



# Tropical Update



12:00 PM EDT

Monday, November 4, 2024

## Tropical Depression Eighteen

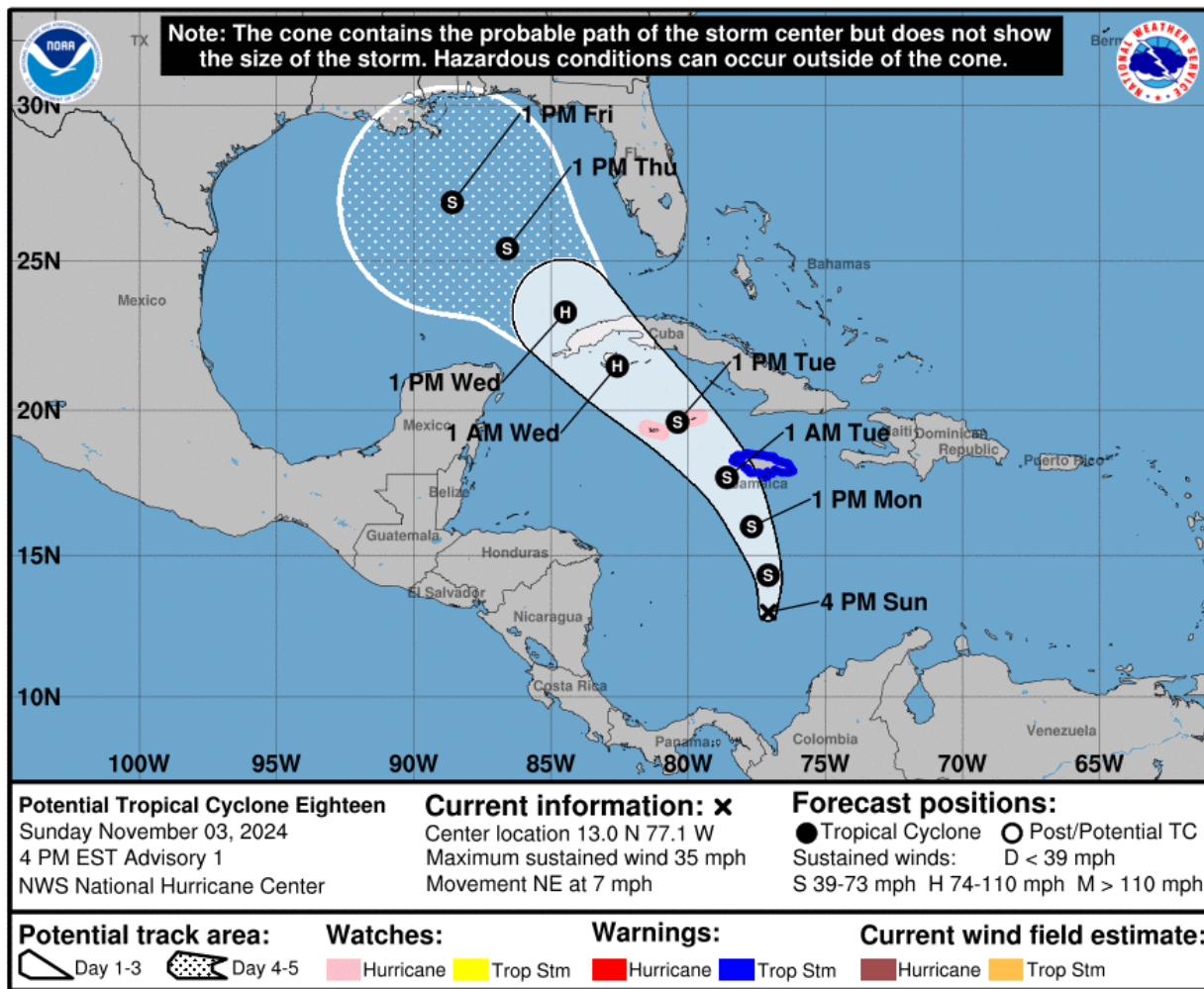
**Former Potential Tropical Cyclone Now A Tropical Depression**  
**Southwestern Atlantic Potential Development (20%)**

This update is intended for government and emergency response officials, and is provided for informational and situational awareness purposes only. Forecast conditions are subject to change based on a variety of environmental factors. For additional information, or for any life safety concerns with an active weather event please contact your County Emergency Management or Public Safety Office, local National Weather Service forecast office, or visit the National Hurricane Center website at [www.hurricanes.gov](http://www.hurricanes.gov).



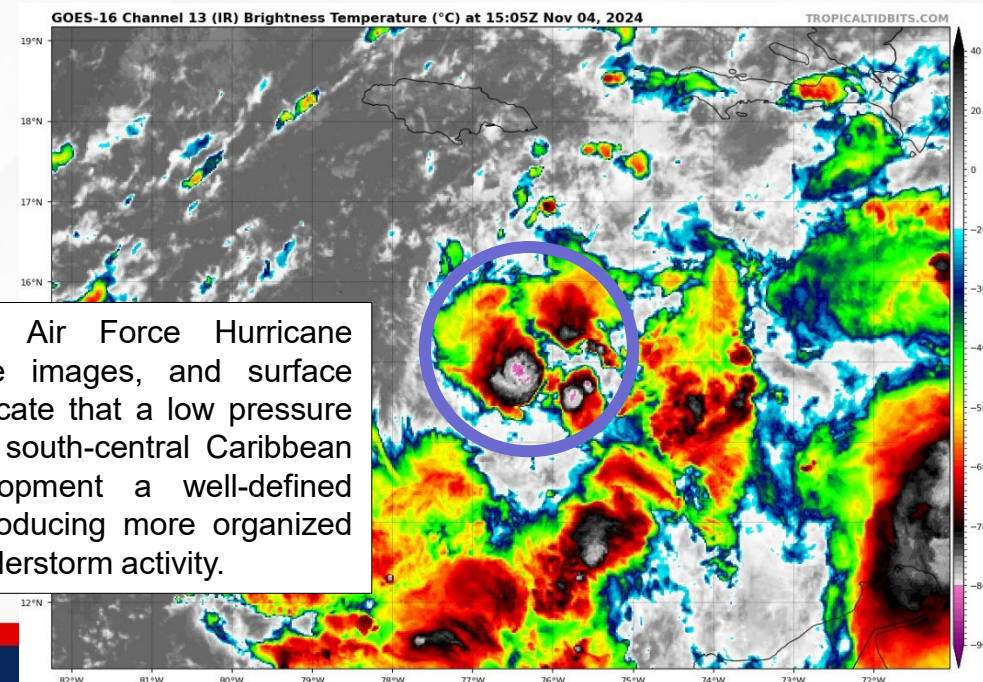
# Tropical Depression Eighteen

## From the National Hurricane Center (NHC)



- **Location:** 195 miles S Kingston, Jamaica, 720 miles SSE of Key West, Florida
- **Maximum Sustained Winds:** 35 mph
- **Current Movement:** N at 9 mph
- **FL Watches/Warnings:** None

A northwestward motion is expected to begin later today and forecast to continue for the next few days. On the forecast track, the system is expected to move near Jamaica tonight, be near or over the Cayman Islands on Tuesday, and approach Cuba on Wednesday. Steady strengthening is forecast, and the depression is expected to become a tropical storm later today.



Data from the Air Force Hurricane Hunters, satellite images, and surface observations indicate that a low pressure system over the south-central Caribbean Sea has developed a well-defined center and is producing more organized shower and thunderstorm activity.



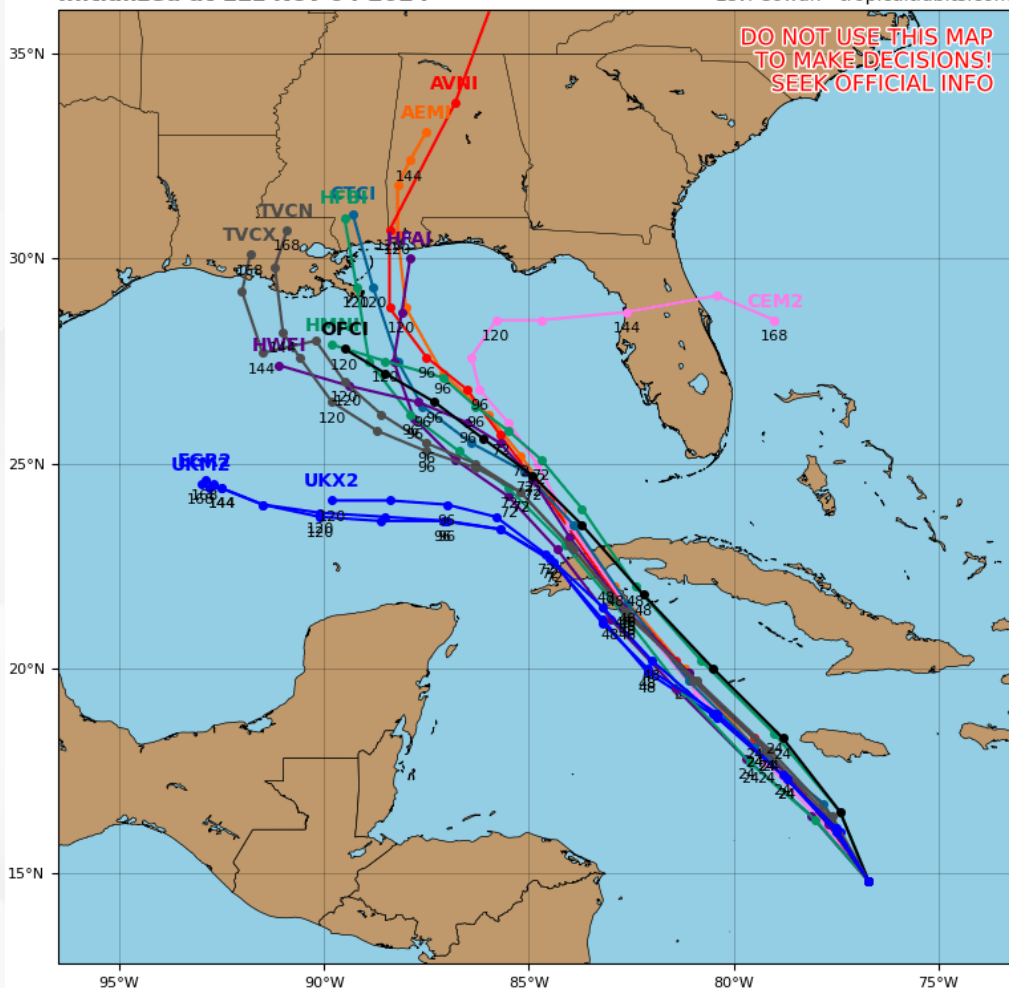
# Forecast Computer Models – Next 5 Days

## Tropical Depression Eighteen

### Tropical Depression 18L Model Track Guidance

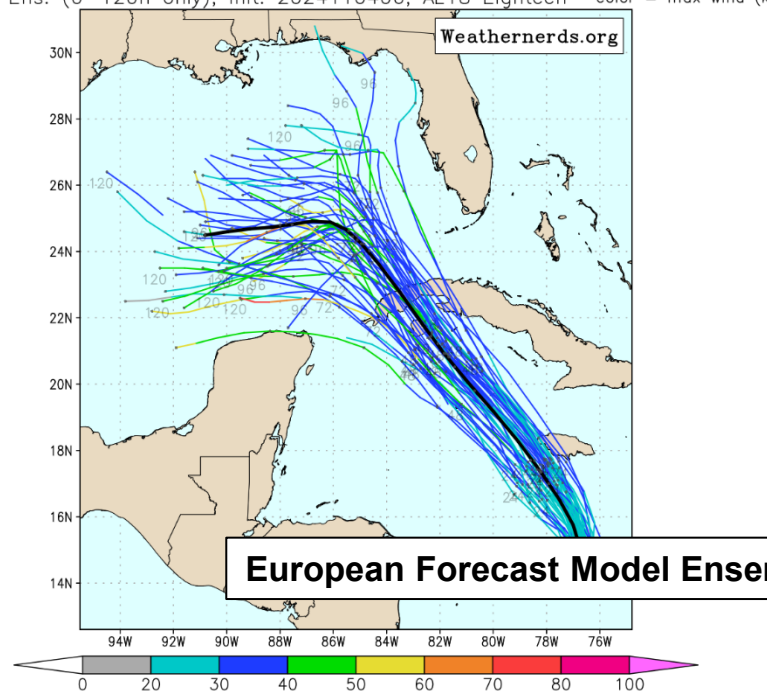
Initialized at 12z Nov 04 2024

Levi Cowan - tropicaltidbits.com



Computer forecast models are coming into better agreement that Tropical Depression Eighteen will begin to make a turn toward the northwest later today as an area of high pressure builds over the southwestern Atlantic and northeastern Caribbean. Computer models are in decent agreement through the 24 to 48-hour timeframe, bringing the center of the system near Jamaica tonight, near or over the Cayman Islands by late Tuesday, and across western Cuba on Wednesday. After the 48 to 72-hour window, computer model solutions begin to diverge over the southern Gulf of Mexico. This uncertainty is due to the various outputs regarding steering patterns and the intensity of the tropical cyclone later this week. Computer forecast models will continue to work toward more consensus now that the system has a more organized center of circulation.

ECMWF Ens. (0–120h only), init: 2024110406, AL18 Eighteen color = max wind (kt)



European Forecast Model Ensemble – Tropical Depression Eighteen





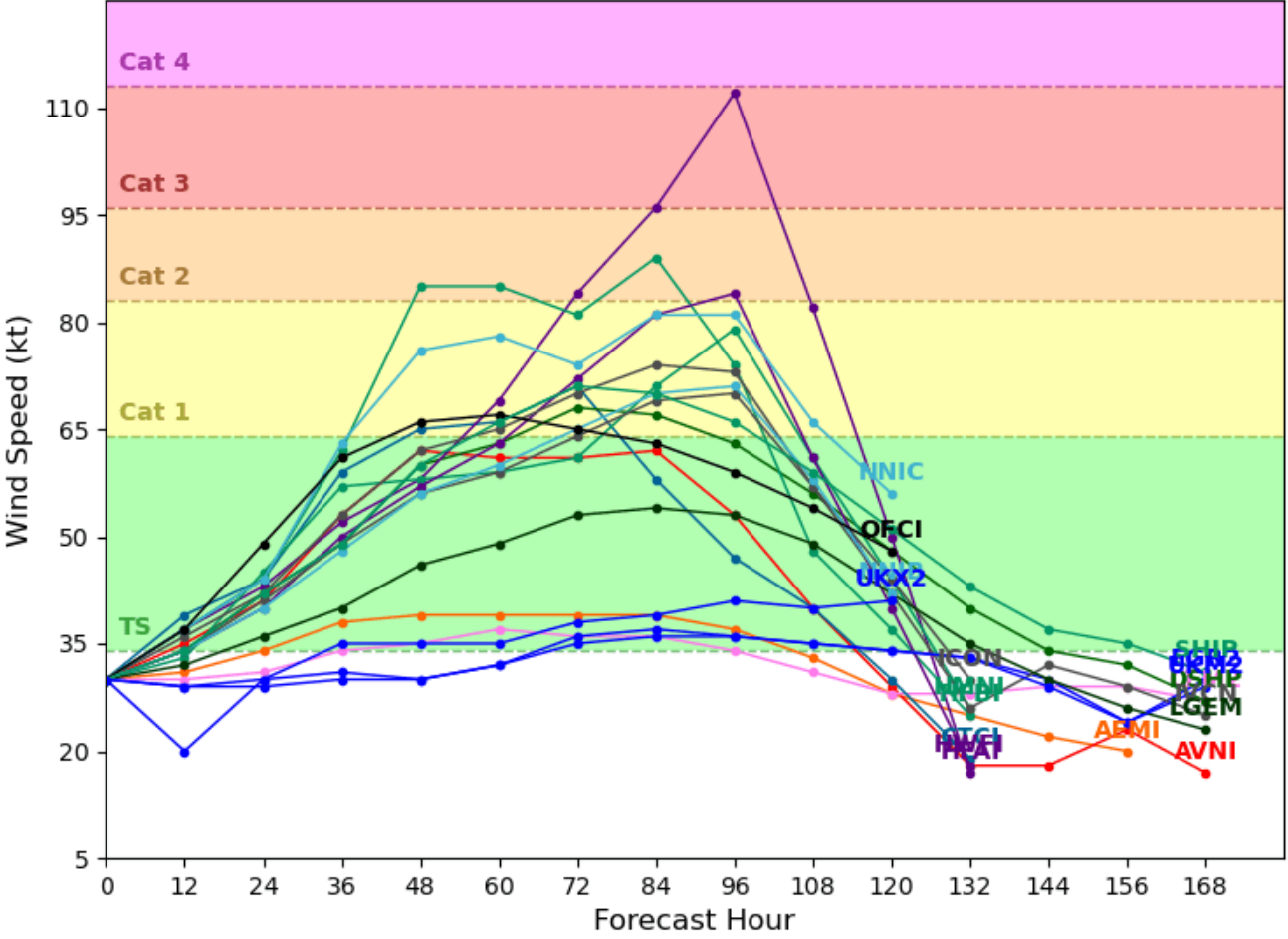
# Forecast Computer Models – Next 5 Days

## Tropical Depression Eighteen

### Tropical Depression 18L Model Intensity Guidance

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The atmospheric and oceanic factors including low wind shear, ample moisture, and warm sea surface temperatures will support intensification. Since Tropical Depression Eighteen has now a well-defined organized circulation, there is increasing confidence of stead strengthening until the system reaches Cuba or the southeastern Gulf of Mexico. Computer forecast models are supportive of Tropical Depression Eighteen in becoming a hurricane Wednesday morning.

After that time in 3 to 4 days, when the system reaches the central Gulf of Mexico, an increase in upper-level winds (wind shear), drier air, and slightly cooler waters should end the strengthening trend and induce weakening over the northern Gulf of Mexico.

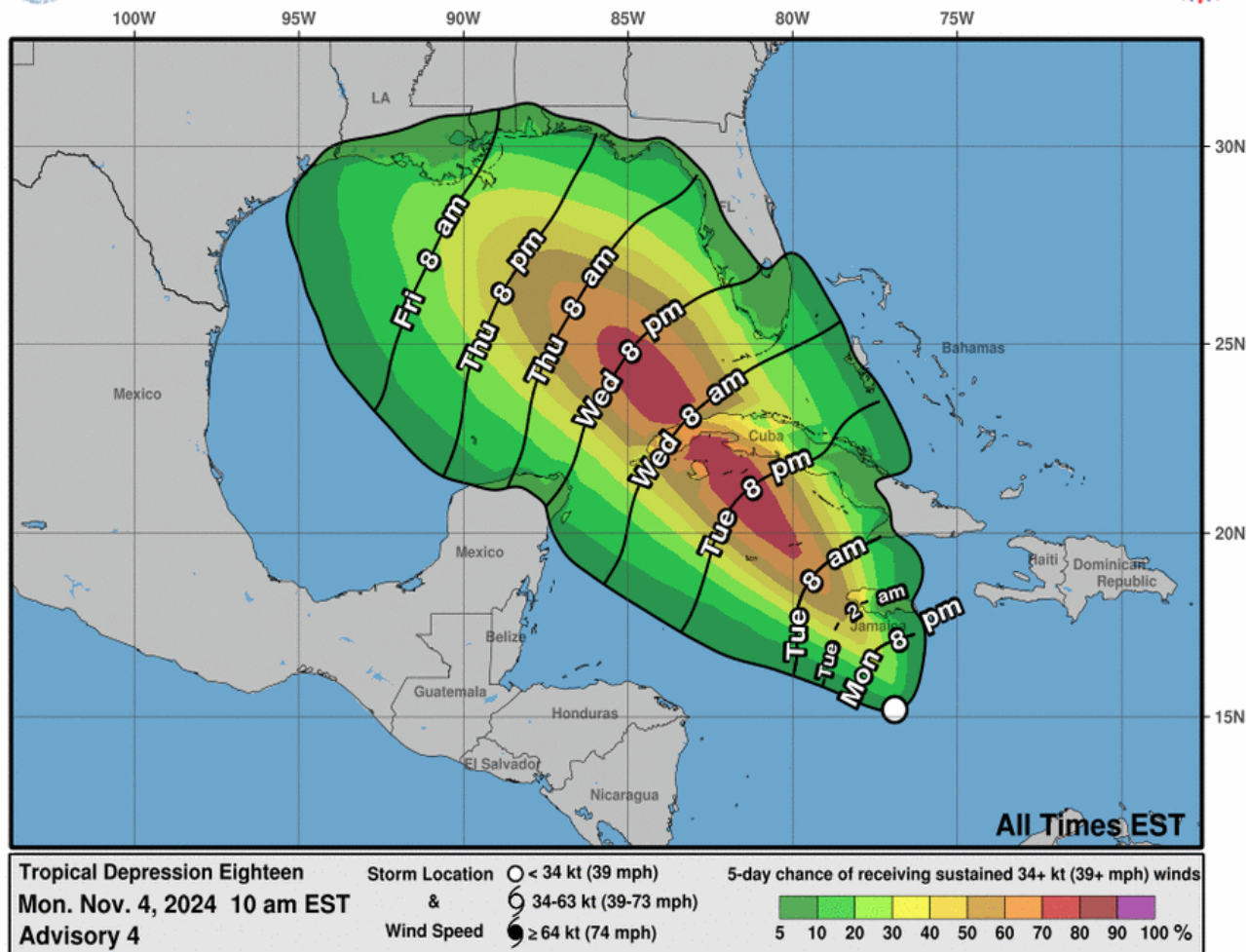


# Wind Timing of Arrival

## From the National Hurricane Center (NHC)



### Most Likely Arrival Time of Tropical-Storm-Force Winds



- While the greatest probabilities (*shaded*) for tropical storm-force conditions are forecast to remain to the west of the Florida Peninsula, tropical storm-force conditions, most likely in the form of gusty passing squalls from Tropical Depression Eighteen.
- The potential for tropical storm-force winds along the Lower and Middle Florida Keys remain near 40%, or just above a 1-in-3 chance.
- Tropical storm-force conditions will most likely arrive along the Florida Keys and South Florida during the late overnight hours on Tuesday or even the predawn hours on Wednesday, before spreading northward along the western Peninsula coastline throughout the day on Wednesday.
- Tropical storm-force conditions could arrive as early as Tuesday evening across the Florida Keys and Southeast Florida, then overnight Tuesday and into early Wednesday morning along the Southwest and West-Central Florida coasts.
- This is a reminder that impacts can still extend well beyond the forecast cone!
- Additional changes to the track and timeline can be expected, and it is important not to focus on single model runs or solutions.



# Key Messages

## From the National Hurricane Center (NHC)



### Key Messages for Tropical Depression Eighteen

#### Advisory 4: 10:00 AM EST Mon Nov 04, 2024

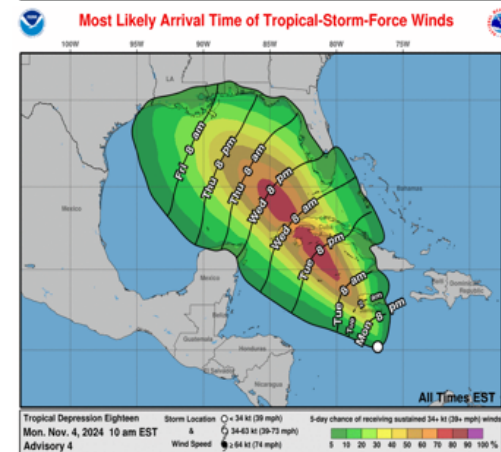
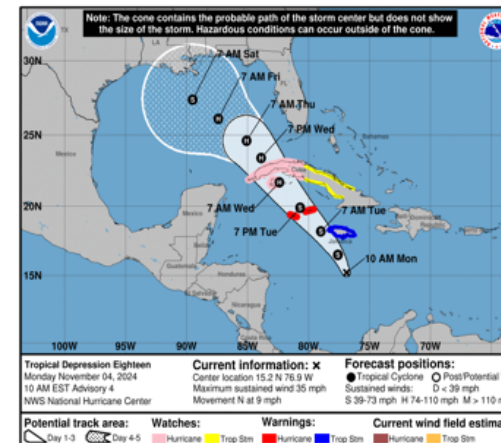


1. Hurricane conditions are expected in the Cayman Islands on Tuesday and are possible in portions of Cuba early Wednesday, where Hurricane Warnings and Watches are in effect. There is a risk of dangerous impacts from hurricane-force winds and storm surge in the Cayman Islands and portions of western Cuba. Tropical storm conditions are expected in Jamaica this evening.

2. Interests in the Florida Keys should closely monitor this system as tropical storm watches could be required for portions of these areas later today.

3. The system is forecast to enter the Gulf of Mexico later this week, but given significant uncertainties in the long-range forecast track and intensity, it is too soon to determine what, if any, impacts could occur. Residents in this area should regularly monitor updates to the forecast.

4. The system will bring areas of heavy rain across portions of the western Caribbean, including Jamaica and portions of Cuba through mid-week. Flooding and mudslides are possible in these areas. Heavy rainfall will spread north into Florida and adjacent areas of the Southeast United States mid to late week.



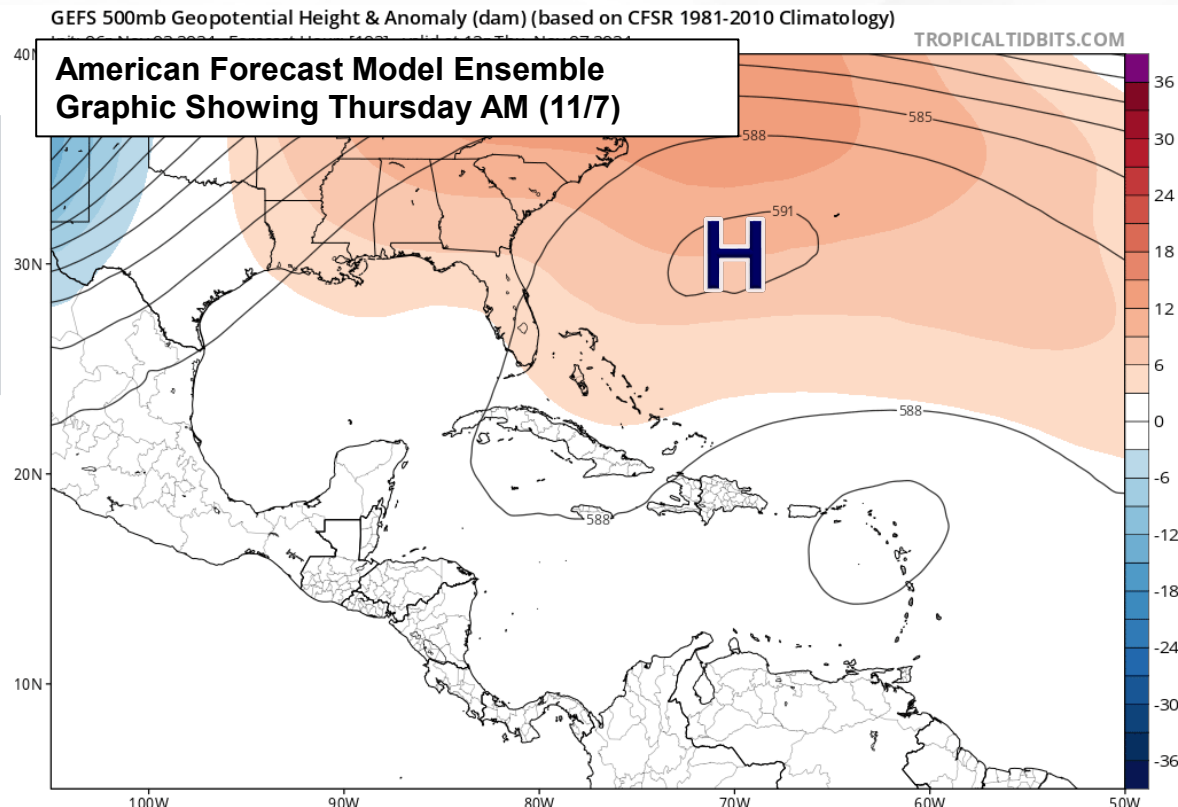
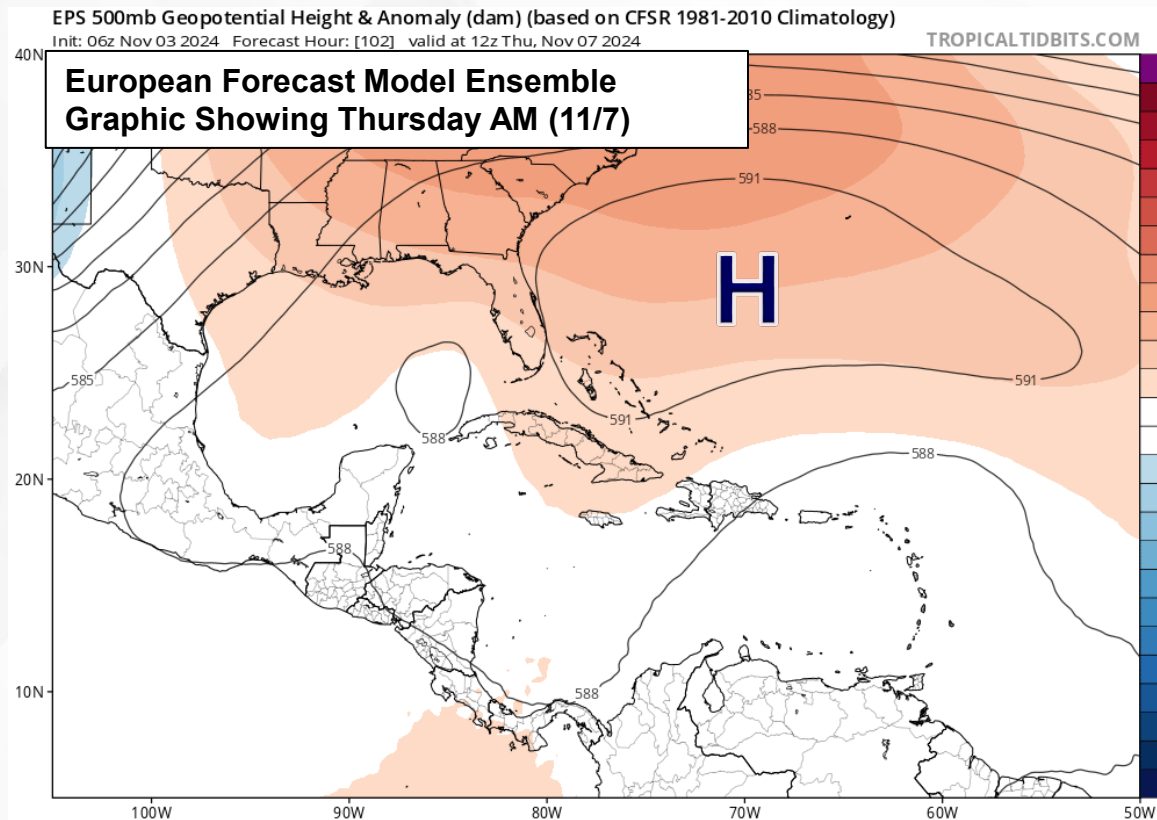
For more information go to [hurricanes.gov](https://hurricanes.gov)





# Computer Forecast Steering Patterns

## Middle of Next Week – Graphic Showing Thursday (11/7)



- The forecast pressure patterns across the reliable computer forecast models are beginning to come into better agreement but continue to show disparity within the large-scale steering currents during the middle to later parts of next week.
- Initially, a strong high pressure system over the eastern U.S. and adjacent Atlantic waters will likely steer the area of low pressure in the Southwestern Caribbean gradually to the west and northwest, bringing the disturbance towards eastern Cuba or the Yucatan Peninsula Wednesday/Thursday of next week.
- The European (*left*) is more indicative of a stronger high pressure system off the Florida East Coast through midweek, keep the movement of the potential tropical development moving in a more westerly to west-northwesterly direction. The American (*right*) shows a more shallow high pressure system, hinting toward a more northerly path across the northern Caribbean.
- For this system in the southwestern Caribbean Sea to gain significant latitude with a more northerly direction, the dominant area of high pressure would have to erode or shift to the east to allow the system to make a more northward motion. The timing of forecast fall cold fronts will continue to be monitored in the event development or organization of this disturbance delays.

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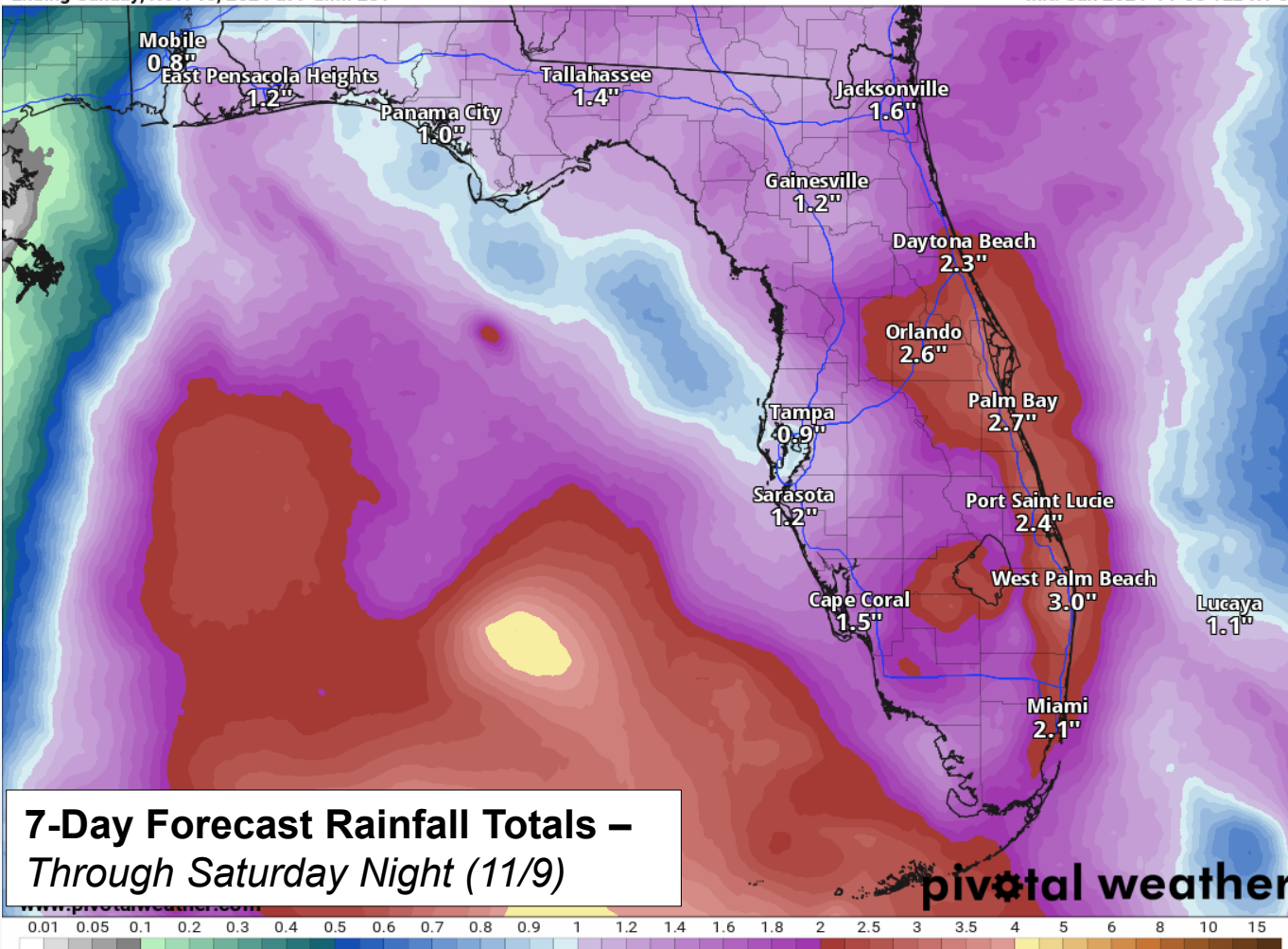
# Rainfall Totals – Next 7 Days

## From the Weather Prediction Center (WPC)

### 7-Day Precipitation (in)

Ending Sunday, Nov. 10, 2024 at 7 a.m. EST

Init: Sun 2024-11-03 12z WPC



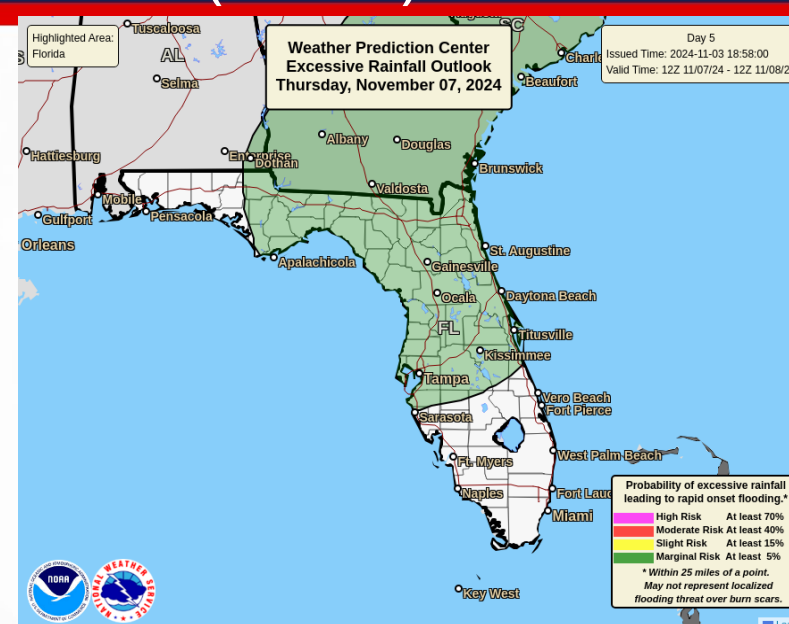
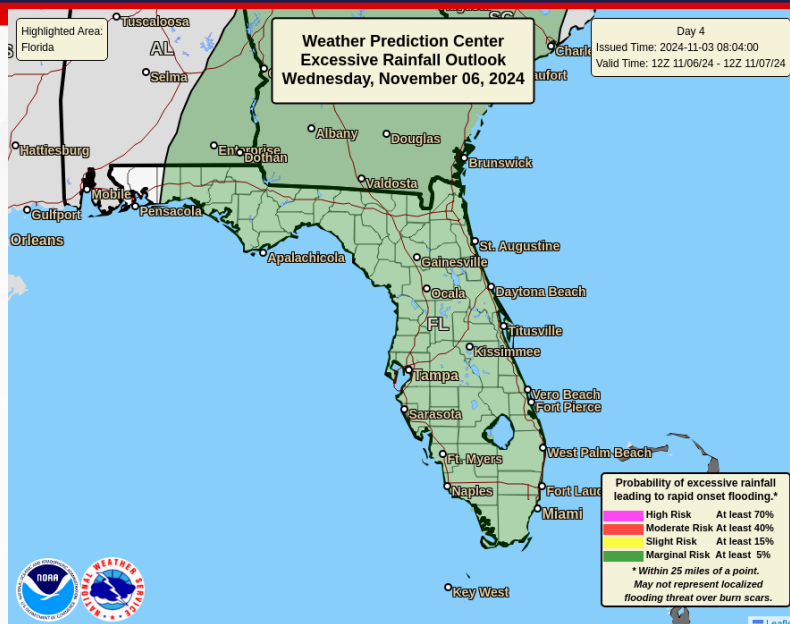
- Not much of a pattern shift can be expected across the Sunshine State over the next 1-3 days, with widely scattered rainfall totals.
- The continued trend for isolated to scattered showers will remain possible along the Florida East Coast through next week.
- Enough low-level moisture will support rainfall totals of 1-2" possible along the Southeast Florida Coast and South Florida; however, abundant amounts of mid-level dry air will suppress the extent of any thunderstorm activity through Tuesday.
- *There is increasing potential for higher rain chances Wednesday and Thursday with locally heavy rain possible as the disturbance moves northward to northwestward along the Caribbean Sea and approaches the Gulf of Mexico.*
- *Exact rainfall totals and placement of heavy rainfall will remain track dependent.*





# Flash Flooding – Wednesday & Thursday

## From the Weather Prediction Center (WPC)

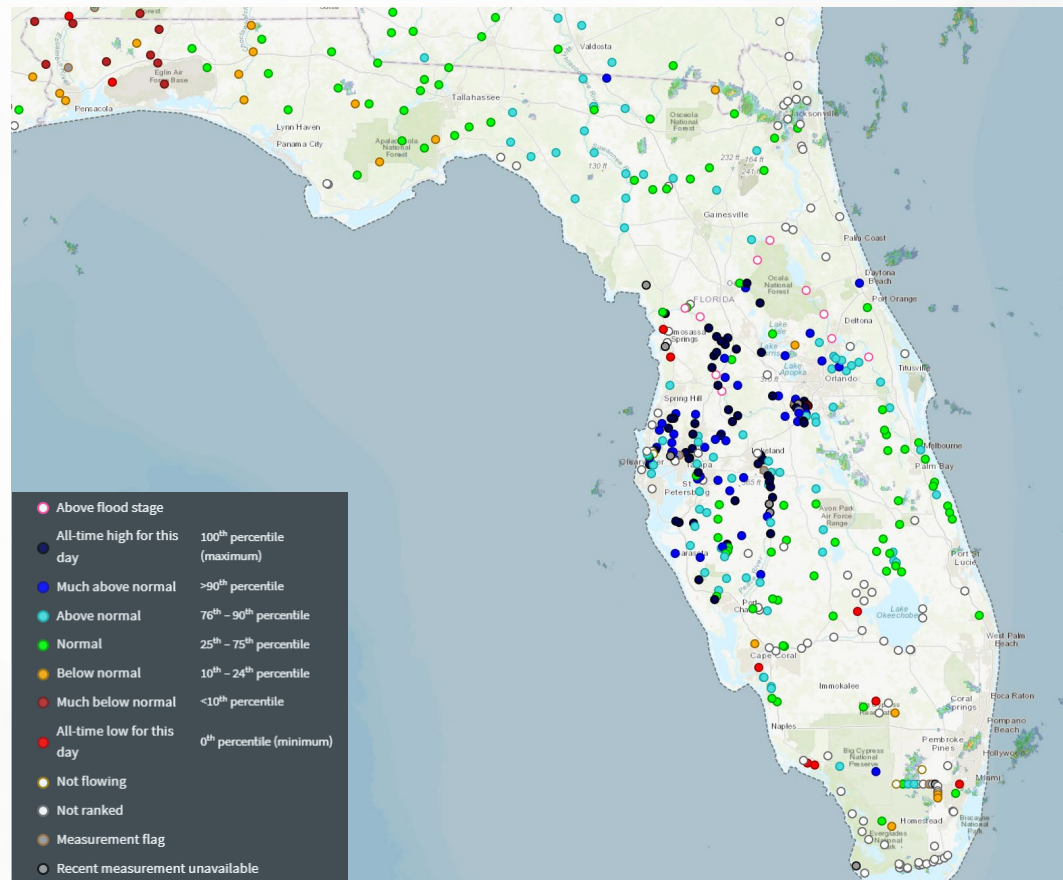
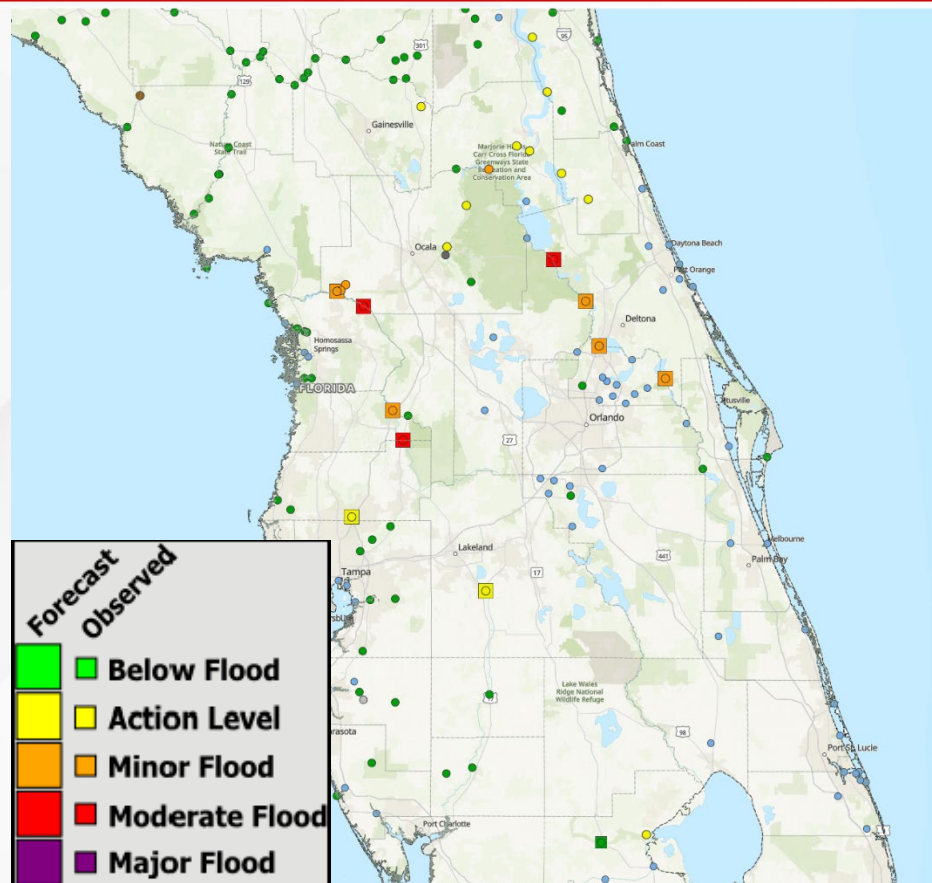


- There is low confidence in the rainfall forecast as there still a large degree of uncertainty surrounding the details of the potential for any locally heavy rainfall north of a disturbance moving through the Caribbean Sea, and the evolution of the forecast will remain dependent on the overall pressure pattern that sets up next week.
- While there is uncertainty surrounding the systems future evolution and path once it reaches the Gulf of Mexico, there is an increasing probability for a notable increase in above-normal moisture moving into portions of Florida by late Tuesday, but more likely Wednesday, which could lead to more widespread rainfall and thunderstorms.
- The Weather Prediction Center (WPC) has expanded the **Marginal Risk (level 1 of 4) for Flash Flooding** on Wednesday nearly statewide due to increased streamflow and vulnerability of saturated grounds throughout the Peninsula. The **Marginal Risk (level 1 of 4) for Flash Flooding** has been introduced for Thursday expanding across much North and Central Florida from the Apalachicola River and southward through the I-4 corridor.
- *Updates to the rainfall forecasts and Excessive Rainfall Outlooks can be expected.*



# River Flooding

## From National Weather Service (NWS)



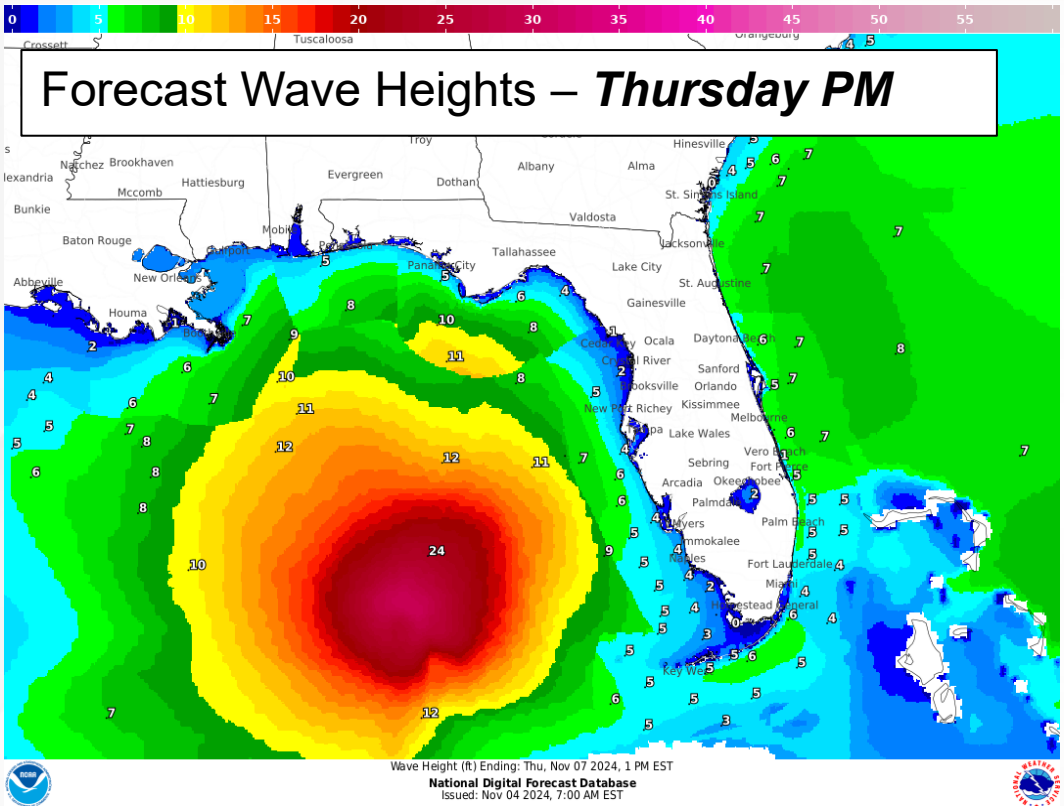
**Minor to moderate riverine flooding** continues across the Withlacoochee and St. Johns River basins in response to Hurricane Milton in early October. The upper portions of the Withlacoochee ([US 301 Trilby](#) and [Croom](#)) continued to see water levels very slowly decline, while lower portions of the river ([Holder near SR 200](#) and [Dunnellon](#)) continue to see water levels hold steady within a crest. The lower Withlacoochee can expect water levels to remain steady over the next day or so before beginning to very slowly decline. Similarly, the St. Johns River continues to see water levels at all forecast points ([Astor](#), [Lake Harney](#), [Deland](#) and [Sanford](#)) very slowly decline as onshore winds persist along tidal portions of the river, keeping discharge rates slow.

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# Forecast Wave Heights & Rip Currents

## From the National Weather Service (NWS)



Florida Panhandle		Today	Tue	Wed	Thu	Fri	Sat	Sun
Rip Current								
Marine Hazard								

Florida West Coast		Today	Tue	Wed	Thu	Fri	Sat	Sun
High Surf								
Rip Current								
Marine Hazard								
Coastal Flood								

- An increase in **hazardous beach and coastal conditions** can be expected to develop across Southwest and West-Central Florida beaches beginning midweek as the system emerges from the northern Caribbean Sea and into the Gulf of Mexico.
- Wave heights of 2-4' can be expected for all beaches through Wednesday morning for the West Coast, but ocean swells will increase Wednesday evening and overnight.
- By Thursday morning, **wave heights of 4-7'** can be expected to extend from the Florida Keys and northward towards the Panhandle, with **large breaking waves upwards of 7-8'** in surf zone; *High Surf Advisories will be issued as conditions warrant.*
- A **high risk for rip currents** can likely be expected for all Florida West Coast beaches Wednesday and Thursday.





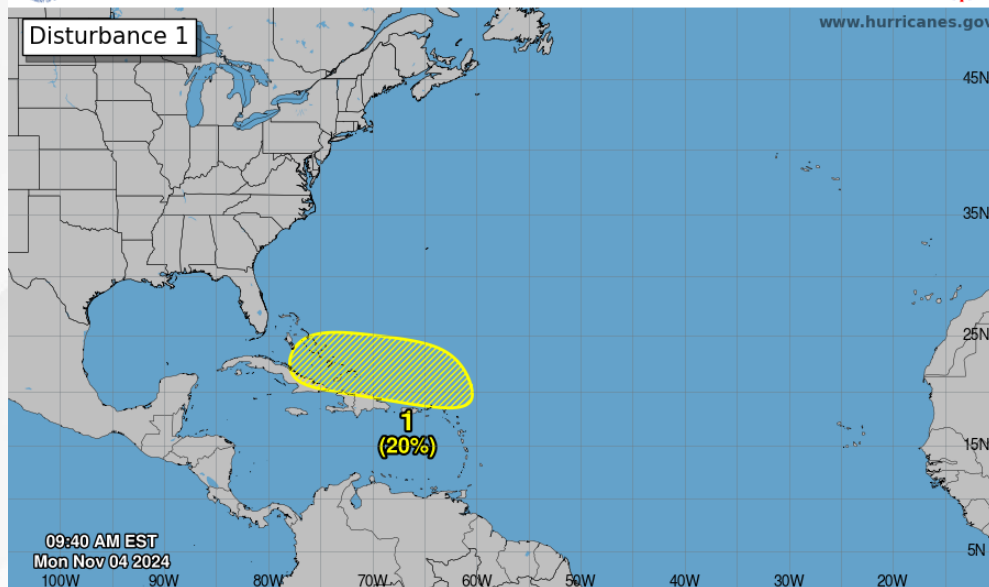
# Tropical Weather Outlook

## Disturbance 1 – Southwestern Atlantic



### Seven-Day Graphical Tropical Weather Outlook

National Hurricane Center Miami, Florida



Current Disturbances and Seven-Day Cyclone Formation Chance: ✕ < 40% ✖ 40-60% ✖ > 60%  
Tropical or Sub-Tropical Cyclone: ○ Depression ● Storm ● Hurricane  
● Post-Tropical Cyclone or Remnants

Near 0%

48 Hour Formation



20%

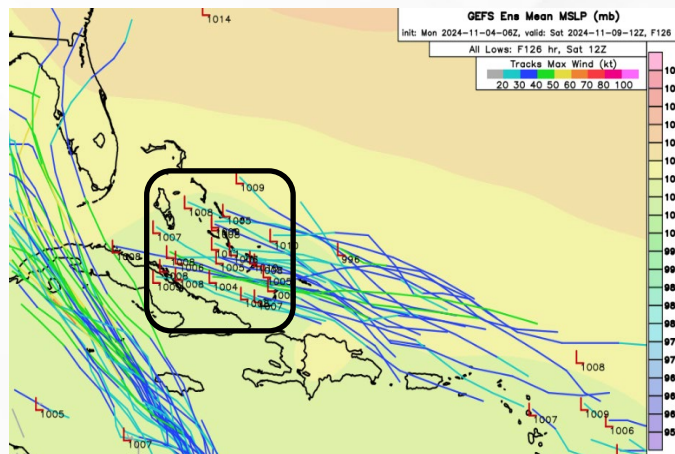
7 Day Formation

An area of low pressure could develop near the northern Leeward Islands in a few days. Some slow development of this system is possible after that time as it moves generally westward over the southwestern Atlantic.

*This system poses no direct threat to Florida over the next 5 to 7 days; trends within the model guidance will continue to be monitored regarding the development of this area of disturbed weather later this week. Computer forecast models carry quite a bit of uncertainty with the formation and evolution of this potential disturbance.*

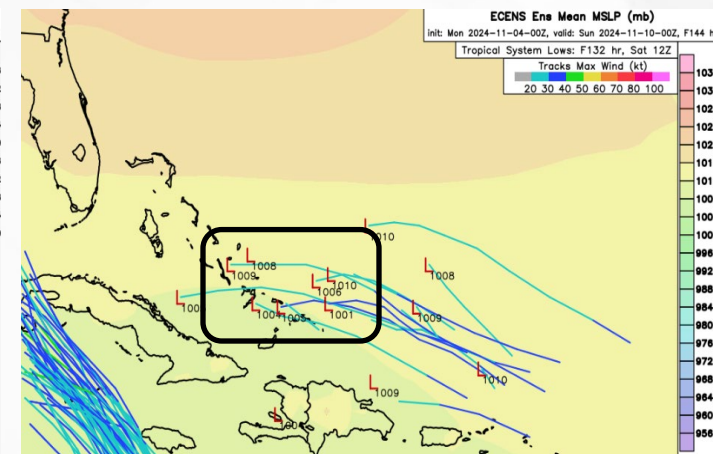
Chance of development through 48 hours...**low...near 0%**

Chance of development through 7 days...**low...20%**



**American Model Ensemble**

Valid: Saturday (11/9) Morning



**European Model Ensemble**

Valid: Saturday (11/9) Morning



# Summary

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## **Tropical Depression Eighteen:**

- As of 10:00 AM EST, Potential Tropical Cyclone Eighteen has strengthened into Tropical Depression Eighteen over the central Caribbean.
- Tropical Depression Eighteen is currently located 195 miles south of Kingston, Jamaica, or 720 miles south-southeast of Key West, Florida.
- A northwestward motion is expected to begin later today and forecast to continue for the next few days. On the forecast track, the system is expected to move near Jamaica tonight, be near or over the Cayman Islands on Tuesday, and approach Cuba on Wednesday.
- Maximum sustained winds are near 35 mph. Steady strengthening is forecast, and the depression is expected to become a tropical storm later today and a hurricane by Wednesday.
- There are no active tropical watches/warnings in effect for Florida; however, Tropical Storm Watches/Warnings may be issued for portions of the Florida Keys later today.

## **Florida Outlook:**

- Computer model guidance continues to show signs of better agreement regarding the system moving across the central and northern Caribbean Sea over the next couple of days.
  - Once the system moves beyond the Caribbean and enters the Gulf of Mexico by mid-to-late week, computer model guidance continues to show greater uncertainty regarding the evolution and movement of the system.
- Mostly dry conditions can be expected across the state over the next 1-3 days, with a chance for isolated showers drifting westward from the adjacent coastal waters off the Florida East Coast.
- There is an increased potential for tropical moisture and elevated rain chances to develop across the southern Florida Peninsula on Wednesday and Thursday as the system moves into the northern Caribbean Sea and the southern Gulf of Mexico.
  - Widespread rainfall totals of 1-3" can be anticipated over the next 7 days, with locally higher totals possible.
  - Rainfall totals still hold high uncertainty with the system and will remain dependent on the track and movement of the system.
- Increased tropical moisture and rain chances mid-to-late week have introduced the potential for locally heavy rainfall nearly statewide on Wednesday, and the Weather Prediction Center (WPC) is outlooking a Marginal Risk (level 1 of 4) for Flash Flooding.
  - While this system continues to have high uncertainty once it reaches the Gulf of Mexico, there is good agreement that above-normal moisture can be anticipated to shift northward which could bring more widespread shower and thunderstorm activity.
  - The Weather Prediction Center (WPC) has maintained a Marginal Risk (level 1 of 4) for Flash Flooding on Thursday across most of North and Central Florida extending from the Apalachicola River through the I-4 corridor.
- Rivers, creeks and streams across Central Florida continue to flow at or above normal streamflows following the widespread heavy rainfall from Hurricanes Helene and Milton.
  - Minor to moderate riverine flooding continues for the Withlacoochee and St. Johns River basins as water levels hold steady or very slowly decline.

The next name on the list is Rafael (rah-fah-ELL).

The next briefing packet will be issued Monday evening. For the latest information, please visit the National Hurricane Center website.



# Tropical Update

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**State Meteorological Support Unit**

**Florida Division of Emergency Management**

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