



TROPICAL UPDATE



4:00 PM EST

Tuesday, November 10, 2020

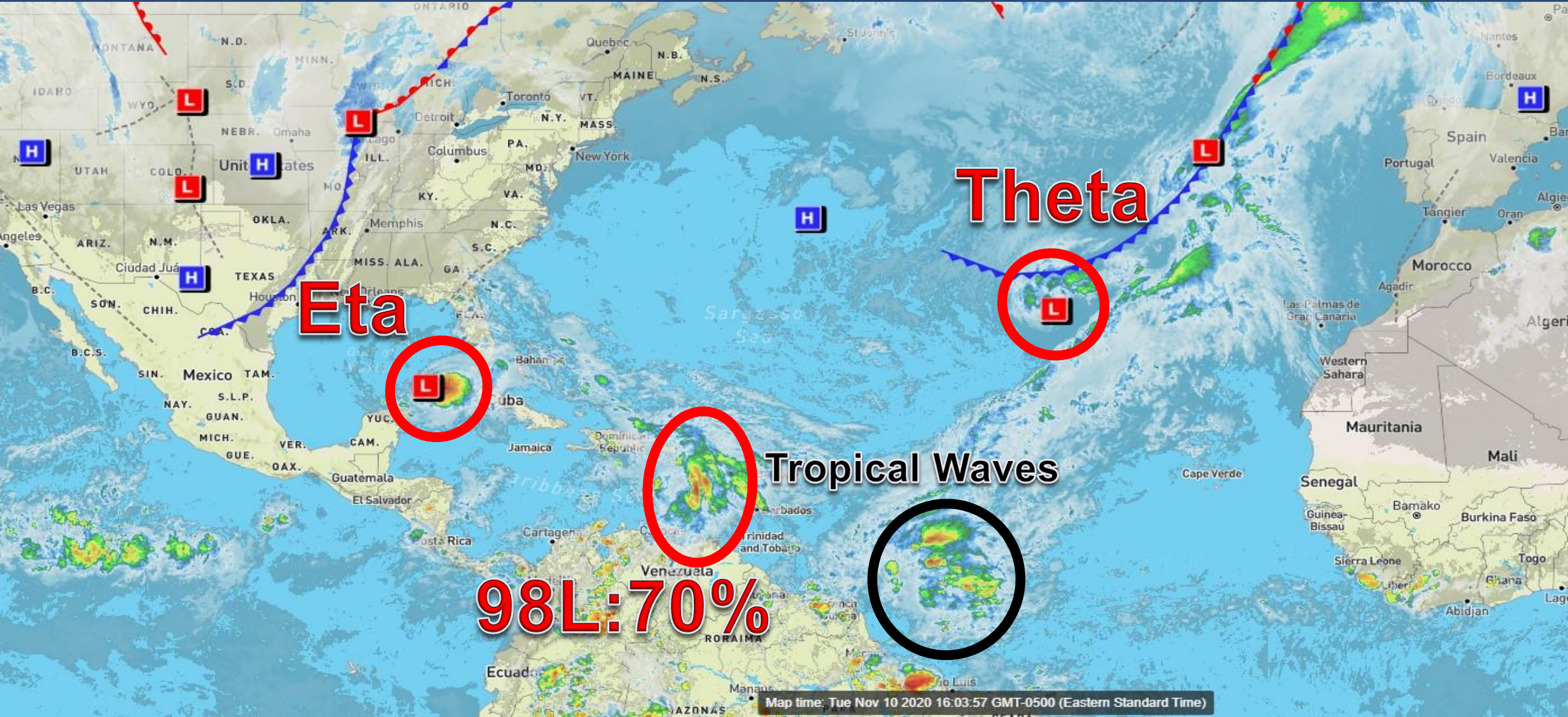
Tropical Storm Eta, Tropical Storm Theta,
and Invest 98L in the Caribbean (70%)

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.



Atlantic Basin Satellite Image

Chance of development: — None — Low — Medium — High





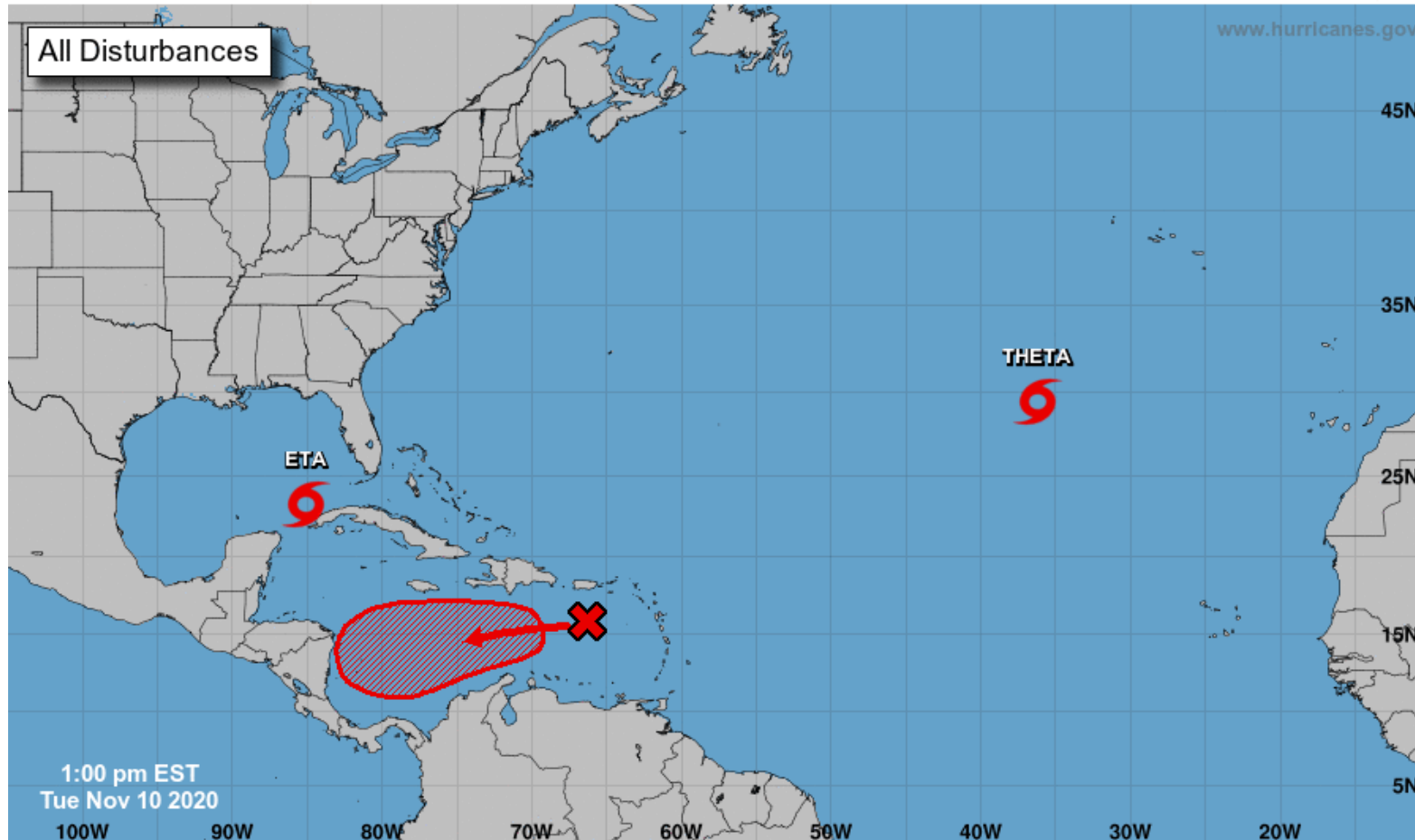
Tropical Weather Overview

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



Five-Day Graphical Tropical Weather Outlook

National Hurricane Center Miami, Florida



1:00 pm EST
Tue Nov 10 2020

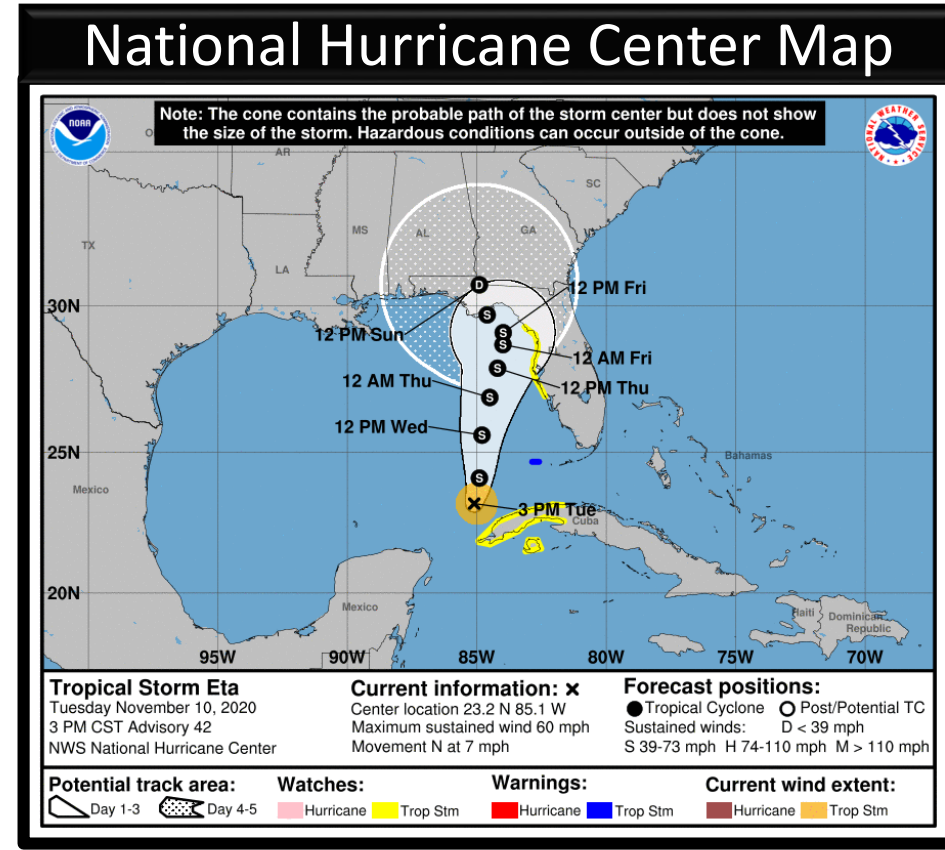
Current Disturbances and Five-Day Cyclone Formation Chance: < 40% 40-60% > 60%
Tropical or Sub-Tropical Cyclone: Depression Storm Hurricane
 Post-Tropical Cyclone or Remnants



Tropical Storm Eta

4 PM ET Tuesday: 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:

The track has shifted east significantly towards the Florida Peninsula.

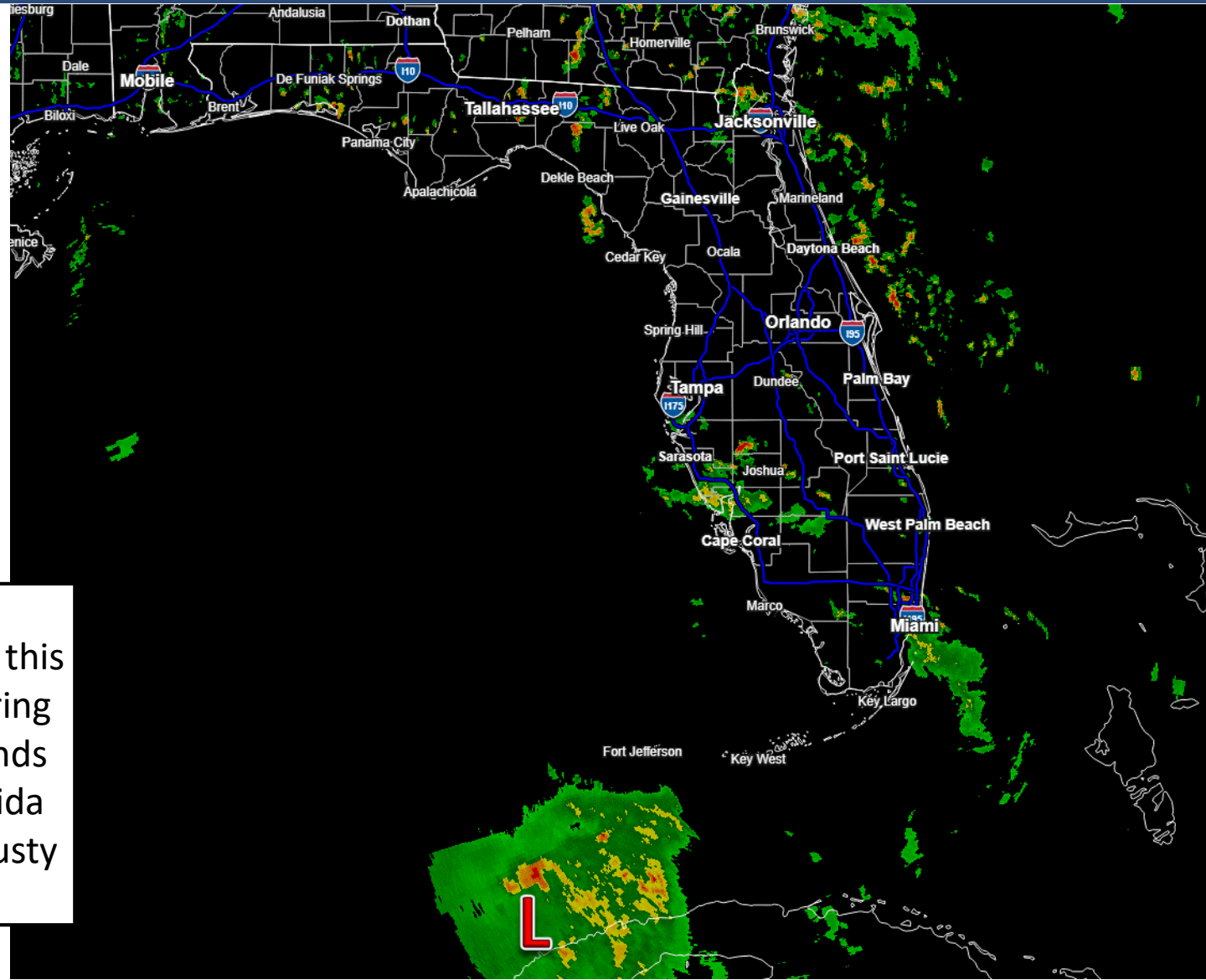
Tropical Storm Watches have been issued from the Suwannee River to Englewood.

Heavy rainfall and isolated tornadoes will be possible in outer rain bands along the West Coast Wednesday & Thursday.



Current Florida Radar

As of 4:15 PM ET



Scattered showers and isolated thunderstorms continue across the state this afternoon. The core of the storm is nearing Fort Jefferson/Dry Tortugas and rain bands may increase across the rest of the Florida Keys overnight with heavy rainfall and gusty winds.

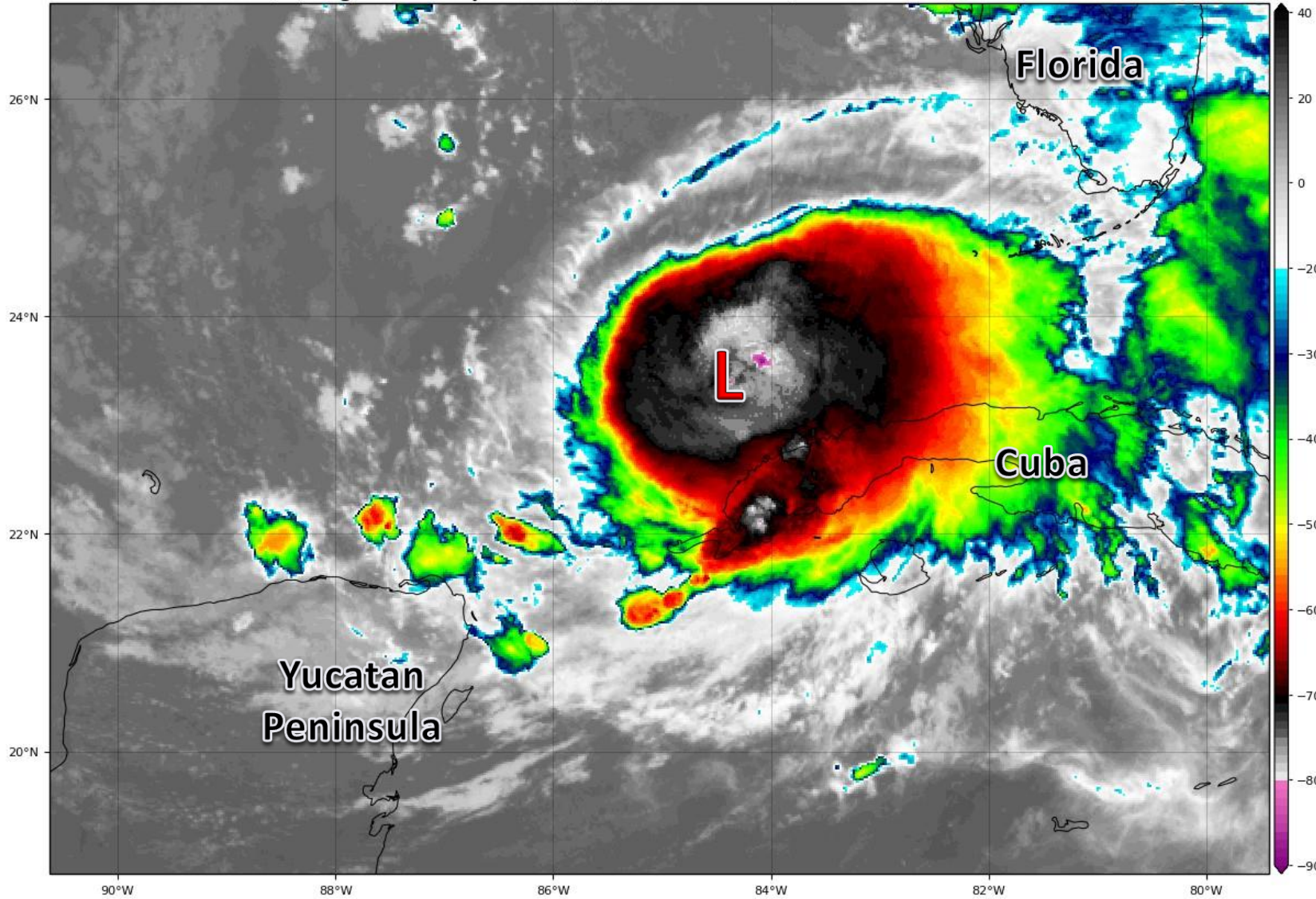


Satellite Imagery

Tropical Storm Eta – Southeastern Gulf of Mexico

GOES-16 Channel 13 (IR) Brightness Temperature (°C) at 21:12Z Nov 10, 2020

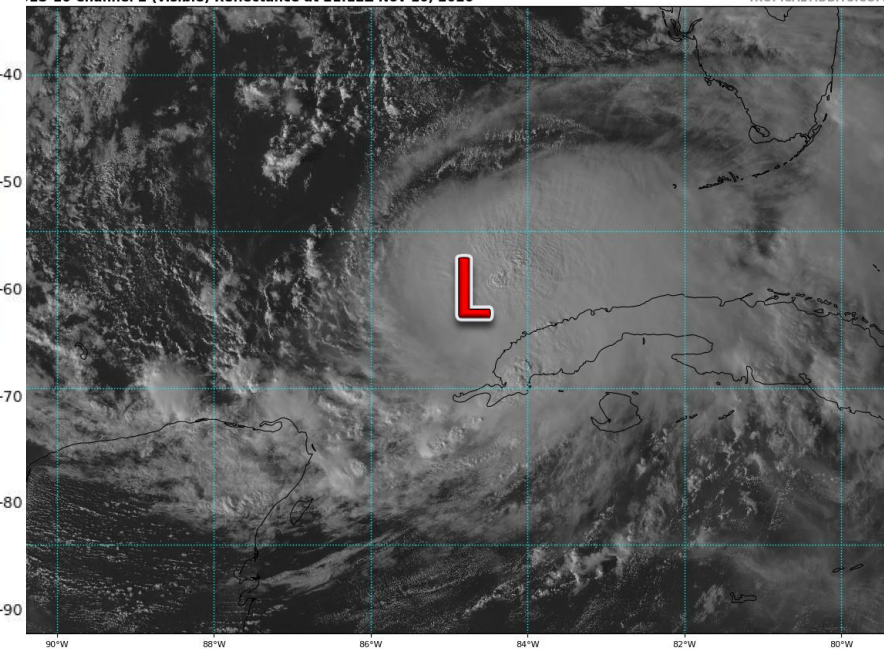
TROPICALTIDBITS.COM



Eta has a small, but persistent area of thunderstorms near the center. Dry air surrounds the system which is preventing significant development. However, it has gradually organized today.

GOES-16 Channel 2 (visible) Reflectance at 21:12Z Nov 10, 2020

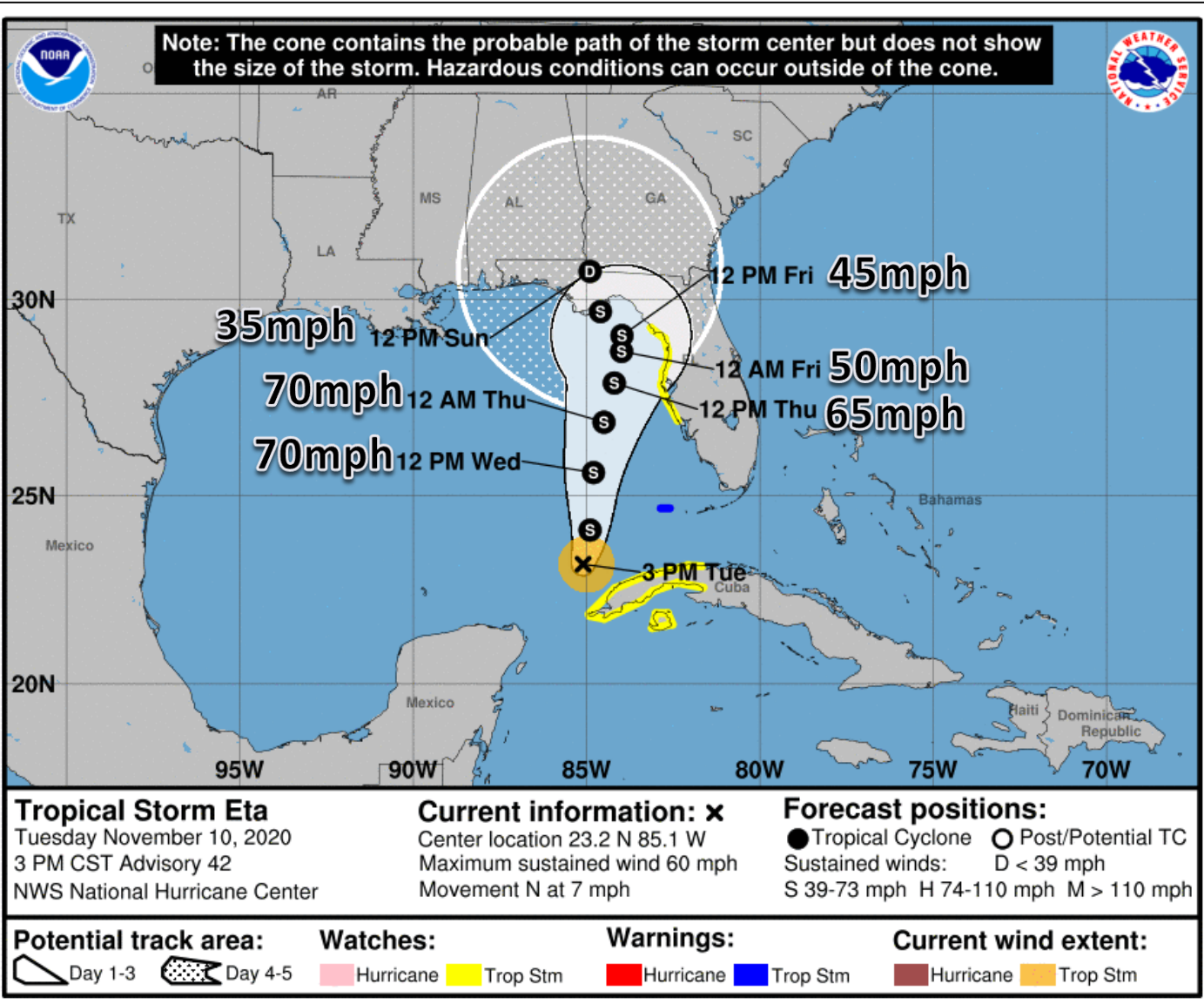
TROPICALTIDBITS.COM





Official Forecast Track

From the National Hurricane Center – Tropical Storm Eta



- The center of Tropical Storm Eta is about 200 miles southwest of Key West, moving to the north at 7 mph.
- Maximum sustained winds are near 60 mph, and Eta could still strengthen over the next 24-36 hours to near hurricane strength.
- Eta will gradually move northward, and the official forecast brings Eta slowly north into Apalachee Bay by this weekend.
- The environment will be hostile across the northern Gulf of Mexico, resulting in rapid weakening once the system gets north of Tampa Bay.
- The track as shifted east today and *additional eastward shifts are possible based on the latest guidance this afternoon.*



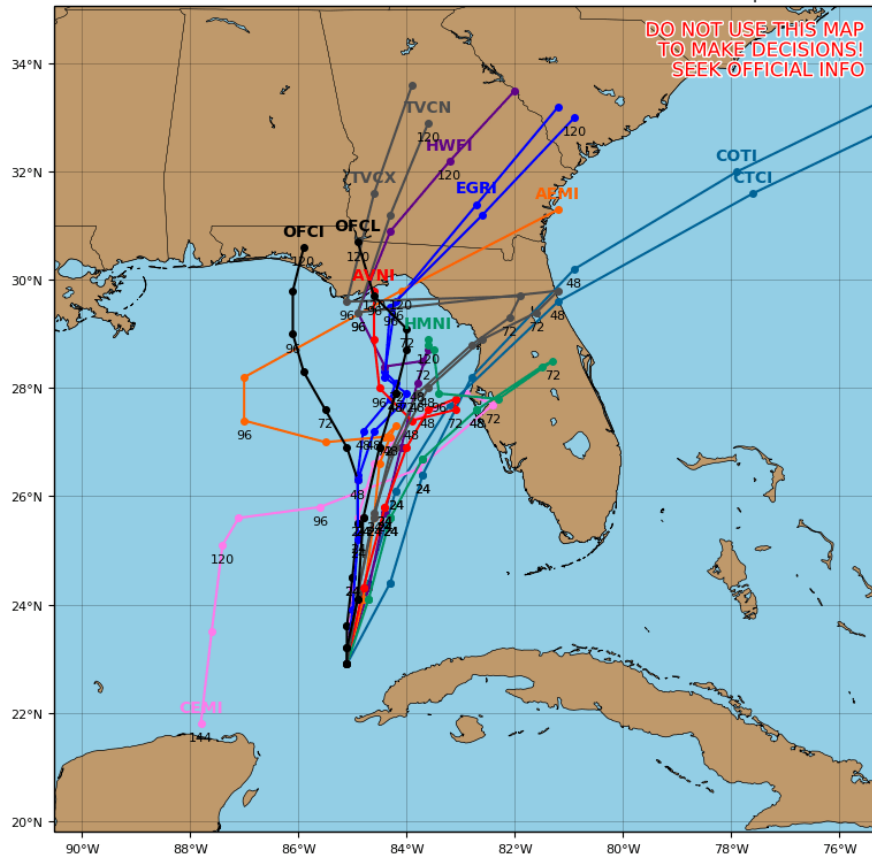
Model Forecast Tracks

Ensembles, Dynamical, and Statistical Models

Tropical Storm ETA Model Track Guidance

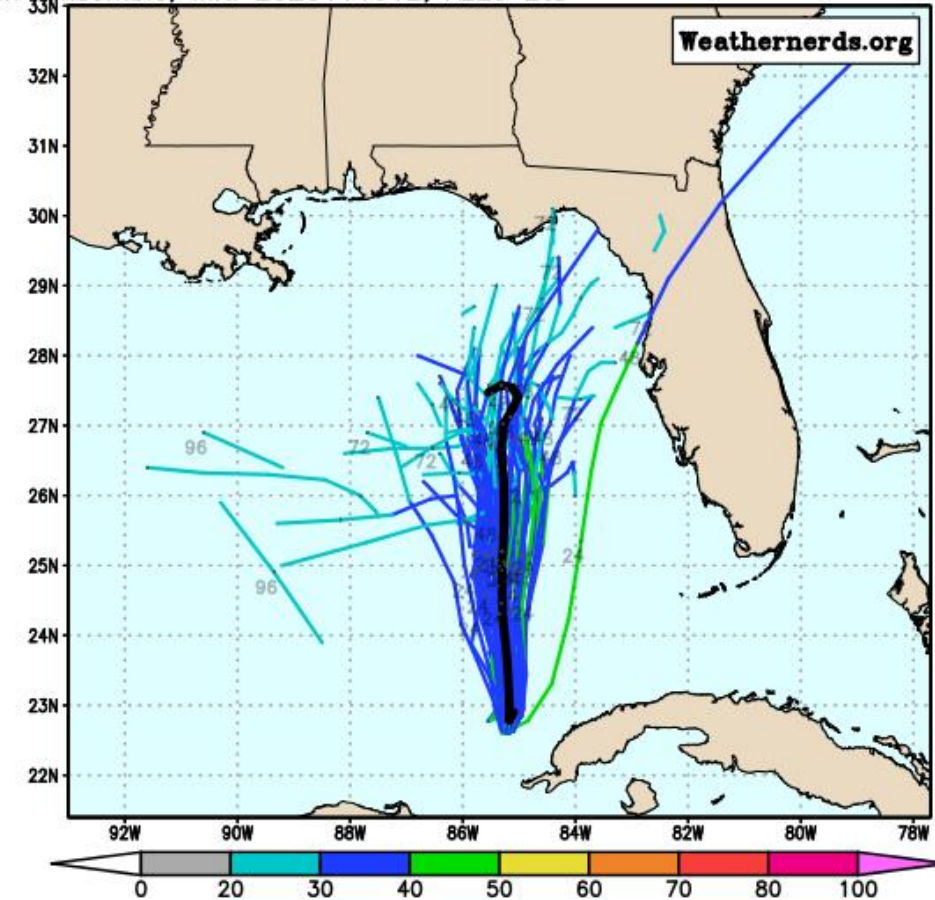
Initialized at 18z Nov 10 2020

Levi Cowan - tropicaltidbits.com



ECMWF Ensemble, init: 2020111012, AL29 Eta

color = max wind (kt)



Models have trended significantly eastward today and are in significantly more agreement than this morning. A NOAA aircraft sampled the environment all the way around Eta this morning to help get a better idea on track, and this collection of data may have resulted in the eastward shift. A landfall along the West Coast or Big Bend is possible.



Key Messages

From the National Hurricane Center



Key Messages for Tropical Storm Eta

Advisory 42: 3:00 PM CST Tue Nov 10, 2020



1. Tropical-storm-force winds are possible along portions of the Florida Gulf Coast by Thursday afternoon, and a Tropical Storm Watch has been issued. Interests elsewhere along the Florida Gulf Coast should monitor the progress of Eta, as additional watches may be needed tonight.

2. Heavy rainfall from Eta will continue across western Cuba and South Florida today and tonight, then potentially spread up the west coast of the Florida Peninsula Wednesday through Thursday. Additional flash and urban flooding will be possible in South Florida, especially across previously inundated areas, and eventually along portions of West Florida and the Sun Coast. Flash and urban flooding will also be possible for western Cuba.



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

12%

+1%

Naples

21%

+8%

Ft. Myers

12%

+7%

Tampa

45%

+30%

Tallahassee

21%

+13%

Apalachicola

33%

+12%

Panama City

25%

+6%

Destin

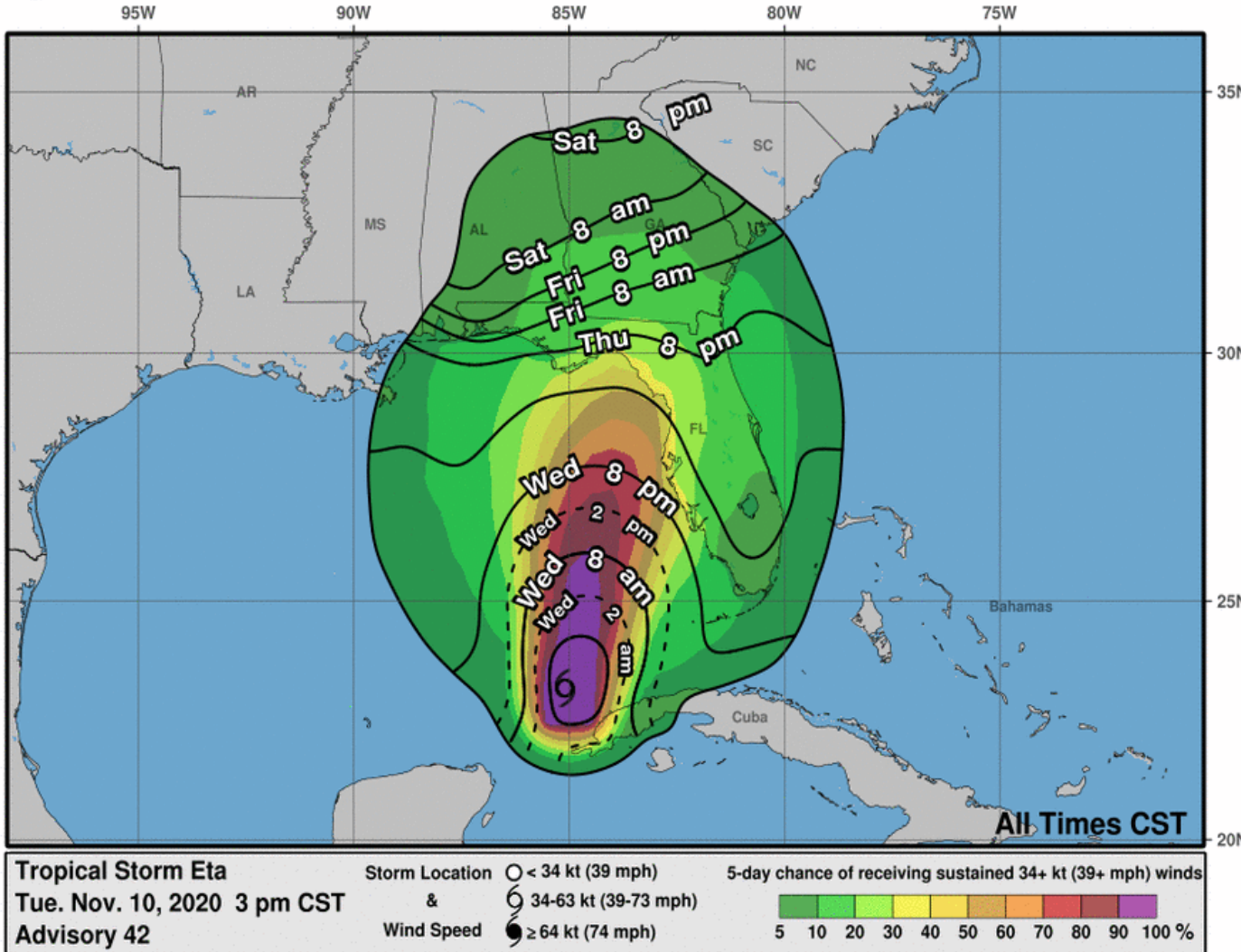
11%

+5

Pensacola

8%

+/-0%



In general, the threat of tropical storm force winds has INCREASED significantly.

They will most likely occur along the West Coast late Wednesday night and Thursday and in the Big Bend Thursday night and Friday.



Damaging Wind Threat Overview

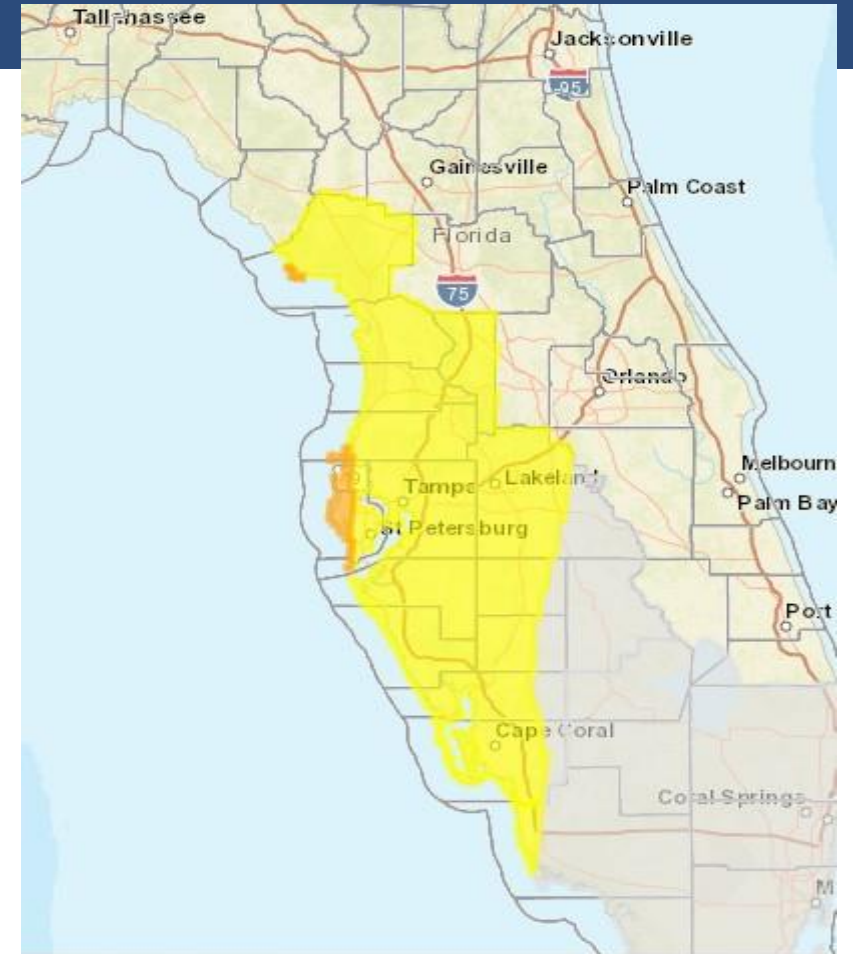
Tropical Storm Eta

The greatest wind threat will be along the West Coast of the Peninsula, generally west of I-75.

Sustained winds of 40-50mph are possible with gusts to 60.

Gusts to 45 mph are possible across inland areas.

It is too early to determine the exact wind threat for the Big Bend.



[Download KML]

[Download Image]

[https://www.weather.gov/srh/tropical?
office=tbw](https://www.weather.gov/srh/tropical?office=tbw)

Click on "Threats and Impacts" Tab

Wind Threat
Potential for wind greater than 110 mph
Potential for wind 74 to 110 mph
Potential for wind 58 to 73 mph
Potential for wind 39 to 57 mph
Wind less than 39 mph



Wind Watches and Warnings

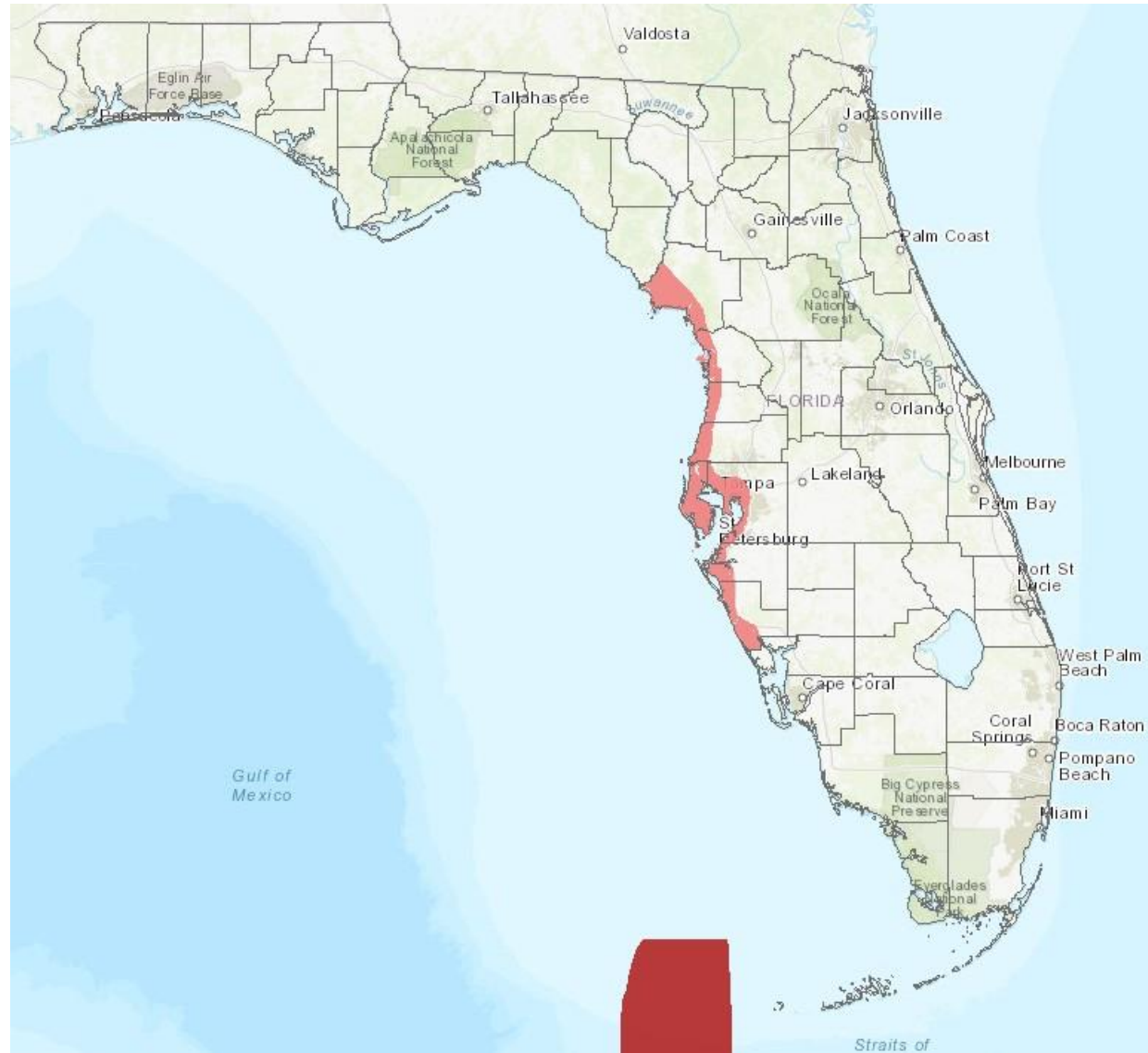
In Effect Until Further Notice

Tropical Storm Warnings:

Dry Tortugas in the far western Florida Keys
(Monroe County)

Tropical Storm Watch

coastal Sarasota, coastal Manatee, Pinellas, coastal Hillsborough, coastal Pasco, coastal Hernando, coastal Citrus, and coastal Levy



Tropical Storm & Hurricanes

Watches Versus Warnings

WATCH

Tropical storm and/or hurricane conditions are **POSSIBLE** in Watch area

Issued up to 48 hours in advance of tropical storm force winds

WARNING

Tropical storm and/or hurricane conditions are **EXPECTED** in Warning area

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**



NWSMobile



weather.gov/mob

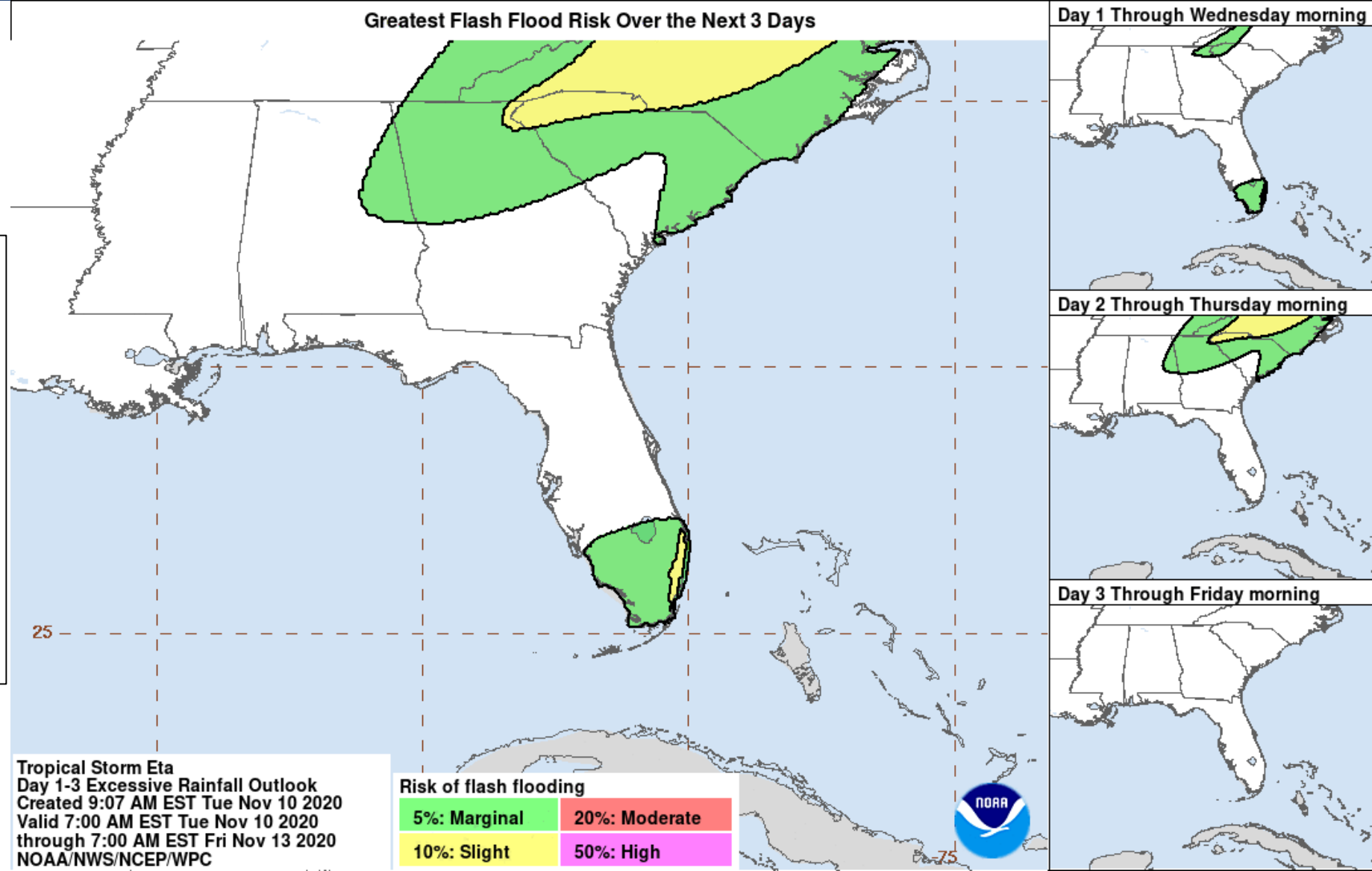


Flash Flood Outlook

3-Day Event Summary

Additional flash flooding is possible across Southeast Florida today.

An isolated flash flood threat develops along the West Coast tomorrow afternoon and continuing through Thursday.



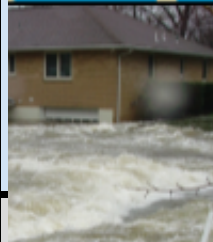
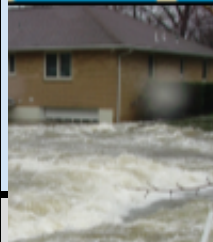




Flash Flood Risk Categories

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><div>WEATHER PREDICTION CENTER</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>			



Flood Watches

Links: [NWS Miami](#)

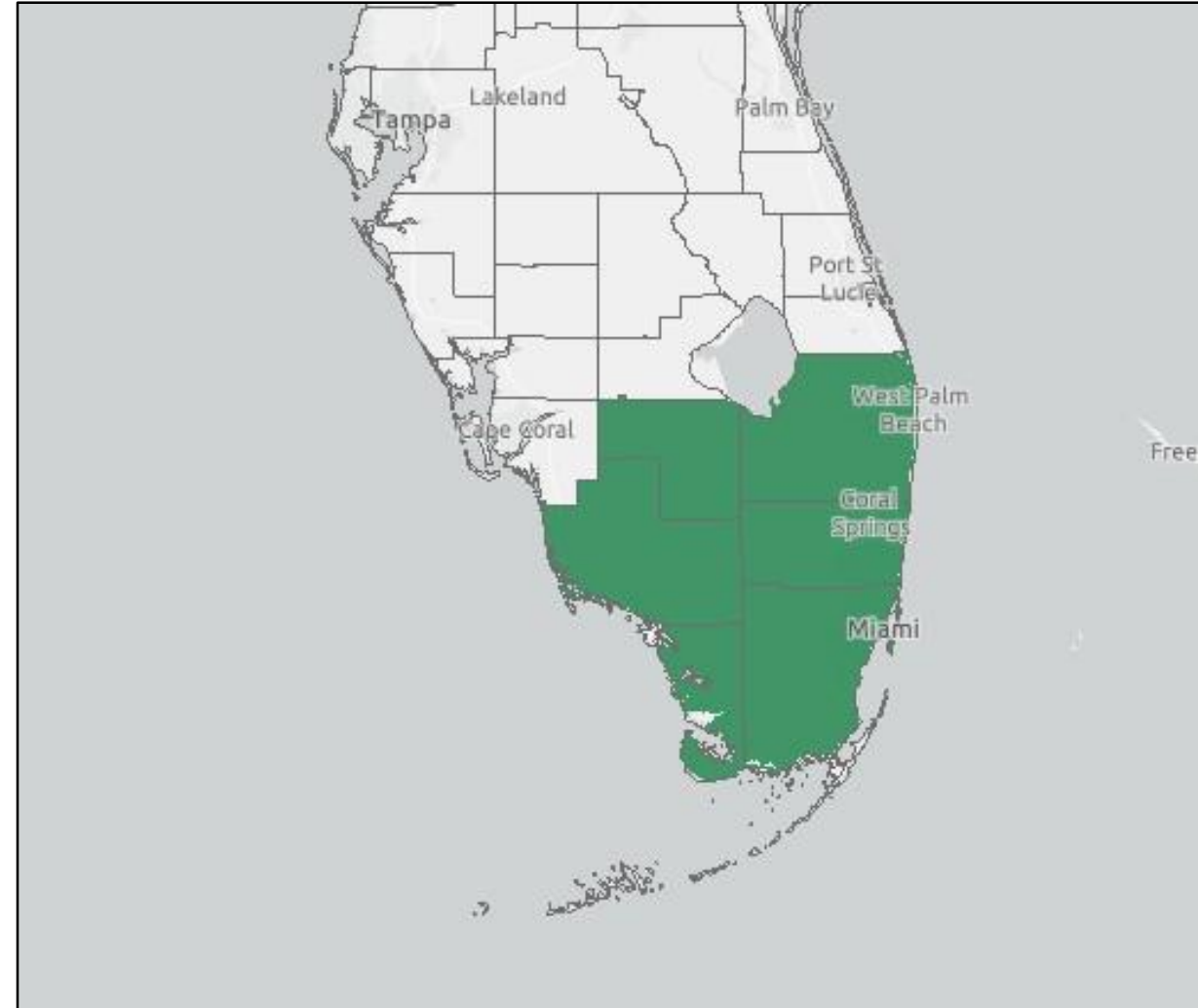
Until Wednesday Evening:

Coastal/Metro Miami-Dade, Broward, and Palm Beach

Until This Evening:

Mainland Monroe, Collier, Hendry, and Inland Miami-Dade, Broward, and Palm Beach.

Additional watches for the West Coast are possible.





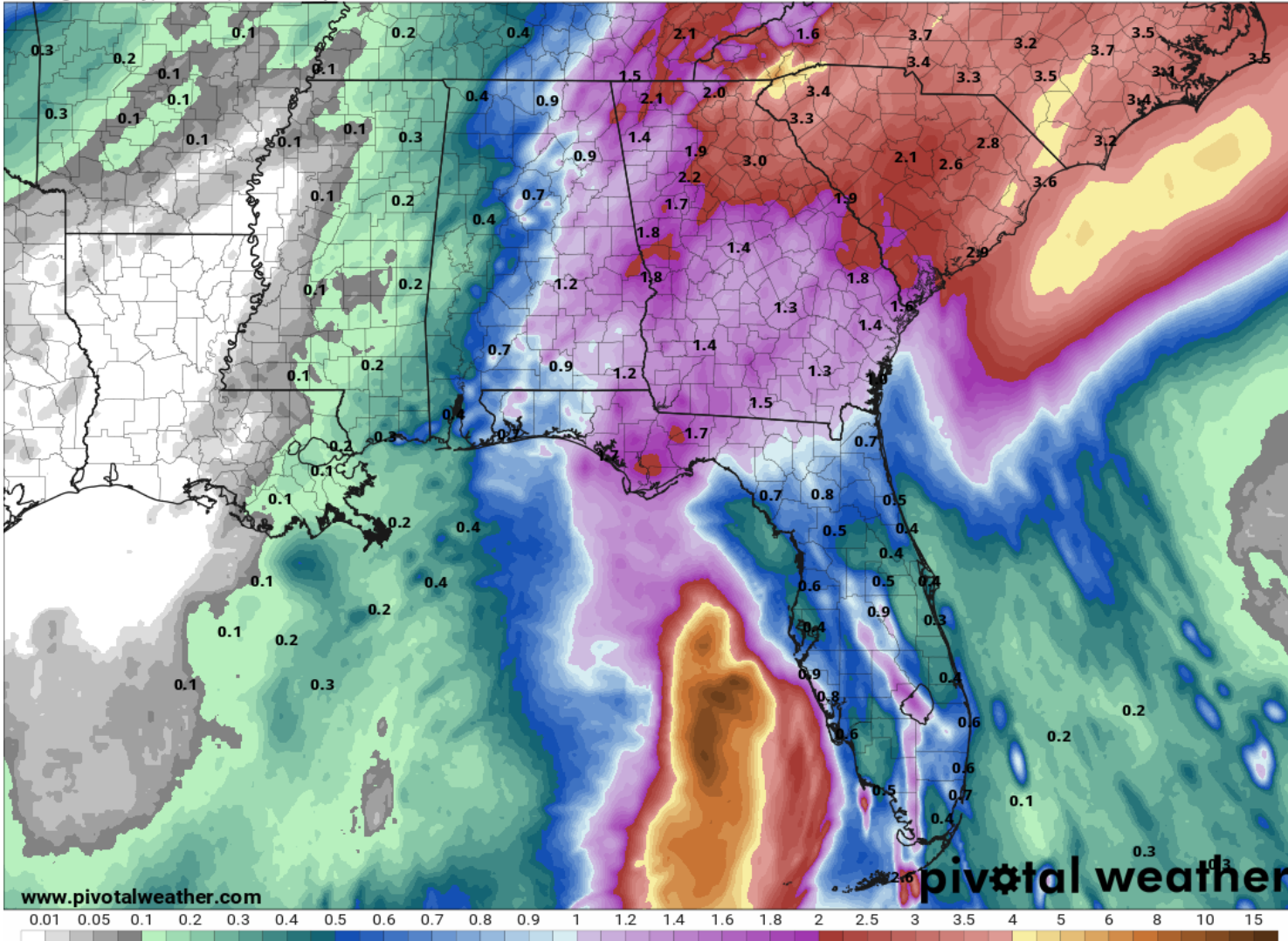
Rainfall Totals Next 7 Days

Ending 7 AM ET Tuesday

7-Day Precipitation (in)

Ending Tuesday, Nov. 17, 2020 at 7 p.m. EST

Init: Wed 2020-11-11 00z WPC



Rainfall totals will generally be around 1-2" across the Peninsula through Wednesday morning.

1-3" are possible along the West Coast Wednesday and Thursday. (*Locally higher amounts to 6" possible*)

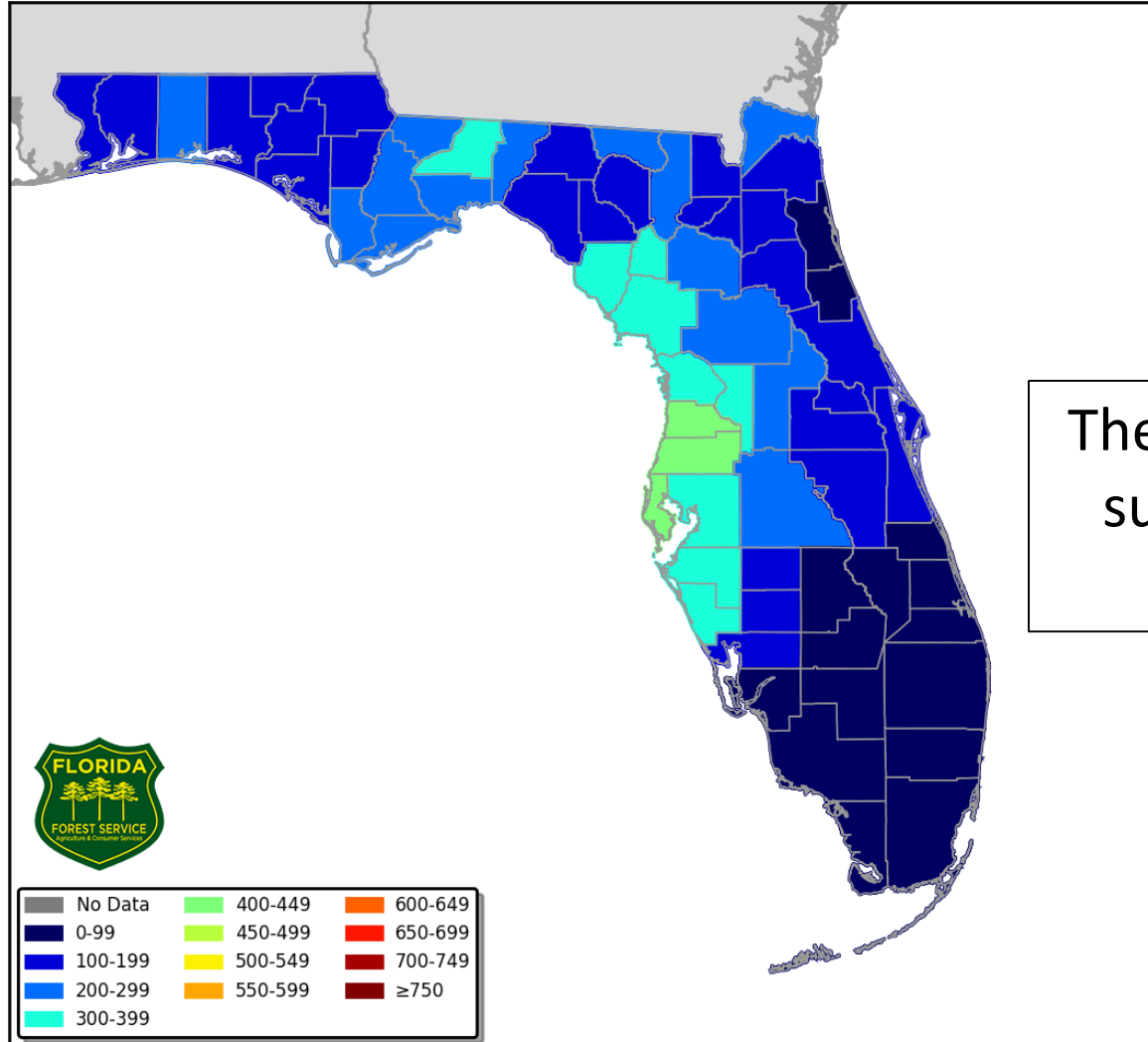
1-3" are forecast in North Florida on Thursday from Eta and an approaching cold front.



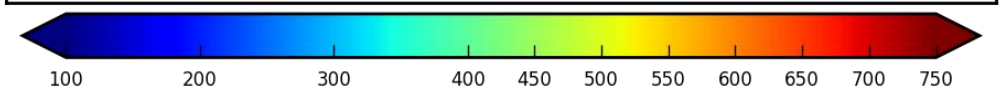
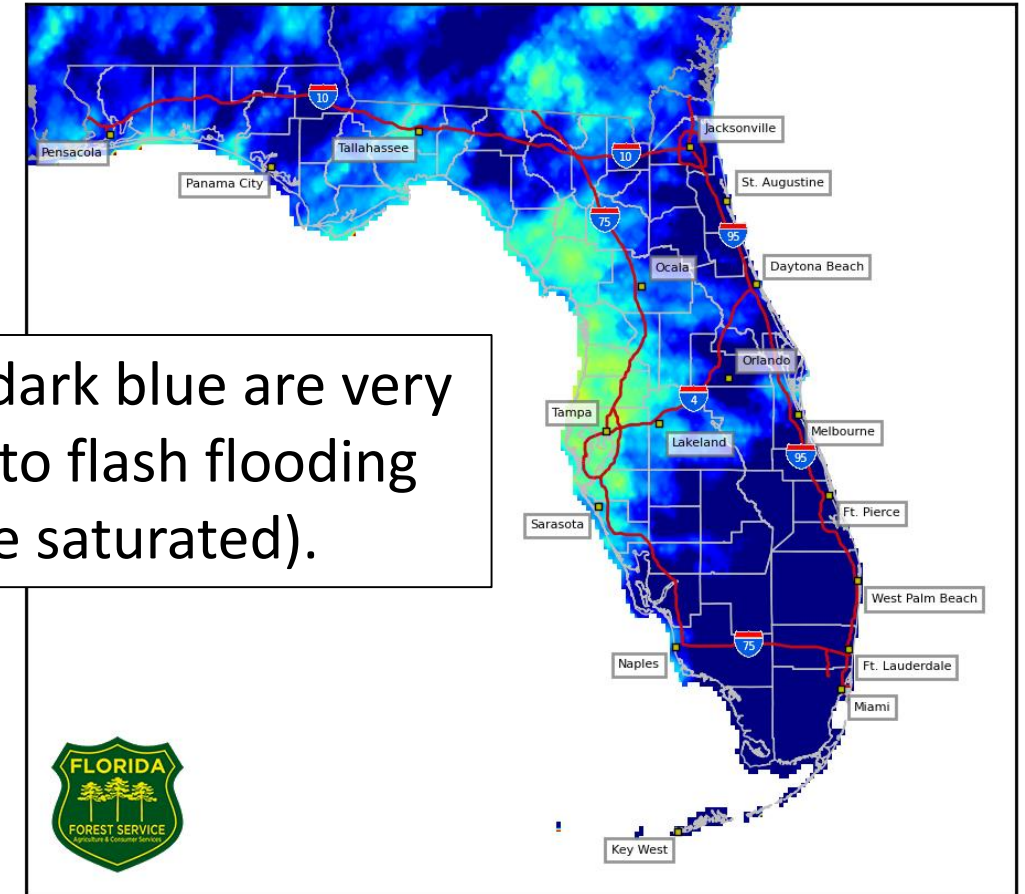
Drought Index – Soil Moisture

KBDI – Full Report from the FFS

Keetch Byram Drought Index (KBDI)
County Averages for November 10, 2020



4 km Resolution KBDI
Statewide
November 10, 2020



Index



Flash Flood Guidance

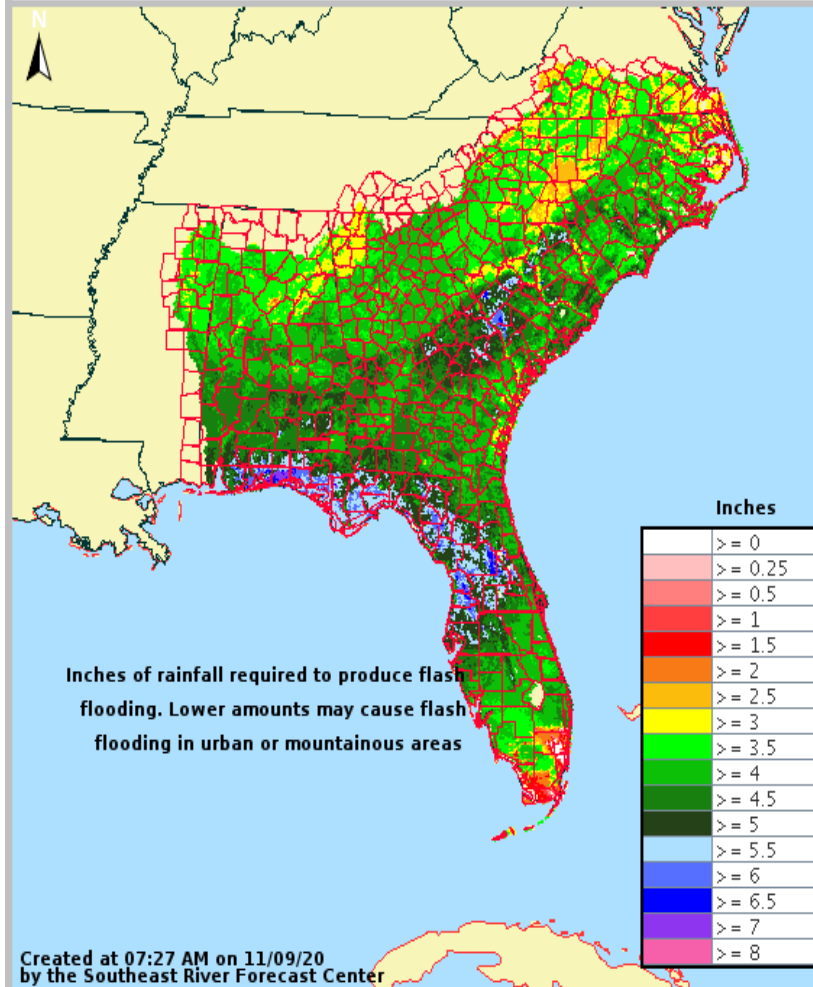
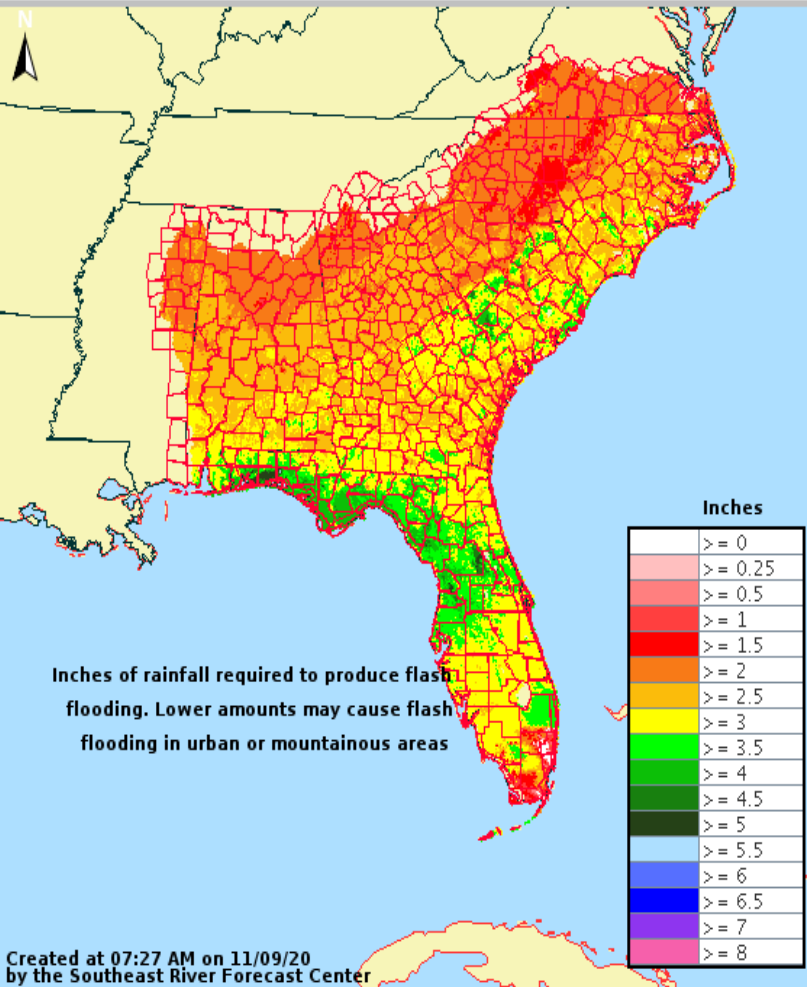
How Much Rain is Needed to Create Flash Flooding?



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 in an hour in parts of Broward, Miami-Dade, and Monroe Counties to create flash flooding.

Along the West Coast, it will take about 3-4" of rain in 1 hour or 5-6" in 6 hours to cause flash flooding.





Storm Surge Threat Overview

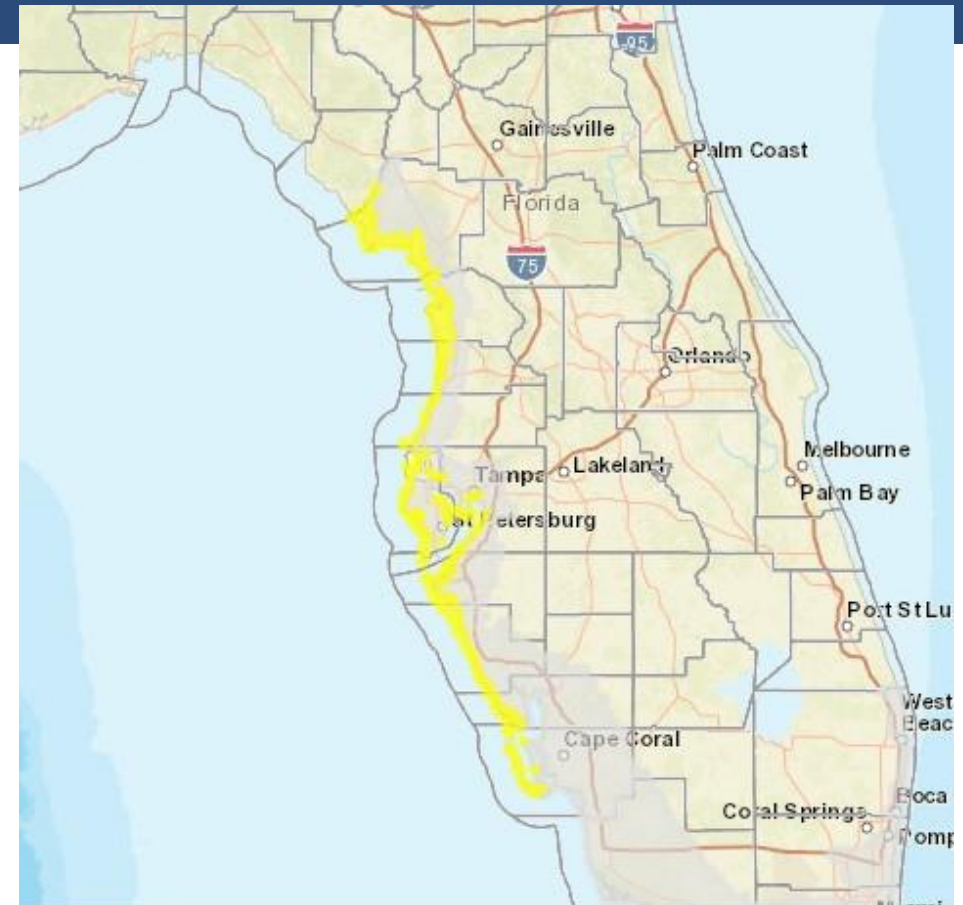
Tropical Storm Eta

The storm surge threat from the new track is still being evaluated.

1-3' of surge seems likely along the West Coast over multiple high tide cycles Wednesday and Thursday.

[https://www.weather.gov/srh/tropical?
office=tbw](https://www.weather.gov/srh/tropical?office=tbw)

Click on “Threats and Impacts” Tab



[Download KML]

[Download Image]

Storm Surge Threat

Potential for storm surge flooding greater than 9 ft above ground
Potential for storm surge flooding greater than 6 ft above ground
Potential for storm surge flooding greater than 3 ft above ground
Potential for storm surge flooding greater than 1 ft above ground
Little to no storm surge flooding



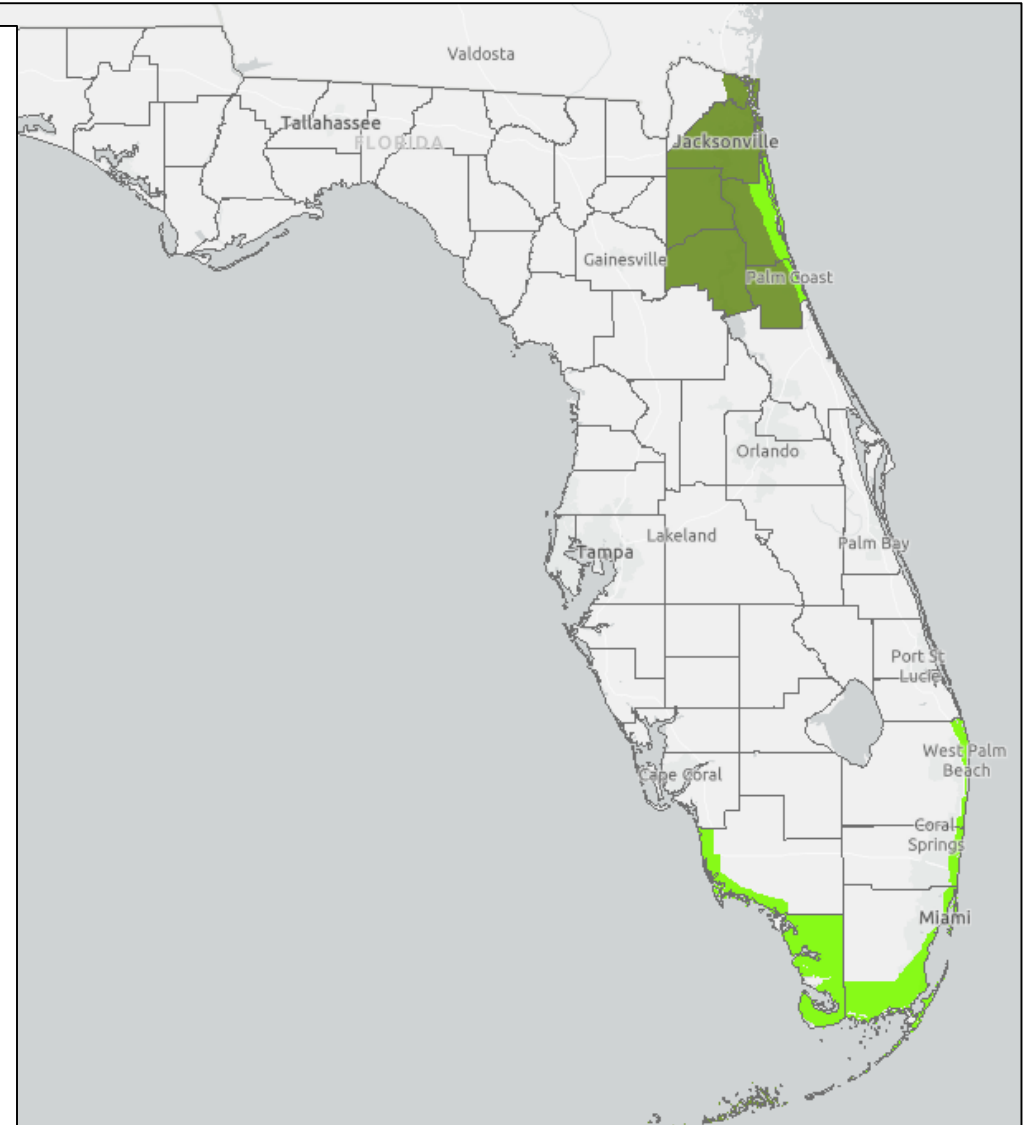
Coastal Flood Alerts

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.

Surge of 1-3' is expected along the West Coast, and exact details will be available later.

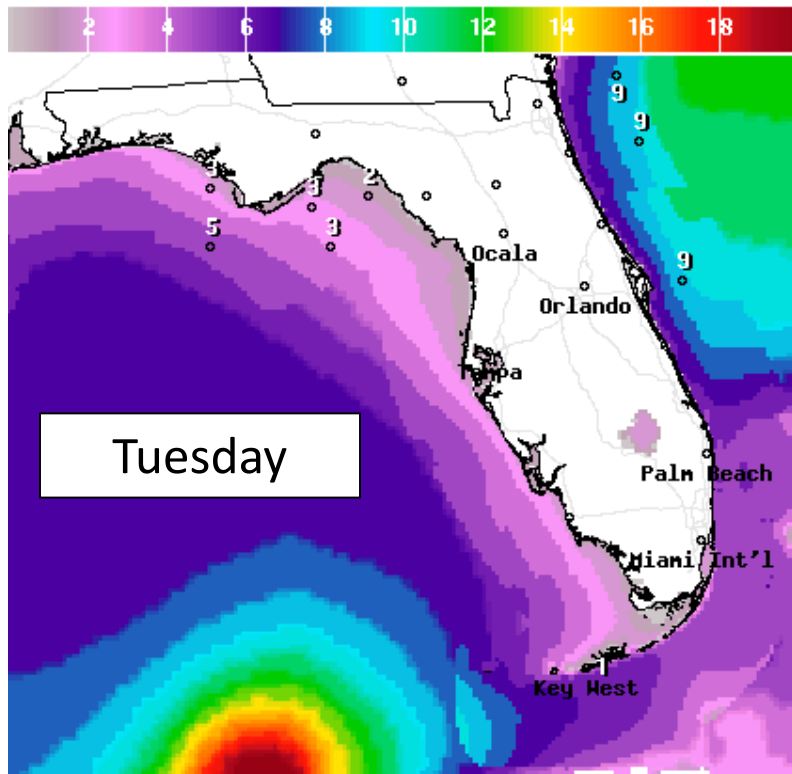
Coastal Flood Statements remain in effect for the remaining Keys and the rest of Northeast Florida including the St. Johns River. Tides around 1' above normal possible.





Forecast Wave Heights

Through Early Week



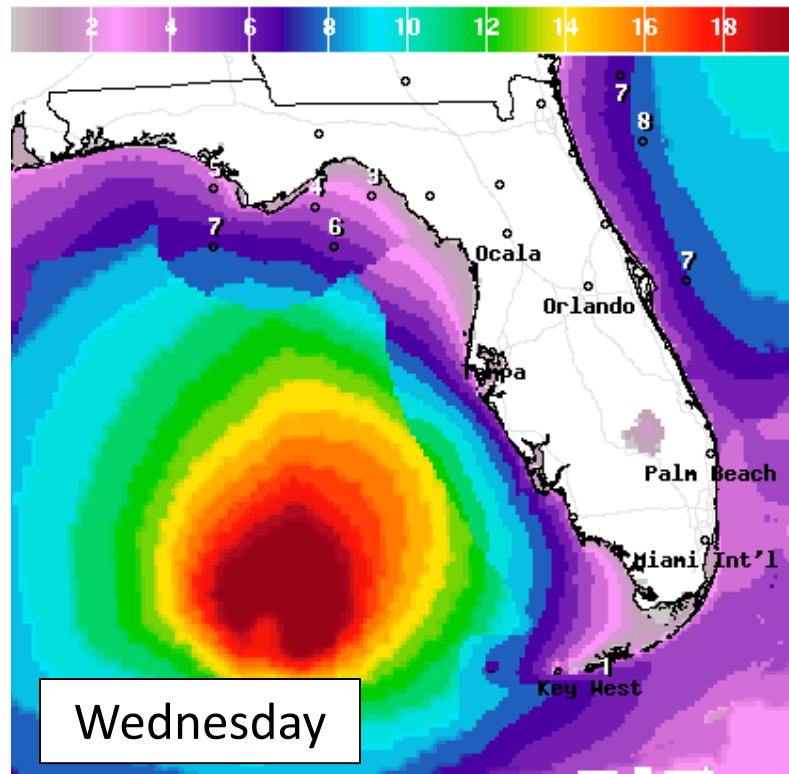
Wave Height(ft) Ending Tue Nov 10 2020 7PM EST
(Wed Nov 11 2020 00Z)



National Digital Forecast Database

15z issuance

Graphic created-Nov 10 10:20AM EST



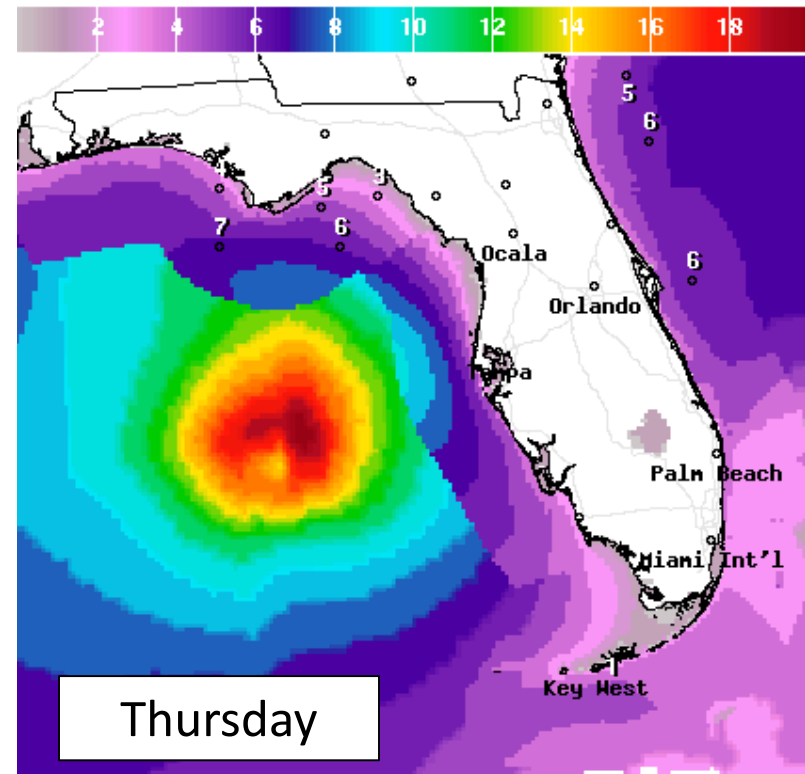
Wave Height(ft) Ending Wed Nov 11 2020 7PM EST
(Thu Nov 12 2020 00Z)



National Digital Forecast Database

15z issuance

Graphic created-Nov 10 10:21AM EST



Wave Height(ft) Ending Thu Nov 12 2020 7PM EST
(Fri Nov 13 2020 00Z)



National Digital Forecast Database

15z issuance

Graphic created-Nov 10 10:22AM EST



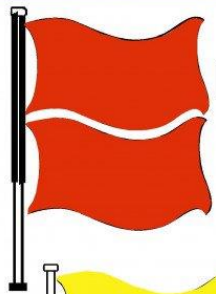
High surf of 4-8' will continue along the East Coast Tuesday and Wednesday. Waves will build across Gulf Coast beaches through this week as Eta moves northward (up to 4-8'). Significant beach erosion and dune overwash are possible over the next few days in a few locations.



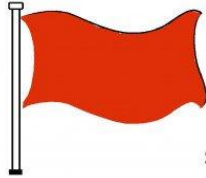
Rip Current Outlook

Today

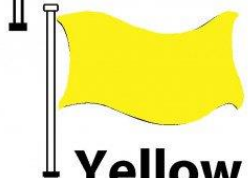
BEACH FLAG WARNING SYSTEM



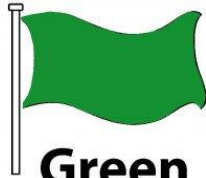
Double Red
Water Closed to
Public Use



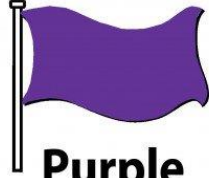
Red
High Hazard
(rough conditions,
such as strong surf
and or currents)



Yellow
Medium Hazard
(light surf and or
currents)

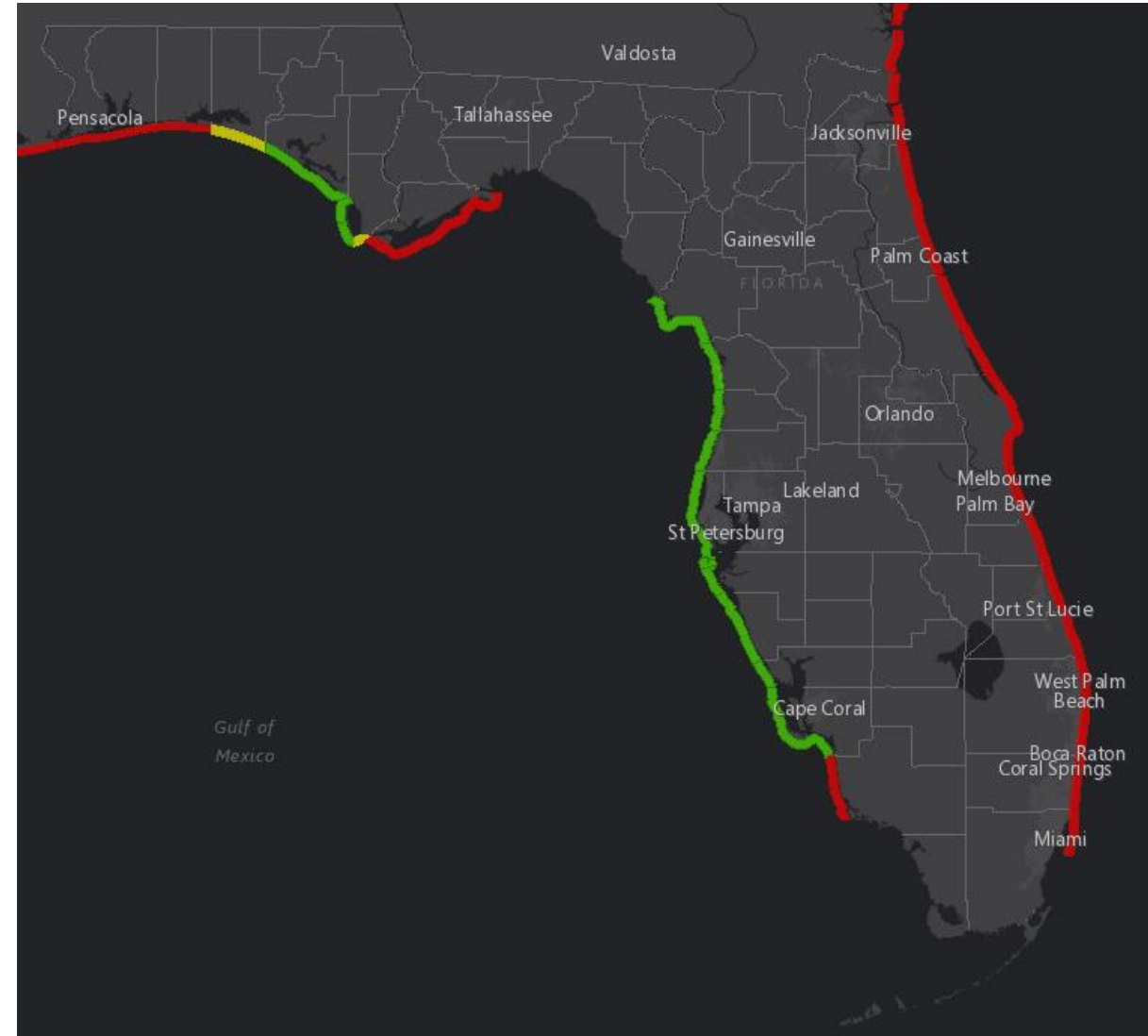


Green
Low Hazard
(calm conditions)



Purple
Marine Pest
(jellyfish, stingrays
& dangerous fish)

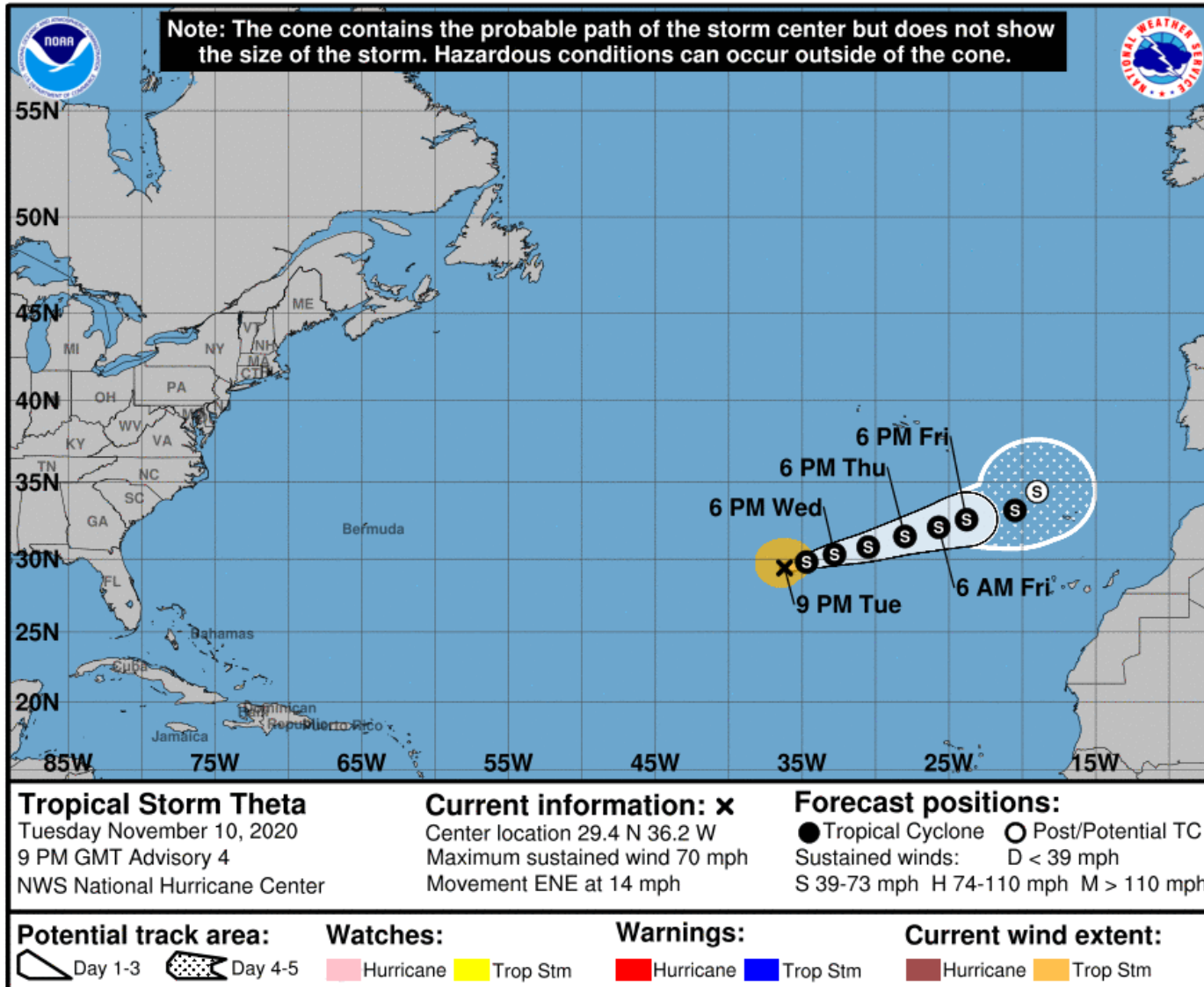
Dangerous rip currents continue due to breezy winds and rough surf statewide.





Forecast Track

Tropical Storm Theta



The non-tropical area of low pressure over the Central Atlantic has acquired tropical characteristics. The National Hurricane Center has begun advisories on Tropical Storm Theta.

Theta is the 29th named storm of the season, beating the record set in 2005 of the most named storms in a single year.

This system poses no threat to Florida, as it will continue eastward towards Portugal and Northwest Africa.



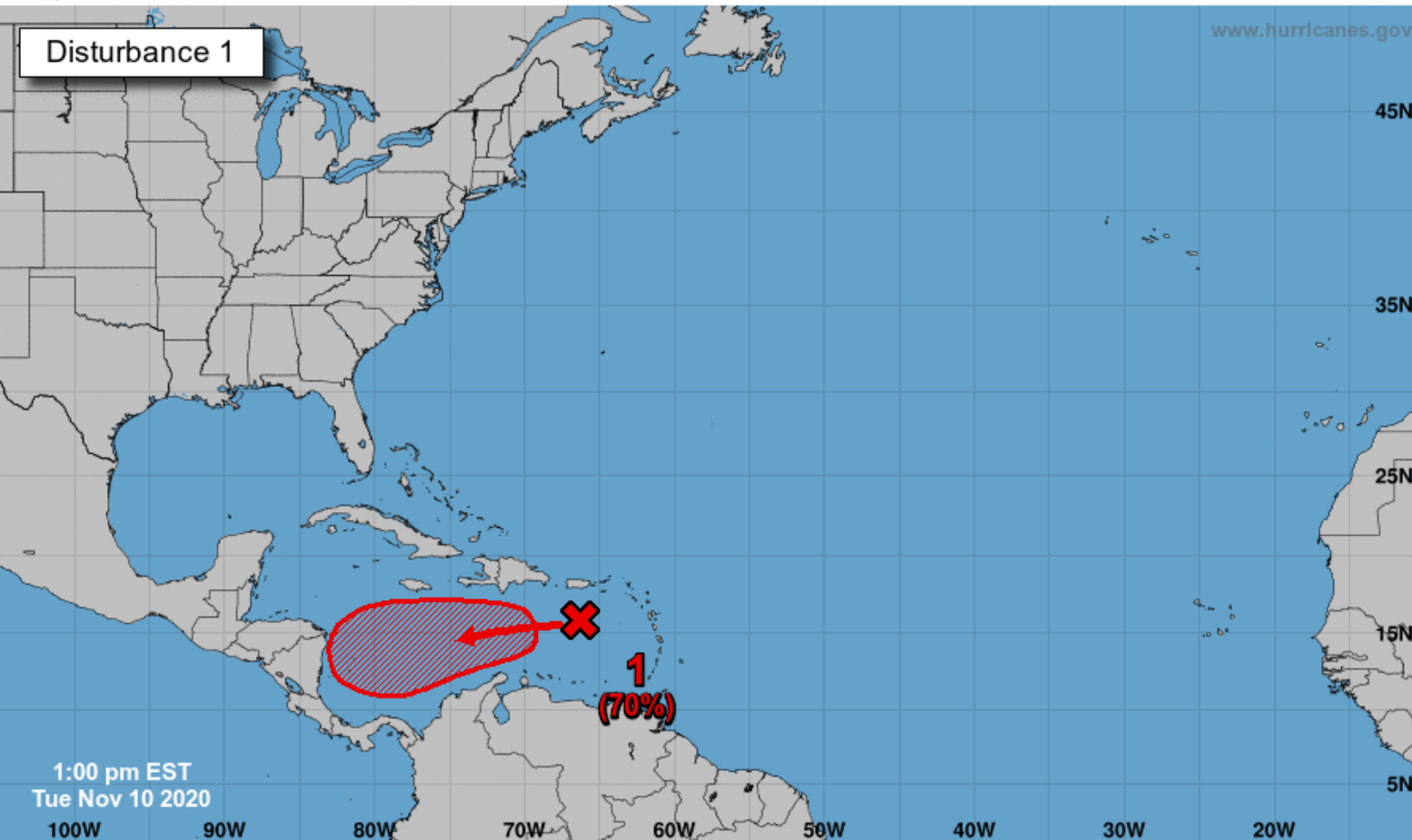
Tropical Weather Outlook

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



Five-Day Graphical Tropical Weather Outlook

National Hurricane Center Miami, Florida



A tropical wave located over the eastern Caribbean Sea is producing disorganized showers and thunderstorms.

The wave is expected to move westward into more conducive environmental conditions over the next several days, and a tropical depression is likely to form late this week or this weekend when the wave reaches the central or western Caribbean Sea.

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 10%.**

***Formation chance through 5 days...high...70%.**

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 200 miles southwest of Key West, moving to the north at 7 mph.
- Maximum sustained winds are near 60 mph, and Eta could still strengthen over the next 24-36 hours to near hurricane strength.
- Eta will gradually move northward, and the official forecast brings Eta slowly north into Apalachee Bay by this weekend.
- The environment will be hostile across the northern Gulf of Mexico, resulting in rapid weakening once the system gets north of Tampa Bay.
- The track as shifted east today and *additional eastward shifts are possible based on the latest guidance this afternoon.*

Subtropical Storm Theta (formerly Invest 97L)

- The non-tropical area of low pressure over the Central Atlantic has acquire tropical characteristics. The National Hurricane Center has begun advisories on Tropical Storm Theta.
- Theta is the 29th named storm of the season, beating the record set in 2005 of the most named storms in a single year.
- This system poses no threat to Florida, as it will continue eastward towards Portugal and Northwest Africa.

Caribbean Wave

- A tropical wave located over the eastern Caribbean Sea is producing disorganized showers and thunderstorms.
- The wave is expected to move westward into more conducive environmental conditions over the next several days, and a tropical depression is likely to form late this week or this weekend when the wave reaches the central/western Caribbean Sea.
- This system has a 10% (low) chance of formation during the next 48 hours but a 70% (high) chance during the next 5 days.
- This system is not expected to bring impacts to Florida over the next 7 days, if at all.
- The next name on the list is Iota (eye-o-tah)



Florida Outlook

Florida Outlook:

- Tropical moisture remains in place across the Peninsula and heavy showers and thunderstorms will continue tonight and Wednesday.
- **Flood Watches** are in effect for all of South Florida (until this evening), and continuing until Wednesday evening for the coastal and metro areas of Miami-Dade, Broward, and Palm Beach.
- An additional 1-3" is forecast across the state over the next few days causing additional flooding.

-
- Eta will bring gusty winds, heavy rainfall, isolated tornadoes, and minor storm surge to the West Coast starting Wednesday afternoon and through the day on Thursday.
 - **Tropical Storm Watches** have been issued for Pinellas County and coastal portions of Citrus, Hernando, Hillsborough, Levy, Manatee, Pasco, and Sarasota.
 - **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 into tonight, with 1-3' of Surge along the West Coast and in Apalachee Bay on Thursday.
 - Beach erosion and dangerous rip currents from high surf are expected at nearly all Florida beaches over the next few days.
 - The exact impacts to the Big Bend are uncertain at this time, but heavy rainfall is likely across North Florida on Thursday (1-3").

The next tropics packet will be issued Wednesday 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



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State Meteorological Support Unit

Florida Division of Emergency Management

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