



TROPICAL UPDATE



5:00 PM EDT

Friday, September 11, 2020

Tropical Storm Paulette, Tropical Storm Rene, Tropical Depression #19, Gulf of Mexico Low (30%), Invest 95L in the Eastern Atlantic (90%), Wave Near Africa (40%)

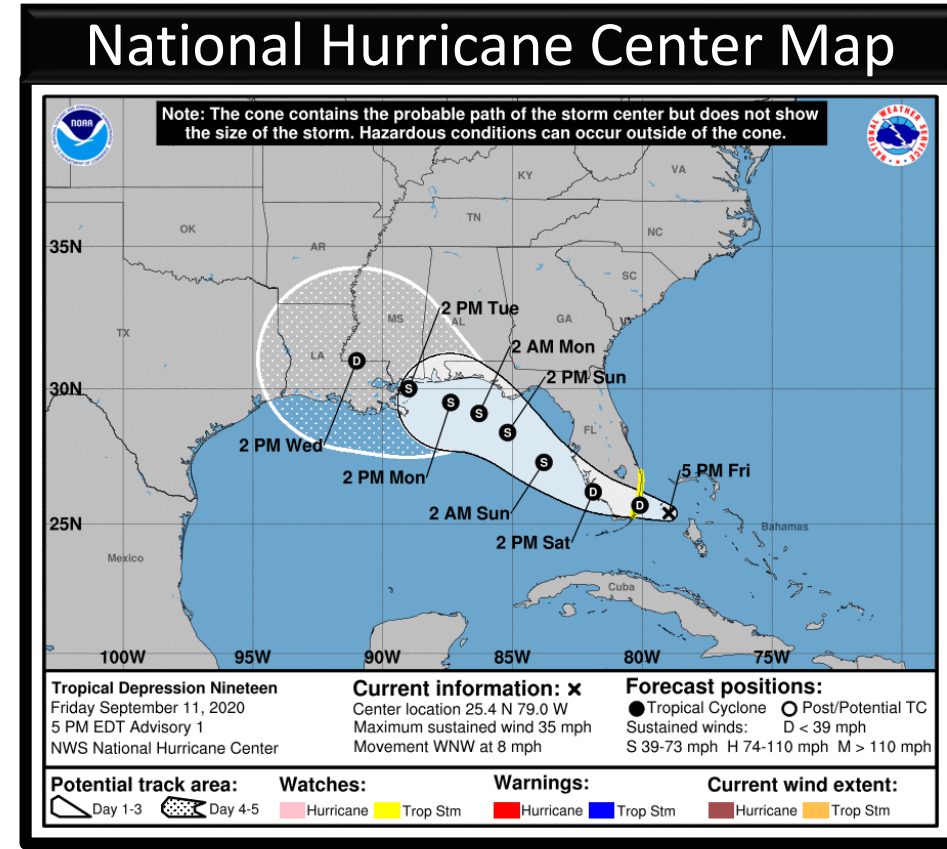
This update is intended for government and emergency response officials, and is provided for informational and situational awareness purposes only. Forecast conditions are subject to change based on a variety of environmental factors. For additional information, or for any life safety concerns with an 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 Depression #19

5 PM ET Friday: Florida Threats & Changes Since Last Packet

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



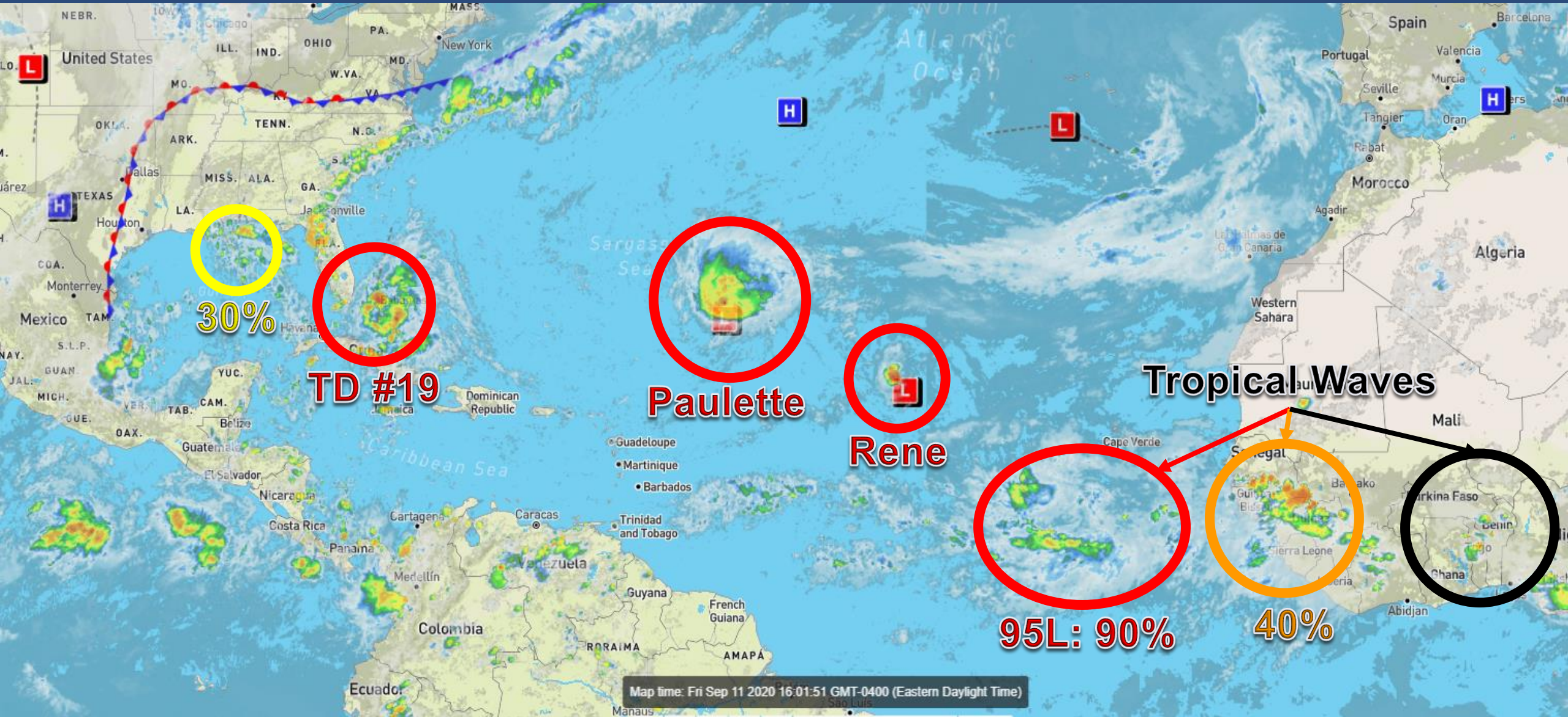
Overview/Recent Changes:

Invest 96L near the Bahamas has become sufficiently organized to become Tropical Depression #19. Tropical Storm Watches have been issued for parts of Southeast Florida. Heavy rainfall is possible across South Florida tonight, then across the West Coast and North Florida this weekend into early next week. An isolated tornado cannot be ruled out.



Atlantic Basin Satellite Image

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





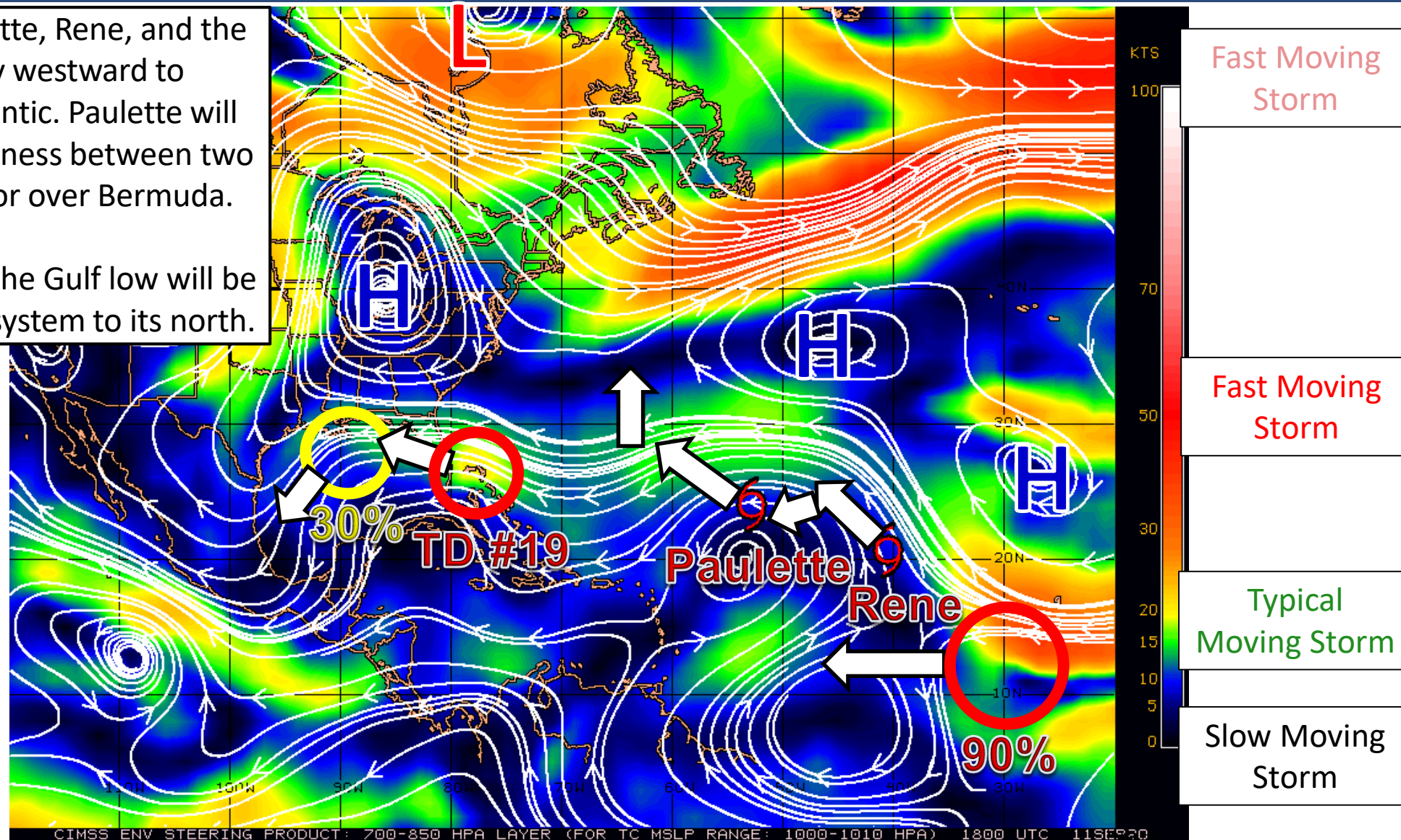
Steering Currents

What is Moving the Systems?

Color denotes the movement speed through the atmosphere and thin white lines denote direction. Tightly clustered white lines represent faster movement as well.

High pressure will steer Paulette, Rene, and the next two waves generally westward to northwestward over the Atlantic. Paulette will turn northward into the weakness between two areas of high pressure near or over Bermuda.

Near Florida, the TD #19 and the Gulf low will be steered by the high pressure system to its north.





Wind Shear

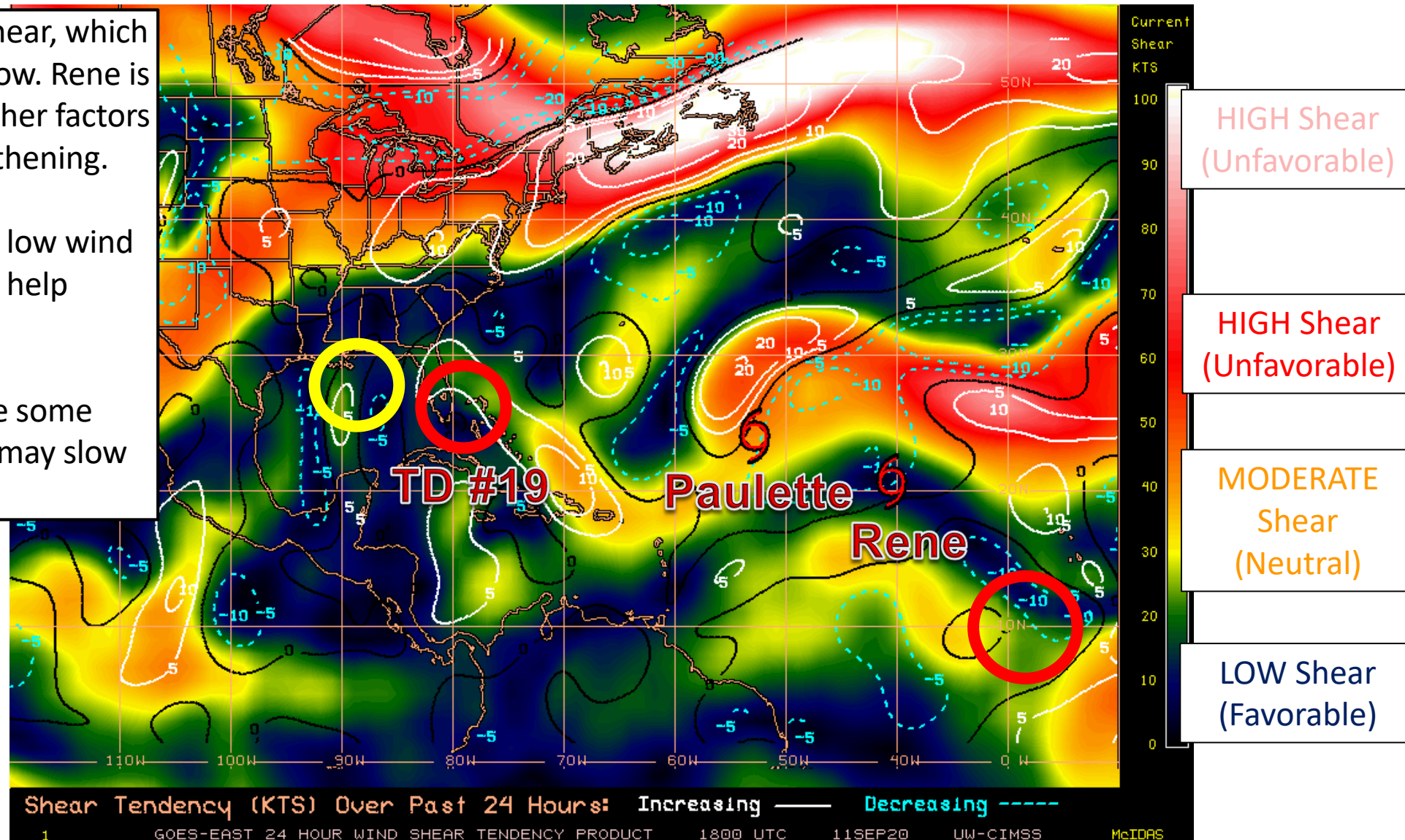
Is the environment favorable for the systems?

Color denotes the amount of wind shear and the lines denote how it have changed over the last 24 hours (dotted lines show decreasing shear and solid lines show increasing).

Paulette is in an area of high shear, which will hinder strengthening for now. Rene is in a pocket of low shear, but other factors are not favorable for strengthening.

TD #19 and the Gulf low have low wind shear nearby, which may help development.

The waves near Africa have some moderate wind shear, which may slow down development.

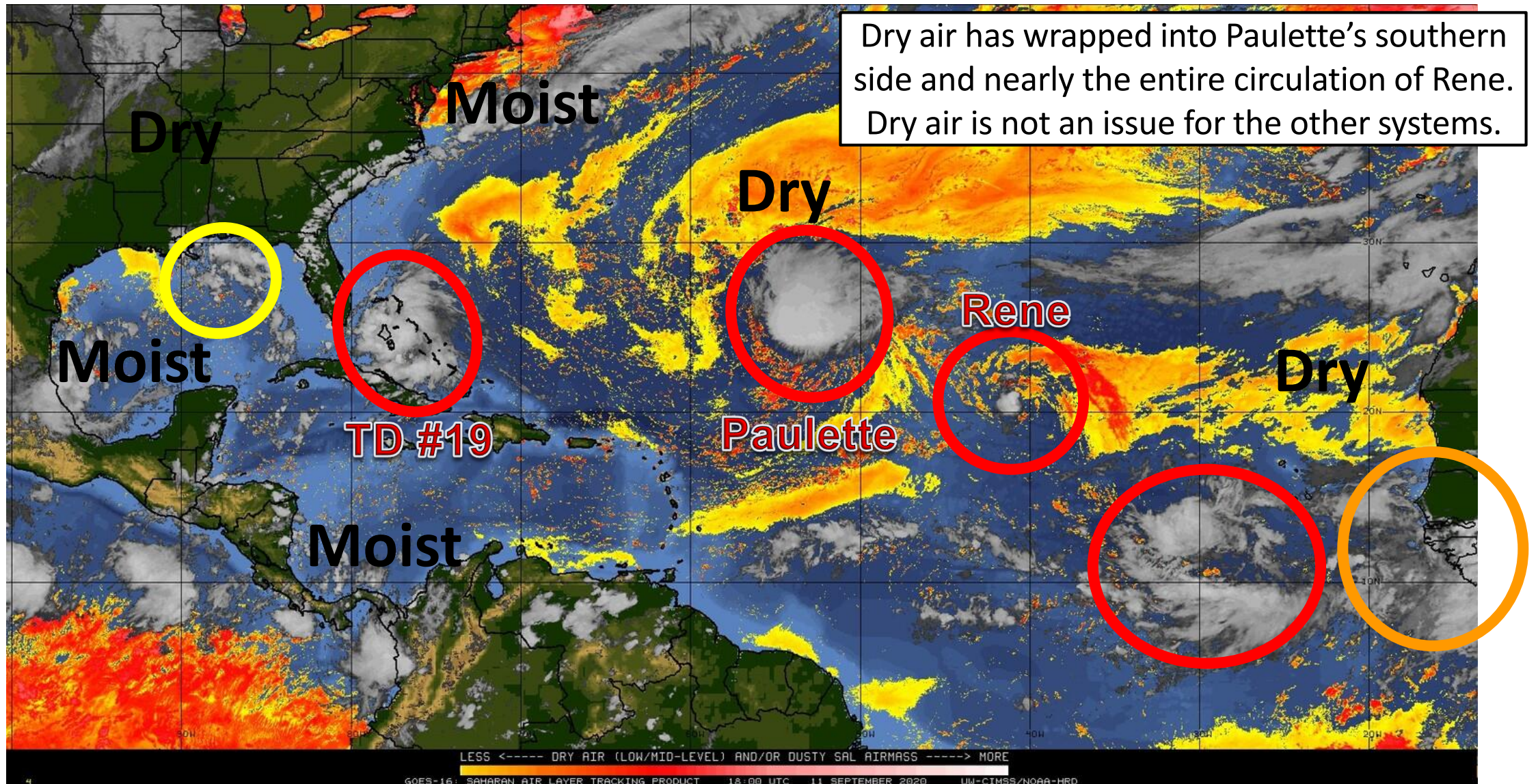




Dry Air & Saharan Dust

Is the environment favorable for the systems?

Color denotes concentration of Saharan Dust or dry, stable air.





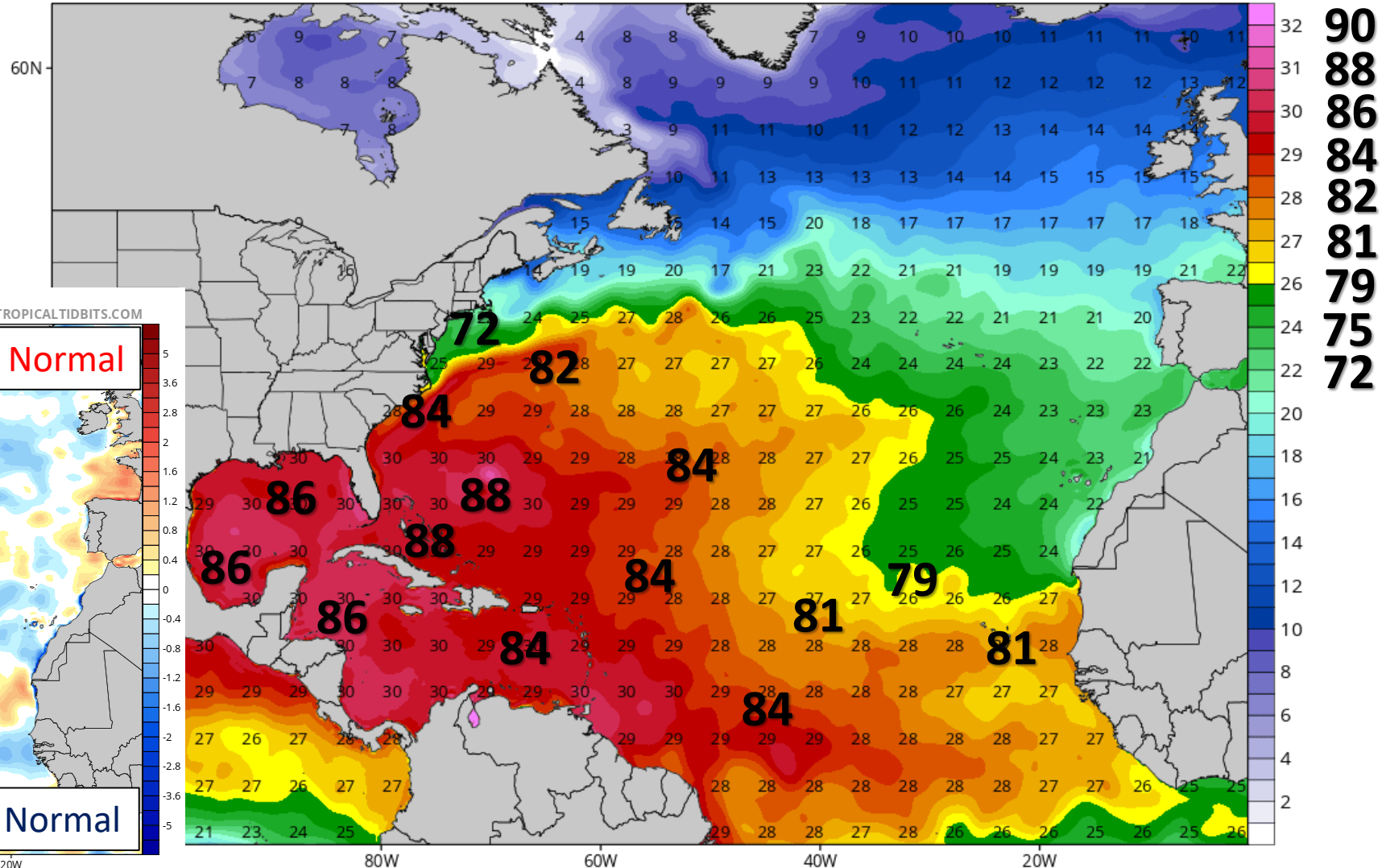
Sea Surface Temperatures & Anomalies

Is the ocean favorable for the system?

Water temperatures are supportive for tropical development across the entire Atlantic basin and above normal for this time of year.

CDAS Sea Surface Temperature (°C)

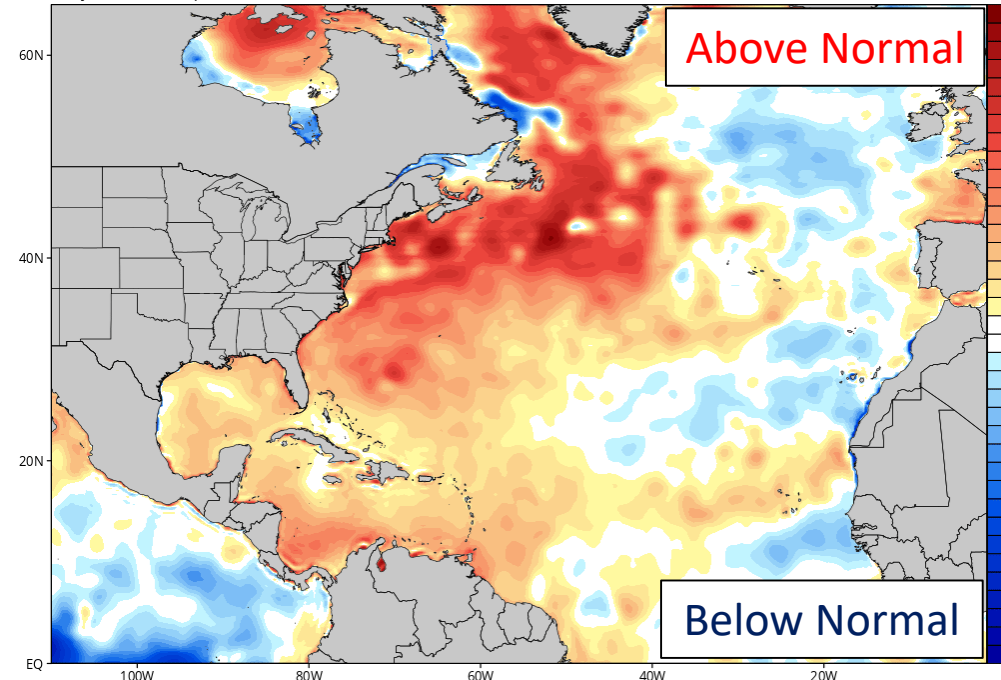
Analysis Time: 12z Sep 11 2020



CDAS Sea Surface Temperature Anomaly (°C) (based on CFSR 1981-2010 Climatology)

Analysis Time: 12z Sep 11 2020

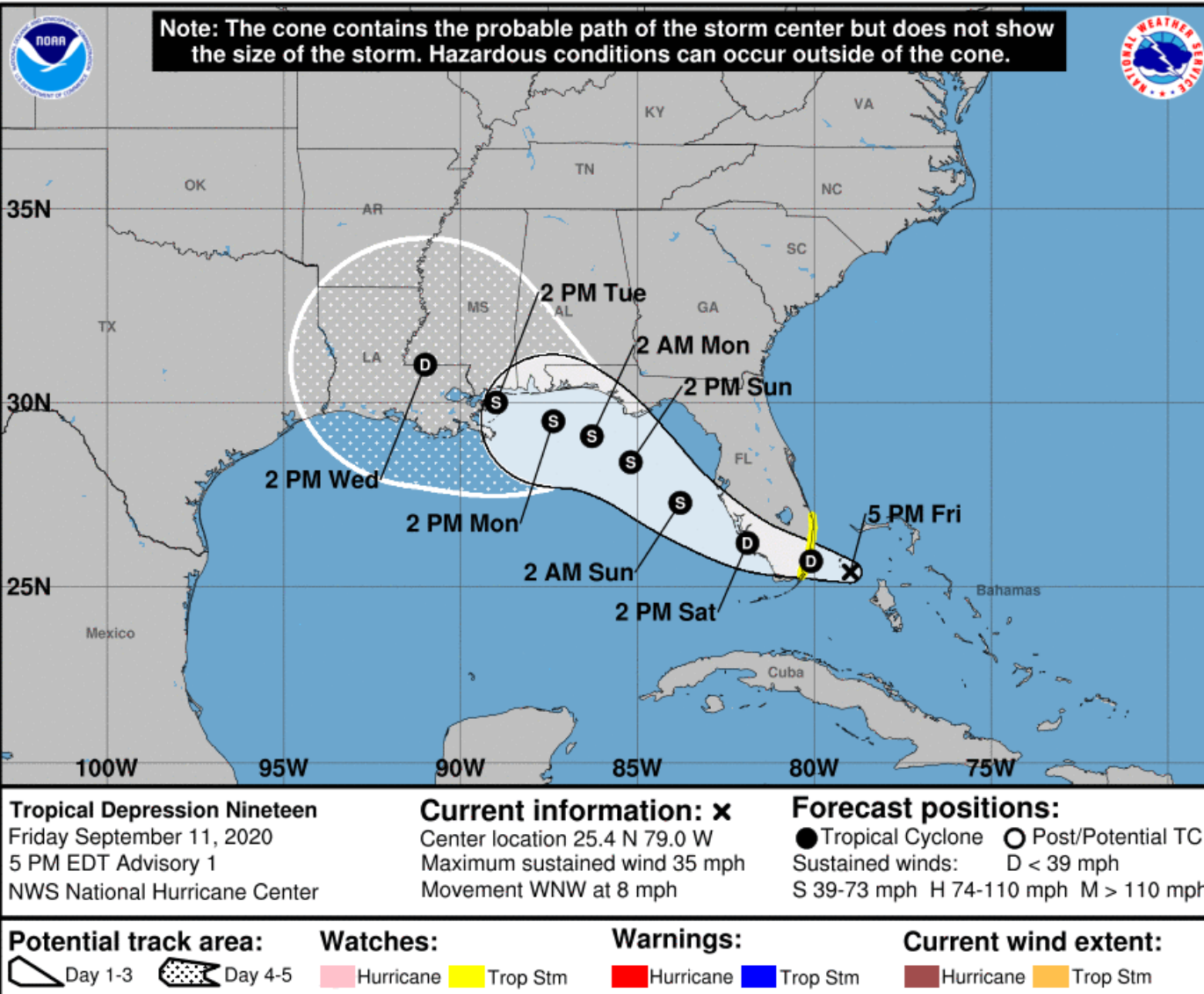
TROPICALTIDBITS.COM





Official Forecast Track

From the National Hurricane Center: Tropical Depression Nineteen



- The center of Tropical Depression #19 is located about 80 miles east-southeast of Miami
- Maximum sustained winds are 35 mph, and TD #19 is moving to the west-northwest at 8 mph.
- Gradual strengthening is forecast, and TD #19 could become a tropical storm later tonight before moving across South Florida.
- Otherwise, TD #19 will gradually intensify this weekend into early next week as it moves over the Gulf of Mexico.
- TD #19 could be near hurricane strength on Monday and Tuesday.

TD #19 will bring heavy rainfall, gusty winds, and isolated tornadoes to parts of South Florida, the West Coast, and the Panhandle/Big Bend.



Tropical Weather Outlook

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



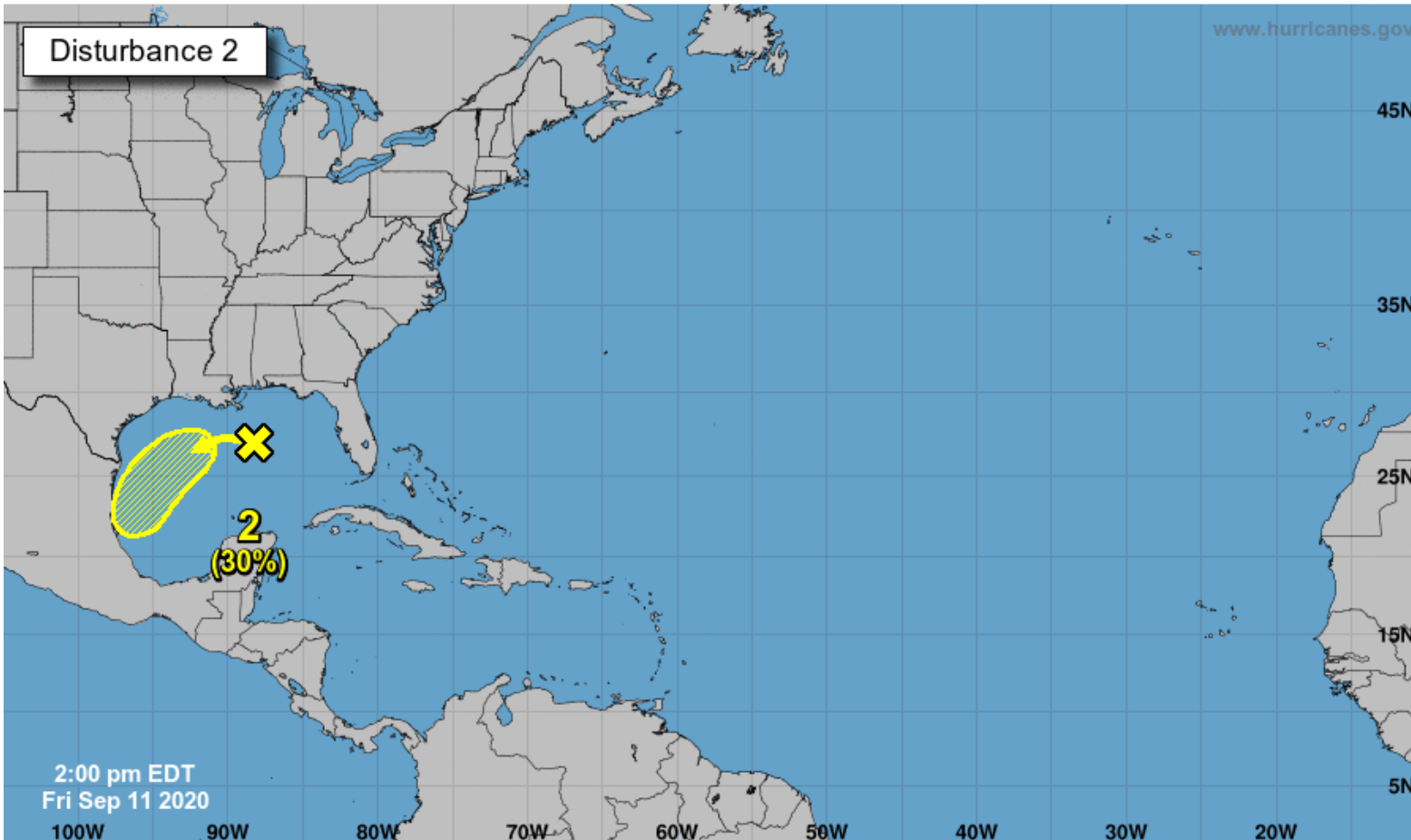
Five-Day Graphical Tropical Weather Outlook

National Hurricane Center Miami, Florida



www.hurricanes.gov

Disturbance 2



Showers and thunderstorms have increased a little bit over the north-central Gulf of Mexico near a surface trough of low pressure.

Some slow development of this system is possible while it moves westward and then southwestward over the northern and western Gulf of Mexico through the middle of next week.

No direct impacts are expected outside of a few coastal showers and storms in the Panhandle today and Saturday.

***Formation chance through 48 hrs...low...20%**

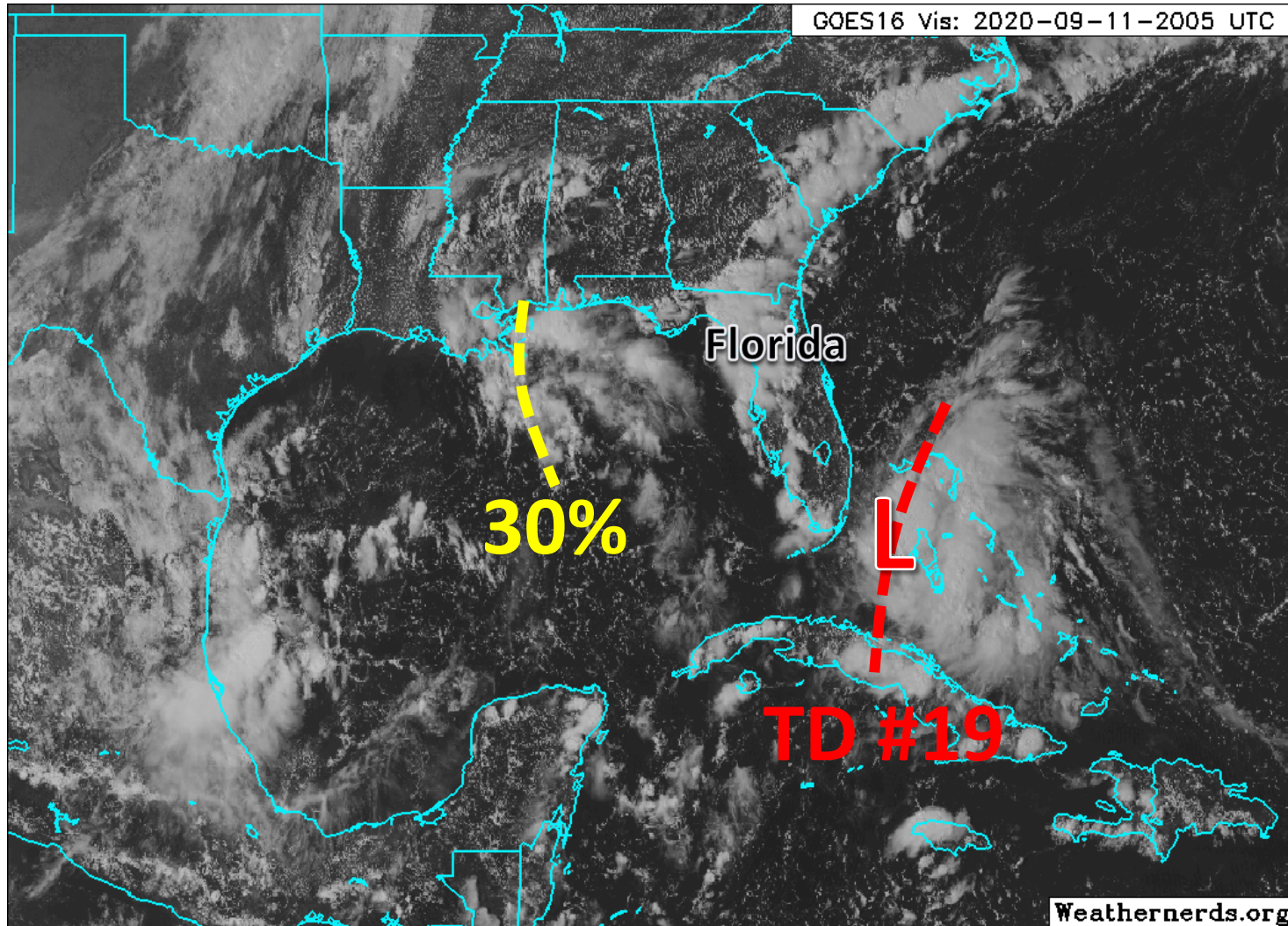
***Formation chance through 5 days...low...30%**

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

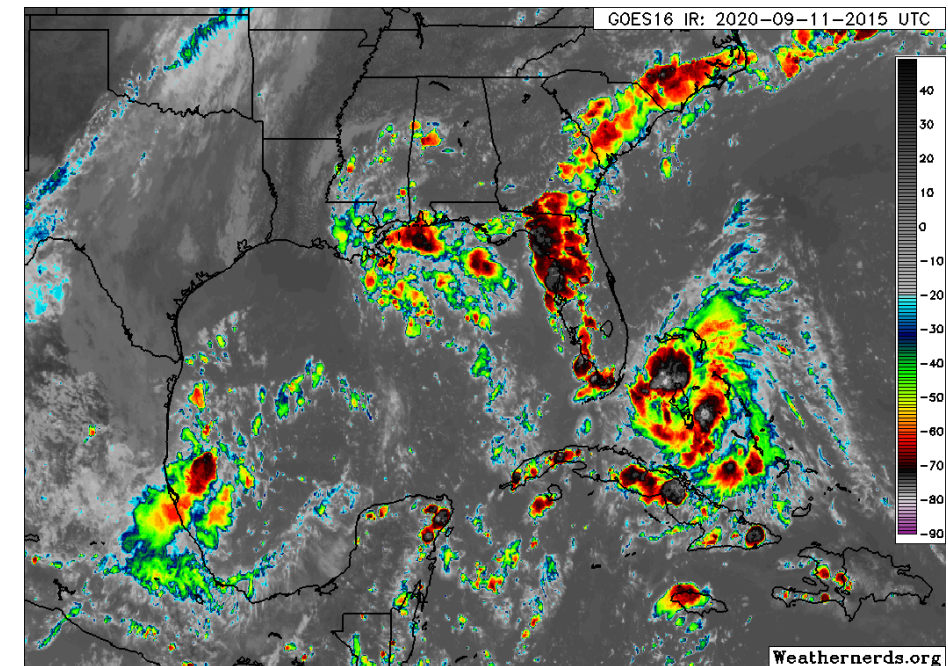


Satellite Imagery

Western Atlantic – Gulf of Mexico & Southwestern Atlantic



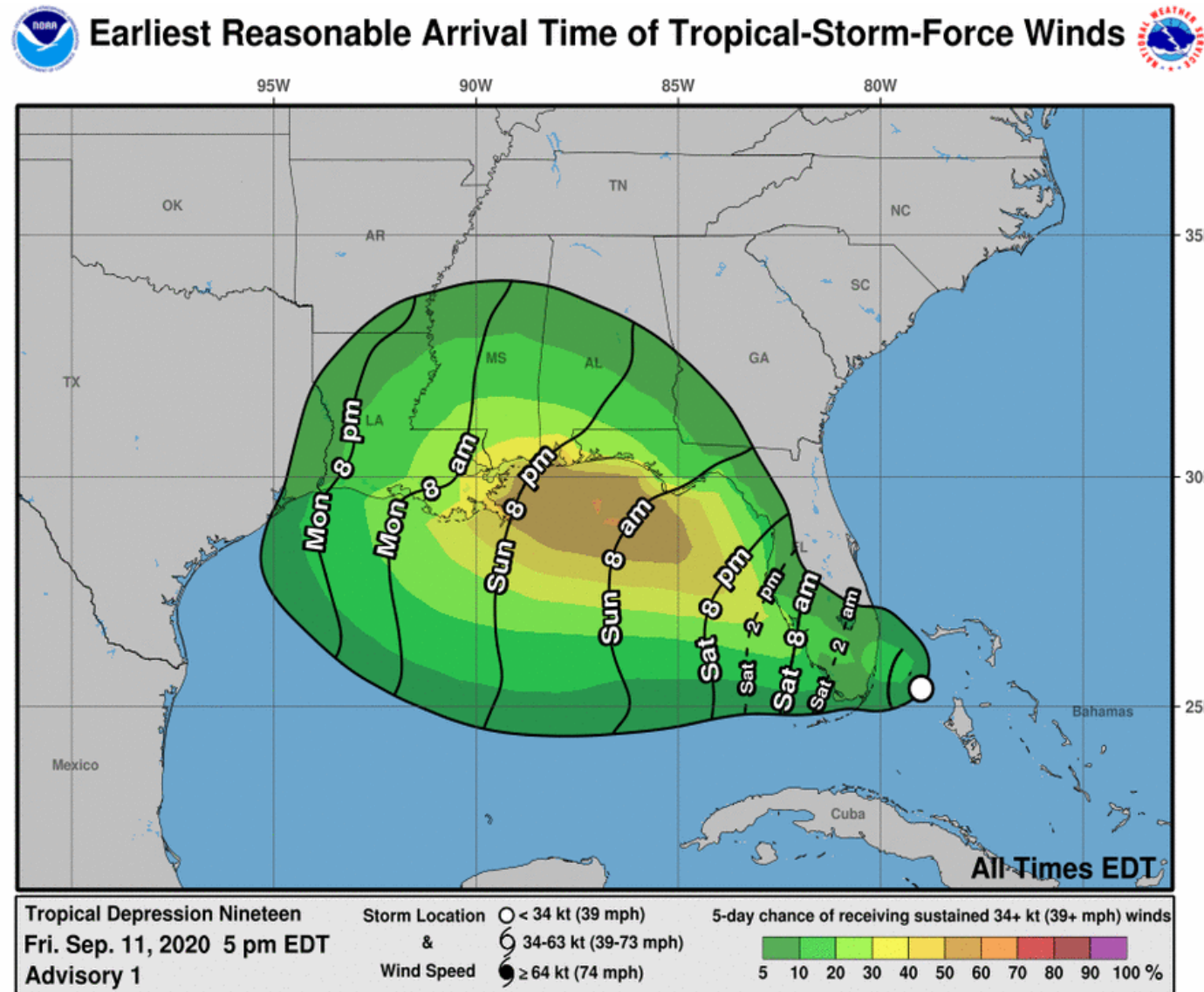
Tropical Depression #19 near South Florida and the Bahamas will move westward to northwestward over the next few days. It may become a tropical storm before landfall in South Florida, or it may wait until after it moves into the Gulf. The trough in the north-central Gulf of Mexico has been generating more showers and storms today, but remains disorganized.





Time of Arrival & Wind Speed Probabilities

EARLIEST REASONABLE Time of Arrival of Tropical Storm Force Winds (>39 mph)



West Palm Beach: 10%

Fort Lauderdale: 19%

Miami: 8%

Marathon: 4%

Naples: 19%

Venice: 28%

Tampa: 23%

Tallahassee: 12%

Apalachicola: 44%

Panama City: 46%

Destin: 28%

Pensacola: 29%

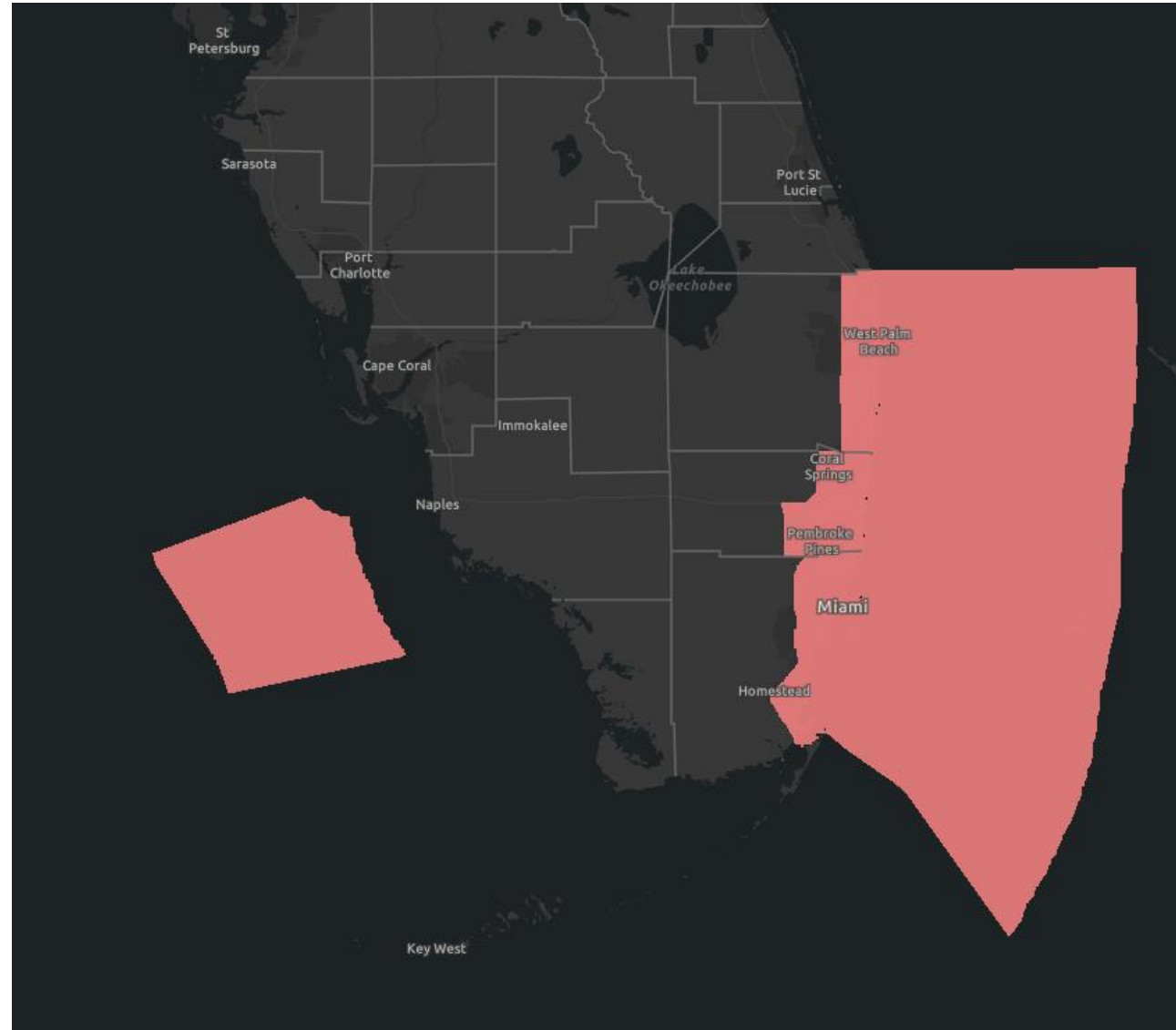
Tropical storm force winds could begin tonight in South Florida, then along the West Coast as early as Saturday morning. Tropical storm force winds could begin in the Big Bend and Panhandle as early as Sunday morning and afternoon.



Wind Watches and Warnings

In Effect Until Further Notice

Tropical Storm Watches:
coastal and metro Miami-Dade,
coastal and metro Broward,
coastal and metro Palm Beach





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

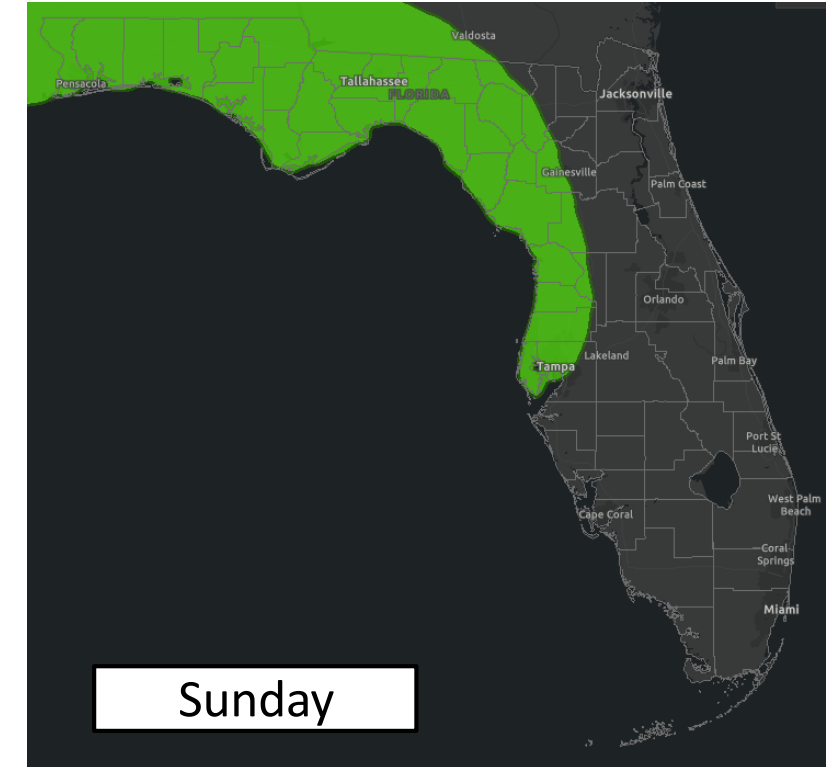
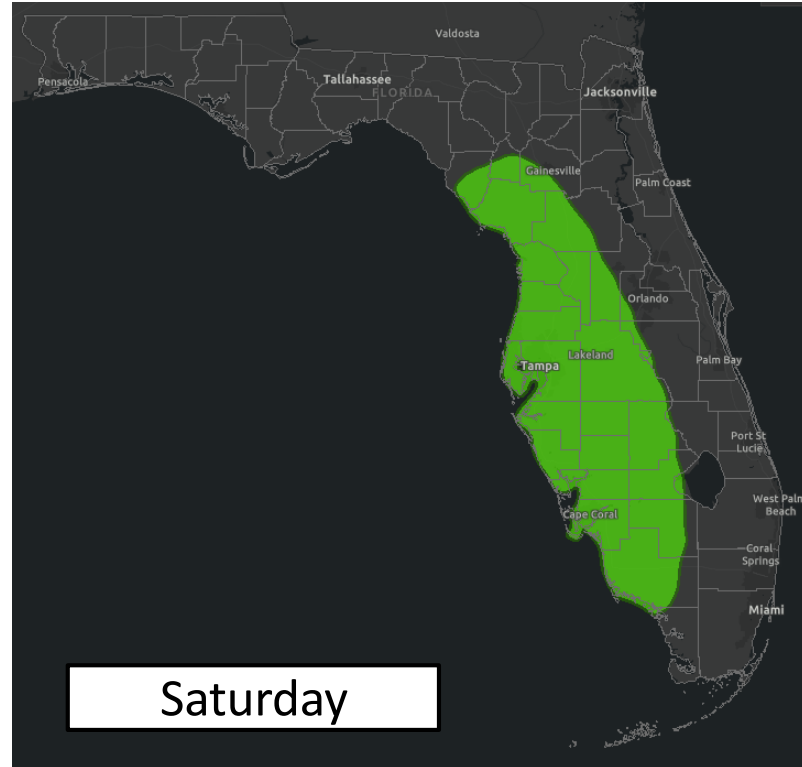
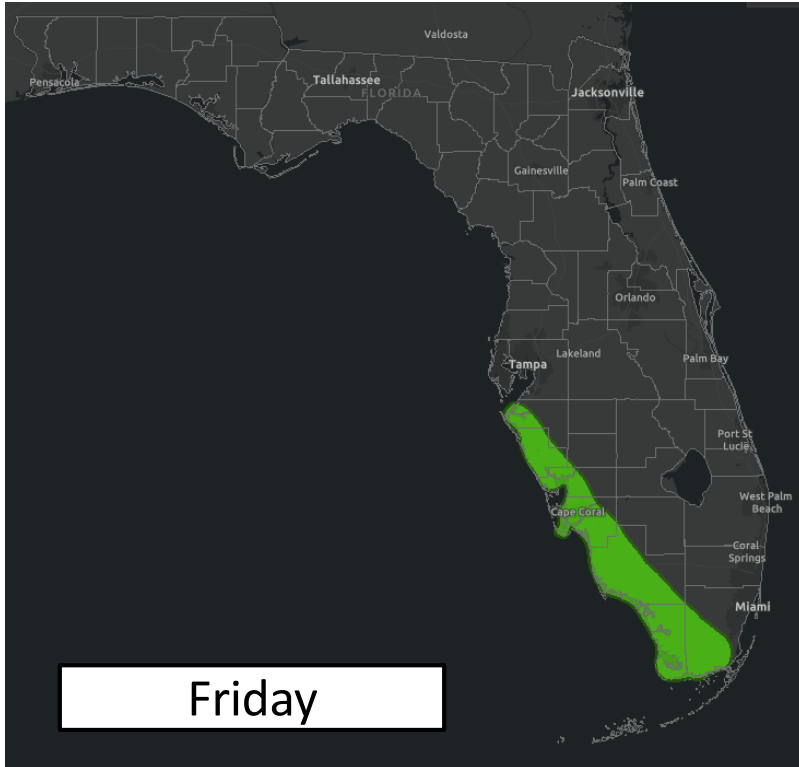


weather.gov/mob



Flash Flood Outlooks

From the Weather Prediction Center



Risk of rainfall exceeding flash flood guidance within 25 miles of a point to the right of a line

HIGH: > 50%

SLGT: 10%-20%

MDT: 20%-50%

MRGL: 5%-10%

Because of the recent heavy rainfall, an isolated case of flash flooding is possible across along the West Coast over the next couple days, then spreading toward North Florida on Sunday.



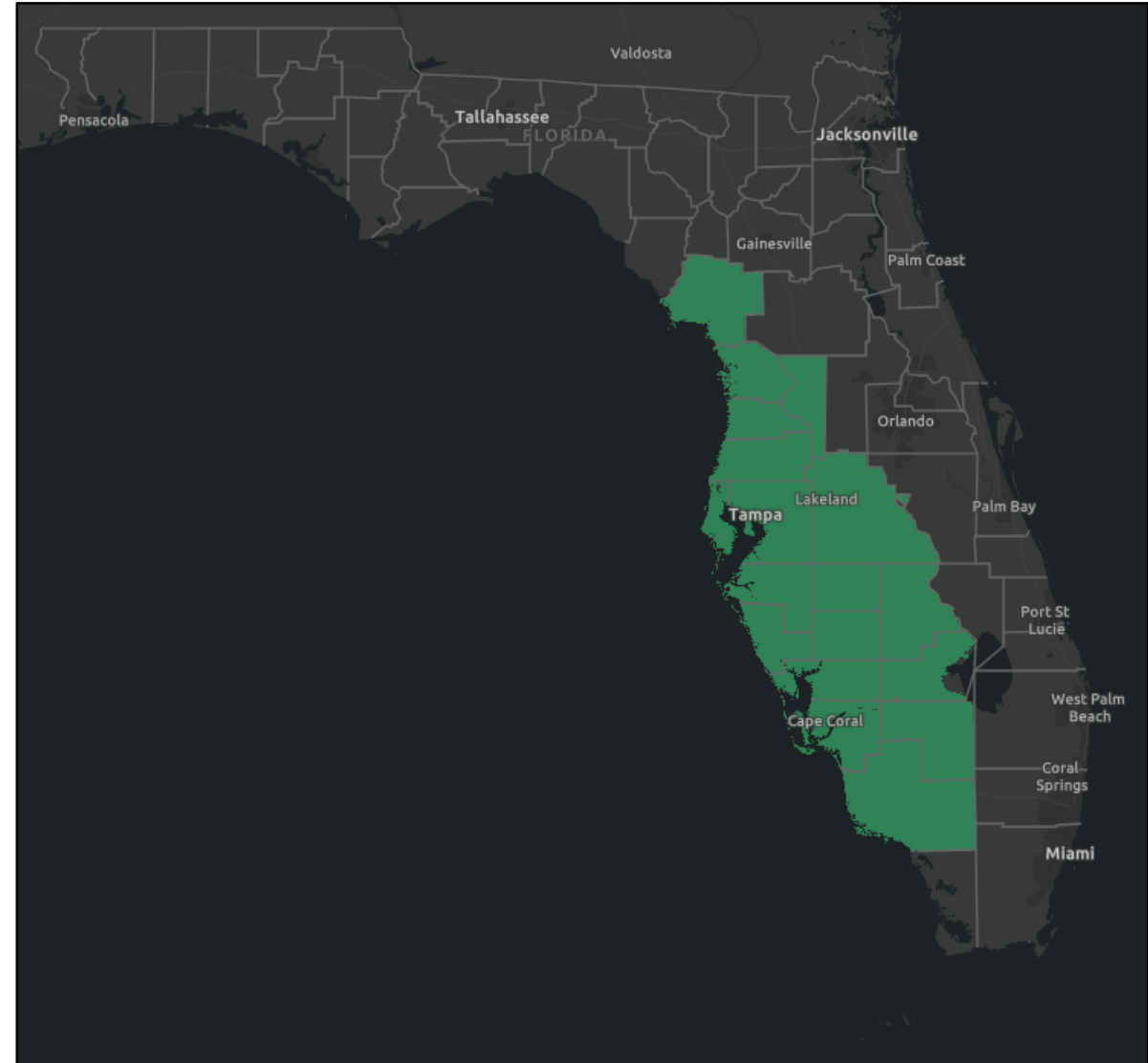
Flood Watches

Links: [NWS Tampa Bay](#) | [NWS Miami](#)

When: 2 PM ET today through 8 AM Sunday morning
(through 8 PM Saturday for Collier County)

Counties: Levy, Citrus, Hernando, Pasco, Sumter,
Pinellas, Hillsborough, Polk, Manatee, Sarasota,
Hardee, DeSoto, Highlands, Charlotte, Glades, Lee,
Hendry, Collier

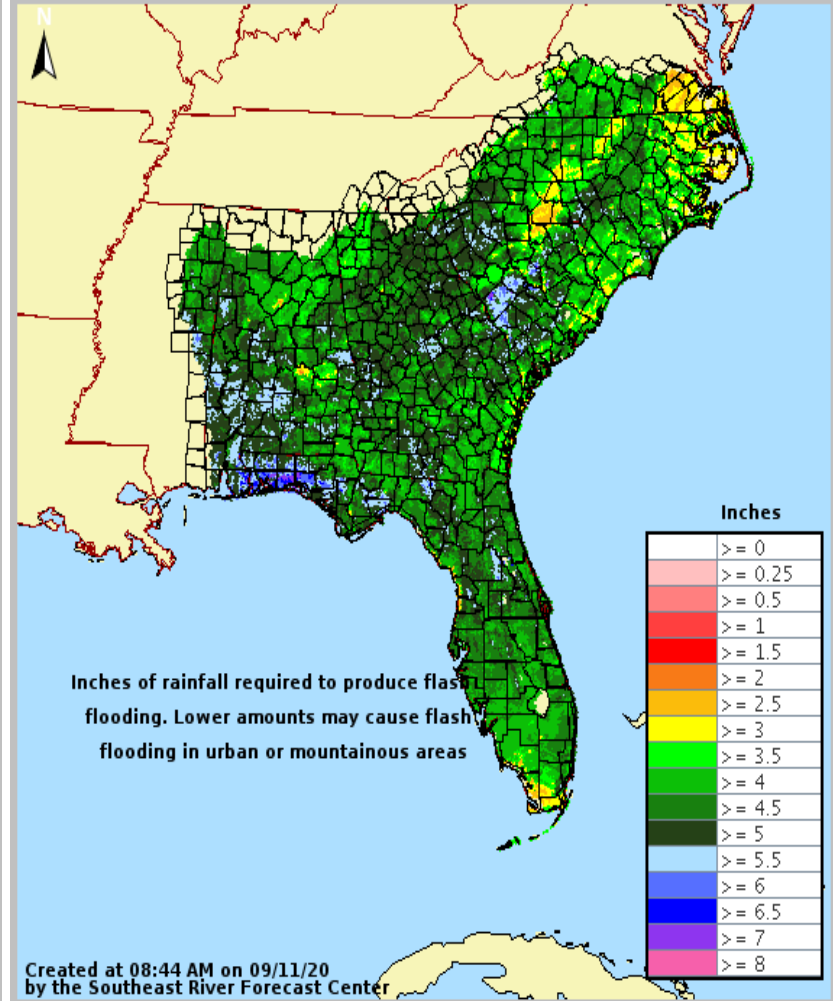
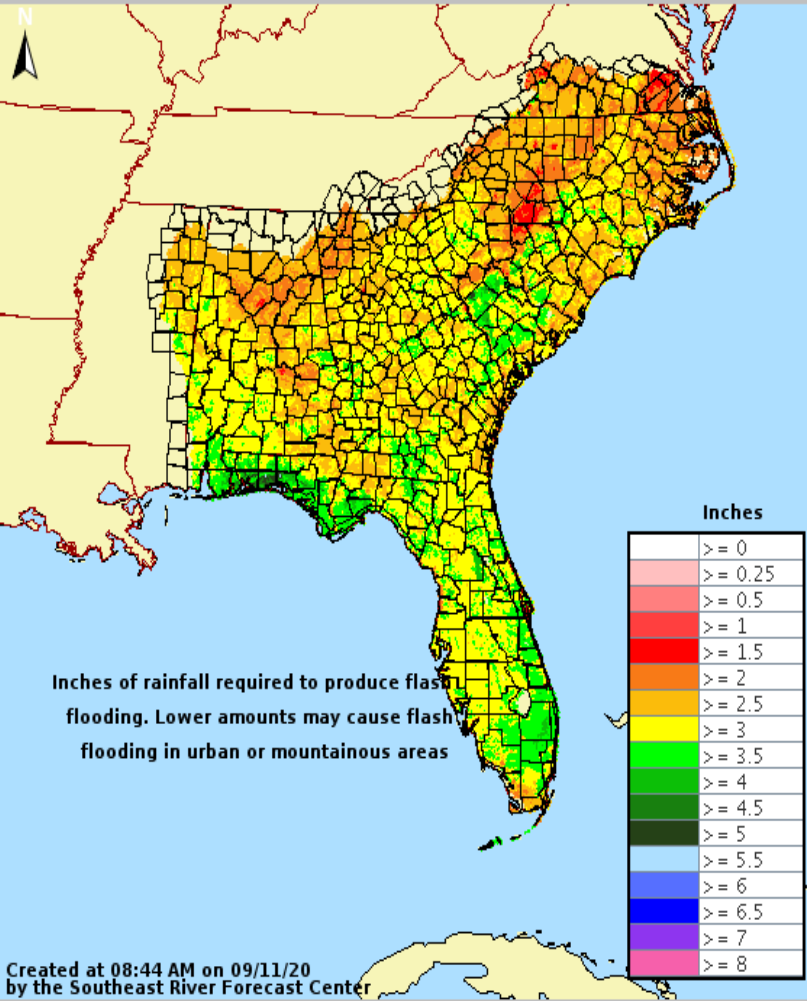
Recent heavy rainfall has saturated the soils across West Central and Southwest Florida. Given increasing moisture, there will be a flood threat each day, but especially this weekend as the PTC #19 moves over the Peninsula this weekend.





Flash Flood Guidance

How Much Rain is Needed to Create Flash Flooding?



Along the West Coast, it will only take about 1.5-3" of rain within 1 hour or 3-5" within 6 hours to cause flash flooding due to recent heavy rainfall.

Elsewhere in the state, it will take about 3-4" in 1 hour or 5+" within 6 hours to cause flash flooding.



Observed Rainfall Last 7 Days

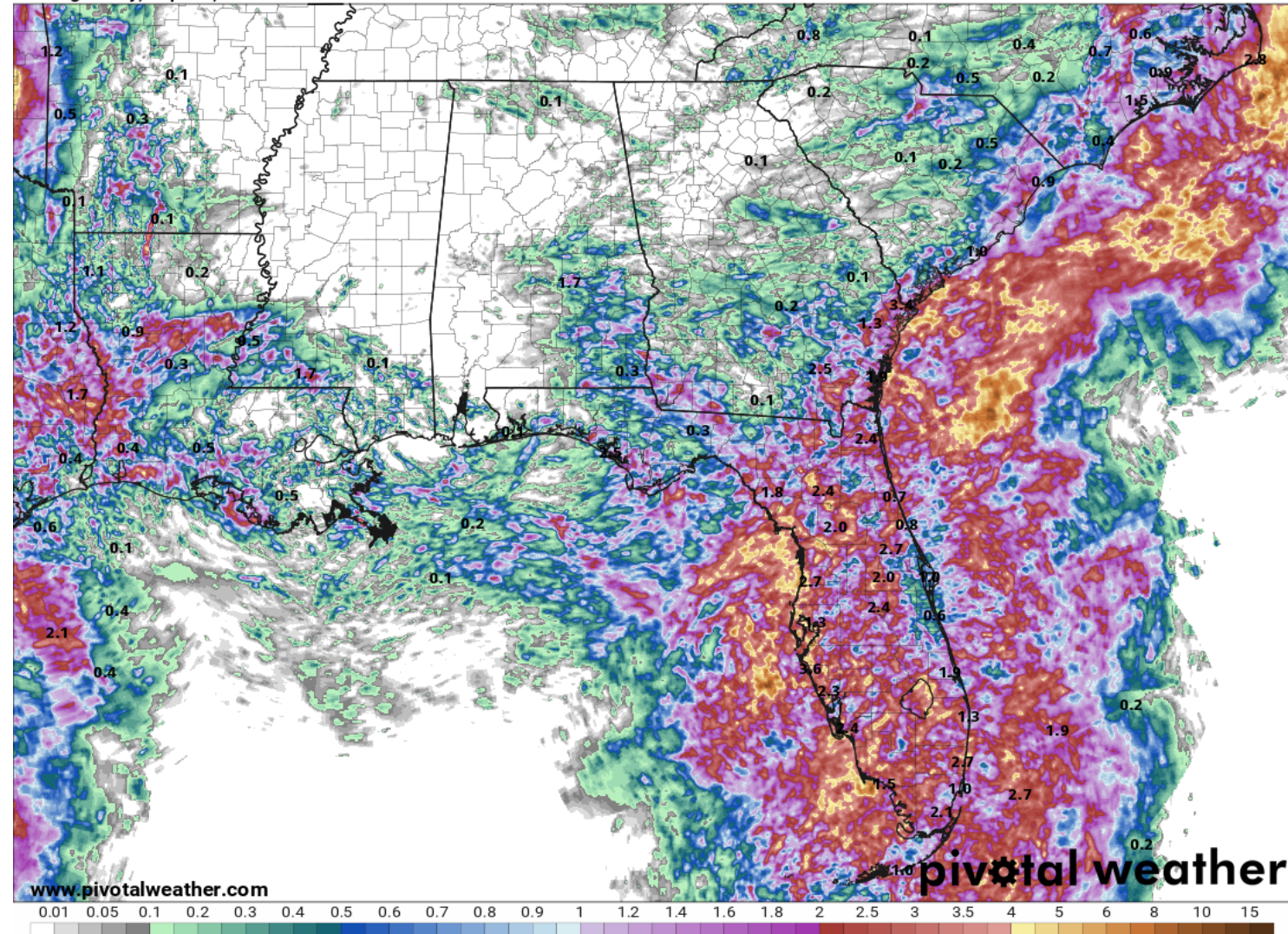
How Much Rain Has Fallen So Far?

Much of the Peninsula has seen over 2" of rainfall over the last 7 days. However, areas near the West Coast have seen up to 4-6" of rain during the last week.

This has saturated the soils and results in an increased threat for flooding.

168-Hour MRMS Gauge-Corrected Precipitation Analysis (in)
Ending Friday, Sep. 11, 2020 at 11 a.m. EDT

Init: Fri 2020-09-11 15z MRMS





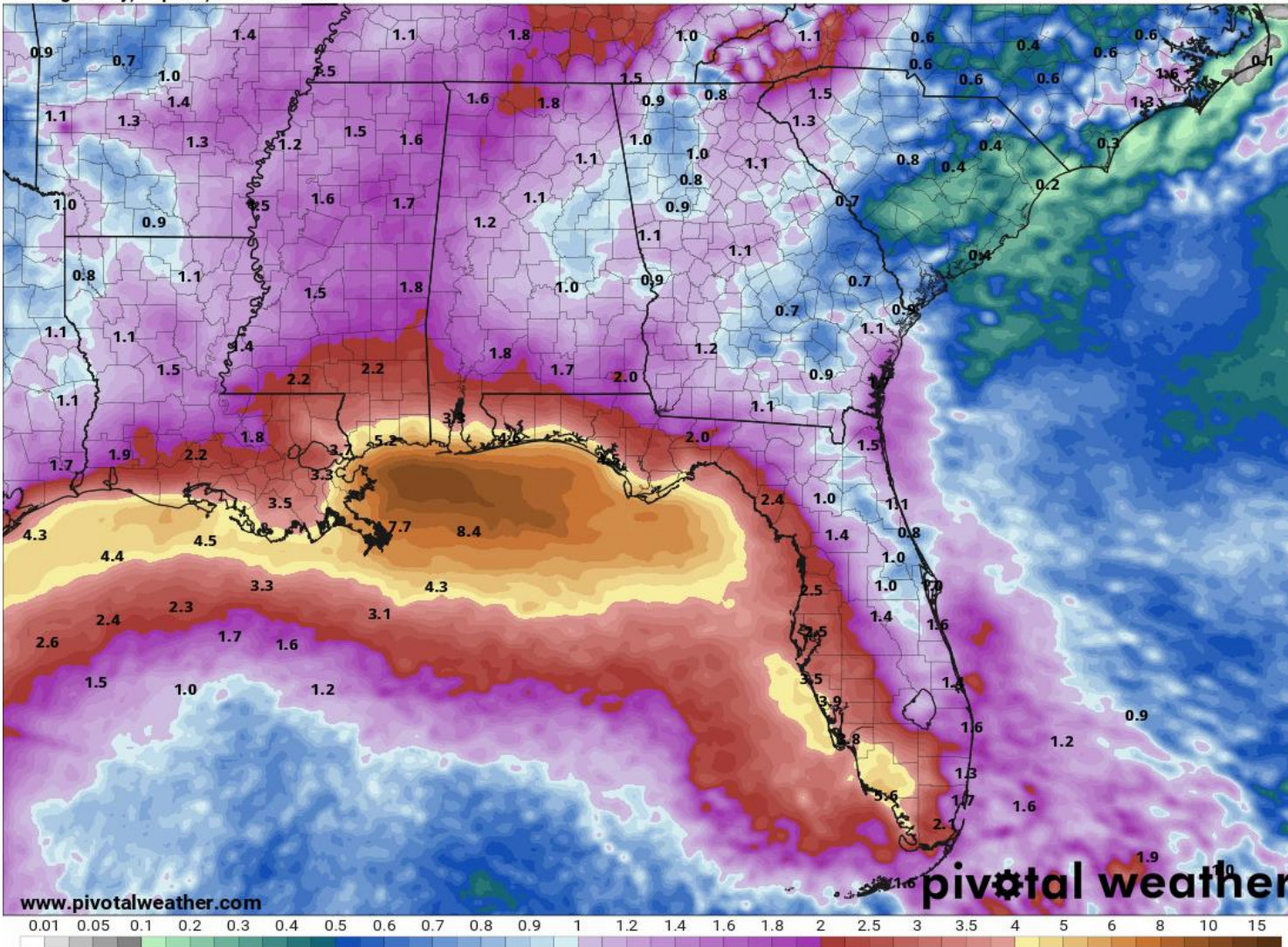
Rainfall Totals Next 7 Days

Ending 8 AM ET Friday 9/18 – Gulf of Mexico Systems

7-Day Precipitation (in)

Ending Friday, Sep. 18, 2020 at 8 a.m. EDT

Init: Fri 2020-09-11 12z WPC



Rainfall totals of 3-5" are expected over the next 7 days along the West Coast and in the Panhandle. Rainfall totals of 1-2" are possible elsewhere.

Localized totals of 6-10"+ are possible due to the abundant tropical moisture present and possible slow-moving thunderstorms.

Exact rainfall totals will change depending on the eventual track of Invest 96L.

Many locations across the Peninsula have seen heavy rainfall over the last several days, and a localized flash flood threat will be possible each day.



Current & Forecast River Flooding

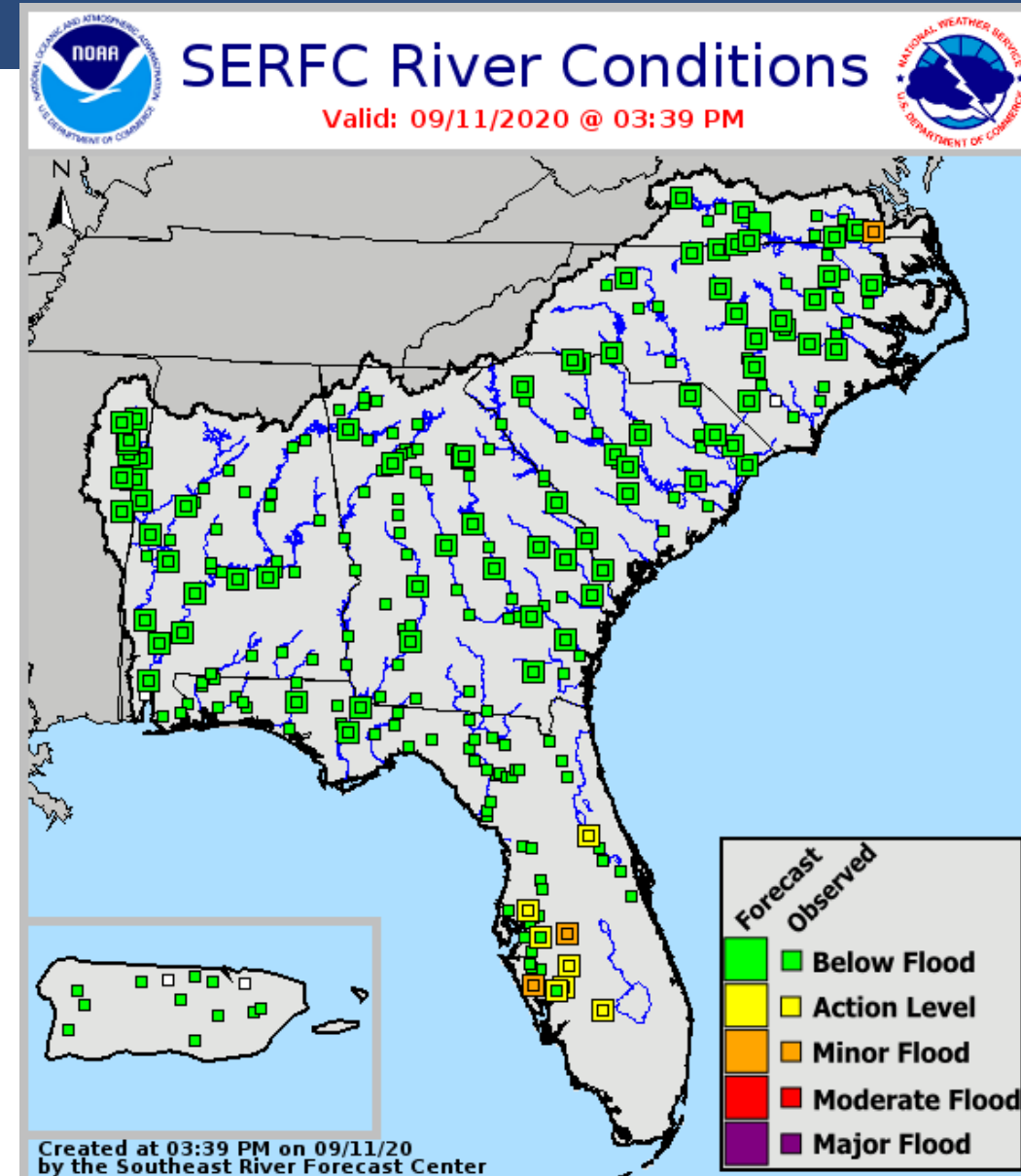
Southeast River Forecast Center

Rivers Currently in or Forecast to Reach Flood Stage:

- [Peace River at Bartow](#) - STEADY
- [Myakka River at Myakka River State Park](#) - RISING
- [Ocklawaha River at Rodman Dam](#) - RISING

With more heavy rainfall expected across the state, additional river rises may occur over the next several days.

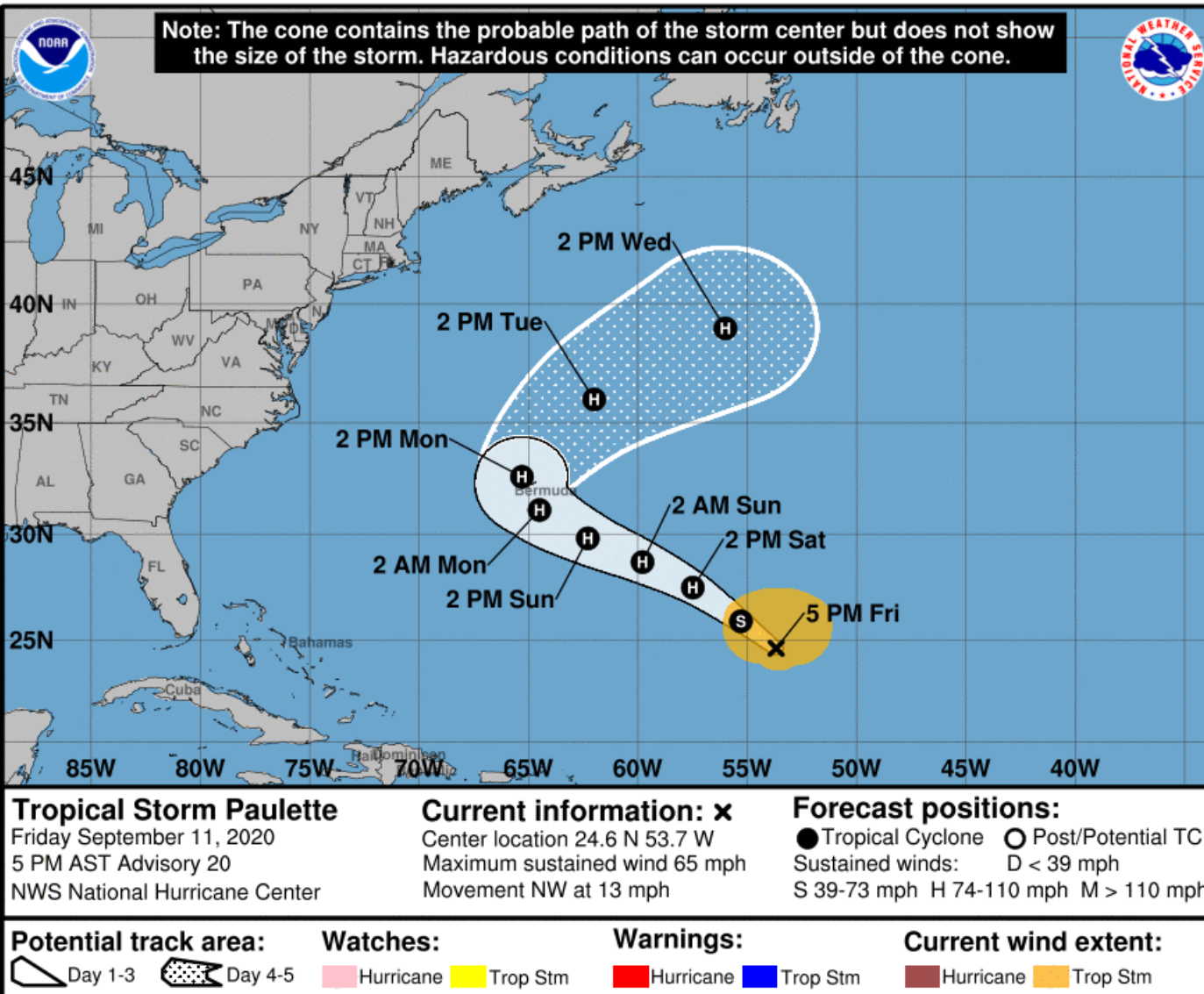
More details on river levels available at the [Southeast River Forecast Center website](#).





Official Forecast Track

From the National Hurricane Center – Tropical Storm Paulette



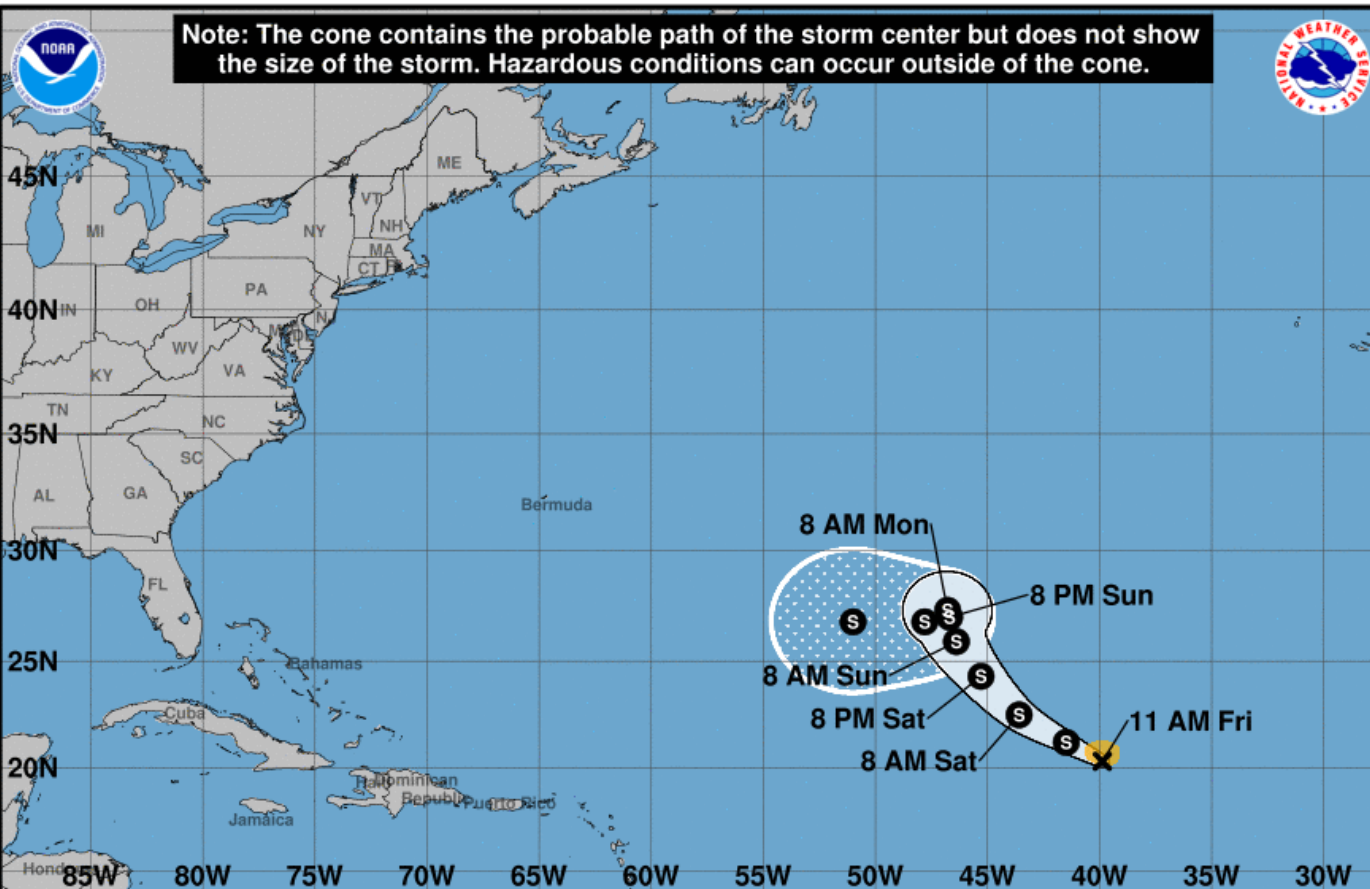
- The center of Paulette is located about 855 miles southeast of Bermuda
- Maximum sustained winds are 65 mph, and Paulette is moving to the northwest at 13 mph.
- Strengthening is forecast, and Paulette is expected to become a hurricane on Saturday.
- Paulette could be a Category 2 hurricane as it passes near or over Bermuda on Monday

Direct impacts from Paulette are not expected, but swells may impact the East Coast, increasing the risk for rip currents.



Official Forecast Track

From the National Hurricane Center – Tropical Storm Rene



Note: The cone contains the probable path of the storm center but does not show the size of the storm. Hazardous conditions can occur outside of the cone.



- The center of Tropical Storm Rene is located 1,165 miles west-northwest of the Cabo Verde Islands
- Maximum sustained winds have decreased to 40 mph, and the system is moving to the west-northwest at 14 mph.
- Some strengthening is possible this weekend, followed by weakening late Sunday into early next week.

This system is not a threat to Florida, or the U.S.

Tropical Storm Rene
Friday September 11, 2020
11 AM AST Advisory 18
NWS National Hurricane Center

Current information: x
Center location 20.3 N 39.9 W
Maximum sustained wind 40 mph
Movement WNW at 13 mph

Forecast positions:
● Tropical Cyclone ○ Post/Potential TC
Sustained winds: D < 39 mph
S 39-73 mph H 74-110 mph M > 110 mph

Potential track area:

Day 1-3 Day 4-5

Watches:

Hurricane Trop Stm

Warnings:

Hurricane Trop Stm

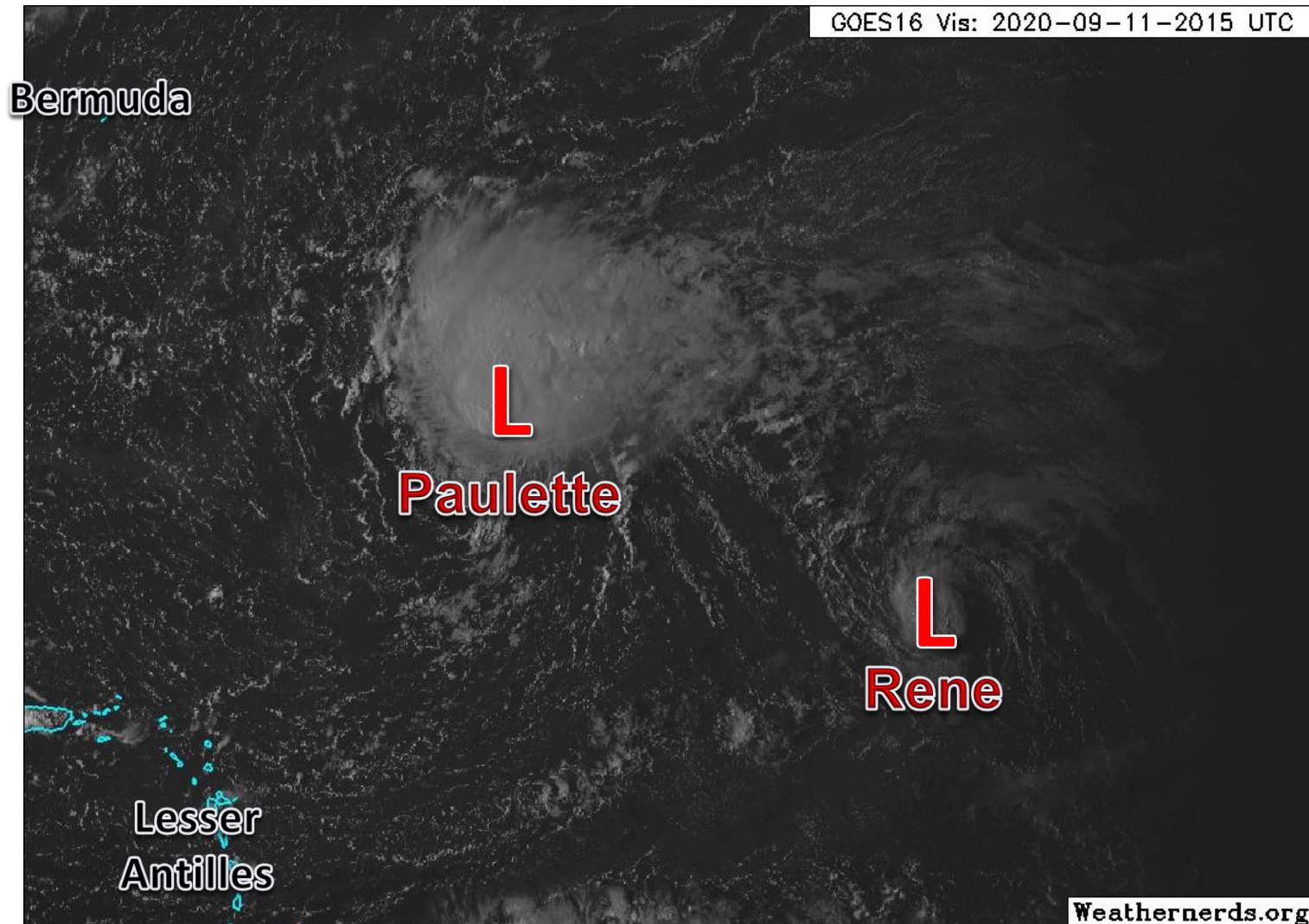
Current wind extent:

Hurricane Trop Stm



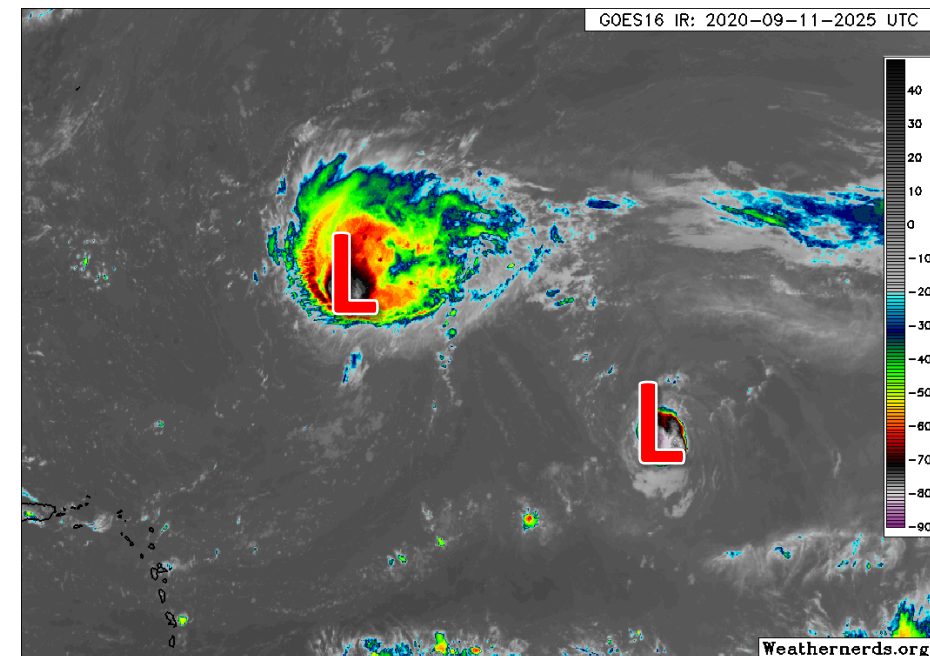
Satellite Imagery

Tropical Storm Paulette & Tropical Storm Rene



Paulette is looking better organized this afternoon as it continues moving off to the northwest.

Rene is trying to rebuild its convection over its center, but it remains weak and rather disorganized.





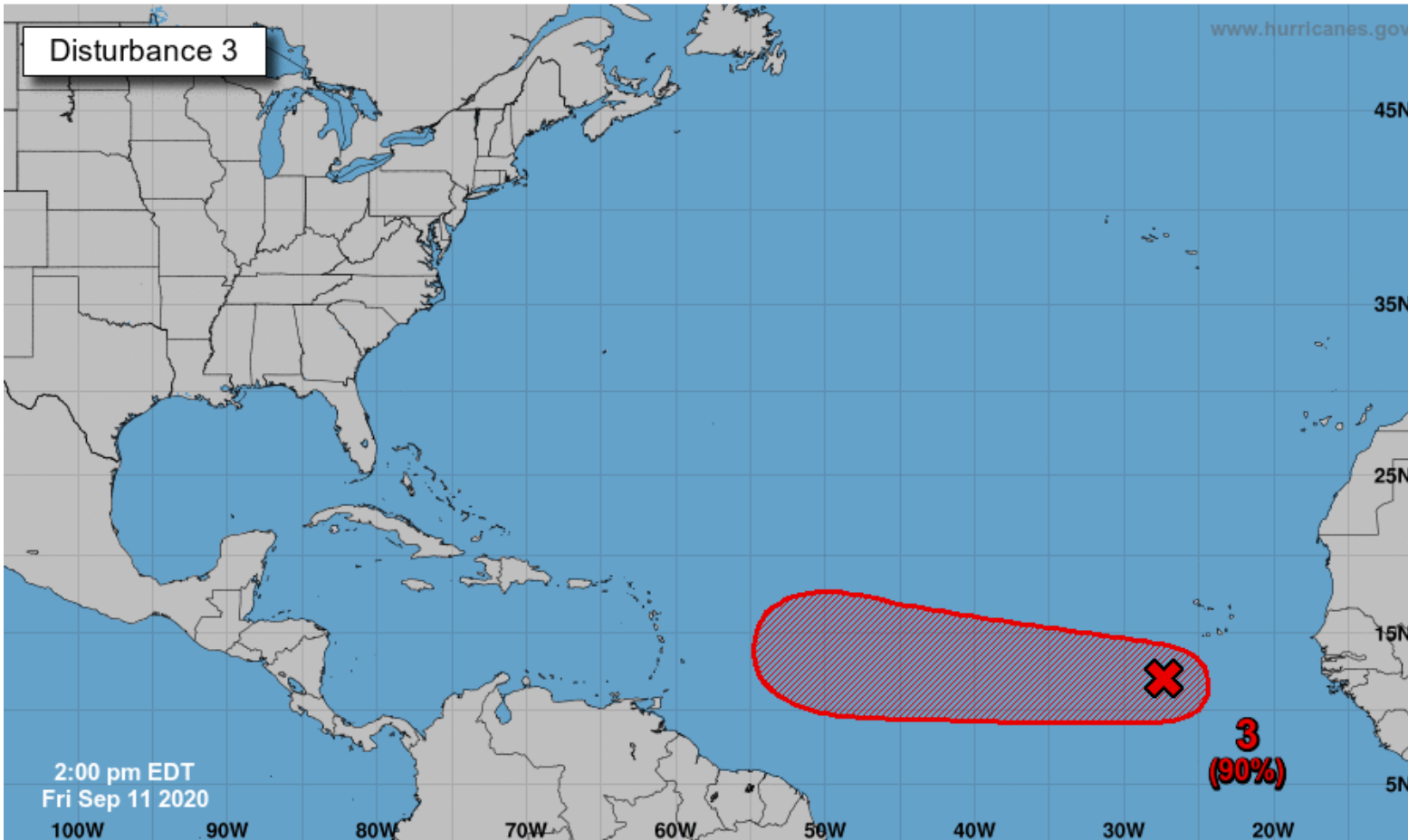
Tropical Weather Outlook

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



Five-Day Graphical Tropical Weather Outlook

National Hurricane Center Miami, Florida



A broad area of low pressure, associated with a tropical wave, is located a few hundred miles south and southwest of the Cabo Verde Islands and is producing a large area of disorganized showers and thunderstorms.

Development of this system is forecast, and a tropical depression is expected to form within the next few days while the system moves generally westward at 15 to 20 mph across the eastern and central tropical Atlantic.

This system is about 5-6 days from the Lesser Antilles. This system will need to be monitored heading into next week.

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

***Formation chance through 5 days...high...90%**

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



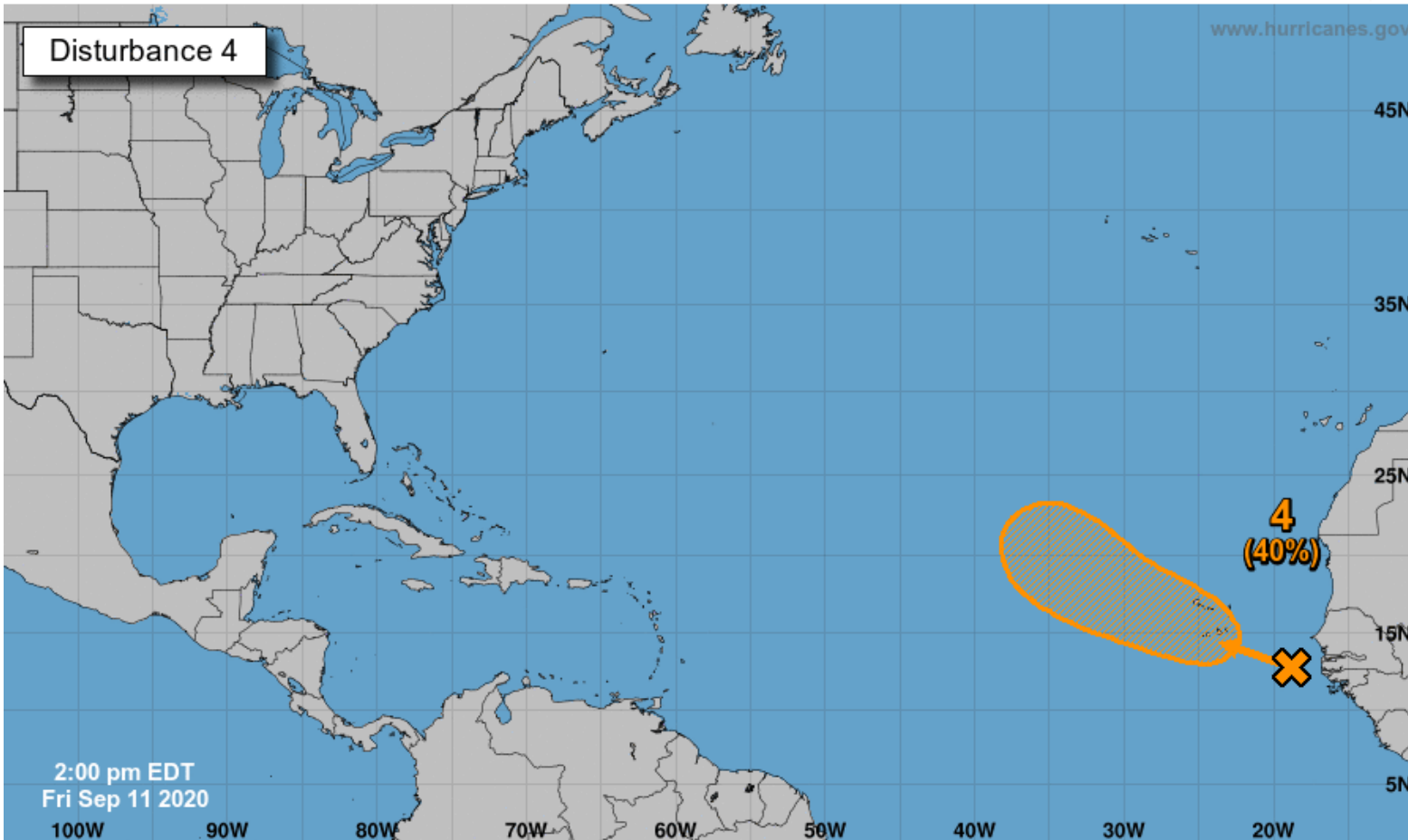
Tropical Weather Outlook

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



Five-Day Graphical Tropical Weather Outlook

National Hurricane Center Miami, Florida



Another large area of disturbed weather is located just off the west coast of Africa.

Environmental conditions could support development during the next few days, and a tropical depression could form over the far eastern tropical Atlantic early next week while the system moves slowly westward or northwestward.

Upper-level winds could become less conducive for development by Monday or Tuesday.

This system does not need to be monitored at this time as it is thousands of miles from the Lesser Antilles. It may need to be monitored next week if it makes it far enough west.

***Formation chance through 48 hrs...low...10%**

***Formation chance through 5 days...medium...40%**

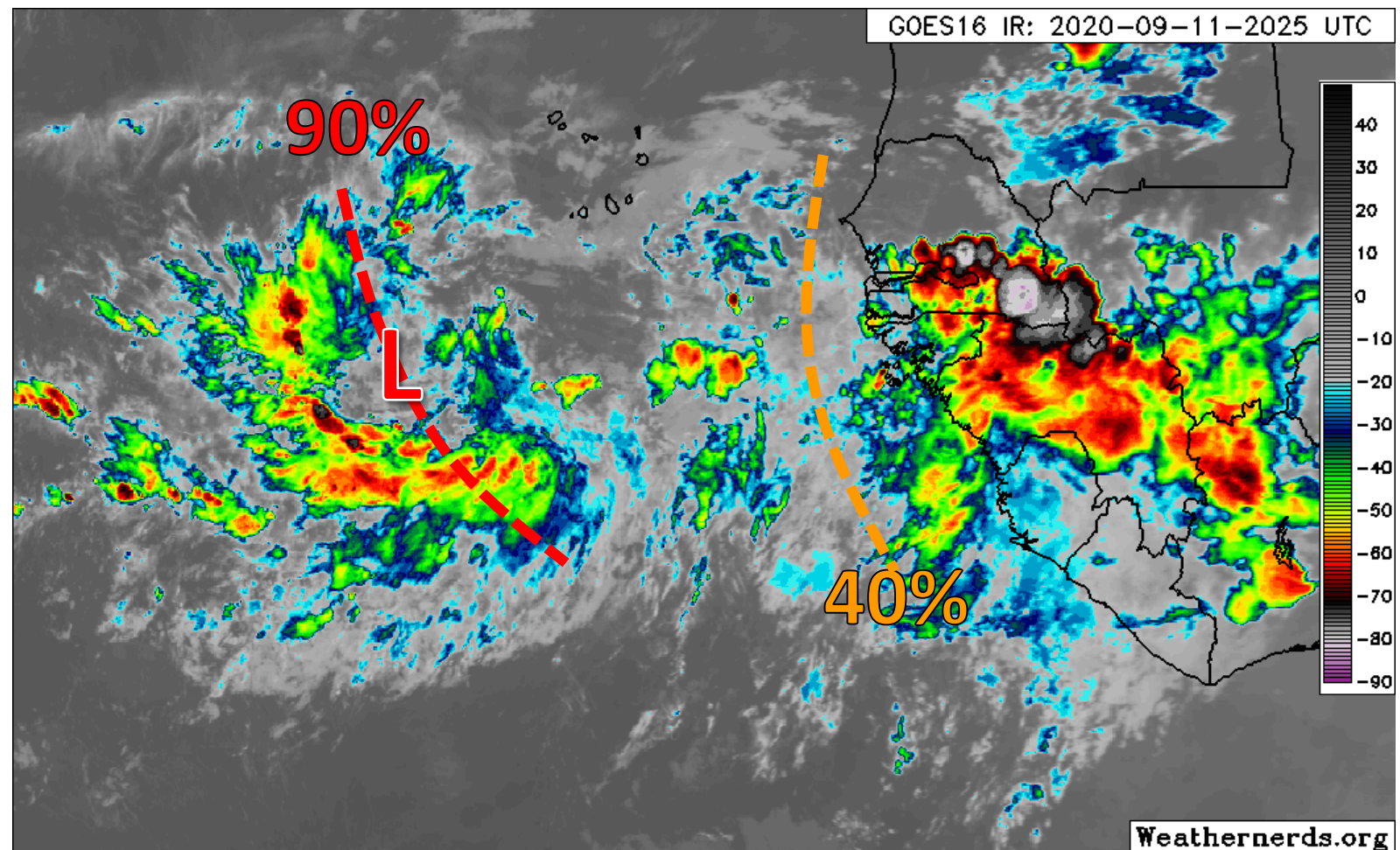
Current Disturbances and Five-Day Cyclone Formation Chance:
Tropical or Sub-Tropical Cyclone: ○ Depression ⚡ Storm 🌀 Hurricane
⊗ Post-Tropical Cyclone or Remnants

Legend for Formation Chance:
✕ < 40% ✕ 40-60% ✕ > 60%



Satellite Imagery

Eastern Atlantic & Western Africa



The two tropical waves near Africa have a good potential for development over the next several days as they move westward or west-northwestward over the Atlantic.

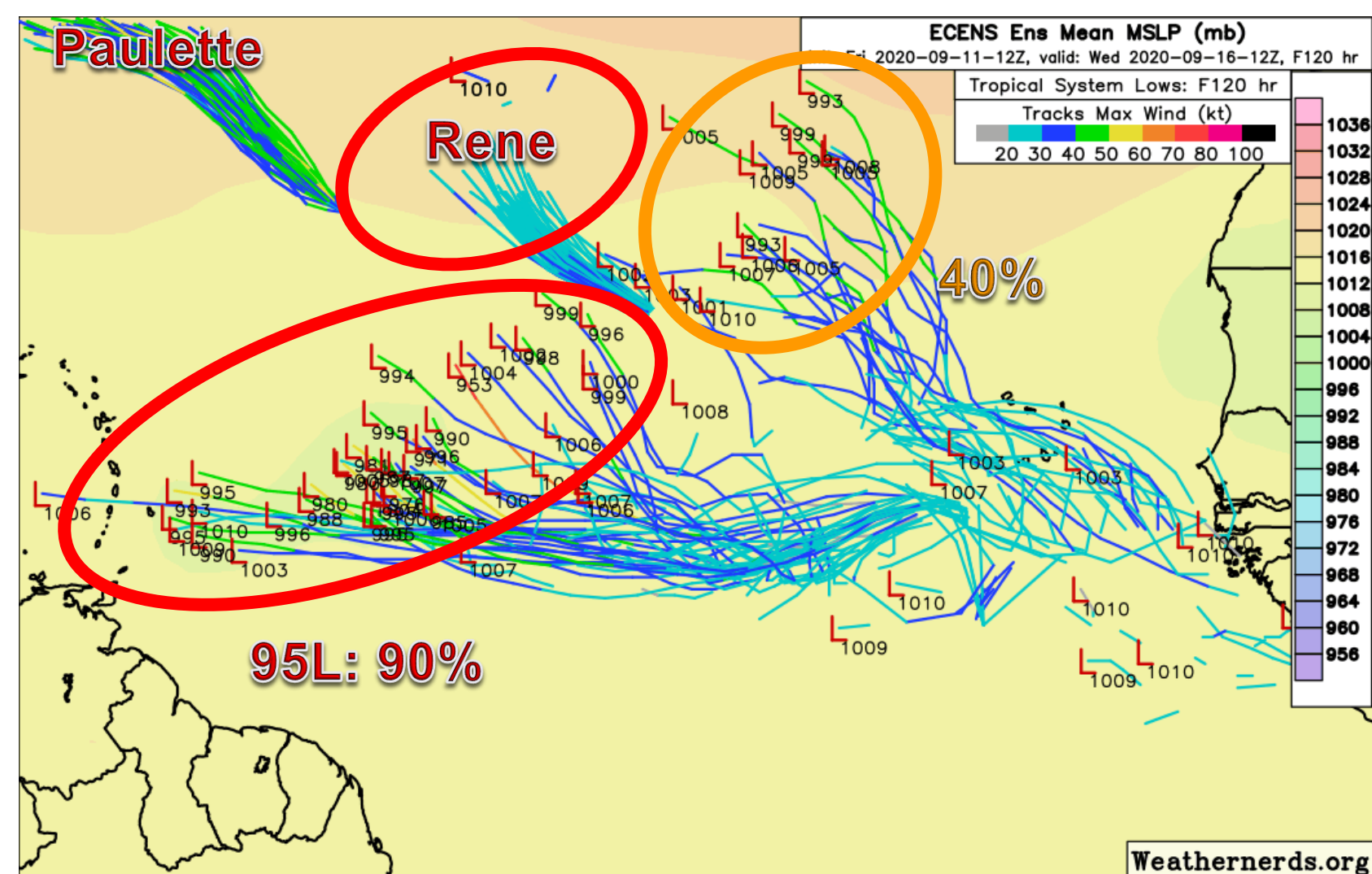
Invest 95L (90%) has two areas of spin fighting against each other currently. Once this consolidates into one center, then further development may occur.

The wave just coming off Africa is still rather disorganized, but conditions appear somewhat favorable for development over the next few days.



Model Forecasts

Ensemble Models – Next Week – Tuesday Morning (Sept. 15)



Invest 95L's forecast is rather tricky going into next week as Rene's track also plays a role. A faster, weaker 95L will tend to move farther west. However, a slower, stronger 95L could feel the weakness left by Rene and turn northeastward before reaching the Lesser Antilles.

The next wave coming off Africa (40%) will more likely head west-northwestward over the eastern Atlantic.



Overall Summary

Tropical Depression #19 (former Invest 96L)

- The center of Tropical Depression #19 is located about 80 miles east-southeast of Miami.
- Maximum sustained winds are near 35 mph, and TD #19 could become a tropical storm just prior to moving inland over South Florida overnight.
- Gradual strengthening is forecast over the Gulf of Mexico, and TD #19 could be near hurricane strength on Monday or Tuesday as it approaches the northern Gulf Coast.
- TD #19 is moving toward the west-northwest at 8 mph, and this general motion will continue through early next week.
- On the forecast track, TD #19 will emerge into the Gulf of Mexico on Saturday and be near the Florida Panhandle Sunday night through Tuesday.
- This system will bring heavy rainfall, gusty winds, and possibly isolated tornadoes to parts of Florida and the northern Gulf Coast over the next several days.

Gulf of Mexico Low

- A trough of low pressure over the northeastern Gulf of Mexico will move westward over the northern Gulf of Mexico during the next couple days before turning southwestward early next week over the western Gulf.
- This system has a 20% (low) chance of formation during the next 48 hours and a 30% (low) chance of formation during the next 5 days.

Tropical Storm Paulette

- The center of Paulette is about 855 miles southeast of Bermuda.
- Maximum sustained winds are near 65 mph, and Paulette is moving northwest at 13 mph.
- Paulette is forecast to become a hurricane early next week as it moves near or over Bermuda.
- Swells from Paulette could cause dangerous rip currents along the East Coast.



Overall Summary

Tropical Storm Rene

- The center of Rene is located about 1,165 miles west-northwest of the Cabo Verde Islands.
- Maximum sustained winds are at 40 mph, and Rene is moving west-northwest at 14 mph.
- Some strengthening is possible during the weekend followed by weakening late Sunday into early next week

Invest 95L (southwest of the Cabo Verde Islands)

- A tropical wave southwest of the Cabo Verde Islands is gradually becoming better organized.
- Conditions are favorable for gradual development over the next few days, and a tropical depression is expected to form this weekend or early next week.
- This system has a 70% (high) chance of formation over the next 48 hours, and a 90% (high) chance over the next 5 days.

Wave near the African Coast

- A tropical wave emerging off of Africa will move into the eastern Atlantic where conditions are somewhat favorable for development.
- This system has a 10% (low) chance of formation over the next 48 hours, but a 40% (medium) chance over the next 5 days.



Florida Outlook

Florida Outlook:

- Tropical Depression #19 will likely produce heavy rainfall and gusty winds across much of the state, particularly near the West Coast, Panhandle, and Big Bend.
- Tropical Storm Watches: coastal/metro Miami-Dade, coastal/metro Broward, coastal/metro Palm Beach
- Tropical storm force winds could begin in South Florida as early as tonight, along the West Coast as early as Saturday morning, and along the Panhandle and Big Bend as early as Sunday morning or afternoon.
- 3-5" of rainfall is expected along the West Coast and in the Panhandle over the next 7 days with 1-2" elsewhere. Localized totals of 6-10" are possible.
- Localized flash flooding and minor river flooding will continue through early next week.
- Flood Watches are now in effect for much of West Central and Southwest Florida.
- Building waves from TD #19 are possible, and a moderate to high rip current risk is expected for Gulf beaches next week.
- Paulette could generate swells that reach the Atlantic beaches, possibly elevating the rip current risk next week.
- Direct impacts from any other systems in the tropics are not expected over the next several days.
- Invest 95L may need to be monitored next week.

The next briefing packet will be issued Saturday morning. 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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