



Florida's Severe Weather Awareness Week takes place from February 5-9, 2024. 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 to 105 days a year. Thunderstorms come in different forms. Sometimes a storm has only one thunderstorm cloud and sometimes thunderstorms have a group 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.

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, especially during the summer months. 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 (moisture) 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 7 to 10 miles above the ground. This causes the moisture to turn into liquid water or ice, forming raindrops and 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.



Thunderstorm Threats

- **Straight-Line Winds:** Can exceed 100 mph, and could produce structural damage as significant as a tornado
- **Hail:** Causes an average of \$1 billion in damages every year across the U.S.
- **Lightning:** Deadly and causes hundreds of millions in property damage each year nationwide
- **Heavy Rain:** Leads to flooding and threats to life and property
- **Tornadoes:** Typically, last less than 15 minutes, but winds in excess of 90 mph cause millions in damage

Your local National Weather Service office has meteorologists 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.

WARNING

A warning is issued when a hazardous weather 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 immediate protective action**.

WATCH

A watch is used when the **risk of hazardous weather has increased**, but its occurrence, location or timing is still uncertain. A watch means that hazardous weather is possible. People should **have a plan of action** as storms could pose a threat to life and property.

ADVISORY

An advisory is issued when a hazardous weather event is **occurring, imminent, or likely**. Advisories are for less serious conditions than warnings, that cause significant inconvenience, and **caution should be exercised**.







OUTLOOK

An outlook is issued when a hazardous weather event is **possible** in the next 7 days. Outlooks are intended to **raise awareness** of the potential for significant weather that could lead to situations that may threaten life or property; **prepare a plan of action**.

The Storm Prediction Center (SPC) based in Norman, Oklahoma, will issue [Convective Outlooks](#) depicting the severe thunderstorm/tornado risk for each day and will issue [Severe Thunderstorm or Tornado Watches](#) if conditions will soon be favorable for severe weather. Once thunderstorms develop, warnings may be issued by the local National Weather Service office.

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 (strong enough to down trees or large limbs, move unsecured outdoor objects, rip screens) and/or hail larger than 1" in diameter (quarter-size or greater). Severe thunderstorms can also produce tornadoes with little or no advance warning. Lightning frequency is not a criterion for issuing a severe thunderstorm warning. Warnings are usually issued for a duration of thirty minutes to one hour and can be issued without a Severe Thunderstorm Watch being already in effect.

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 all 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



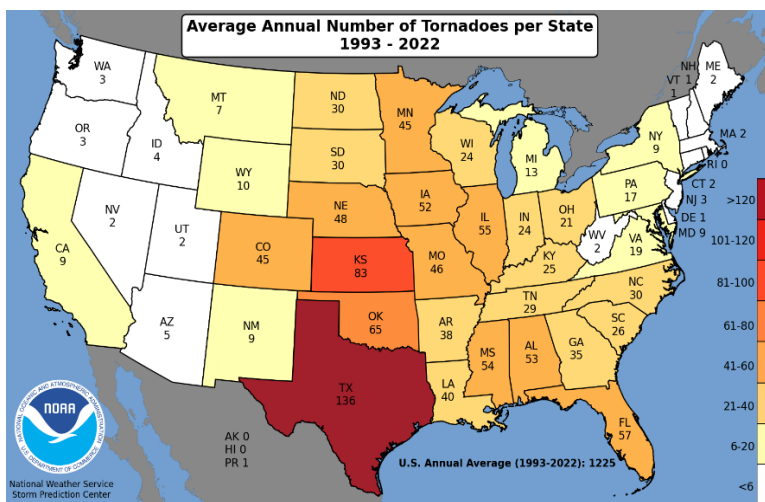
When severe thunderstorms threaten your location, go to an interior room on the lowest floor of your building and stay away from windows. If time permits, move vehicles into garages to prevent hail or wind damage. In vehicles, avoid driving into severe storms; pull over and wait for the storm to pass.

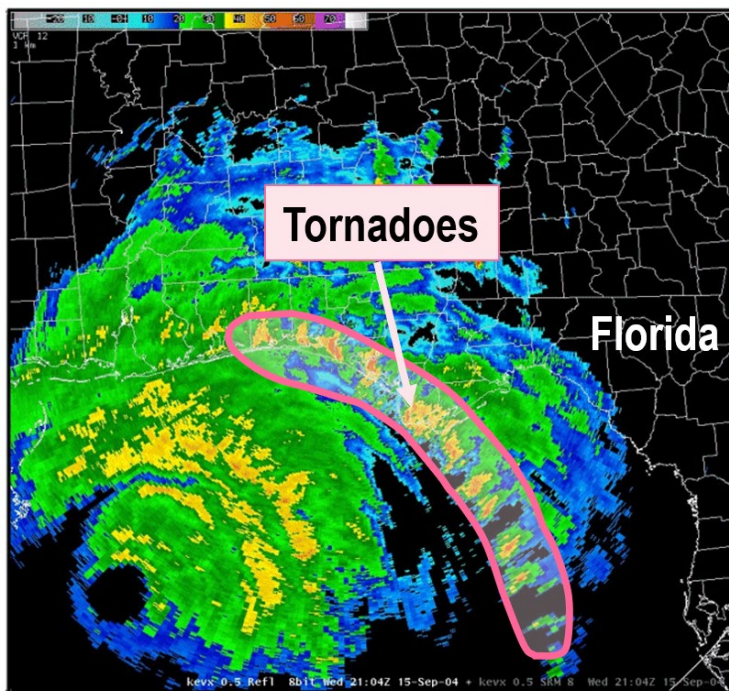
One of the most dangerous features a severe thunderstorm can produce is a tornado. Tornadoes are not usually associated with the “Sunshine State”, but Florida ranks **4th nationally in the annual average number of tornadoes** (from 1993-2022) and 6th in tornado fatalities with an annual average of 3 fatalities per year.

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.

Tornadoes can develop within very strong thunderstorms along sea breeze boundaries in the summer 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.





Hurricane Ivan
September 2004



History shows that tornadoes are just as likely to form after midnight as they do during the afternoon and early evening in Florida. This is why it is important to be prepared as we enter into the more active severe weather months of the year and always have a way to receive weather watches and warning while you sleep.

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 10-20 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.

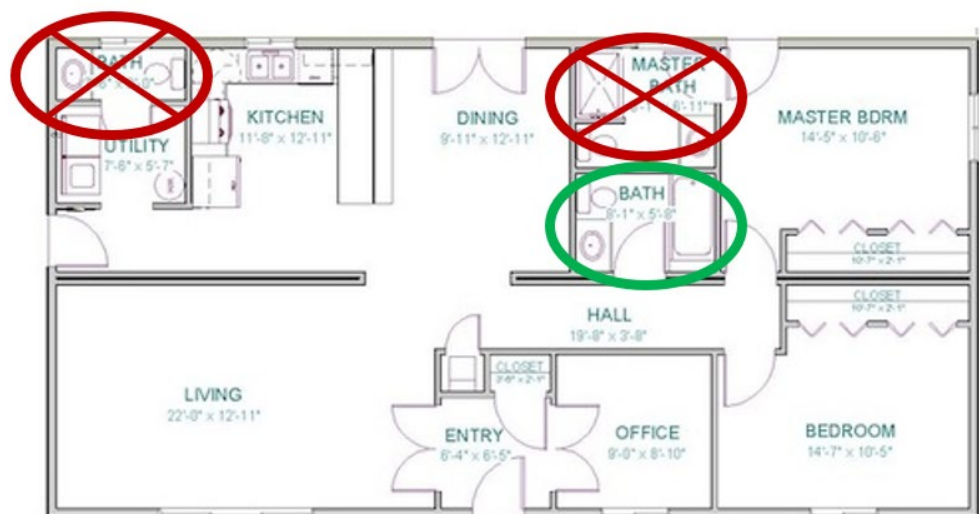
DID YOU KNOW??? Meteorologists first look at the tornado damage and then estimate the wind speed that would have been needed to cause the damage. National Weather Service meteorologists use the Enhanced Fujita Scale, or EF Scale, to rate the strength of tornadoes based on the damages a storm produces.

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 Wednesday (February 7, 2024) at 10:00 am EST/9:00 am CST.

1. Floridians are asked to consider themselves under a Tornado Watch during the morning.
2. At 10:00 am EST/9:00 am CST, the National Weather Service will issue a "Routine Weekly Test" message instructing persons to enact their local tornado sheltering procedures.
3. The Tornado Drill will conclude around 10:30 am EST.

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/, <https://floridadisaster.org/hazards/tornadoes/>, and <https://floridadisaster.org/hazards/thunderstorms/>.

Thursday's topics will be Hurricanes and Flooding.

Be Prepared. Be StormReady.

