

STETSON UNIVERSITY

SEVERE WEATHER GUIDE

stetson.edu/public-safety

SEVERE WEATHER AWARENESS AND PREPAREDNESS

This Severe Weather Awareness handout includes information on environmental hazards known to occur in Florida and serves as an introductory guide on how to prepare for them. In addition, we recommend installing a weather application onto a mobile device and or computers, to receive the latest updates and specific information during the times that a severe weather event is forecasted or occurring. When inclement weather events are expected to potentially affect the area of the university, Stetson will also provide information to the campus community through our website.



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Gulfport Law School

1401 61st St S.
Gulfport, FL 33707
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Tampa Law Center

1700 N. Tampa St.
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THUNDERSTORMS

Thunderstorms are a common occurrence throughout the entire year in Florida with increased frequency during the summer months (May-June-July-August- September).

Florida experiences more thunderstorms than other states due to the following factors:

- (1) Florida is located close to large bodies of water that provide moisture.
- (2) Florida receives plenty of sunlight, which warms the air near the ground.
- (3) Sea breeze boundaries can move onshore and provide a source of lift for the thunderstorms.

Thunderstorms can produce additional dangerous hazards such as lightning, tornadoes, hail, strong winds and heavy rain that can lead to flooding. A thunderstorm is considered “severe” when it either it’s accompanied by winds with speeds that exceed 58 mph, causes hail that is one inch across or larger (the size of a U.S. quarter), or if it produces a tornado.

Stetson University’s three campuses are located within the area known as the Interstate 4 corridor (ranging from Tampa to Daytona Beaches) which is known for being one of the most prevalent areas for lightning in the State of Florida.

THE 30-30 RULE

When thunder roars, first go indoors! Then use the 30-30 Rule to determine the threat of lightning in your area before going out again.

- **30 Seconds** - Count the seconds between seeing lightning and hearing thunder. If the time is less than 30 seconds, lightning is still a potential threat. Seek shelter immediately.
- **30 Minutes** - After hearing the last thunder, wait 30 minutes before leaving shelter. Many lightning deaths occur after the storm passes. Stay in a safe area until you are sure the threat has passed.



LIGHTNING

With an average of 1.4 million cloud-to-ground lightning strikes each year, no other state in the country has more lightning than Florida. Because thunderstorm activity peaks in the summer, Florida often has the greatest number of fatalities and injuries from lightning each year in the United States.

THUNDER IS A PRODUCT OF LIGHTNING

As lightning moves between the ground and thunderstorm, the air around the flash heats rapidly, to temperatures as high as 50,000 °F – hotter than the surface of the sun. This sudden heating creates expansion of the air around the lightning bolt, breaking the sound barrier and resulting in the explosive sound we know as thunder. Because sound travels much slower than light, thunder is heard after a flash of lightning.

LIGHTNING SAFETY

As a storm approaches, many people may assume lightning is too far away to pose any danger, but it can travel as far as 10 miles from a thunderstorm. If you are close enough to the storm to hear thunder, then you are close enough to be struck by lightning.

A darkening cloud is often the first sign that lightning may strike. As soon as you see lightning or hear thunder, move indoors quickly and stay away from windows, plumbing and electrical devices. If you are caught outside when lightning occurs, the most dangerous place to be is an open area. When a substantial building is not available and lightning is imminent, get into a hard-topped vehicle, but remember to keep your hands and feet away from the side of the car, as well as the dashboard, steering wheel, and windows.

Outdoor water activities such as swimming, boating, and fishing are also very dangerous during lightning. Be sure to head back to land as soon as bad weather threatens.

Most people struck by lightning are not killed but suffer significant injuries. Remember that a lightning victim does not continue to carry an electrical charge and should begin receiving emergency medical care immediately.

TORNADOES



Tornadoes develop within very strong thunderstorms when rising air currents in a storm begin to rotate. If the rotation is strong enough and can last for a long enough period of time, a funnel cloud can drop from the clouds and touch the ground. Some thunderstorms may produce several tornadoes. Tornadoes also can occur near the edge of tropical cyclones, in squalls called rain bands. These tornadoes often occur more than 100 miles from the center of the tropical cyclone.

Tornadoes usually last only a few minutes, but often cause severe damage. The damage area of a tornado is usually narrow, but in its direct path winds can be as strong as 200 mph.

FLORIDA TORNADOES

Most Florida tornadoes occur in the afternoon and early evening hours during the summer months of June, July, and August. These tornadoes tend to be weaker in strength but can still produce damage.

Stronger and more devastating tornadoes can occur in Florida mainly in the late winter and spring when strong cold fronts move through the state and provide the necessary conditions for tornadoes to form. Throughout the years, there have been recorded instances of tornadoes occurring in Florida at some time in each individual month, even on Christmas Day (*December 2006, Daytona Beach*).

Tornadoes can also strike at any time of day. Most of Florida's tornado-related deaths occur during overnight hours. Since 1950, only three states – Texas, Kansas and Oklahoma – have reported more tornadoes than Florida. Florida also ranks fourth in damage caused by tornadoes.

National WeatherService (NWS) meteorologists use Doppler radar to track thunderstorm development, severity, and movement. A “Severe Thunderstorm Warning” is issued when a thunderstorm in the area can cause damage to property and is a threat to life. The Doppler radar is also able to identify the rotation inside a thunderstorm, which could be the beginning of a tornado.

However, an actual tornado is typically too small for the Doppler radar to detect. Therefore, meteorologists depend on volunteer storm spotters who report funnel clouds, tornadoes, and other severe weather to the National Weather Service.

The National Weather Service will issue a Tornado Warning when a tornado has been either seen by a weather spotter or when Doppler radar indicates strong rotation inside a thunderstorm.

THUNDERSTORM AND TORNADO SAFETY ACTIONS

If a Severe Thunderstorm Warning or Tornado Warning is issued for your area, seek shelter immediately! Find shelter in a small, interior room on the lowest floor of your building and stay away from windows, doors, and electrical equipment. Avoid rooms that are near tall structures like trees and power lines. In the classroom, seek shelter in a hallway or closet, or get underneath a desk or table and cover your head with your arms. If caught outdoors or on the road try to get as low as possible, such as in a creek bed or ditch and cover your head.



Stetson will alert faculty, staff and students if a tornado watch or warning is issued. Outdoor extracurricular activities may possibly be curtailed.





HURRICANES

Hurricanes are perhaps the most distinctive severe weather hazard we face in Florida. During a typical year, several tropical storms and hurricanes will develop and move across the Atlantic Ocean, Gulf of Mexico, and Caribbean Sea. It takes only one of these storms to produce widespread impacts across a large area, and even storms that do not make landfall in Florida can bring hazards to the state. The Atlantic hurricane season officially begins on June 1 and continues through November 30. Although the number of tropical storms and hurricanes typically peaks during August and September, it is important to remember that Florida can be impacted by tropical weather systems at any time during the six-month-long season, and sometimes outside of the official season.

Recent hurricane seasons remind us that impacts can occur well away from the tropical cyclone center in the form of dangerous surf and rip currents. Tropical cyclones that move close to Florida will bring more direct impacts in the form of storm surge and coastal flooding, tornadoes, and freshwater flooding from heavy rain.

The strongest hurricanes can have winds in excess of 155 miles per hour. Though a hurricane's winds typically weaken rapidly following landfall, Florida's flat terrain allows the stronger winds to survive longer inland than in other parts of the country.

Freshwater flooding from torrential rains can produce a lot of damage, regardless of its intensity. Also, freshwater flooding may occur hundreds of miles away from the cyclone center, meaning that storms which do not make landfall in the state may still bring significant rainfall. All Florida residents and seasonal visitors should determine if they live within a low-lying area at risk of flooding, regardless of their location in the state.

Storm surge is the term used to describe the wall of water that is pushed toward the coast as a hurricane moves onshore. A major hurricane can produce a surge of 10 feet or more above the normal levels. This amount of water can easily flood coastal communities. Worldwide, approximately 90 percent of all deaths in hurricanes are caused by drowning in either storm surge or rainfall flooding.

Tornadoes associated with tropical systems can develop suddenly and strike a community even though the center of the hurricane may be more than 100 miles away.

PREPARING FOR A HURRICANE

All Florida residents and visitors should prepare each year for the possibility of tropical storms or hurricane impacts, understand the potential hazards posed by them, and have a plan.

WHAT SHOULD YOU DO NOW TO BE READY?

- Prior to hurricane season, secure a method of monitoring the weather through a weather application or a NOAA weather radio.
- Prepare yourself by building a disaster supply kit if you live off campus in a home or apartment or a “Go Kit” if you will have to evacuate to a shelter or try to make it back home should a campus need to be evacuated.
- Stetson University will advise you on whether it will be safe to ride out the storm or leave if the campus must evacuate. Plan on what you will do in each eventuality and share your plan with family and friends.
- Monitor the Stetson website for Public Safety messages and follow faculty and staff instructions sent to you in your email.
- Let us know where you are going. Residential Living & Learning will have an evacuation destination form live anytime there is an evacuation.

GO KIT

- Medications
- Pillow, blanket, air mattress, and/or cot
- Special dietary needs
- Passports and other hard to replace documents
- Cash
- Identification
- Clothing for five to seven days, socks, sturdy shoes
- Personal hygiene items
- Bottled water, snacks and nutritious food
- Quiet games, reading material, headphones and batteries
- Lightweight folding chair
- Flashlight and extra batteries
- Keys to your car and residence/residence hall room
- Power cell/bank for your cellphone

To avoid a major expense as a storm approaches, you can begin early construction of your kit by buying a few items each time you go to the store. Sales tax exempt days are annually held for the purchase of hurricane supplies.



DISASTER SUPPLY KIT CHECKLIST

Let us know where you are going. Residential Living & Learning will have an evacuation destination form live anytime there is an evacuation.

- ❑ **Water** – at least one gallon daily per person for three to seven days
- ❑ **Food** – enough for at least three to seven days; non-perishable packaged or canned food and beverages, snack foods, juices, foods for infants or those with strict diets
- ❑ **Non-electric can opener, paper plates, plastic utensils, plastic cups**
- ❑ **Grill, cooking tools, fuel, charcoal.**
- ❑ **Blankets, pillows, sleeping bags, etc.**
- ❑ **Clothing** – seasonal/rain gear/sturdy shoes or boots
- ❑ **First Aid Kit, prescriptions, medications, sunscreen, aloe, bug spray**
- ❑ **Special items for babies, elders, persons with disabilities**
- ❑ **Toiletries** – hygiene items and sanitation wipes
- ❑ **Flashlights and batteries** – do not use candles.
- ❑ **Extra house and car keys, office keys and name badges**
- ❑ **Cash** – ATMs may not be available after a storm.
- ❑ **Radio** – battery operated or hand-cranked radio, NOAA weather radio.
- ❑ **Important documents in a waterproof container** – include insurance cards, medical records, bank account numbers, credit card numbers, Social Security cards, birth and marriage certificates, etc.
- ❑ **Document all valuables.**
- ❑ **Tools** – keep a set with you during the storm.
- ❑ **Vehicle** – keep your motor vehicle fuel tanks filled.
- ❑ **Pet care items** – pet food and water, proper identification, medical records, a carrier or cage, muzzle and leash, medications
- ❑ **List of important telephone numbers** – include your county emergency management office, evacuation sites, doctors, bank, area schools, veterinarian, etc.

WHAT WILL LIKELY HAPPEN?

Generally, areas to be evacuated for hurricanes are in storm surge zones located close to the coast, low-lying or flood prone areas and non-standard buildings such as manufactured homes or recreational vehicles (RVs).

When a tropical storm or hurricane threatens any of Stetson's campuses, the university will follow its comprehensive Emergency Management Plan. This plan provides for protection of the university's population, assets, and recovery operations. The policy group will have important decisions to make including class cancellations, building protections and in a worst-case scenario, campus-wide evacuations. You will be informed of what you should do.

Hurricanes and tropical storms will not always do what tracking models predict and in fact can easily deviate from projected paths. Predicted landfall locations begin to be more accurate at 72 hours out, increase substantially at 48 hours out and are accurate to within 70 miles at the 24-hour out location. During this watch and prepare period, essential leadership (Facilities Management, Public Safety, and the Emergency Management Team) will prepare the campus and advise students of the university's planned actions.

WHAT ABOUT MY ROOM ON CAMPUS?

- Find out what your family homeowner's insurance policy covers in your room on campus. Check out renters' insurance if you are interested. In any event, photograph your belongings and/or inventory your property in case you need to make an insurance claim for any reason later.
- Close and lock all windows. Unplug electrical devices and lift them off the floor. Empty refrigerators.
- Prepare for transporting your pets away from campus and have their paperwork with you.
- Have your Go Kit ready.



WHAT ABOUT MY VEHICLE?

- Before the 72-hour mark, fill your gas tank and prepare to travel if necessary.
- Review your auto insurance policy so you will know what storm coverage you have in case of damage.
- Make sure your Stetson parking decal is current and visible in case we may need to contact you about your vehicle.



WHAT IF I'M TOLD TO EVACUATE?

- Consider staying with friends or family or if necessary, in a hotel outside of the evacuation zone.
- Consider public shelters as a last resort. They are usually a public school and have cramped or limited space.
- Students, faculty and staff should plan two evacuation locations: (1) in county, preferably close to campus and, (2) home or other location outside the storm's path.
- Each Florida county announces current shelter lists before hurricane season. Consult the Stetson University website (Stetson.edu) under Public Safety for more information.
- Have your Go Kit ready.

AFTER THE STORM, THEN WHAT?

- Faculty and staff members who evacuated the campus should report back to work as soon as it is safe to leave their homes and re-entry to the area is permitted by local government.
- Make sure you have your valid Stetson ID card to assist with re-entry to the campus and your residence hall.
- Students will not be allowed to return until power, water and sewage systems are operational and debris removal for access is completed.
- Buildings will be checked for serviceability and use. Any closures will be posted.
- Upon returning to campus, services may be limited. Stetson University will open its facilities as soon as they are inspected and operational.

OTHER HURRICANE PRODUCED HAZARDS

Many people associate extreme wind and storm surge with hurricanes, but these tropical systems can also produce a variety of other hazards that can inflict casualties and fatalities.

Tornadoes - Tornadoes commonly occur along the right- front quadrant (relative to the storm's direction and rotation) of a hurricane. Hurricane-produced tornadoes may occur nearly 20 miles from the hurricane eye and may spawn days before and after landfall.

Flooding - While storm surge is always a potential threat, in the last 40 years, more people have died from hurricane-produced flooding. Weak/slow moving hurricanes can produce significant rainfall and cause inland flooding. Water damage increases the likelihood of mold contamination in buildings, which can be a major health concern for some.

Hazardous Materials - Storm surge and battering winds can decimate infrastructure, buildings, and industrial centers, creating a cesspool of toxic hazardous materials. Contaminated water supplies may carry disease and cause severe sickness if ingested. Until authorities ensure potable water systems are safe, only consume bottled water from reliable sources.

Recovery Accidents - Downed power lines, twisted debris, collapsed buildings, and broken glass create an obstacle course of safety hazards. Anxiousness and carelessness are common contributors to hurricane casualties. Adhere to safety precautions and wear protective equipment and clothing.

Animals and Insects - Displaced and disrupted rodents, reptiles, stray domestic pets, and insects are also searching for food/shelter. Standing water can become a breeding ground for mosquitoes, and debris piles are likely to house snakes.



FLOODING



Florida is vulnerable to flooding at any time of the year. Mostly surrounded by water, the abundant supply of moisture feeds the development of thunderstorms, which may produce heavy rains over a short period of time. When heavy rains occur, the ground may not be able to absorb all of the rainwater and flooding may result. Due to the flat ground in portions of the state, floodwaters may sometimes remain in an area for days, weeks or even months.

Not all floods are alike. Some floods develop slowly, taking anywhere from a few hours to a few days to have an impact. On the other hand, flash floods happen quickly, sometimes in a matter of minutes.

Tornadoes associated with tropical systems can develop suddenly and strike a community even though the center of the hurricane may be more than 100 miles away.

FLOODING FACTS

- Six inches of water will reach the bottom of most passenger cars, causing loss of control and possible stalling. Vehicles driven through flooded areas are also prone to malfunctioning later due to having come into contact with water.
- Two feet of rushing water can carry away most vehicles, including sport utility vehicles (SUVs) and pick-ups.
- Urban and small-stream flash floods can occur in under one hour.

Meteorologists at the National Hurricane Center, the Southeast River Forecast Center, and local Florida National Weather Service offices all watch thunderstorms and tropical systems very closely to forecast how much rainfall they may produce and how much flooding may occur. The National Weather Service will issue coastal flood advisories, watches, and warnings similar to inland flood statements.

FLASH FLOOD

Flash floods can occur within a few minutes or hours of heavy rainfall or from a dam or levee failure. These floods can destroy structures, down trees, roll boulders, and create new waterways. Rapidly rising water can reach heights of 30 feet or more! Furthermore, flash flood producing rain can also trigger catastrophic mudslides. You may not always have a warning of these sudden and potentially deadly floods.

URBAN FLOOD

Floods can be magnified in urban areas. As land is converted from fields and woodlands to roads and parking lots, it loses its ability to absorb rainfall. Urbanization increases runoff two to six times over what would occur on natural terrain. During periods of urban flooding, streets can become swift moving rivers, while basements can become death traps as they fill with water.



RIVER FLOOD

Low-lying areas near rivers, streams, lakes, and reservoirs are susceptible to river floods. Some river floods occur seasonally when winter or spring rains fill river basins with too much water too quickly. Other floods can occur from slow-moving low-pressure systems. Torrential rains from decaying hurricanes or tropical systems can also produce river floods.

AREA FLOOD

Area floods are long-lived, though not usually life-threatening. Standing water in low-lying areas, such as an open field, is an example of an area flood. Significant agricultural losses and displaced livestock can occur with these floods. In addition, stagnant water from this type of flooding can serve as a breeding ground for insects and diseases.

EXTREME TEMPERATURES

HOT WEATHER

Florida can experience a wide range of temperatures, from dangerously hot to dangerously cold, and it is important for everyone to stay safe during periods of temperature extremes.

When Florida's high humidity combines with warm temperatures, it may feel hotter outside than it really is. This is called the heat index. High heat index values limit the body's ability to cool through sweating. When the heat index exceeds 105° F, conditions can become dangerous for people and animals. Sunstroke, heat cramps, heat exhaustion and heat stroke are all risks associated with high heat indices. The National Weather Service will issue heat advisories and warnings when the heat index is forecast to reach dangerous levels.

HOT WEATHER SAFETY

Wear lightweight, light-colored clothing to help reflect heat and sunlight, and help your body maintain its normal temperature.

- Drink plenty of water, even if you don't feel thirsty. People can become dehydrated without realizing it. Stay away from highly sugared or carbonated drinks.
- Protect your skin with sunscreen; also wear sunglasses and a hat or carry an umbrella to provide shade.
- Slow down and limit outdoor activities. Avoid outdoor events during the hottest part of the day (11 am–5 pm).
- Remain in air-conditioned places to reduce your exposure to the heat. Check on elders, persons with disabilities, children, and animals during periods of prolonged heat.



> 130°F

**Dangerously
Fatal Heat**



130° - 105°F

**Heat cramps
and exhaustion
are likely**



105° - 90°F

**Heat cramps
and exhaustion
are possible**



90° - 80°F

**Fatigue
is possible**



COLD WEATHER

Cold weather outbreaks occur in Florida at least once a year, caused by strong cold fronts that move through the state and produce below freezing temperatures and strong winds. When strong winds combine with cold temperatures, heat loss from a person's skin can be accelerated. Wind Chill can make the outside temperature feel much colder than it really is. In addition, freezing temperatures can kill crops, plants and even fish. The National Weather Service will issue wind chill advisories/ warnings, along with freeze advisories/warnings, when cold weather threatens an area.

COLD WEATHER SAFETY

When cold weather is in the forecast, it is important to remember the “5 P’s of Cold Weather Safety.”

- **Protect People:** dress in layers and wear a hat and gloves. Stay out of the wind and stay dry. Remember to check on young children and elderly people who are the most sensitive to cold weather.
- **Protect Pets:** Be sure to bring outdoor pets inside or give them a warm shelter.
- **Protect Plants:** Cover cold-sensitive plants to protect them from dangerous temperatures.
- **Protect Pipes:** Cover pipes and allow outdoor faucets to slowly drip to prevent them from freezing and breaking.
- **Practice Fire Safety:** At Stetson University space heaters and open flames are not permitted in any residential building.



WILDFIRES

While wildfires can start at any time of the year, the state sees a peak of activity during the early, colder part of the year – beginning in January and continuing until early to mid-June.

A typical year in Florida will see over 4,600 fires burn nearly 110,000 acres of land. Since 2002, more than two million acres of forest land have been burned by wildfires. While there are natural ways a wildfire can be ignited, most wildfires are started by humans.

The most common causes of human-started fires are arson and yard waste burns that get out of control. Fires can also be caused by discarding a cigarette that has not been fully extinguished. Other causes of wildfires include campfires and bonfires not properly extinguished or windy conditions that may take hot embers from the fire to another location. The stronger the wind and the drier the ground, the faster fires will spread. Fire Weather Watches and Red Flag Warnings are issued by the National Weather Service to alert people to hazardous weather conditions that may add to the wildfire danger.

Wildfires can cause major environmental, social, and economic damages. Prescribed fires are good fires that reduce the hazardous accumulations of brush to lower the risk of loss to homes, businesses, recreation areas and forests when wildfires occur. Prescribed fire also controls forest tree diseases and recycles nutrients in the soil.

Wildfires often begin unnoticed. They spread quickly, igniting grasses, trees, and homes. Reduce your risk by preparing now—before wildfire strikes. Meet with your family to decide what to do and where to go if wildfires threaten your area. Find out how you can promote and practice wildfire safety by going to floridaforestservice.com/wildfire/information.html.

RESOURCES

Much of the information in this handout is generic and provided to Florida residents and visitors by The Florida Division of Emergency Management for their safety. For more specific information we recommend visiting the following pages and downloading the specified mobile apps to have access to updates while on the go.

- The National Hurricane Center - nhc.noaa.gov
 - *Mobile App:* mobile.weather.gov
- Stetson University DeLand Public Safety - stetson.edu/administration/public-safety
 - *Mobile App:* [Stetson Safety App](#)
- Stetson University Gulfport Public Safety - stetson.edu/law/offices/safety
 - *Mobile App:* [Stetson Safety App](#)
- Florida Division of Emergency Management - floridadisaster.org and <https://www.floridadisaster.org/planprepare/disability/personal-and-family-plans/>
- Federal Emergency Management Agency - fema.gov
 - *Mobile App:* [FEMA Mobile App](#)
- Federal Alliance for Safe Homes - flash.org
- Volusia County Office of Emergency Management - volusia.org/services/public-protection/emergency-management/pin
 - *Mobile App:* [Volusia County Emergency Management App](#)
- Hillsborough County Office of Emergency Management - <https://hcfi.gov/residents/public-safety/emergency-management>
- Pinellas County Office of Emergency Management - pinellascounty.org/emergency
 - *Mobile App:* [Ready Pinellas Emergency Planning App](#)

Though our campuses are spread over a large geographic area, we are one Stetson University and your safety is paramount in all we do. We trust that this information will prompt you to be informed and well prepared for the duration of your educational experience with us.

