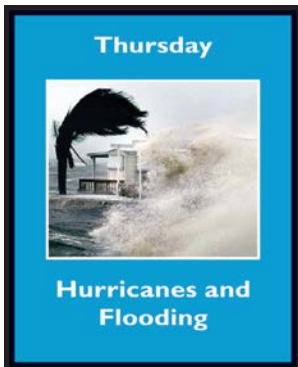




Florida's Severe Weather Awareness Week takes place from January 27-31, 2020. Severe Weather Awareness Week is an opportunity for Floridians to learn about the various weather hazards that frequently impact the state and how families and businesses can prepare for these natural events.



Each day focuses on a specific weather event. **Thursday's focus is on hurricanes and flooding.**

The most feared weather phenomenon throughout Florida during the summer and early fall is the tropical cyclone. Close to the tropics and surrounded on three sides by warm water, the unique location of Florida makes it particularly vulnerable to these systems as they develop across the Atlantic Ocean, Gulf of Mexico, and Caribbean Sea. The relatively flat terrain of Florida can also make it susceptible to flooding.

Florida has a long history of hurricanes. Records indicate that approximately 117 hurricanes and around 160 tropical storms have impacted the state since 1888 (132 years), with many more cited in history books prior to that year and even before official records were kept.

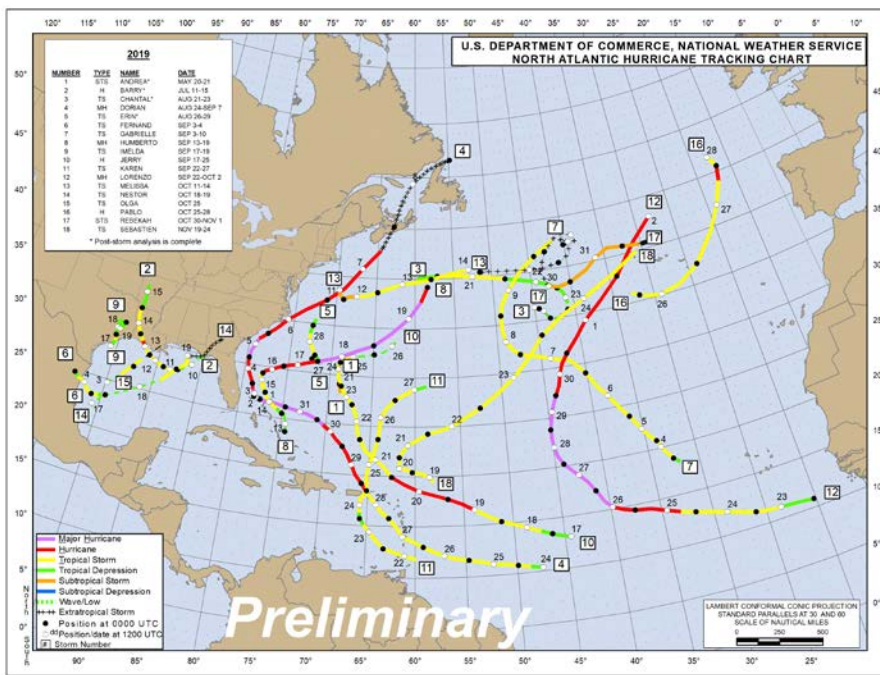
DID YOU KNOW??? No other state in the country has more hurricane landfalls per year on average than Florida does. Nearly 40% of all hurricanes that strike the United States make landfall in Florida.

DID YOU KNOW??? In the last 150 years, all of Florida's counties have been impacted by at least one hurricane.



The North Atlantic Ocean hurricane season officially begins on June 1st and continues through November 30th. However, tropical systems can still form outside of hurricane season as early as May and as late as December. 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 any time during the season. Residents and visitors need to plan ahead and remain ready for possible hurricane impacts.

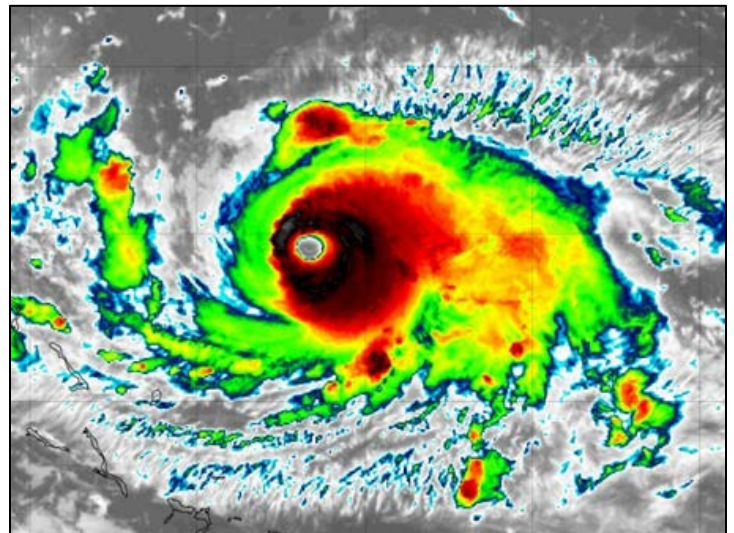
The 2019 hurricane season was the fourth in a consecutive series of above average and damaging Atlantic hurricane seasons, with advisories being issued on 20 systems by the National Hurricane Center. 18 of them became named tropical storms and 6 of those became hurricanes. 3 of the hurricanes reached Major Hurricane strength (Category 3 or higher): Dorian, Humberto, and Lorenzo. While Florida certainly saw impacts from a handful of these systems and received quite the scare from Hurricane Dorian, Florida escaped a hurricane landfall after 3 consecutive years of landfalls (Category 5 Hurricane Michael in October 2018, Category 4 Hurricane Irma in September 2017, and Category 1 Hurricane Hermine in September 2016).



The year started early for the 5th year in a row with Subtropical Storm Andrea forming in the open water of the Atlantic on May 20. June was then quiet for the second year in a row. The season's first hurricane formed in the Gulf of Mexico during mid-July, with Hurricane Barry making landfall in Louisiana as a Category 1 on July 13. The next 5 weeks from late July through much of August were void of any named systems with only short-lived Tropical Depression 3 bringing some rainfall to the Bahamas on July 22.

Tropical activity then ramped up quickly at the end of August and a

very active stretch of named storms would continue until early November. Tropical Storm Chantal was a short-lived system over the open waters of the North Atlantic. As Chantal was dissipating, Dorian was named in the tropical Atlantic as it approached the Lesser Antilles. Dorian was tricky to forecast from the start, with the system turning north and moving east of Puerto Rico and over the Virgin Islands after original forecasts had the system heading towards the Dominican Republic and Puerto Rico. As Dorian moved into the Southwest Atlantic, it began to gradually, and at times rapidly, strengthen. Dorian reached catastrophic Category 5 strength with maximum sustained winds of 185 mph. Dorian then made landfall on Elbow Cay in the Abaco Islands of the Bahamas at peak intensity, making Dorian tied with the Labor Day Hurricane of 1935 as the strongest hurricane to make landfall in the Atlantic. Dorian began to then slow down as it approached Grand Bahama and made another landfall. Dorian then stalled out over Grand Bahama unleashing major hurricane conditions on the island for a full day. Dorian had stalled out east of Florida and was no longer a threat of direct landfall. However, rainfall, storm surge, and major beach erosion occurred along the Florida East Coast as Dorian slowly moved north, paralleling the Florida coast before making landfall over the Outer Banks of North Carolina and then impacting Atlantic Canada.



Tropical Storm Erin was a short-lived system over the western Atlantic late in August. Tropical Storm Fernand formed in the Gulf of Mexico on September 3rd and made landfall a couple of days later in northern Mexico. Tropical Storm Gabrielle was a weak system over the open waters of the eastern Atlantic. Next up was Hurricane Humberto that formed over the Bahamas and brought rainfall and winds to the islands still recovering from Dorian. Luckily, Humberto did not reach Category 3 strength until it was well east of the Bahamas. However, it did pass by Bermuda and brought hurricane-force winds to the small island mid-September. Continuing along, Hurricane Jerry moved north of the Lesser Antilles as a Category 2 hurricane before weakening in the Central Atlantic.

Tropical Storm Imelda developed along the coast of Texas on September 17 and brought flooding rains to the Houston and Southeast Texas area. The system stalled out and was slow to move with more than 40 inches of rain falling in some areas. At the end of September, Tropical Storm Karen formed in the eastern Atlantic but failed to strengthen as it moved north near Puerto Rico and dissipated near Bermuda. The next Major Hurricane to develop was Lorenzo that developed from a tropical wave near Africa on September 23. Lorenzo eventually reached Category 5 intensity making it the easternmost Category 5 on record. Tropical Storm Melissa and Tropical Depression Fifteen were both short-lived systems in the middle of October and were primarily over open waters of the Atlantic.

The next storm to affect Florida was Tropical Storm Nestor on October 18 and 19. Nestor developed in the Bay of Campeche and moved northeast towards the Big Bend of Florida. Even though Nestor weakened and became non-tropical as it approached Florida, strong thunderstorms developed across Central Florida late in the day on the 18th. Three tornadoes hit West-Central Florida including an EF-2 that was on the ground for 9 miles in Polk County damaging 50-100 homes, a middle school, and closed I-4 for several hours.



Tropical Storm Olga formed on the heels of Nestor in the Gulf of Mexico and moved into Louisiana. Hurricane Pablo was a tiny hurricane that developed in the far eastern Atlantic late in October with the month ending with Subtropical Storm Rebekah over the far North Atlantic. The last system of Hurricane Season 2019 was Tropical Storm Sebastien, which was named from November 19-25 and stayed over the open waters of the Central and North Atlantic.

Tropical Storm & Hurricanes
Watches Versus Warnings

WATCH	WARNING
Tropical storm and/or hurricane conditions are POSSIBLE in Watch area	Tropical storm and/or hurricane conditions are EXPECTED in Warning area
Issued up to 48 hours in advance of tropical storm force winds	Issued up to 36 hours in advance of onset of tropical storm force winds

Hurricane preparedness activities become difficult once winds reach tropical storm force. **Watches & Warnings are issued in advance of onset of tropical storm force winds, 39-73mph**

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When a tropical system approaches the state, The National Hurricane Center will issue watches and warnings. **Do you know the difference between a watch and warning?** Watches are issued 48 hours in advance of the time dangerous winds or surge are *possible* within the specified area. Warnings are issued 36 hours prior to the time when damaging winds or storm surge are *expected*. A watch should trigger your family's disaster plan, and protective measures should be initiated. Once a warning has been issued, your family should be in the process of completing protective actions and deciding the safest location to be during the storm.

Your main protection against hurricanes is to be prepared and have a plan. Hurricane force winds can easily destroy poorly constructed buildings and mobile homes. A hurricane plan doesn't have to be anything extremely complicated, but should at least consist of the following two things. **First, determine whether you live in an evacuation zone.** This information can be obtained from your local emergency management office through links at <https://www.floridadisaster.org/knowyourzone/>. If you live in an evacuation zone, know when and where you will be going to pass the storm. **Second, have a disaster supply kit ready** with non-perishable food, batteries for electronic devices such as your NOAA Weather Radio, and enough supplies to last 3 to 5 days. Asses your property to ensure that landscaping and tress do not become a wind hazard.

Know Your Zone



While hurricanes are known and feared for their ferocious winds, historically it is the water that causes most of the deaths in hurricanes. About 90% of all hurricane fatalities occur from drowning in either storm surge or freshwater flooding. The widespread flooding caused by Tropical Storm Fay in 2008 serves as a reminder that tropical storms can cause as much or greater devastation than hurricanes with freshwater flooding.

Even outside of tropical systems, flooding is a serious concern in Florida since it can happen anywhere and at any time. Effects from flooding can be localized, impacting just a few streets in a neighborhood or community, or very large, affecting multiple cities, counties, and even whole states. Flooding is caused by the amount of rainfall and what happens to the rain after it hits the ground.

As our state's population increases, buildings and pavement replace the natural land. This creates more water runoff and can increase flood problems. Most deaths due to flooding in the United States are from people driving their cars into flooded areas. Once a vehicle begins to float, the situation becomes dangerous and often deadly. Residents should be aware of their location with respect to flood-prone areas and know evacuation routes. People are also urged to be extremely cautious when driving in heavy rains, especially when water covers the road. Because it is difficult to determine the depth of water or the condition of the road under the water, if you come to a flooded road, remember the phrase "Turn Around, Don't Drown".



Meteorologists at the National Weather Service watch the weather to try to warn people well in advance of the flooding so they can save lives and property. Flood Watches and Warnings, along with Flash Flood Watches and Warnings, are issued for a specific area when flooding conditions are likely or are already occurring. The National Hurricane Center will also issue [Storm Surge Watches and Warnings](#) for areas of the U.S. that have the potential for damaging storm surge from a tropical cyclone.

National Flood Safety Awareness Week is March 12-16, 2020. National Hurricane Preparedness Week is May 3-9, 2020. More information about hurricanes and flooding and what you can do to protect yourself and others can be found at www.nhc.noaa.gov/prepare, <http://www.nhc.noaa.gov/surge/resources.php>, <https://www.weather.gov/safety/hurricane>, <https://www.weather.gov/safety/flood>, <https://www.floridadisaster.org/hazards/hurricanes/>, and <https://www.floridadisaster.org/hazards/floods/>.

Friday's topic will be on temperature extremes and wildfires.