



TROPICAL UPDATE



4:00 PM EST

Monday, November 9, 2020

Tropical Storm Eta, Invest 97L in Northeast Atlantic (80%),
and New Caribbean Wave (50%)

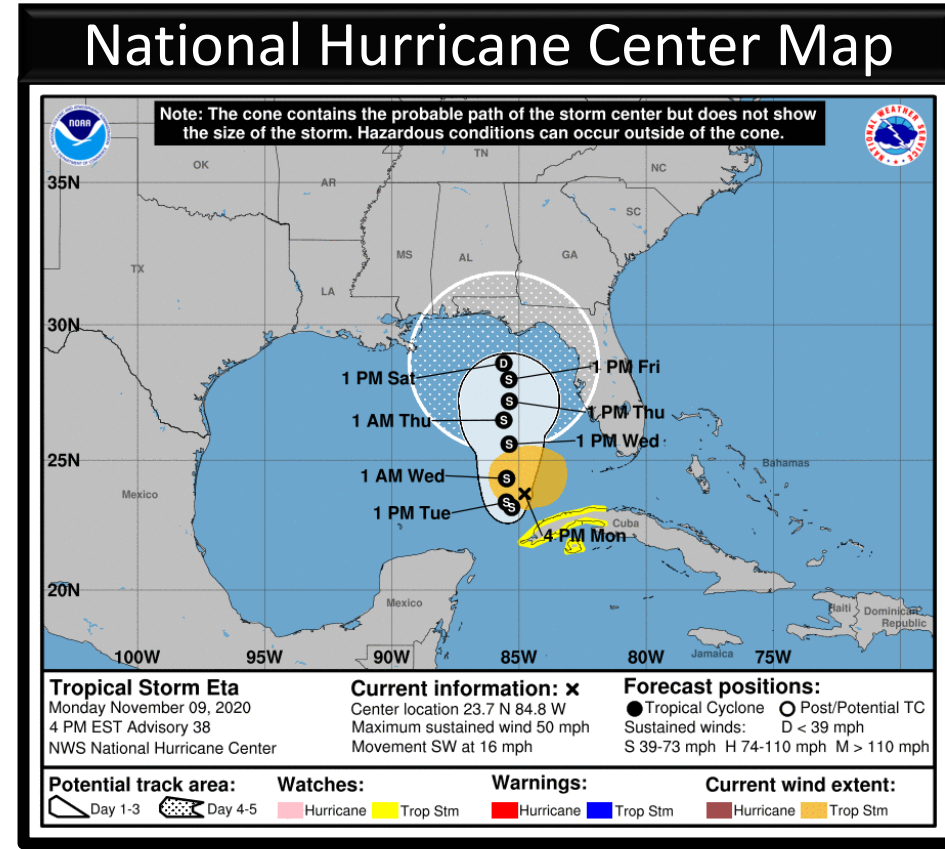
This update is intended for government and emergency response officials, and is provided for informational and situational awareness purposes only. Forecast conditions are subject to change based on a variety of environmental factors. For additional information, or for any life safety concerns with an 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.



Tropical Storm Eta

4 PM ET Monday: Florida Threats & Changes Since Last Packet

	MINIMAL	LOW	MODERATE	HIGH	EXTREME
WINDS					
STORM SURGE					
FLASH FLOODING					
TORNADOES					
	LOW	MODERATE	HIGH		
RIP CURRENTS					



Overview/Recent Changes:

All Tropical Storm/Hurricane/Storm Surge Warnings CANCELED

Flash Flooding Ongoing and an Isolated Threat Continues Tonight Southeast Florida

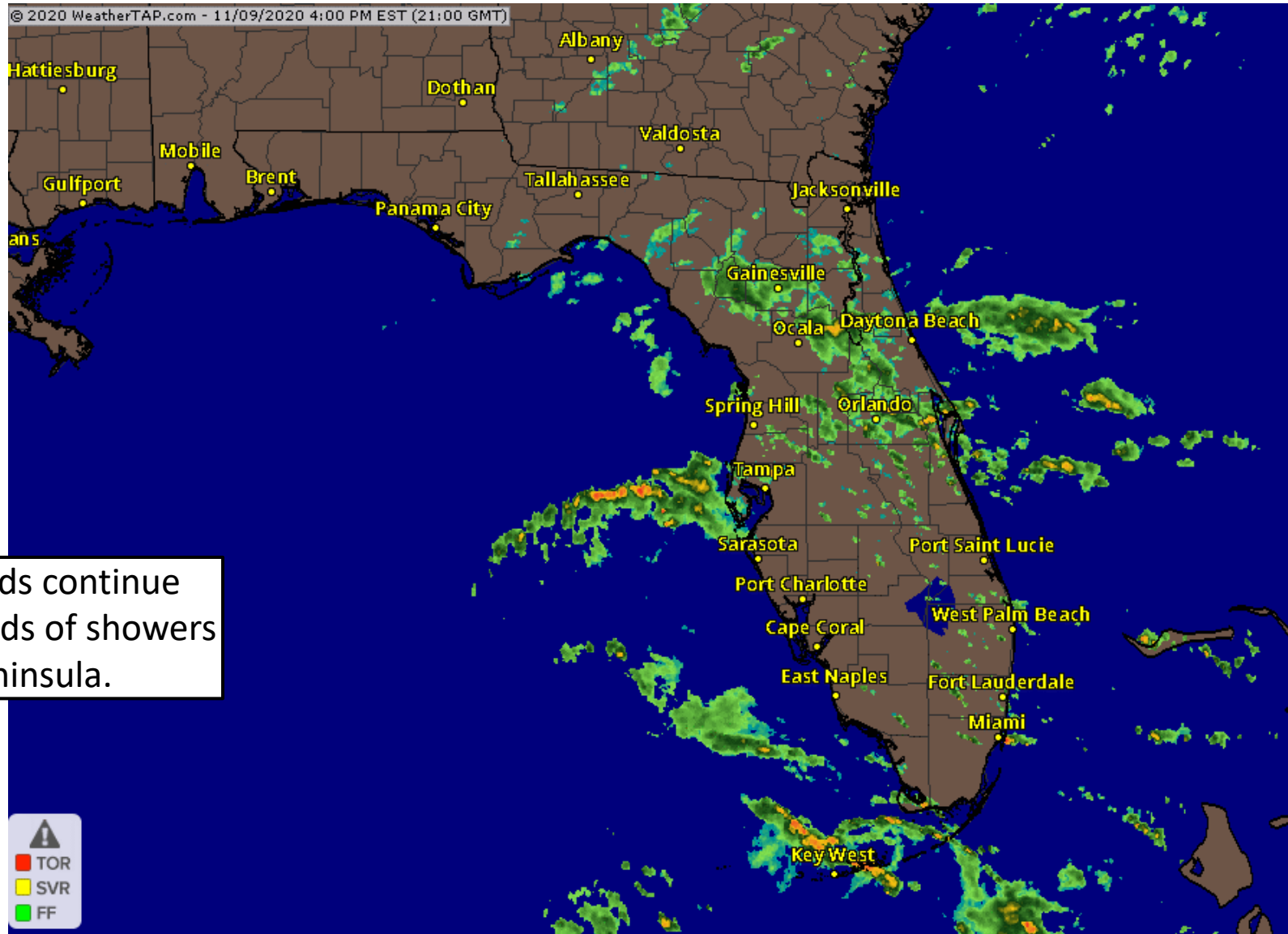
Some gusts to tropical-storm-force are possible in any heavy rain bands.

Details on the turn back to Florida later this week are NOT CLEAR! Expected changes.



Current Florida Radar

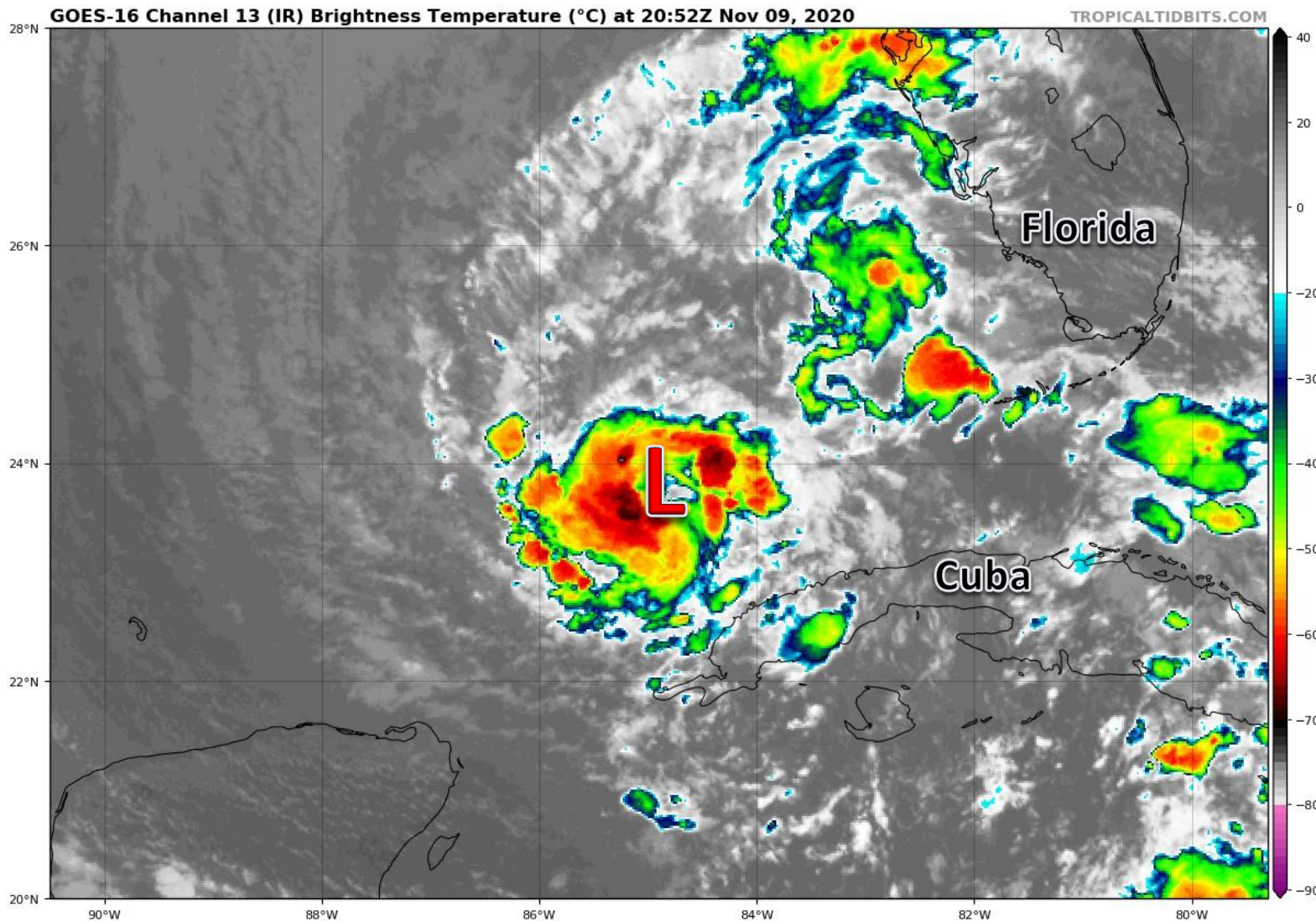
As of 9:25 AM ET



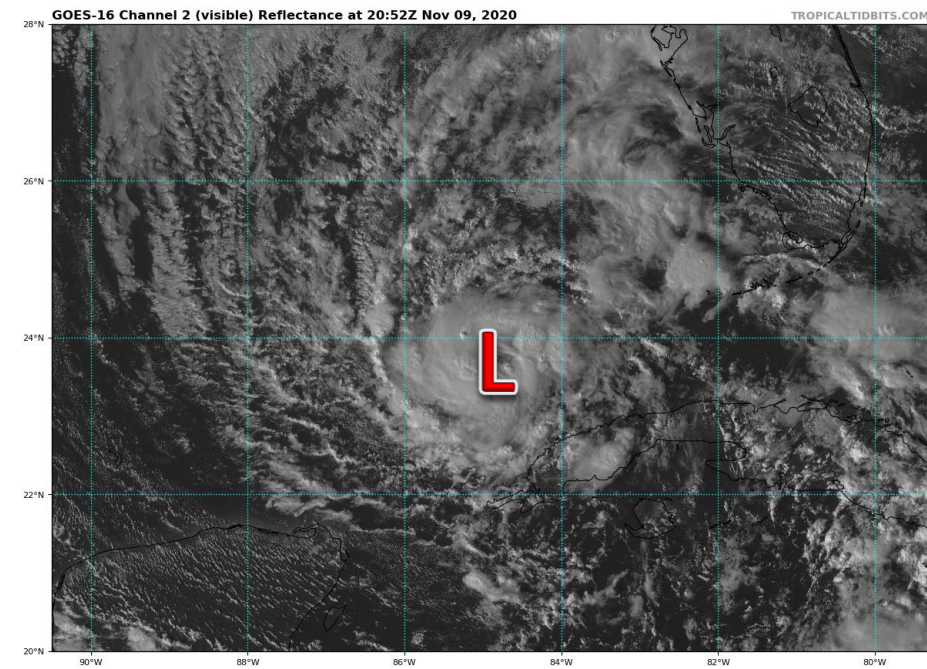


Satellite Imagery

Tropical Storm Eta – Florida Straits



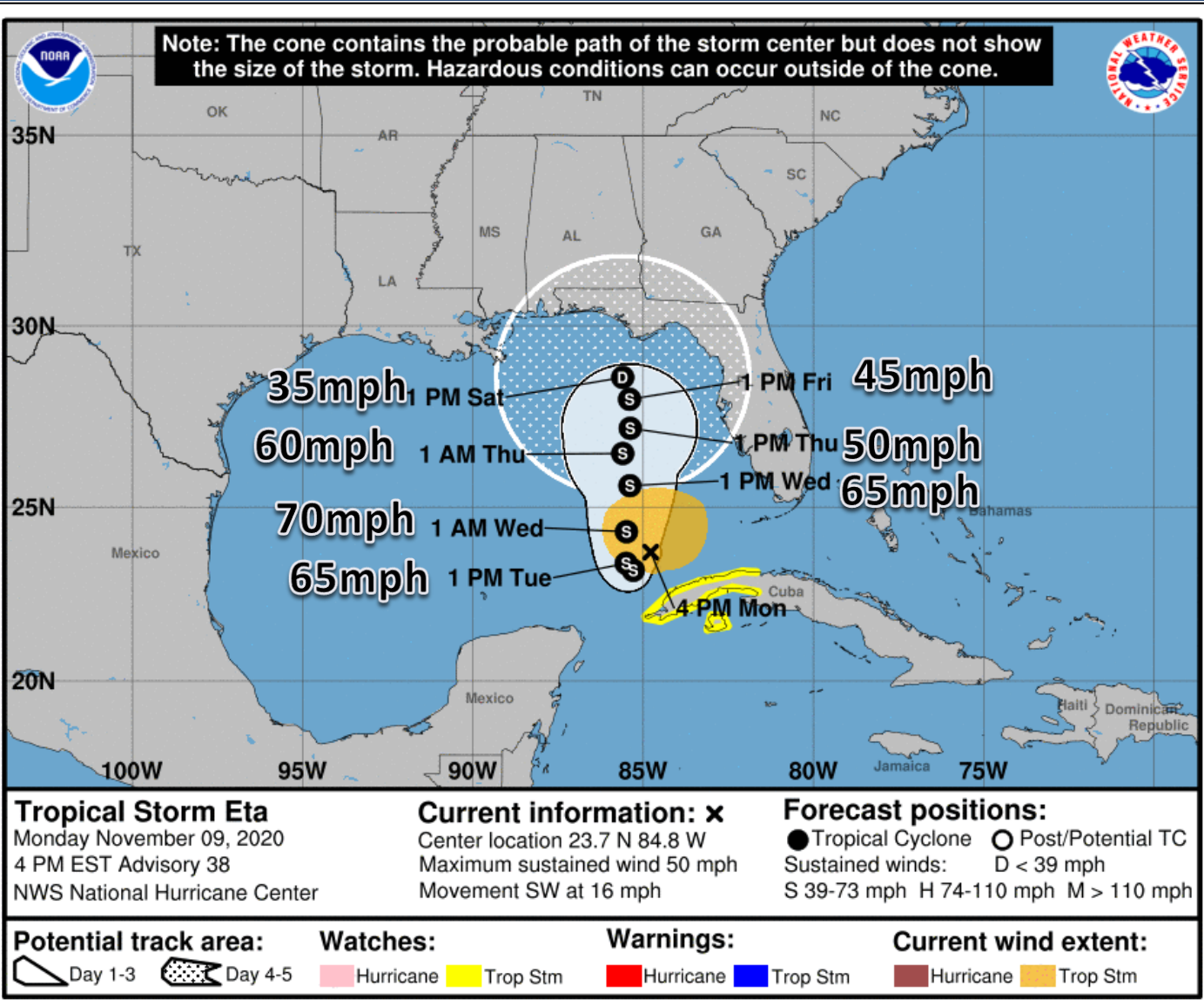
Eta has ingested a lot of dry air, eroding much of the showers and storms around the system. However, a small core of showers and thunderstorms remain ongoing around the center.





Official Forecast Track

From the National Hurricane Center – Tropical Storm Eta



- The center of Tropical Storm Eta is about 140 miles west-southwest of the Dry Tortugas, moving southwest at 16 mph.
- Maximum sustained winds are near 50 mph, and Eta could still strengthen over the next 24-48 hours. However, Eta is no longer forecast to become a hurricane.
- Eta will turn northward on Tuesday, and the official forecast brings Eta slowly north toward the Gulf Coast of Florida this weekend.
- Models are highly divergent on if Eta moves northward toward the Florida coast or if it moves westward over the Gulf of Mexico. This is a low confidence forecast.



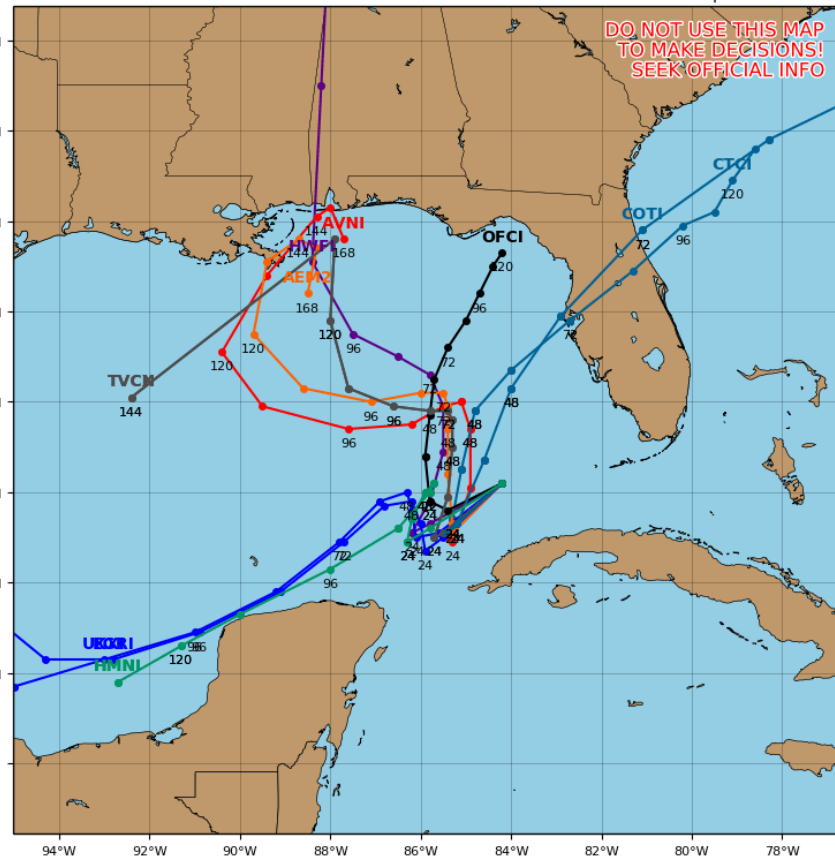
Model Forecast Tracks

Ensembles, Dynamical, and Statistical Models

Tropical Storm ETA Model Track Guidance

Initialized at 18z Nov 09 2020

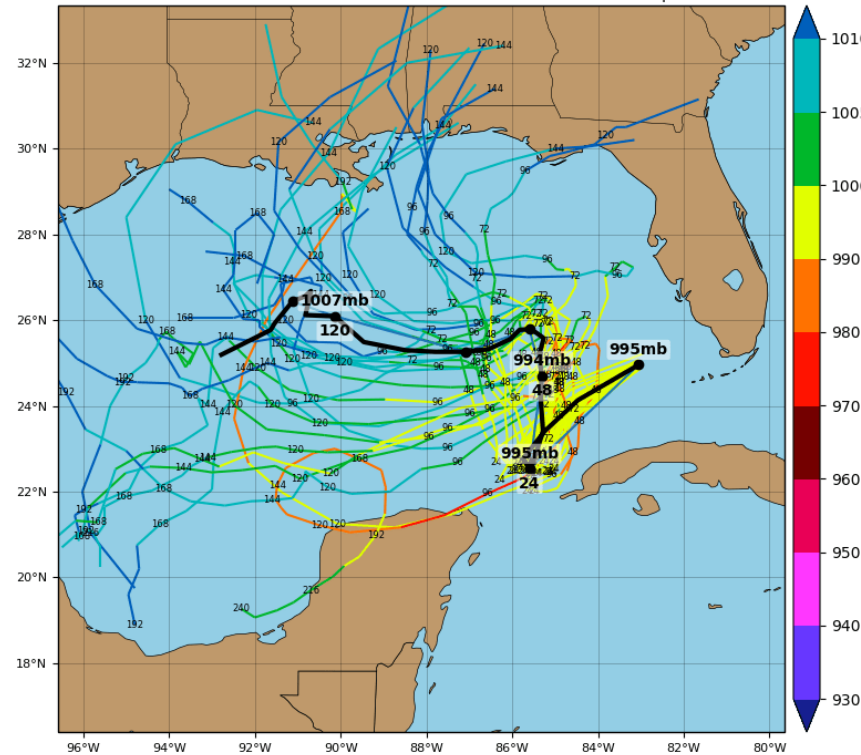
Levi Cowan - tropicaltidbits.com



29L ETA - GEFS Tracks and Min. MSLP (hPa)

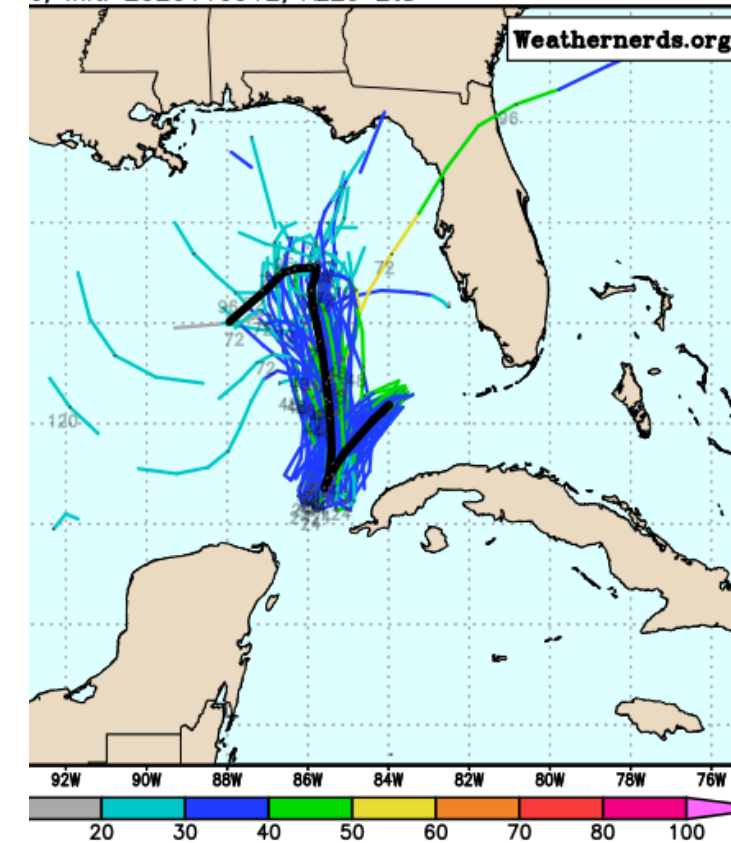
Initialized at 12z Nov 09 2020

Levi Cowan - tropicaltidbits.com



e, init: 2020110912, AL29 Eta

color =



Models have trended more toward a weaker storm and more westward movement over the central Gulf of Mexico. Regardless, nearly all models have Eta weakening as it moves into the northern Gulf of Mexico. Some even call for Eta to dissipate. There remains a high degree of uncertainty in the forecast.



Key Messages

From the National Hurricane Center



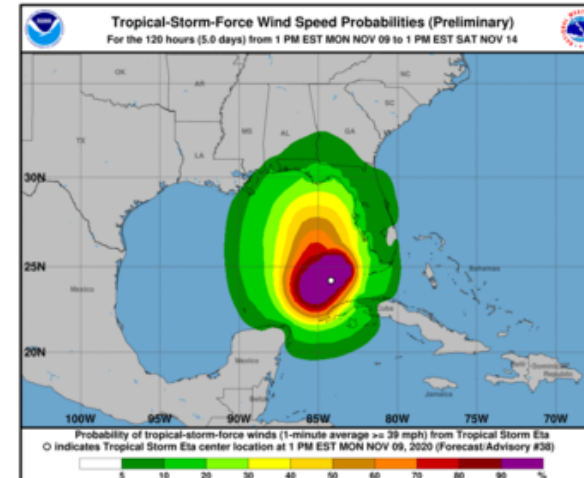
Key Messages for Tropical Storm Eta

Advisory 38: 4:00 PM EST Mon Nov 09, 2020



1. Heavy rainfall from Eta will continue across portions of Cuba, the Bahamas, and southern Florida and spread north into central Florida. Additional flash flooding is possible across inundated urban areas of southeast Florida today. Flash and urban flooding will also be possible for Cuba, the Bahamas and the remainder of southern Florida over the next several days.

2. Eta could approach the Florida Gulf Coast later this week as a tropical storm, and possibly bring impacts from rain, wind, and storm surge. Interests in this area should monitor the progress of Eta and updates to the forecast this week.



For more information go to hurricanes.gov

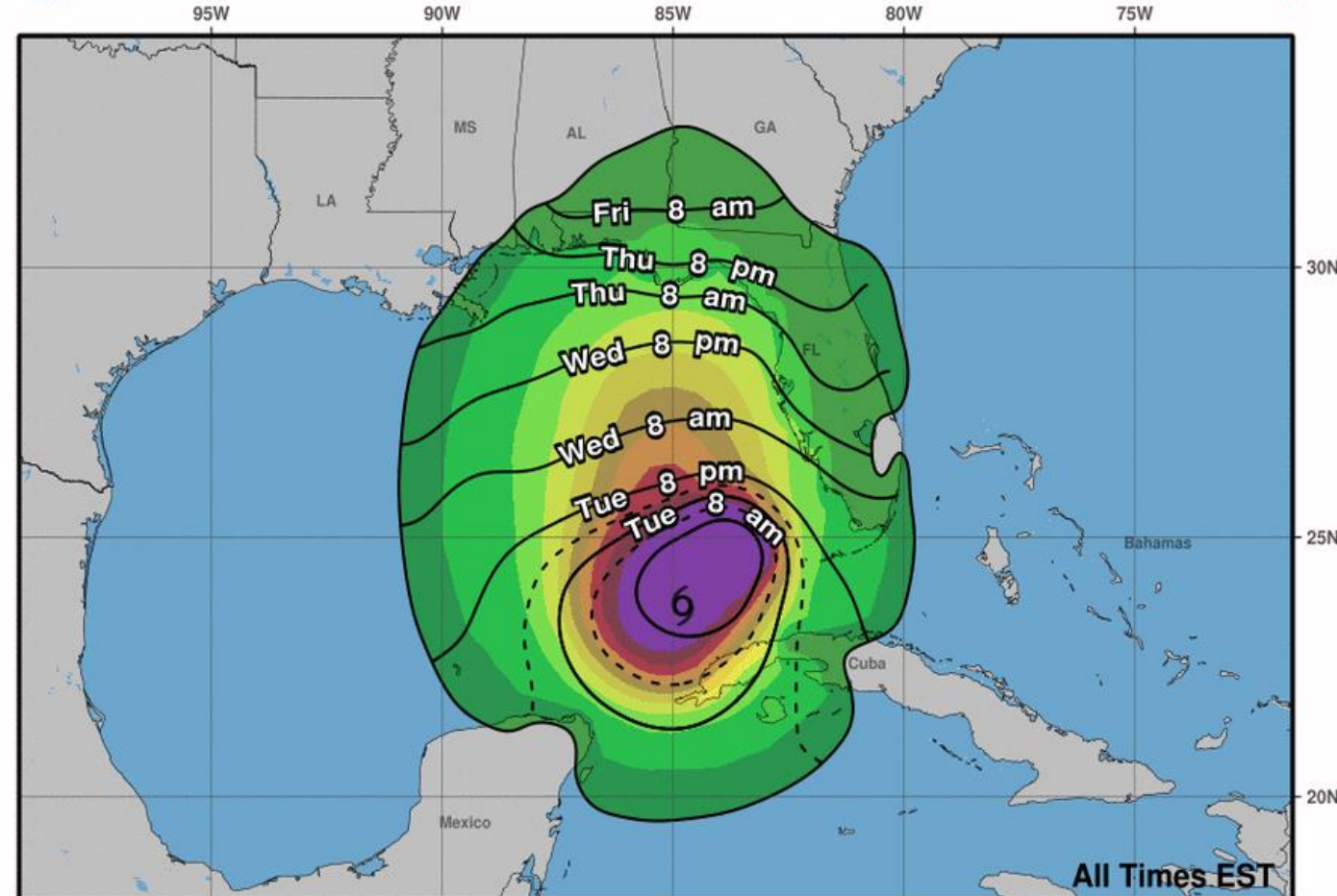


Time of Arrival & Wind Speed Probabilities

MOST LIKELY Time of Arrival of Tropical Storm Force Winds (>39 mph)



Most Likely Arrival Time of Tropical-Storm-Force Winds



City

Chance for
TS Winds

Changes Since
Last Packet

Key West

20%

-3%

Naples

23%

-77%

Ft. Myers

9%

-90%

Tampa

23%

-9%

Tallahassee

9%

-19%

Apalachicola

24%

-5%

Panama City

20%

-2%

Pensacola

6%

-5%

Tropical-storm force winds have ended across the Peninsula and the Keys. If tropical-storm-force winds occur along the Nature Coast or Big Bend later this week, they would most likely begin Wednesday night into Thursday.

Tropical Storm Eta
Mon. Nov. 9, 2020 4 pm EST
Advisory 38

Storm Location & Wind Speed
○ < 34 kt (39 mph)
● 34-63 kt (39-73 mph)
● ≥ 64 kt (74 mph)

5-day chance of receiving sustained 34+ kt (39+ mph) winds
5 10 20 30 40 50 60 70 80 90 100 %

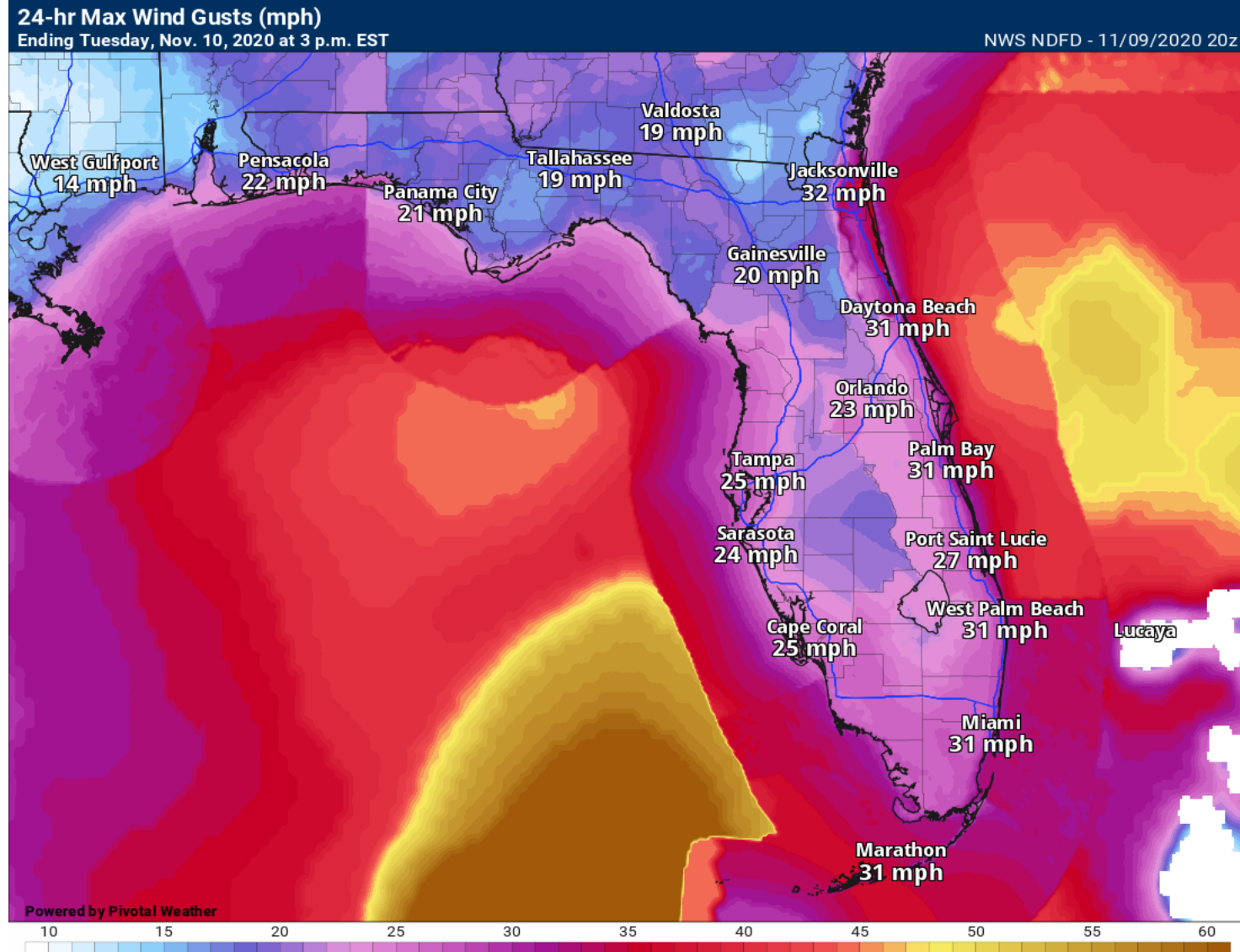


Maximum Wind Gusts

Next 24 Hours

Gusts of 25-40 mph remain possible across the Peninsula and the Keys. These gusts are mainly in any showers.

Tropical Storm Warnings have been canceled.



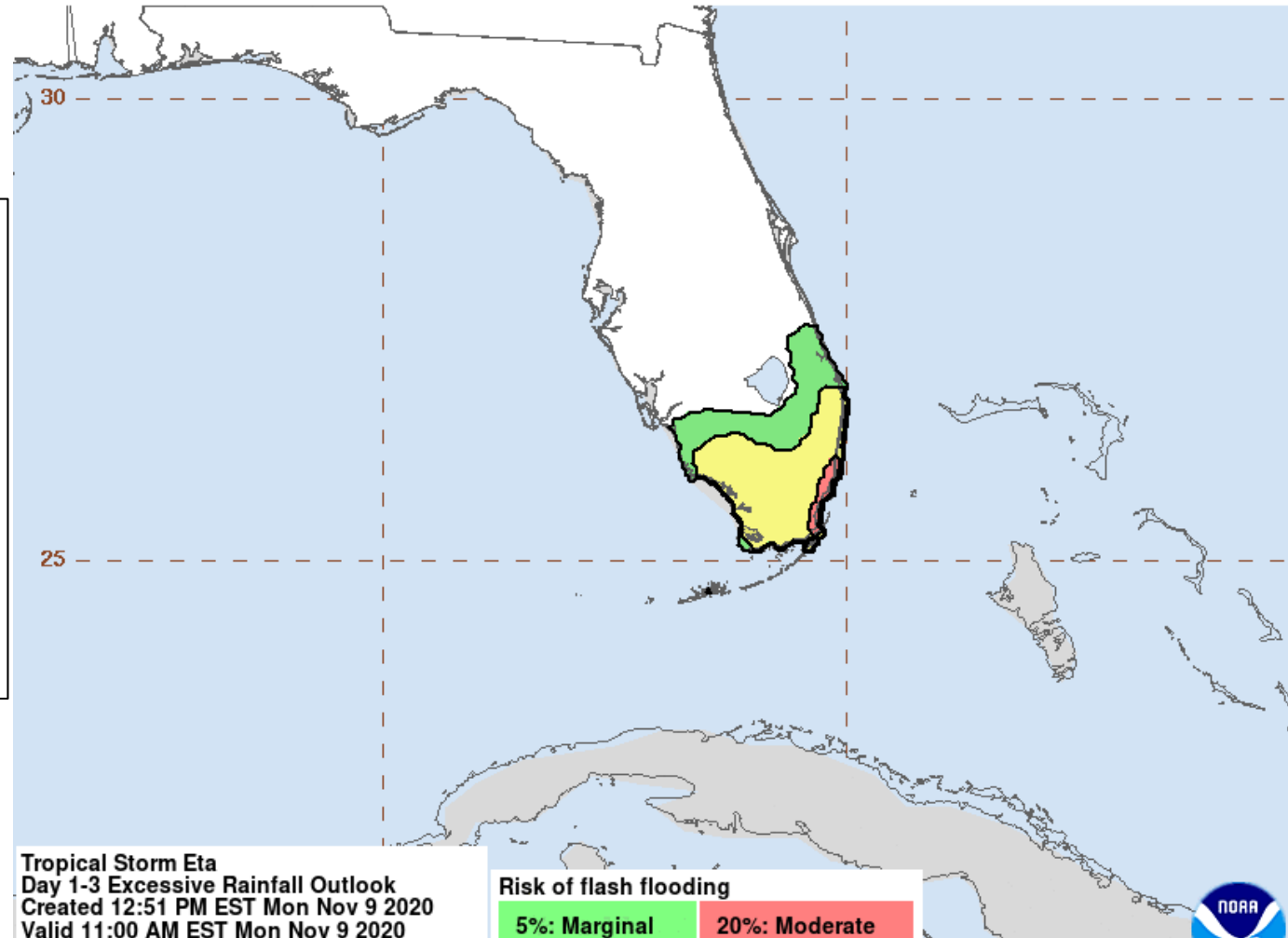


Flash Flood Outlook

3-Day Event Summary

Additional flash flooding is possible across Southeast Florida tonight, possibly northward toward the Treasure Coast. A risk of flash flooding continues across much of South Florida through the next few days.

Greatest Flash Flood Risk Over the Next 3 Days



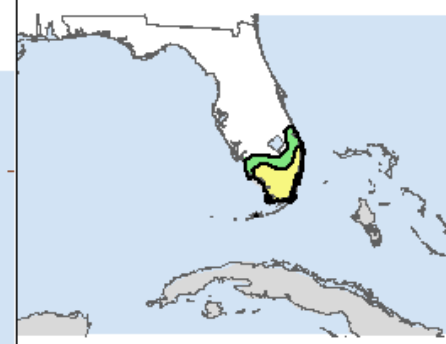
Tropical Storm Eta
Day 1-3 Excessive Rainfall Outlook
Created 12:51 PM EST Mon Nov 9 2020
Valid 11:00 AM EST Mon Nov 9 2020
through 7:00 AM EST Thu Nov 12 2020
NOAA/NWS/NCEP/WPC

Risk of flash flooding

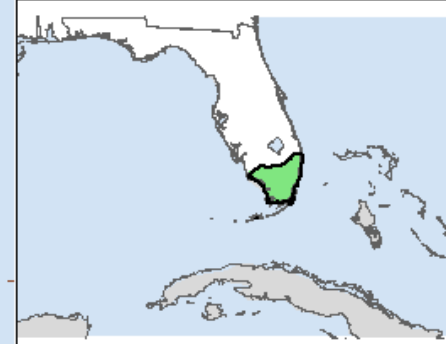
5%: Marginal	20%: Moderate
10%: Slight	50%: High



Day 1 Through Tuesday morning



Day 2 Through Wednesday morning



Day 3 Through Thursday morning



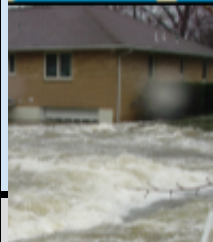




Flash Flood Risk Categories

Understanding the Weather Prediction Center Risk Scale

Understanding WPC Excessive Rainfall Risk Categories

<div>No Area/Label</div> <div>Flash floods are generally not expected.</div> <div>www.wpc.ncep.noaa.gov @NWSWPC</div>	<div>MARGINAL (MRGL)</div> <div>Isolated flash floods possible</div> <div>Localized and primarily affecting places that can experience rapid runoff with heavy rainfall.</div>	<div>SLIGHT (SLGT)</div> <div>Scattered flash floods possible</div> <div>Mainly localized. Most vulnerable are urban areas, roads, small streams and washes. Isolated significant flash floods possible.</div>	<div>MODERATE (MDT)</div> <div>Numerous flash floods likely</div> <div>Numerous flash flooding events with significant events possible. Many streams may flood, potentially affecting larger rivers.</div>	<div>HIGH (HIGH)</div> <div>Widespread flash floods expected</div> <div>Severe, widespread flash flooding. Areas that don't normally experience flash flooding, could. Lives and property in greater danger.</div>
<div>Flash flooding near me?</div> <div>Flash Flooding</div> <div>NO Flash Flooding</div>				
<div> WEATHER PREDICTION CENTER</div> <div></div>	<div>Risk of rainfall exceeding flash flood guidance within 25 miles of a point to the right of a line</div> <div>HIGH: > 50%SLGT: 10%-20%</div> <div>MDT: 20%-50%MRGL: 5%-10%</div>			<div></div>



Flood Watches

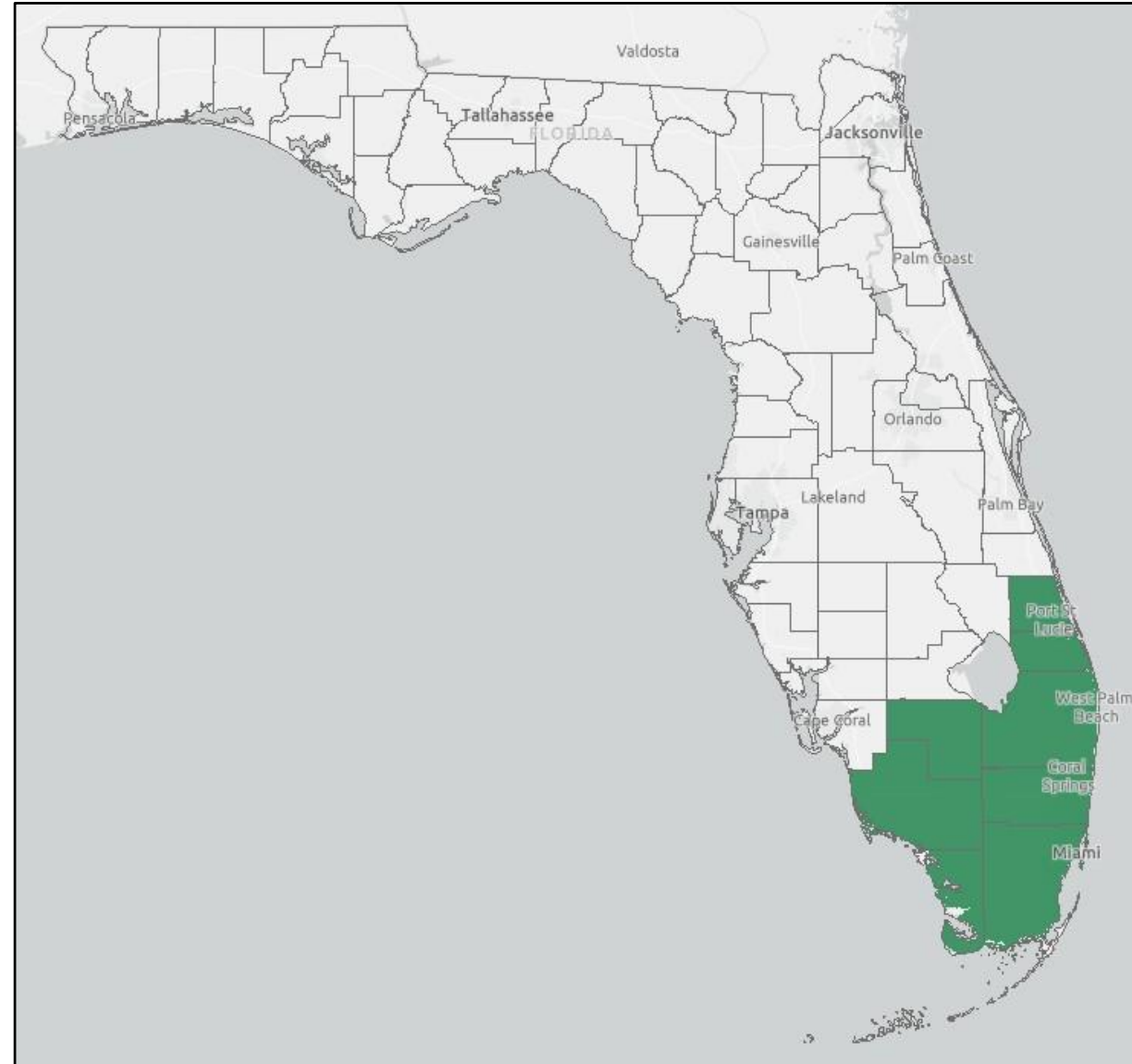
Links: [NWS Miami](#) | [NWS Melbourne](#)

Through this Evening:

St. Lucie and Martin Counties

Through Tuesday Evening:

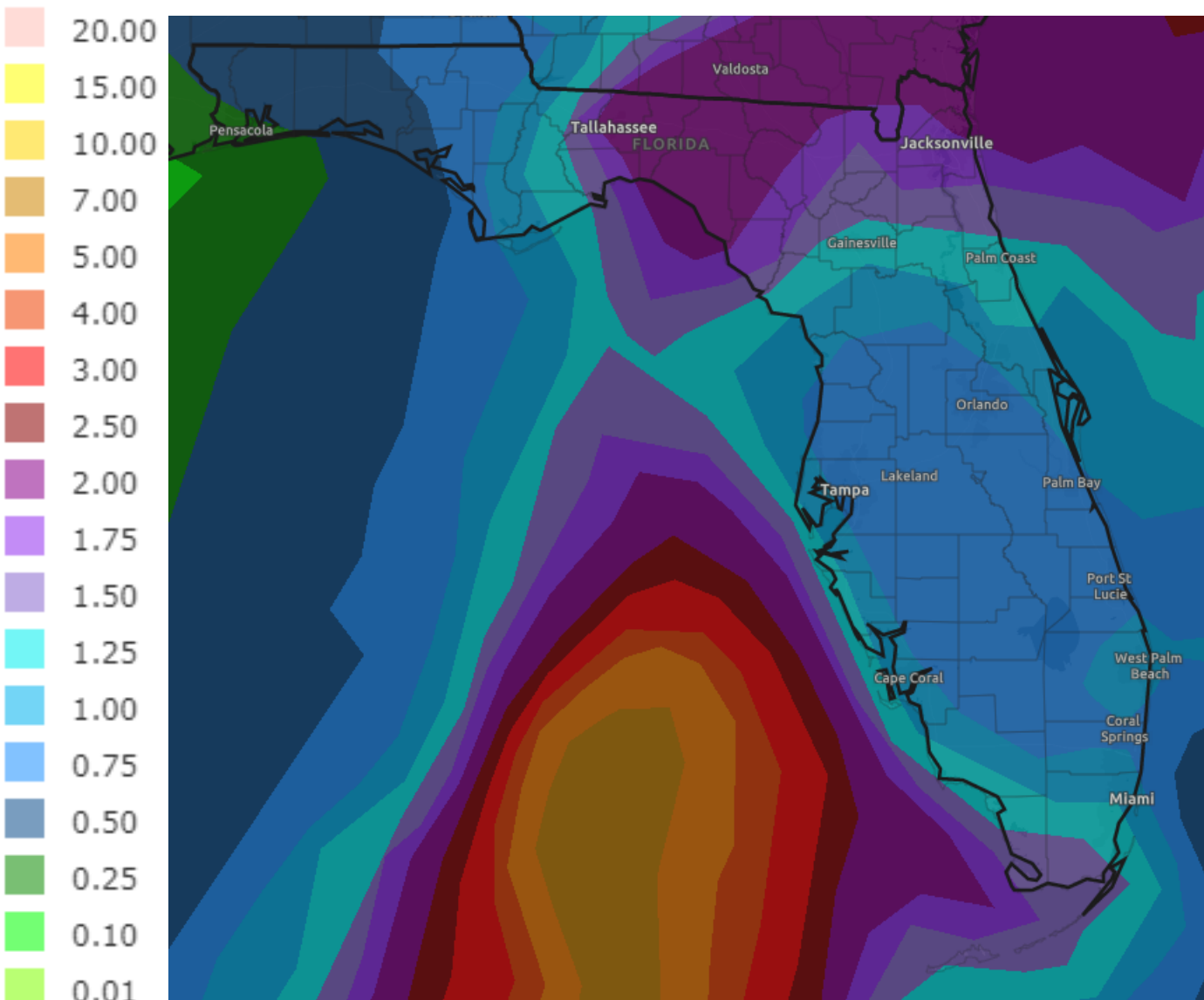
Glades, Hendry, Collier, mainland Monroe,
Palm Beach, Broward, and Miami-Dade
Counties





Rainfall Totals Next 7 Days

Ending 7 AM ET Monday



Rainfall totals will generally be around 1-2" across the Peninsula and up to 1.5-2.5" across the Big Bend and Northeast Florida. However, these totals, especially across North Florida, are dependent on the track of Eta.

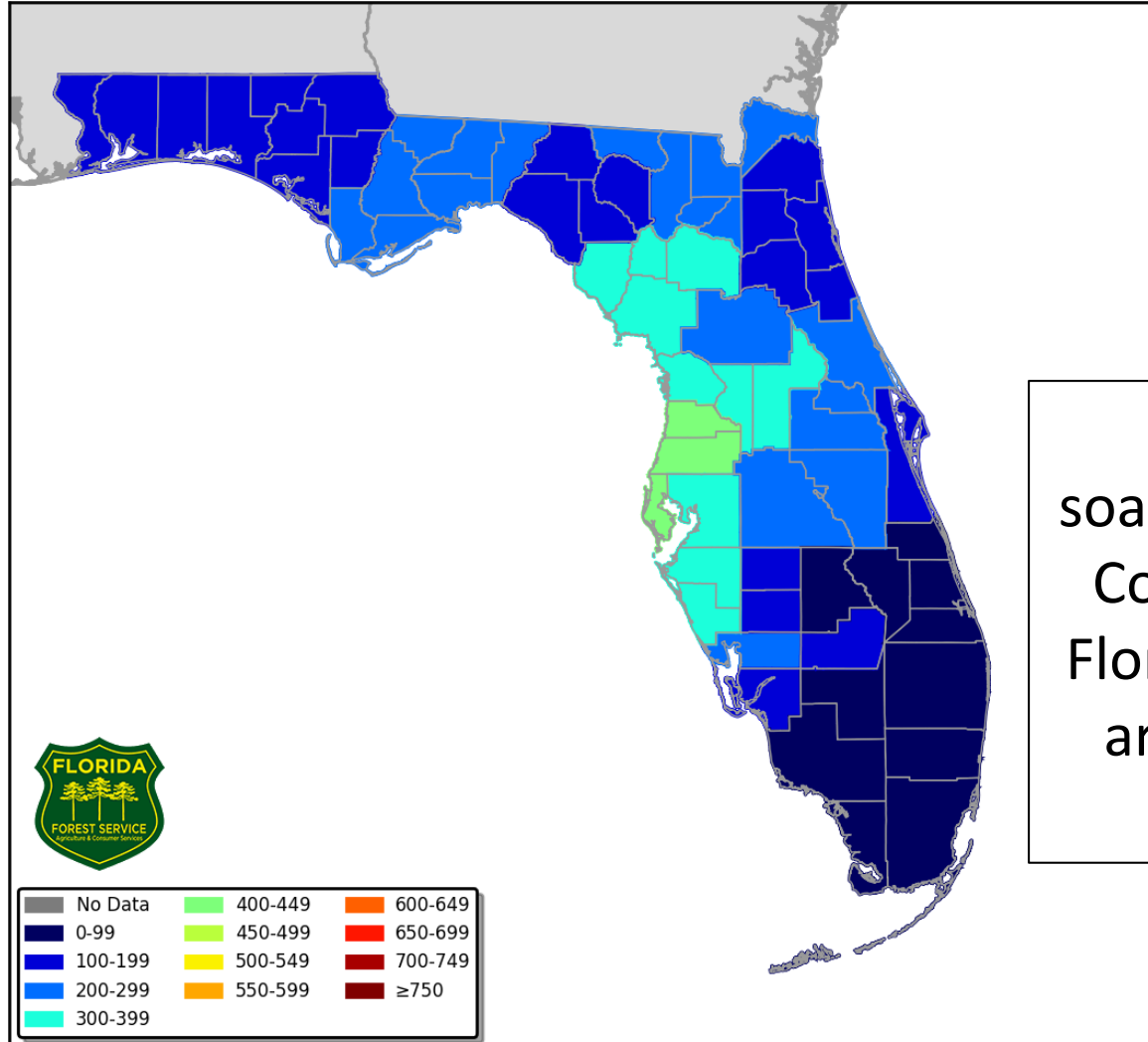
Any additional heavy downpours across South Florida, especially in Broward and Miami-Dade Counties, could result in flash flooding.



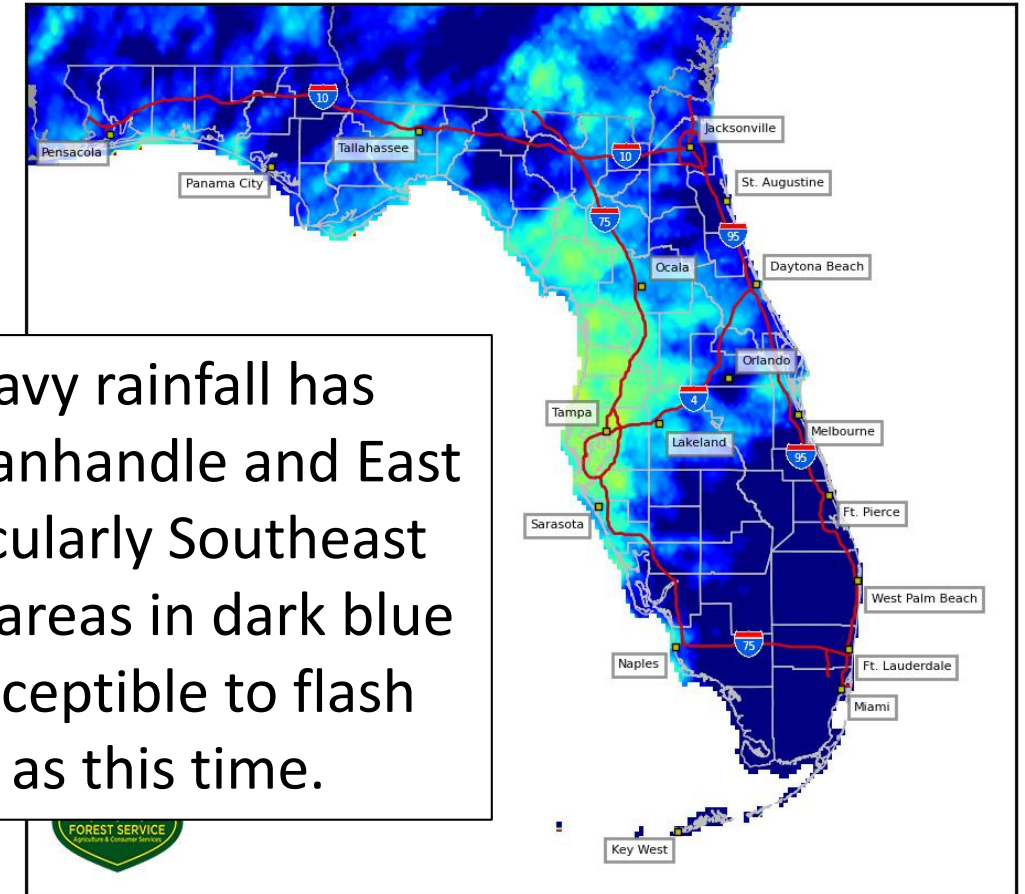
Drought Index – Soil Moisture

[KBDI – Full Report from the FFS](#)

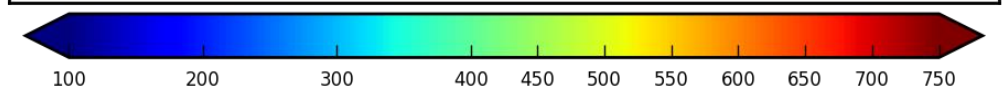
Keetch Byram Drought Index (KBDI)
County Averages for November 09, 2020



4 km Resolution KBDI
Statewide
November 09, 2020



Recent heavy rainfall has soaked The Panhandle and East Coast (particularly Southeast Florida). The areas in dark blue are very susceptible to flash flooding as this time.





Flash Flood Guidance

How Much Rain is Needed to Create Flash Flooding?



South Florida remains very wet from rainfall over the last several months. This area remains very prone to flooding.

It will only take about 1-2" of rain within 6 hours in parts of Broward, Miami-Dade, and Monroe Counties.

Elsewhere in South Florida, it will take about 3-4" of rain in 1 hour or 4-5" in 6 hours to cause flash flooding.

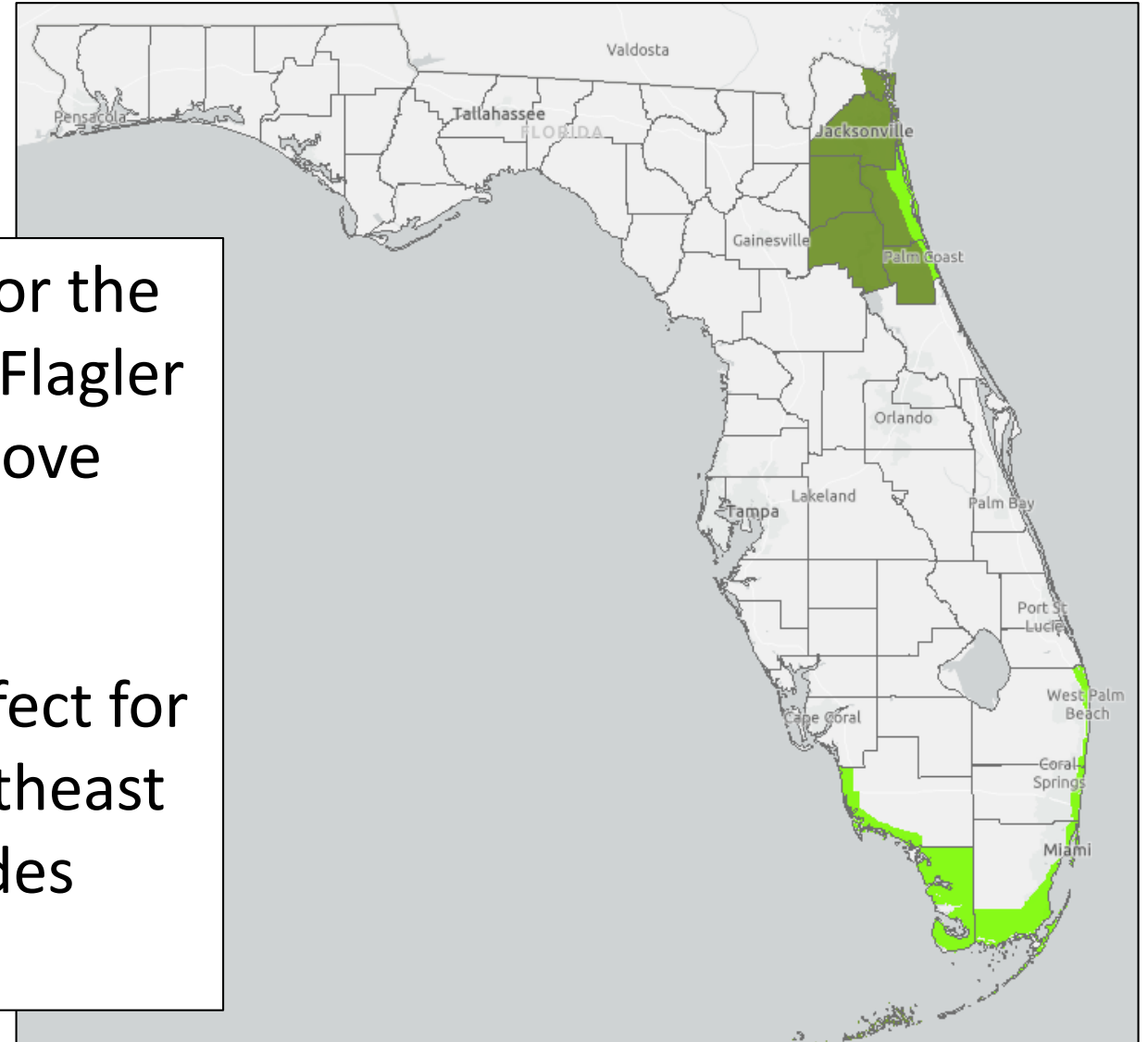


Coastal Flood Alerts

Tropical Storm Eta

Coastal Flood Advisories are in effect for the Upper Keys, South Florida, and coastal Flagler and St. Johns Counties. Tides of 1-2' above normal expected.

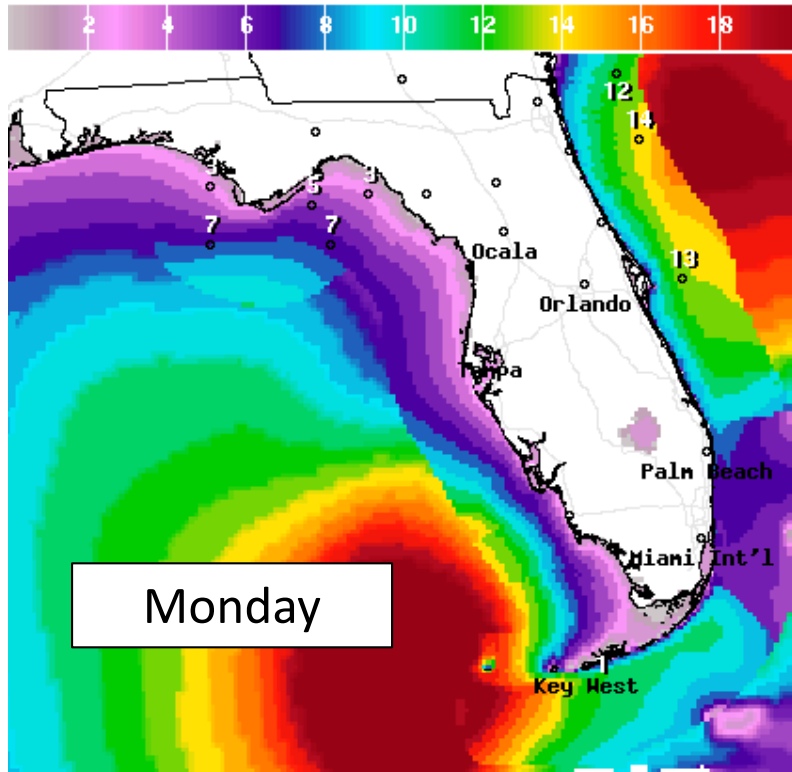
Coastal Flood Statements remain in effect for the remaining Keys and the rest of Northeast Florida including the St. Johns River. Tides around 1' above normal possible.





Forecast Wave Heights

Through Early Week

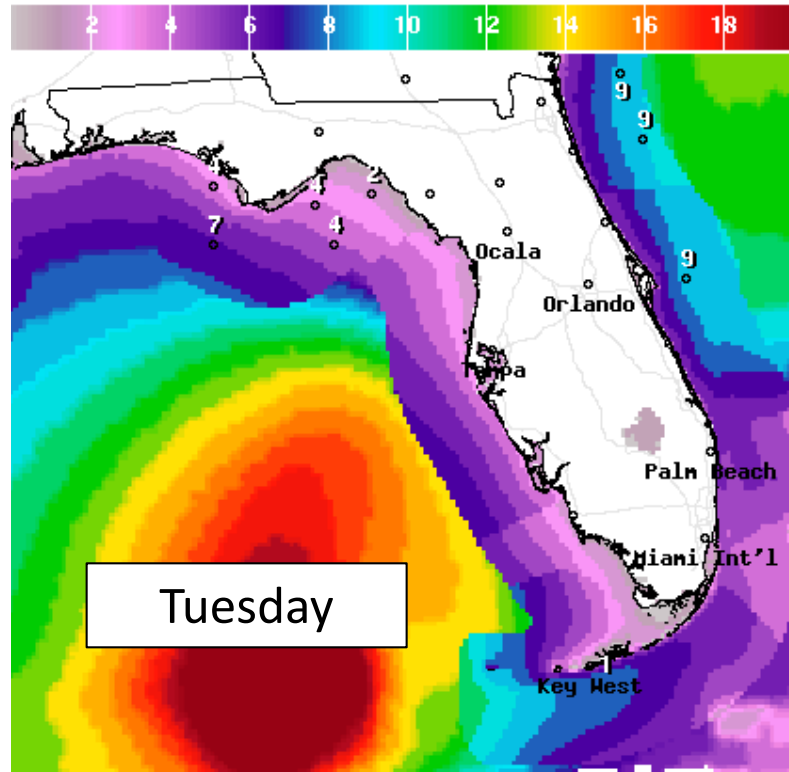


Wave Height(ft) Ending Mon Nov 09 2020 7PM EST
(Tue Nov 10 2020 00Z)



National Digital Forecast Database

19z issuance Graphic created-Nov 08 2:27PM EST

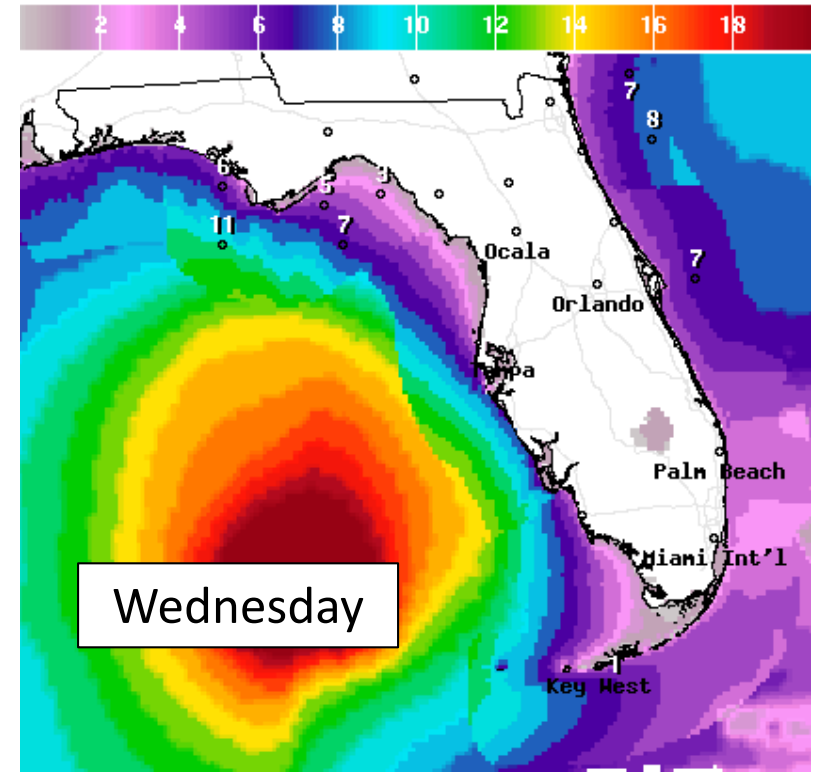


Wave Height(ft) Ending Tue Nov 10 2020 7PM EST
(Wed Nov 11 2020 00Z)



National Digital Forecast Database

19z issuance Graphic created-Nov 08 2:28PM EST



Wave Height(ft) Ending Wed Nov 11 2020 7PM EST
(Thu Nov 12 2020 00Z)



National Digital Forecast Database

19z issuance Graphic created-Nov 08 2:29PM EST



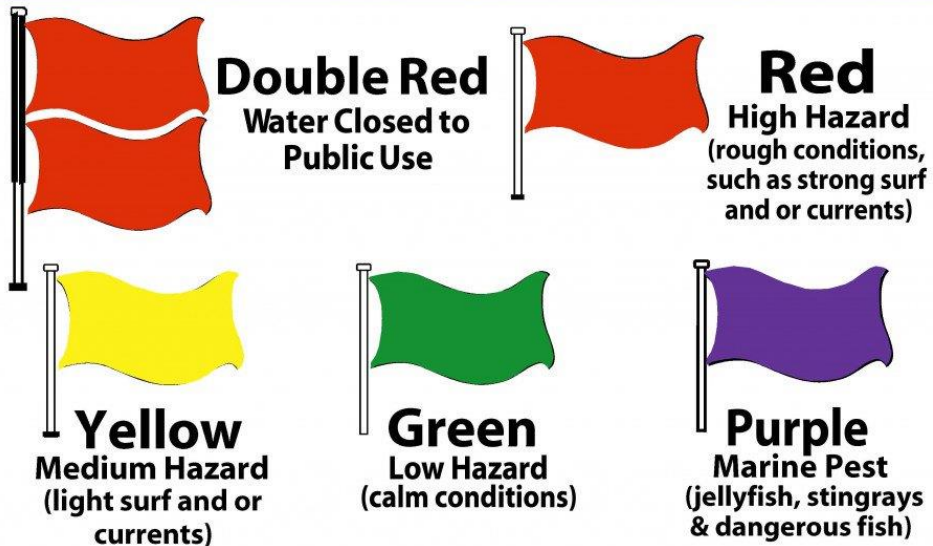
High surf of 7-13 feet will be possible along the East Coast Monday, subsiding to 4-8' by Tuesday and Wednesday. Waves will build across Gulf Coast beaches through this week as Eta moves into the Gulf. Significant beach erosion and dune overwash are possible over the next few days.



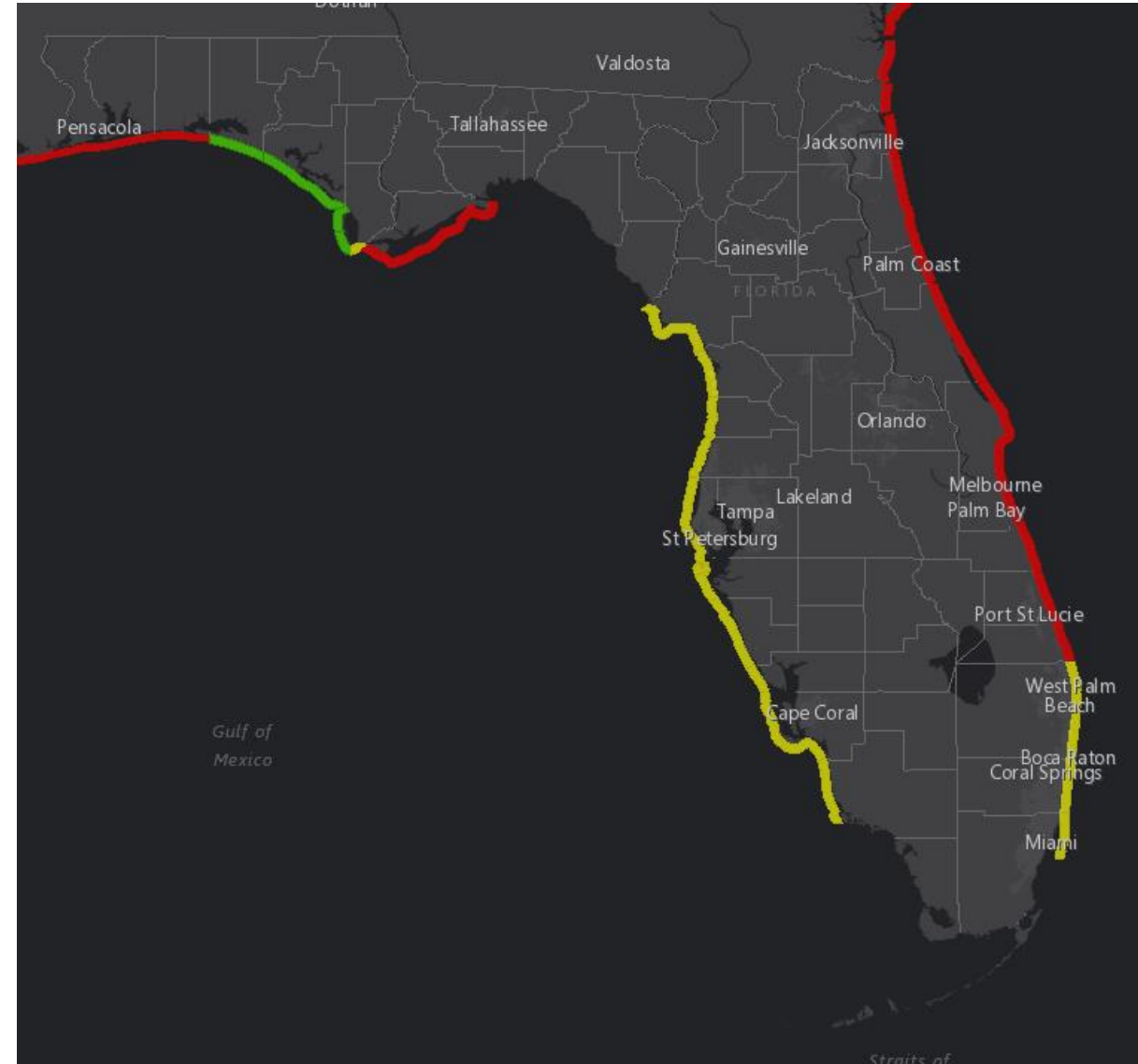
Rip Current Outlook

Today

BEACH FLAG WARNING SYSTEM




Dangerous rip currents continue due to strong easterly winds and rough surf statewide.

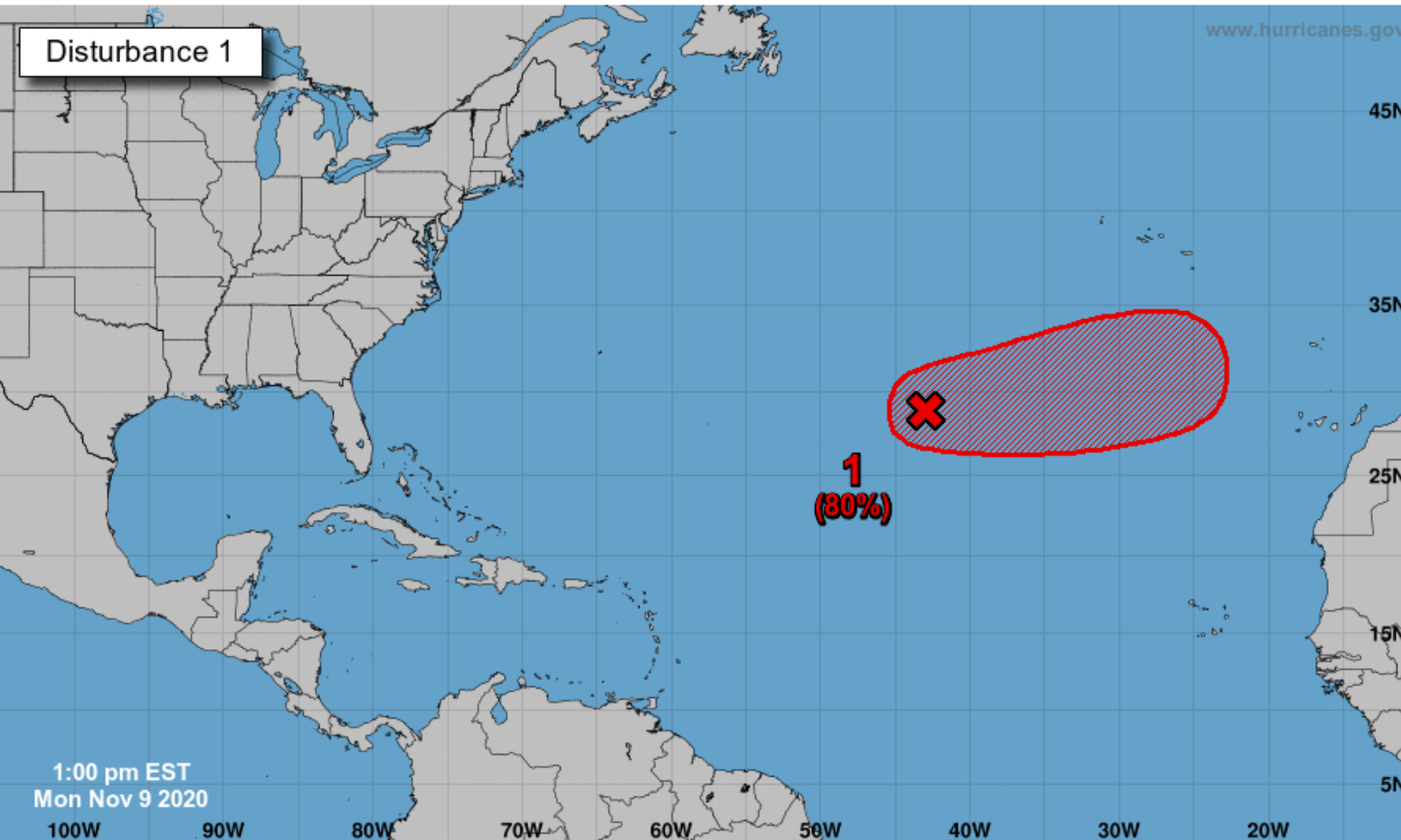









Tropical Weather Outlook

Possible Areas of Development During the Next 5 Days ([LINK](#))

 **Five-Day Graphical Tropical Weather Outlook**
National Hurricane Center Miami, Florida



Current Disturbances and Five-Day Cyclone Formation Chance:

	< 40%		40-60%		> 60%
	Depression		Storm		Hurricane
	Post-Tropical Cyclone or Remnants				

Shower and thunderstorm activity associated with a low pressure system located several hundred miles southwest of the Azores has increased and become better organized during the past several hours.

Satellite-derived wind data earlier this morning suggested that the system had not yet become distinct from a frontal boundary in the area, however, it will likely become non-frontal soon.

The satellite data also indicated that the system is already producing gale-force winds.

Additional development is expected, and a tropical or subtropical storm will likely form during the next day or two while the system moves eastward or east-northeastward over the northeastern Atlantic Ocean.

***Formation chance through 48 hrs...high...70%.**

***Formation chance through 5 days...high...80%.**



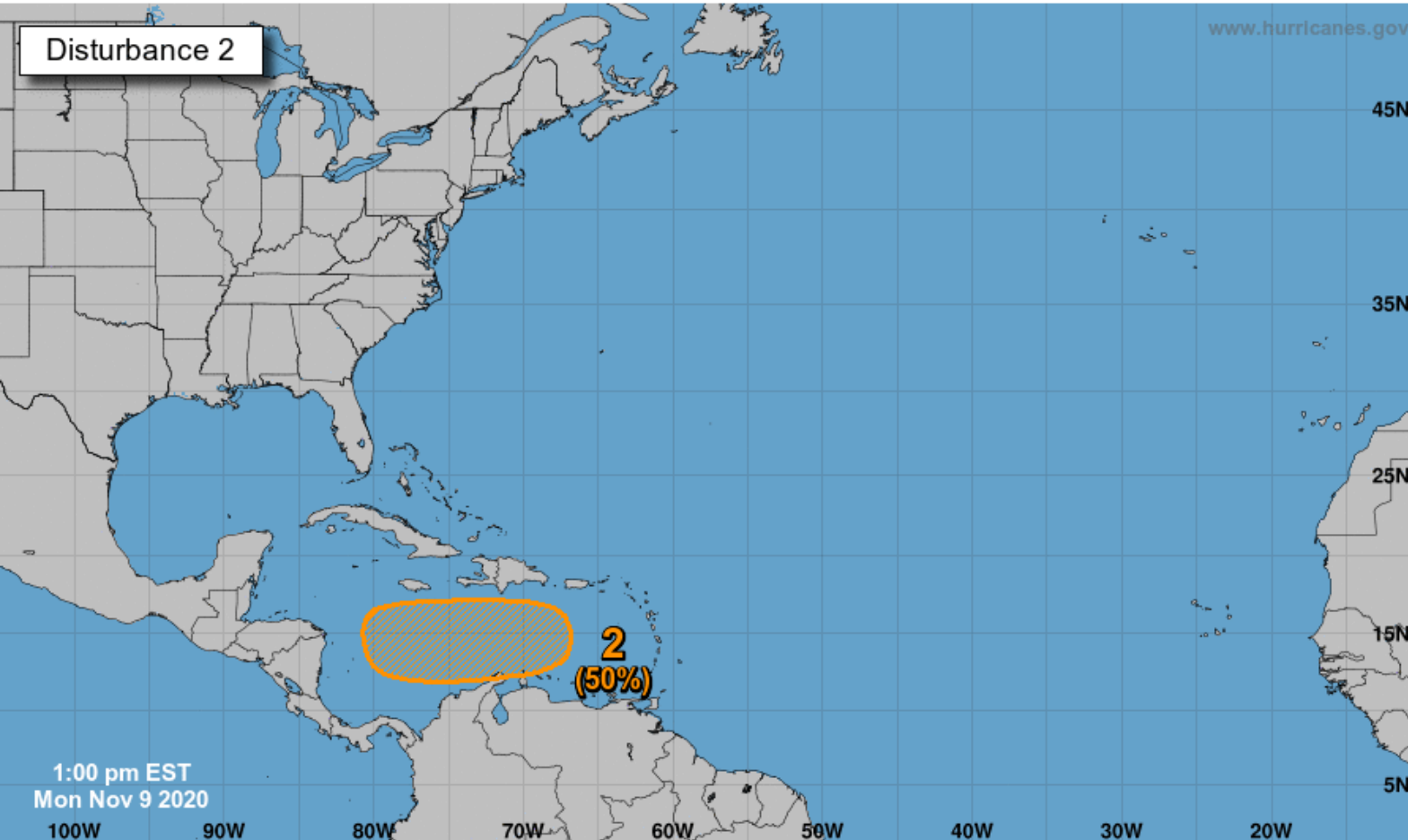
Tropical Weather Outlook

Possible Areas of Development During the Next 5 Days ([LINK](#))



Five-Day Graphical Tropical Weather Outlook

National Hurricane Center Miami, Florida



A tropical wave is forecast to move over the central Caribbean Sea, where an area of low pressure could form in a couple of days.

Environmental conditions are forecast to be conducive for development, and a tropical depression could form later this week or over the weekend while the system moves slowly westward.

This system is not expected to bring impacts to Florida over the next 7 days, if at all.

***Formation chance through 48 hrs...low...near 0%.**

***Formation chance through 5 days...medium...50%.**

Current Disturbances and Five-Day Cyclone Formation Chance: < 40% 40-60% > 60%

Tropical or Sub-Tropical Cyclone: Depression Storm Hurricane

Post-Tropical Cyclone or Remnants



Overall Summary

Tropical Storm Eta

- The center of Tropical Storm Eta is about 140 miles west-southwest of the Dry Tortugas, moving southwest at 16 mph.
- Maximum sustained winds are near 50 mph, and Eta could still strengthen over the next 24-48 hours. However, Eta is no longer forecast to become a hurricane.
- Eta will turn northward on Tuesday, and the official forecast brings Eta slowly north toward the Gulf Coast of Florida this weekend.
- Models are highly divergent on if Eta moves northward toward the Florida coast or if it moves westward over the Gulf of Mexico. This is a low confidence forecast.

Invest 97L – Northeast Atlantic

- A non-tropical low pressure system several hundred miles off the Azores could acquire some tropical or subtropical characteristics in the next day or two as it moves east or east-northeast.
- This system has a 70% (high) chance of formation during the next 48 hours and an 80% (high) chance during the next 5 days.
- The next name on the list is Theta (thay-tah)
- This system does not need to be monitored.

Caribbean Wave

- A tropical wave moving over the Caribbean could spawn an area of low pressure over the central Caribbean as it slowly moves westward through the end of the week.
- This system has a 0% (low) chance of formation during the next 48 hours and a 20% (medium) chance during the next 5 days.
- This system is not expected to bring impacts to Florida over the next 7 days, if at all.



Florida Outlook

Florida Outlook:

- It is important to **NOT** focus on the exact track of Eta. Impacts will extend well beyond the cone away from the center.
- **Hurricane Watches & Warnings:** Canceled
- **Tropical Storm Warnings:** Canceled
- Gusts to tropical-storm-force are still possible in the heavier rain bands through this evening in South Florida and the Keys.
- Saturated soils make trees and power lines more susceptible to wind damage.
- An additional 1-3" of rain is still possible in parts of South Florida, but any heavy downpours in Broward or Miami-Dade Counties will result in flash flooding.
- **Flood Watches** are in effect for all of South Florida (until Tuesday evening) and parts of the Treasure Coast (until tonight).
- **Storm Surge Watches & Warnings:** Canceled
- Coastal Flood Advisories & Statements: Northeast, Southeast and Southwest Florida including the Florida Keys.
- Tides remain 1-2' above normal in these areas and minor flooding at high tide remains possible tonight.
- The tornado threat has ended across the state.
- Beach erosion and dangerous rip currents from very high surf are expected along the East Coast. The threat gradually increases along the Gulf Coast over the next few days.
- This system could impact other parts of the state farther north later this week. However, details there become highly uncertain and it will be a few days before specifics can be determined.

The next tropics packet will be issued Tuesday morning with the 10 AM ET advisory. For the latest information on the tropics, please visit the National Hurricane Center website at www.hurricanes.gov.



TROPICAL UPDATE



Created by:

Michael Spagnolo, Deputy State Meteorologist

Michael.Spagnolo@em.myflorida.com

Cameron Young, Assistant State Meteorologist

Cameron.Young@em.myflorida.com

State Meteorological Support Unit

Florida Division of Emergency Management

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