timing is still uncertain. A watch means that hazardous weather is possible. People should have a plan of action in case a storm threatens and they should listen for later information and possible warnings especially when planning travel or outdoor activities.</p>
<p>ADVISORY</p> <p>An advisory is issued when a hazardous weather or hydrologic event is occurring, imminent or likely. Advisories are for less serious conditions than warnings, that cause significant inconvenience and if caution is not exercised, could lead to situations that may threaten life or property.</p>
<p>OUTLOOK</p> <p>An outlook is issued when a hazardous weather or hydrologic event is possible in the next week. Outlooks are intended to raise awareness of the potential for significant weather that could lead to situations that may threaten life or property.</p>

Understanding Severe Thunderstorm Risk Categories

THUNDERSTORMS (no label)	1 - MARGINAL (MRGL)	2 - SLIGHT (SLGT)	3 - ENHANCED (ENH)	4 - MODERATE (MDT)	5 - HIGH (HIGH)
No severe* thunderstorms expected	Isolated severe thunderstorms possible	Scattered severe storms possible	Numerous severe storms possible	Widespread severe storms likely	Widespread severe storms expected
Lightning/flooding threats exist with <u>all</u> thunderstorms	Limited in duration and/or coverage and/or intensity	Short-lived and/or not widespread, isolated intense storms possible	More persistent and/or widespread, a few intense	Long-lived, widespread and intense	Long-lived, very widespread and particularly intense
					

* NWS defines a severe thunderstorm as measured wind gusts to at least 58 mph, and/or hail to at least one inch in diameter, and/or a tornado. All thunderstorm categories imply lightning and the potential for flooding. Categories are also tied to the probability of a severe weather event within 25 miles of your location.

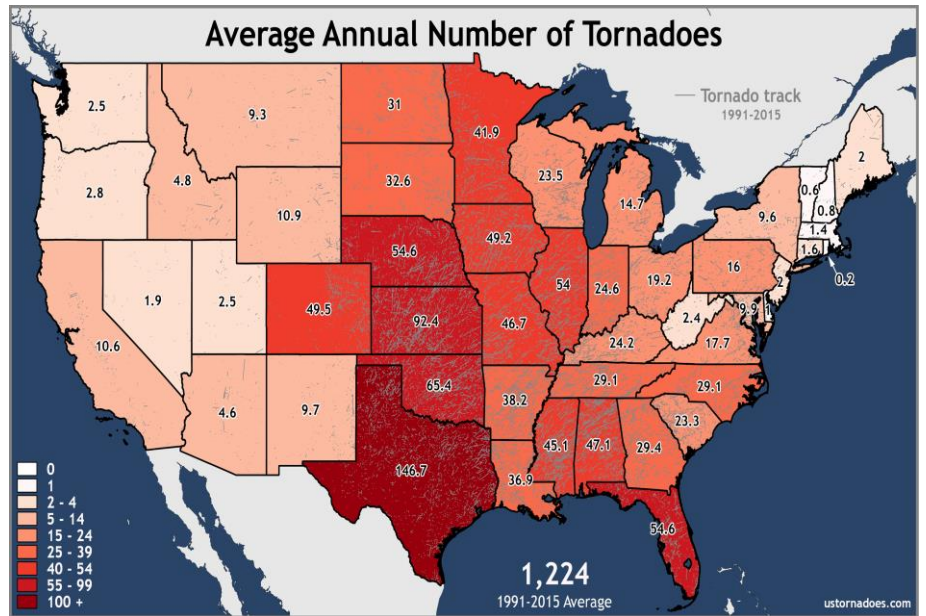


National Weather Service
www.spc.noaa.gov



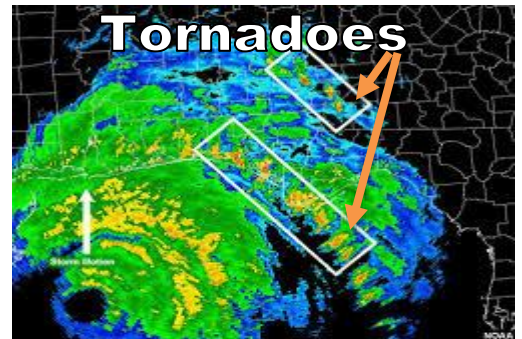
When severe thunderstorms threaten your location, go to an interior room on the lowest floor of your building and stay away from windows. If time permits, move vehicles into garages to prevent hail or wind damage. In vehicles, avoid driving into severe storms; pull over and wait for the storm to pass.

One of the most dangerous features a severe thunderstorm can produce is a tornado. Tornadoes are not usually associated with the “Sunshine State”, but **Florida ranks 4th nationally in the annual average number of tornadoes** (trailing Texas, Oklahoma and Kansas, and tied with Nebraska) and ties for 6th in tornado fatalities with an annual average of 4 fatalities per year. When taking into account the annual number of tornadoes per square mile, Florida ranks 2nd behind Kansas.



A tornado is a violent column of rotating air that comes down from a thunderstorm to reach the ground. Florida tornadoes come in all shapes and sizes and occur year-round. Tornadoes usually last less than 15 minutes, but they can cause significant damage as they travel along the ground. Some tornadoes can travel for many dozens of miles while other tornadoes may appear to skip above the ground for a few moments. If a funnel cloud is not touching the ground, it is NOT a tornado.

Tornadoes can develop within very strong thunderstorms along sea breeze boundaries or squall lines ahead of frontal systems, but can also occur near the edge of tropical cyclones in rainbands which can extend 100 or more miles from the center of the tropical system. Tornadoes can also form over the water, which are called waterspouts. Boaters and those on the beach need to quickly move away from them as they can easily flip over a vessel. If these move onshore, they are classified as tornadoes.



DID YOU KNOW??? The Florida Keys are widely referred to as the “waterspout capital of the world”. It is estimated that more than 400 waterspouts occur each year along the Florida Keys alone, with hundreds also reported along other areas of the Florida coast.

Frontal system tornadoes usually occur in the winter and spring months, developing along squall lines preceding cold fronts. These storms often include high amounts of wind shear, and thus tend to be the most damaging. Sea breeze boundary tornadoes are the most common, occurring during the late spring and summer. Hurricane season also brings a distinct risk of tornadoes to the Sunshine State, as nearly every tropical cyclone can produce tornadoes as it impacts our state. Also, history shows that tornadoes are just as likely to form after midnight as they do during the afternoon and early evening. This is why it is important to be prepared as we enter into the more active severe weather months of the year.

DID YOU KNOW??? A vast majority of the tornado-related deaths in Florida since 1950 occurred between 9:00 pm and 8:00 am, with February, March and April being the deadliest months.



The relatively small and short-lived nature of most tornadoes makes it difficult to give advance warning, but The National Weather Service uses tools and volunteers to watch for severe weather. The National Weather Service will issue a Tornado Warning when a tornado is either seen by a severe weather spotter or indicated by Doppler radar. While the average “lead time (the time between when a warning is issued and the eventual tornado touchdown)” is 10-15 minutes, in some cases, it may only be a few minutes. Nevertheless, even a few minutes of warning can make the difference between life and death. This is why having a NOAA Weather

Radio or weather alerting application on your smartphone is a critical component to the warning system as the radio or app will automatically alert you whenever the National Weather Service issues a warning. Having an alert of an oncoming tornado, especially in the middle of the night, has saved lives.

DID YOU KNOW??? Meteorologists first look at the tornado damage and then estimate the wind speed that would have been needed to cause the damage. National Weather Service meteorologists use the Enhanced Fujita Scale, or EF Scale, to rate the strength of tornadoes based on the damages a storm produces.


If a tornado struck tomorrow would you be prepared? Would you know what actions to take? In Florida, tornadoes strike all too often. Whether in homes, schools or businesses, everyone should have a plan in place for severe weather.

The National Weather Service and the Florida Division of Emergency Management will conduct a statewide tornado drill today at 10:00 am EST/9:00 am CST. Floridians are asked to consider themselves under a tornado watch during the morning. At 10:00am EST/9:00am CST, the National Weather Service will issue a “Routine Weekly Test” message instructing persons to enact their local tornado sheltering procedures. The drill will conclude around 10:30 am EST.

When a TORNADO WARNING is Issued

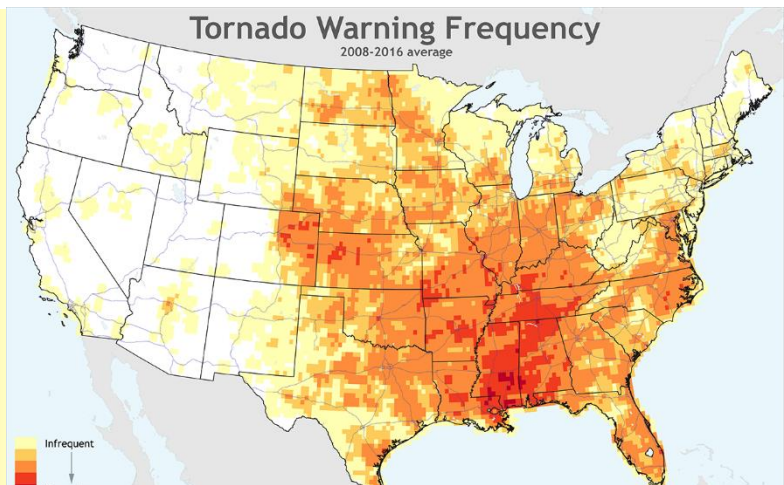
“Get In, Get Down, Cover Up”

- 1. Get In**
Get into a sturdy building and put as many walls between you and the outside as possible.
- 2. Get Down**
Get as low in the building as possible – the basement or the lowest floor.
- 3. Cover Up**
Flying and falling debris are a storm’s number one killer. Use pillows, blankets, helmets, etc. to cover up and protect yourself.



Tornado Warning Frequency

2008-2016 average



Infrequent
Several per year

@ustornadoes | Data: IEM

If a Tornado Warning is issued for your area, seek shelter immediately! Seek shelter on the lowest floor in an interior hallway, closet or small room of your home or office. The best safety advice is to get as many walls between you and the outside as possible. Stay away from windows and doors and use pillows to cover your head. Leave mobile homes and find a stronger building or house. If caught outdoors, your options are not ideal, but you can still take action to survive. When outside, try to seek

shelter in a nearby structure. If this is not possible, try to get as low as possible, such as a creek bed or ditch, and cover your head. Do not seek shelter under bridges or overpasses and do not try to outrun a tornado.



MYTH: Bathrooms provide the best protection, i.e. “get in the tub”.

FACT: If your bathroom is located on an exterior wall, it is not the safest location. Choose an interior bathroom, closet, or hallway.

More information about thunderstorm and tornado hazards and what you can do to protect yourself and others can be found at www.weather.gov/safety/thunderstorm, www.weather.gov/safety/tornado, www.spc.noaa.gov/faq/tornado/ and www.FloridaDisaster.org.

Thursday’s topics will be on hurricanes and flooding.