

## Hurricane Dorian Intensifies to Category 4 Strength

Forecasters expect the storm to arrive somewhere along the east coast of Florida on Tuesday afternoon. But exactly where is still unknown.



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### Here's what you need to know:

- It's uncertain where the storm will make landfall.
- Many Florida cities are girding for a direct hit.
- The search for gas is already getting challenging.
- King tides could make coastal flooding worse.
- President Trump says the forecast is 'not looking good.'



There were long lines at a supermarket in West Palm Beach, Fla., on Friday. Saul Martinez for The New York Times

## It's uncertain where the storm will make landfall.

Forecasters expect Hurricane Dorian to arrive somewhere along the east coast of Florida on Tuesday afternoon. But exactly where is still a mystery, with some prediction models suggesting a direct blow to Central Florida and others projecting the storm to veer north or south.

"It all depends on this dance of the pressure systems around the storm," said Hugh Willoughby, a meteorologist at Florida International University in Miami.

If its strength holds, Dorian would be the first hurricane of Category 4 or higher to make landfall on Florida's east coast since 1992, when Andrew ripped through the Miami area as a Category 5 storm, causing widespread damage.

On Friday evening, Dorian was gaining strength over the Atlantic Ocean, becoming a Category 4 storm with winds of 130 m.p.h.

*[Read more about how hurricanes are categorized.]*

The slow speed of the storm when it nears Florida has potentially dire consequences for the state. "A slowing storm is not our friend," said Dennis Feltgen, a meteorologist at the National Hurricane Center in Miami. He warned of the increased risk of sitting over the state for days and prolonging the strong winds, dangerous storm surge and heavy rainfall.

Also on Friday, President Trump approved an emergency declaration for Florida, allowing for increased federal support and resources to flow to the state.

Gov. Ron DeSantis said that 2,500 National Guard troops had been activated, a force that could grow to 4,000 by Saturday night. He added that the state had ordered a million gallons of water and sent 860,000 bottles of water to counties for distribution.

Some gas stations have been running out of fuel, Mr. DeSantis said at a news conference on Friday morning. The state has waived regulations and set up police escorts to get more gas to stations, including from nearby states, the governor said.

State authorities were also visiting and calling about 120 nursing homes that have not reported whether they have working generators.

## Many Florida cities are girding for a direct hit.

A strike by Dorian in a densely populated region could be especially dangerous, said W. Craig Fugate, a former administrator of the Federal Emergency Management Agency.

He rattled off a list of Florida cities — Miami, Fort Lauderdale, West Palm Beach, Jacksonville — where, he said, storm surge could be deadly "once you start measuring in feet, not inches."

"That's not saying it won't be devastating wherever it hits the shore," said Mr. Fugate, who is also a former director of the Florida Division of Emergency Management. "But the reality is: What drives the response is people."

Orlando is inland in Central Florida, but if the storm dumps rain for many hours, the city's lakes could overflow. In North Florida, the St. Johns and Matanzas Rivers have flooded Jacksonville and St. Augustine even when storms have not directly hit the cities, Mr. Fugate noted.

*[Here are some tips on how to prepare for an evacuation order.]*

He also laid out other concerns.

Expensive installations along the flourishing Space Coast, around Cape Canaveral, could be affected. Fuel shipments could be delayed by any disruptions at major hubs for cargo such as Jaxport in Jacksonville or Port Everglades in Fort Lauderdale.

Powerful waves in Lake Okeechobee, Florida's largest inland lake, could test its aging dike. Pounding rains might force the release of polluted waters into fragile estuaries to the east and west, which could lead to toxic algae blooms.

"What we've always encouraged in Florida is catastrophic disaster planning," Mr. Fugate said.

## The search for gas is already getting challenging.

Lines at some gas stations, especially on the east coast, were reminiscent of when Hurricane Irma struck in 2017, when most gas stations in South Florida exhausted their supply. At one Shell station with 16 pumps in the Coconut Grove section of Miami, a long line of cars twisted around the block, waiting to fill up. But as drivers reached a pump, they discovered there was no gas. They just drove away. No one bothered to tell the others in line, and the useless waiting carried on through much of the morning.

One driver, Jaime Gonzalez, 65, parked his gray pickup truck in front of a pump at the Shell station at 6:30 a.m. to begin a nearly eight-hour wait. A tanker truck finally arrived with 6,300 gallons of regular gas and 2,700 gallons of premium, and Mr. Gonzalez began filling his tank at about 2 p.m.

*[Hurricane Dorian in pictures: See the preparations here.]*

The state's price gouging law was also in effect. It bans excessive raises in the price of essential goods for the duration of a state emergency declaration.

By Friday afternoon, the attorney general's office had received more than 700 complaints alleging price gouging. The majority were about gas and bottled water, said Kylie Mason, the press secretary for Attorney General Ashley Moody.

## **King tides could make coastal flooding worse.**

Forecasters have warned of the risk of "life-threatening" storm surge. Making matters worse, Dorian is arriving at a time of king tides for the East Coast.

A king tide happens when gravitational forces of the moon, the sun and the earth are lined up, pulling the ocean back and forth with greater force than is usual.

Well ahead of Dorian's arrival, tides reached eight feet — around two feet above normal — in Charleston, S.C., on Thursday, flooding roads and causing major headaches. Tides there are expected to climb even higher on Friday evening, perhaps reaching 8.2 feet and submerging many low-lying roads.

Shannon Scaff, Charleston's emergency management director, said he was most concerned about what would happen when Dorian arrived there in five to seven days. Heavy rainfall — possibly more than a foot — could coincide with still elevated high tides.

Over the past few years, he said, hurricanes like Matthew and Irma have wrought new and unpredictable flooding patterns.

"Sometimes the forecasts are just off," he said. "We can't stop the storm. We can't stop the tides, but we're going to make ourselves as ready as we can."

## **President Trump says the forecast is 'not looking good.'**

President Trump said on Friday that the forecast for Hurricane Dorian was "not looking good" and predicted that the storm could be very devastating to Florida. Speaking to reporters before heading to Camp David for the weekend, Mr. Trump said "tremendous work" was going on in Florida to mitigate the potential damage from wind and rain.

There will be FEMA officials accompanying him at Camp David, the president said, and on Sunday afternoon he will attend a briefing at FEMA headquarters in Washington. He had previously canceled a weekend trip to Poland.

Mr. Trump will be joined by Rear Adm. Peter Brown, his homeland security and counterterrorism adviser; Mick Mulvaney, the acting chief of staff; and Stephanie Grisham, the White House press secretary and communications director.

"So far it's looking not good, I have to be honest with you," Mr. Trump said of Hurricane Dorian.

Mr. Trump acknowledged that Mar-a-Lago, his estate in Palm Beach, looks like it will be "dead center" in the hurricane's path, but that "the thing I'm worried about is the state of Florida."

"We're hoping for one element," Mr. Trump said, "and that is that it makes a right turn."

## **At Cape Canaveral, NASA is moving a launch tower.**

The mobile launch platform, which will be used to hold the Space Launch System rocket currently under development, had been at the launchpad at the Kennedy Space Center for tests. It can withstand strong winds, but "it's best to bring it back to a safe and secure location," said Gregory Harland, a NASA spokesman.

On Friday, a crawler moving at 1 m.p.h. took the launcher from the launchpad to the 525-foot-high Vehicle Assembly Building, which is like a gigantic garage for rockets.

The center is scheduled to shut down at 6 p.m. Saturday. Only a small "ride out" team was to remain there through the storm at the center's launch control center. Once the storm passes, teams will inspect the center for damage before it reopens.

The space center has never experienced a direct hit from a hurricane but has suffered near misses. In August 2004, Hurricane Frances blew off 850 panels off the Vehicle Assembly Building, and Hurricane Jeanne, just three weeks later, pulled off 25 more. Mr. Harland said that corroded fasteners have been replaced, and that the building is now much more resilient.

*[Read details on how Hurricane Dorian is affecting flights, cruises and Disney World.]*

The United Launch Alliance and SpaceX, two companies that launch rockets from Kennedy and the nearby Cape Canaveral Air Force Station, are also making preparations.

“We are closely monitoring weather conditions and planning to take all necessary precautions to protect our employees and safeguard facilities in the potentially affected areas,” SpaceX said in a statement.

### **‘Do not be foolish,’ leader of the Bahamas warns.**

A hurricane watch was in effect for the northwestern islands of the archipelago, and Prime Minister Hubert Minnis gave evacuation warnings to residents of the northernmost banks and low-lying areas on Grand Bahama Island and the Abaco Islands.

“This is a very powerful and extremely dangerous storm,” Mr. Minnis said. “Those who refuse to evacuate place themselves in great danger.”

Grand Bahama took a direct hit from Hurricane Matthew three years ago.

Government offices shut down at noon, the prime minister said. Grand Bahama International Airport was scheduled to shut down at 10 p.m. on Friday, and Freeport Harbor would close at 2 p.m., the Ministry of Tourism and Aviation said.

Flights have been increased from Grand Bahama and the Abaco Islands for residents who wish to leave, Mr. Minnis said.

“I urge you, do not be foolish and try to brave out this hurricane,” he said.

### **One of the strongest hurricanes to hit Florida came on Labor Day.**

Hurricanes have a tragic history of interrupting Labor Day Weekend in Florida, including a 1935 storm that killed hundreds of World War I veterans who were working in the Florida Keys. It remains one of the strongest hurricanes to hit the United States in modern history.

That storm, a Category 5, had been expected to miss the Keys. But an unexpected change in its route left a group of more than 600 veterans working on a highway construction project exposed to its wrath. An 11-car train sent to attempt a rescue was swept off the tracks by a tidal wave.

“Negligence played no part in the failure to evacuate the 684 World War veterans from camps in the Florida Keys,” a New York Times article published days after the storm said, citing an official report to the president that attributed the losses to “an act of God.”

The 1935 storm, known simply as the Labor Day Hurricane, pushed up Florida’s west coast after battering the Keys, leading to high tides in St. Petersburg and Tampa and ripping roofs off buildings in Sarasota.

In all, 408 deaths were blamed on the Labor Day Hurricane, most of them in the Keys. A crowd of 20,000 mourners later gathered to pay their respects. The Times reported that the bodies of the veterans were burned at the scene “for the protection of those who survived.”

### **Three hurricane hunters took a flight into history.**

Teams of researchers are routinely sent on flights into the centers of storms to gather crucial data. These so-called hurricane hunters from the National Oceanic and Atmospheric Administration, based in Lakeland, Fla., and their partners went to get a snapshot of the storm’s insides.

On Thursday, the agency announced that it had completed a reconnaissance mission with its first all female three-pilot flight crew, featuring Capt. Kristie Twining, Cmdr. Rebecca Waddington and Lt. Lindsey Norman.

Last month, The Times sent a reporter and a photographer into the heart of Tropical Storm Barry. They learned that it is not for the faint of heart.

*[Join the flight into the heart of Barry here.]*

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