



# TROPICAL UPDATE



9:00 AM EDT

Tuesday, September 7, 2021

Major Hurricane Larry &

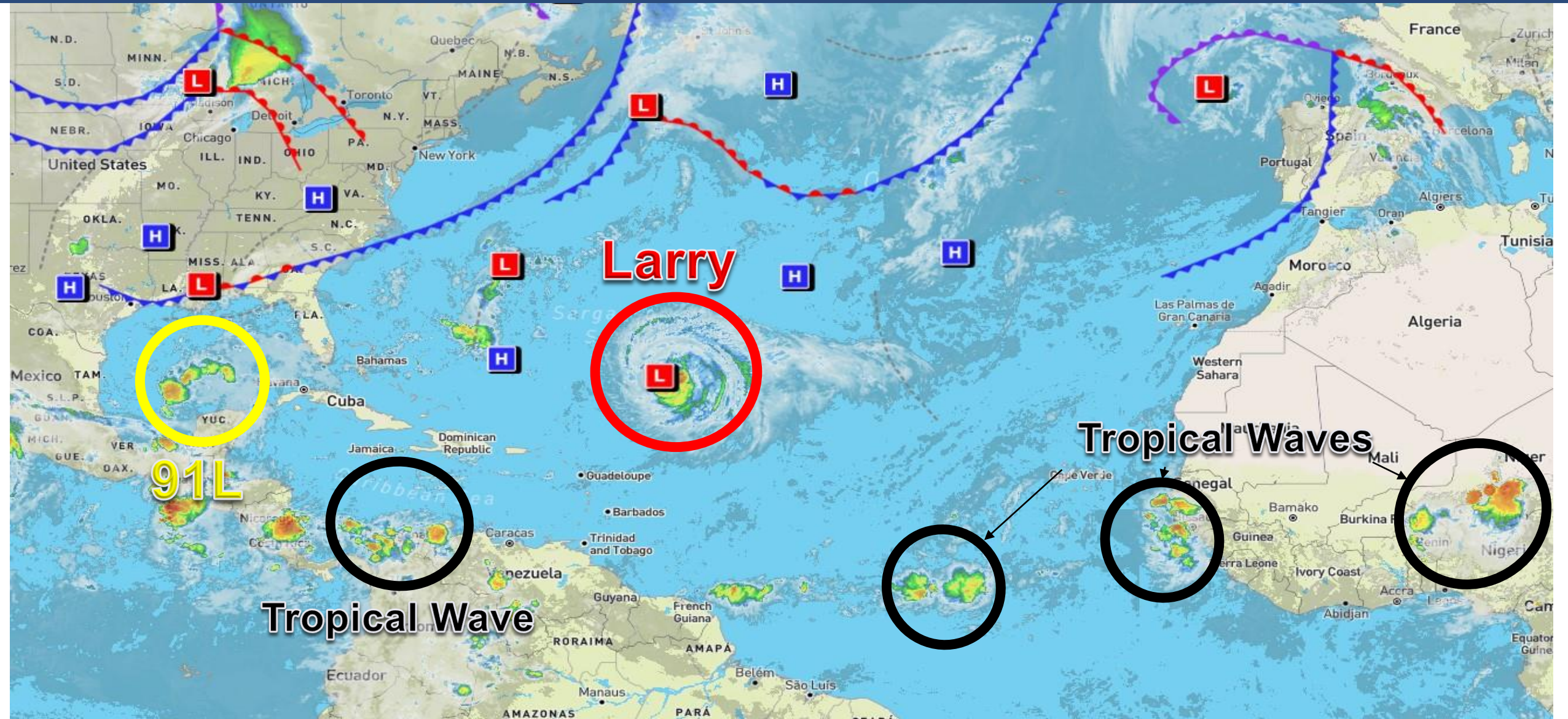
Invest 91L – Gulf of Mexico (30%)

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).



# Atlantic Basin Satellite Image

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

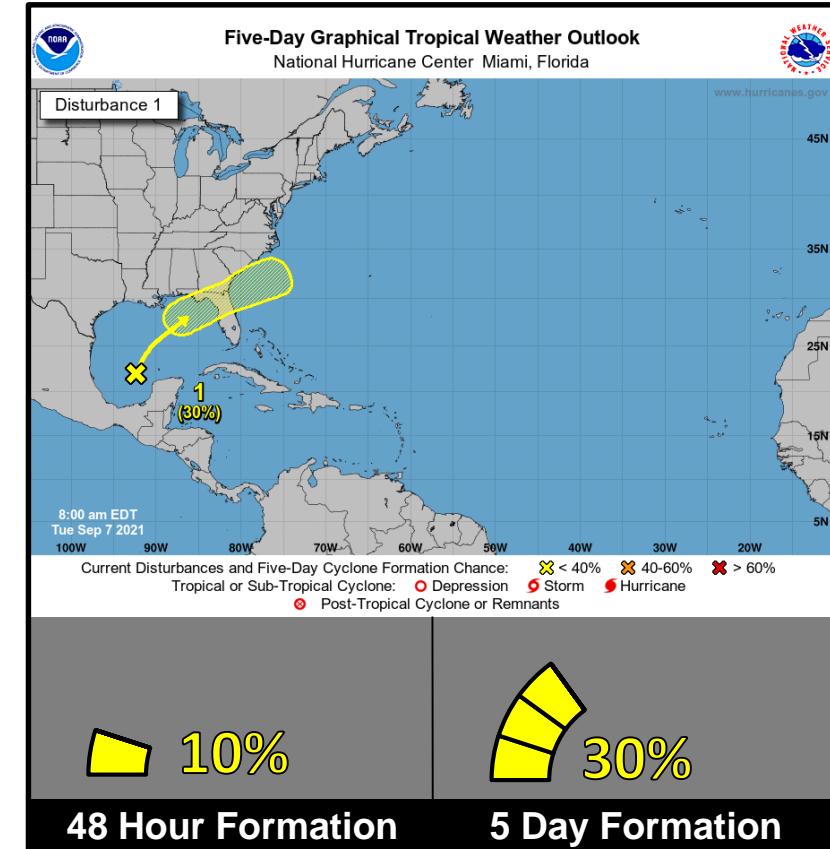






## 9 AM ET Tuesday: Florida Threats & Changes Since Last Packet

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



## Overview/Recent Changes:

Invest 91L (Gulf of Mexico) will move northeastward toward Florida over the next couple days. Development chances are low, and if development were to occur, it would be minimal due to unfavorable upper-level winds. However, increased rain chances are expected across much of the state. Flash flooding is possible in the Panhandle and Big Bend where soils are saturated.



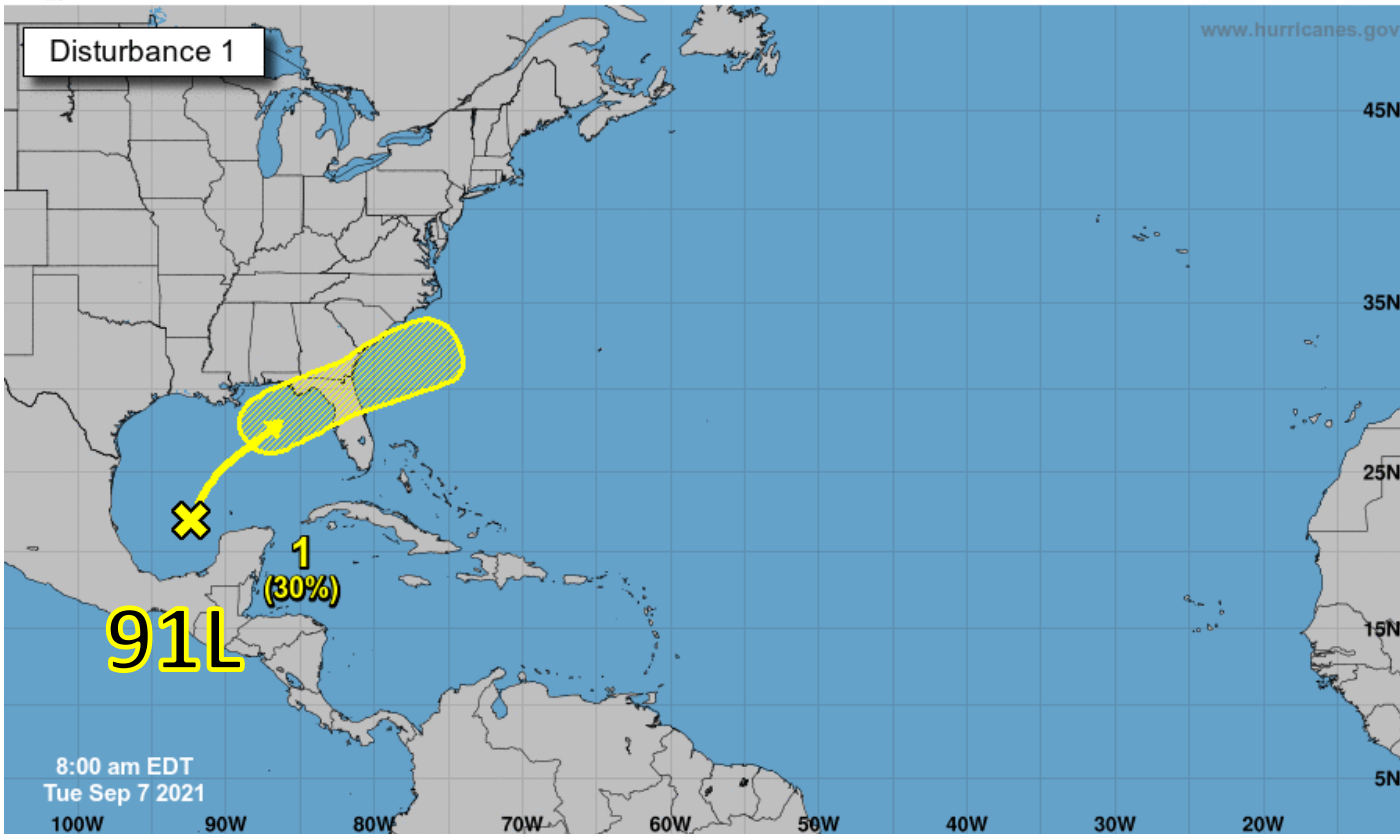
# Tropical Weather Outlook

Possible Areas of Development During the Next 5 Days ([LINK](#)) – Invest 91L



## Five-Day Graphical Tropical Weather Outlook

National Hurricane Center Miami, Florida



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

Disorganized showers and thunderstorms over the south-central Gulf of Mexico are associated with a surface trough and an upper-level disturbance. The system is expected to move slowly northeastward over the central and northeastern Gulf of Mexico during the next couple of days. Upper-level winds are currently unfavorable for development, but they are forecast to become marginally conducive for some limited development as the system nears the northern Gulf coast on Wednesday and Wednesday night. The disturbance is then expected to cross the southeastern United States, and some tropical or subtropical development will be possible after it emerges off the southeastern United States coast late this week.

- \* Formation chance through 48 hours...low...10%
- \* Formation chance through 5 days...low...30%



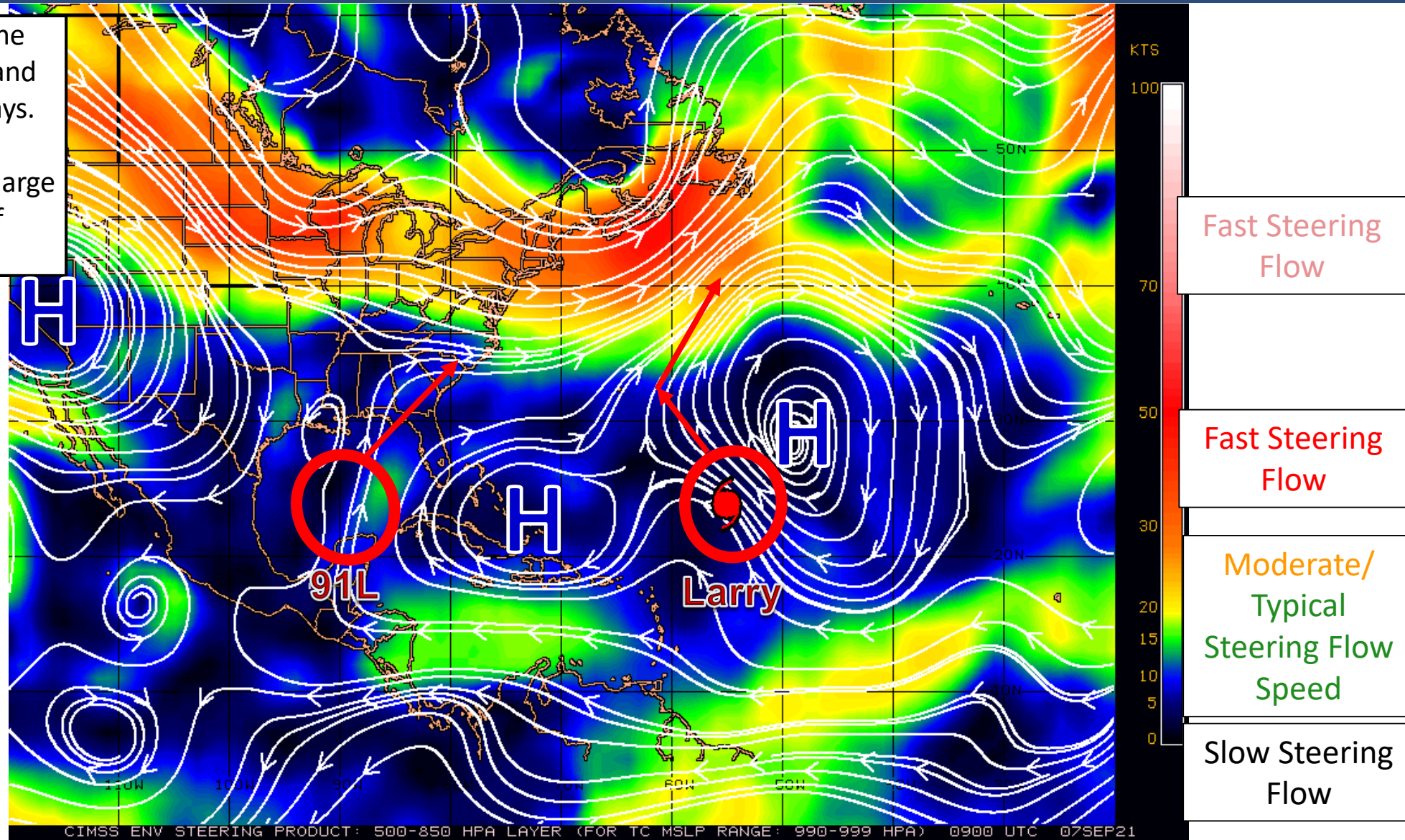
# Steering Currents

## What is Moving the System?

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

A high pressure system over the Bahamas will move 91L north and northeast over the next few days.

Larry is moving around another large area of high pressure east of Bermuda.





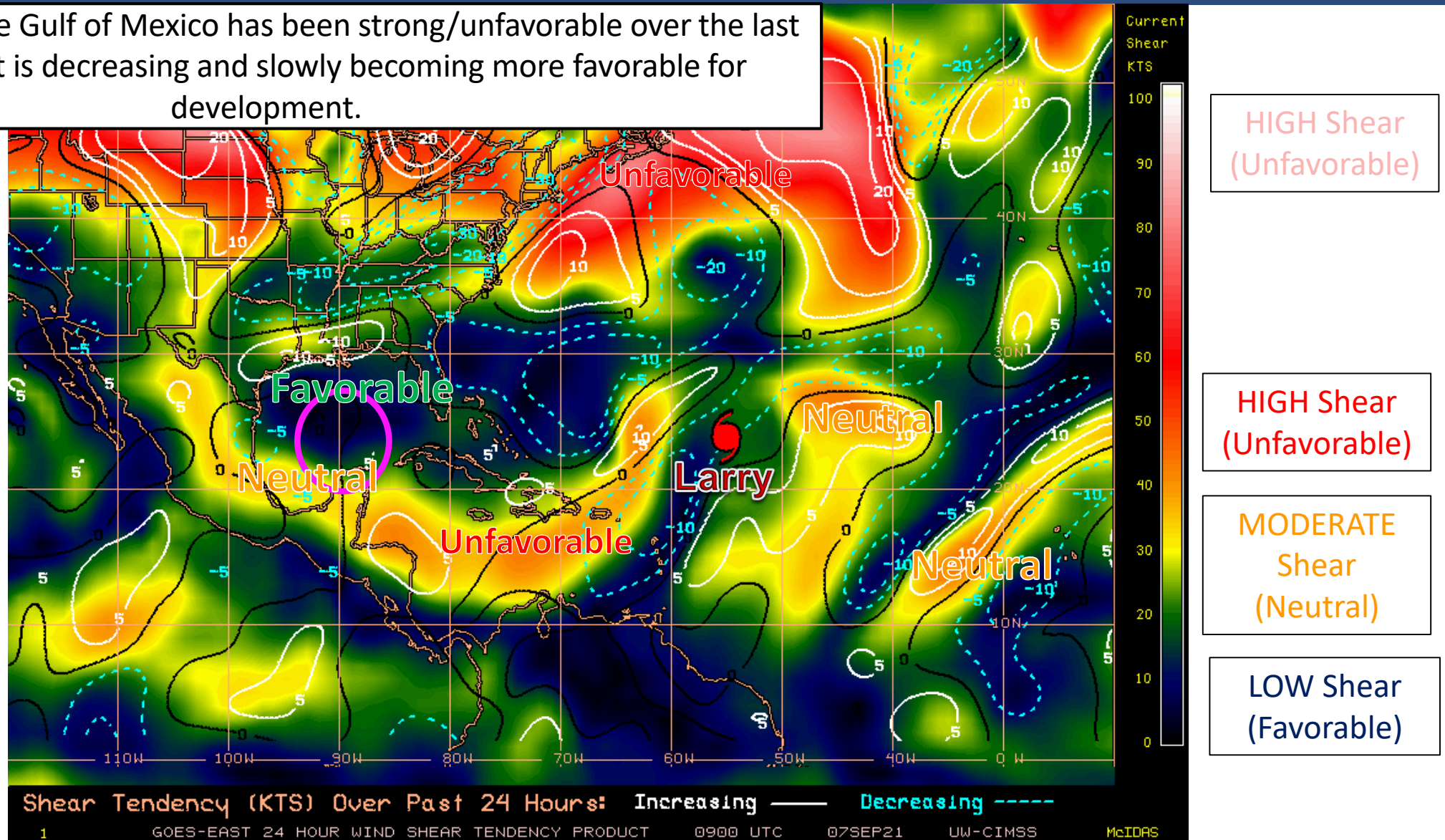


# Wind Shear

Is the environment favorable for the system?

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).

Wind shear over the Gulf of Mexico has been strong/unfavorable over the last several days but is decreasing and slowly becoming more favorable for development.







# Dry Air & Saharan Dust

Is the environment favorable for the system?

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

91L is within a pocket of moisture over the Gulf of Mexico, but dry air is lurking just to the northwest over land behind a cold front. This may limit development.







# Sea Surface Temperatures & Anomalies

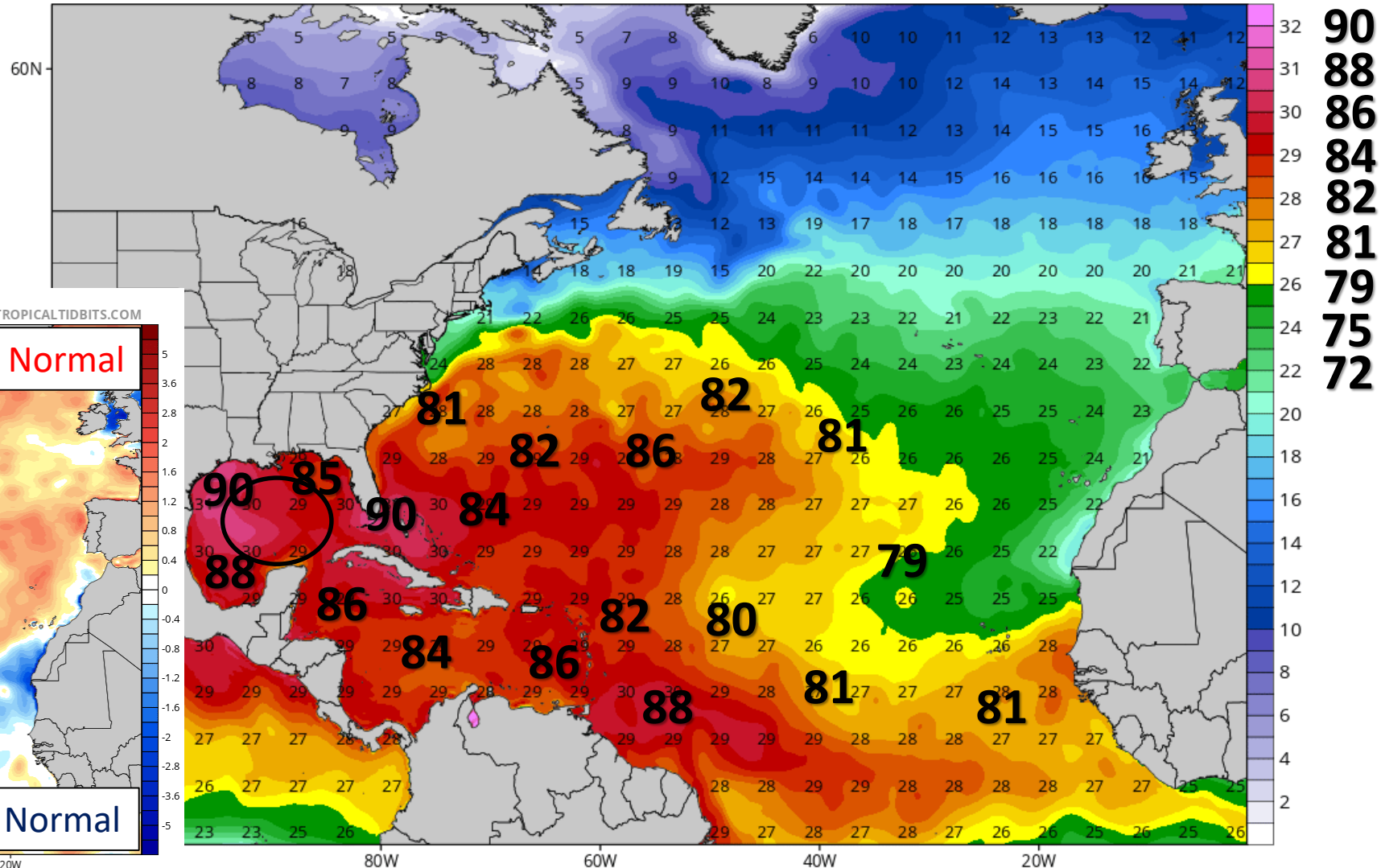
Is the ocean favorable for the system?

Water temperatures are supportive of development as much of the Gulf of Mexico remains above normal for this time of year.

CDAS Sea Surface Temperature (°C)

Analysis Time: 06z Sep 07 2021

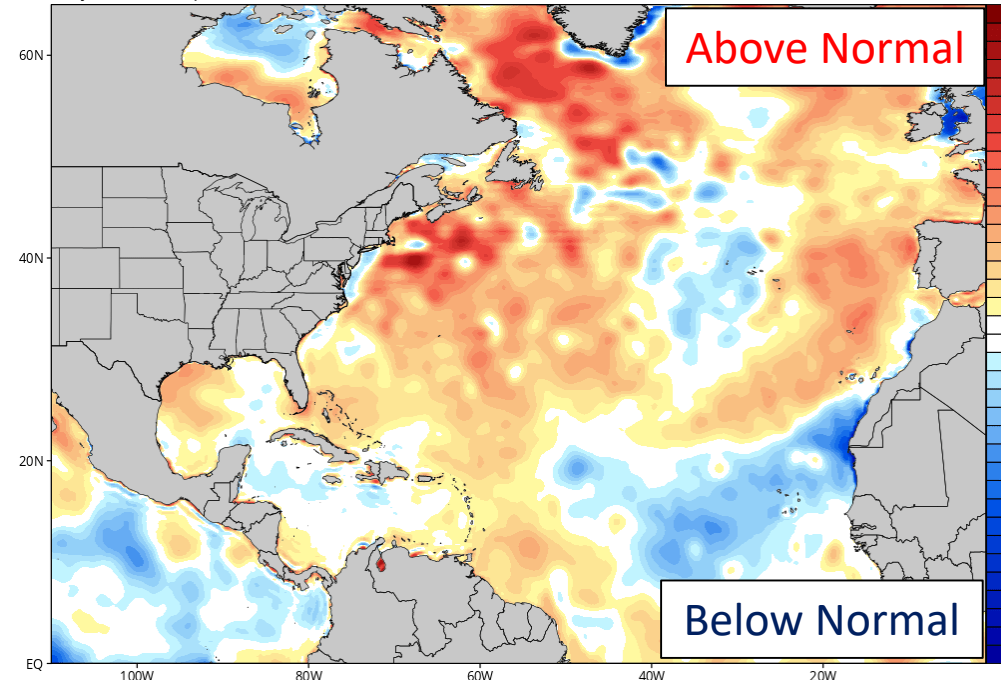
TROPICALTIDBITS.COM



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

Analysis Time: 06z Sep 07 2021

TROPICALTIDBITS.COM

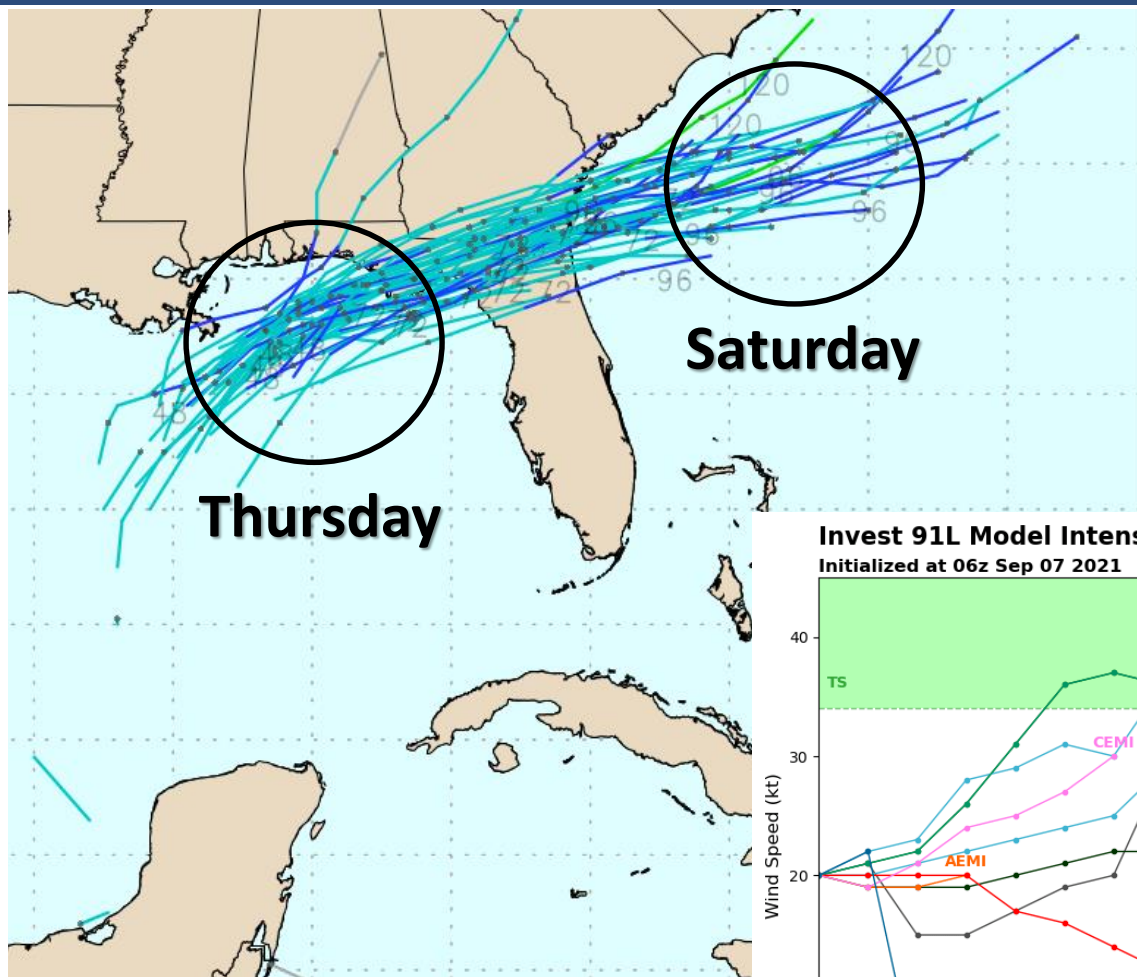






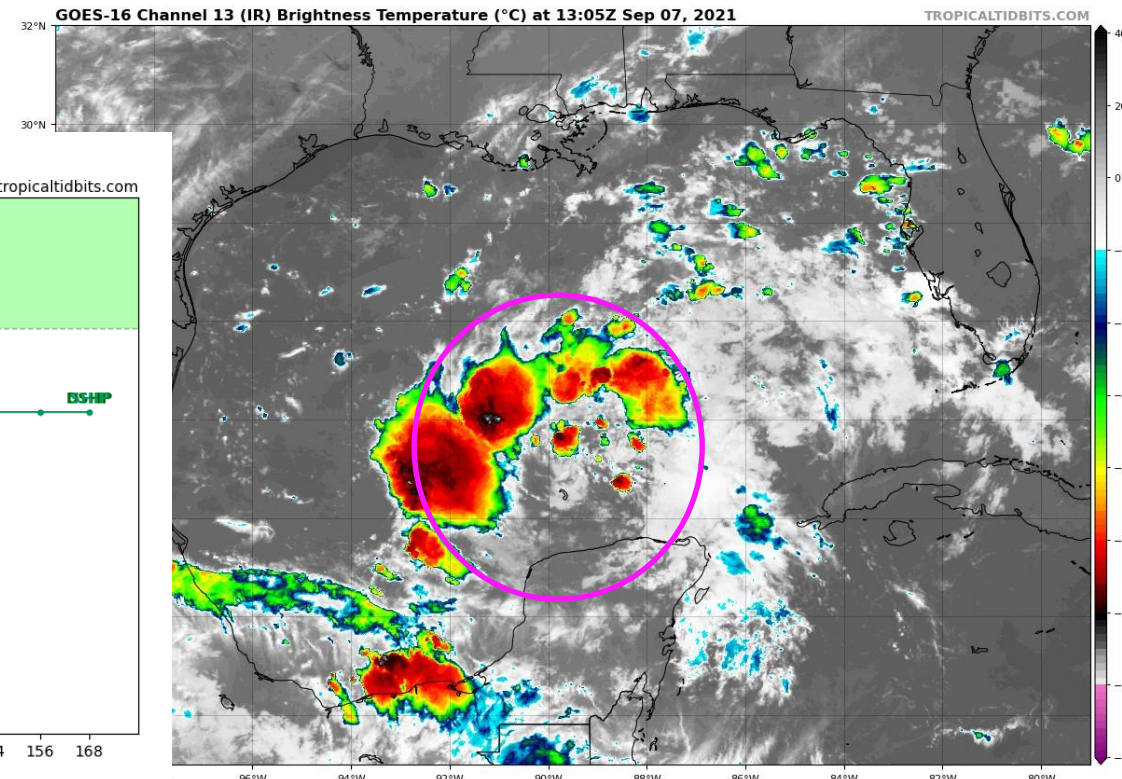
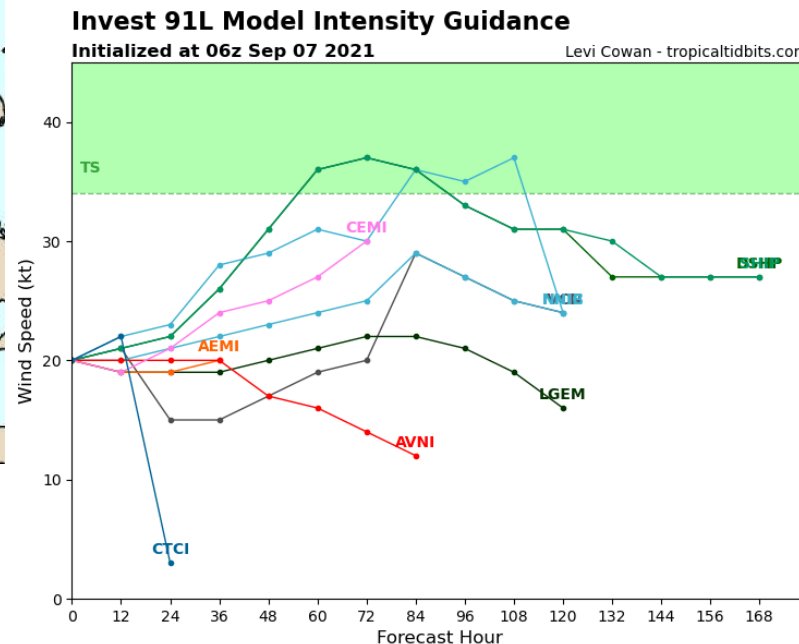
# Current Satellite Image and Track Guidance

## Invest 91L



Computer models are in good agreement that little to no development of 91L is forecast to occur within the next 48 hours. Some slow development is possible as it moves northeastward near North Florida and then into the southwest Atlantic. All models keep the system weak: tropical depression/near tropical storm strength.

Track forecasts remain in agreement that the system will move northeast across portions of North Florida on Thursday and into the Atlantic this weekend.

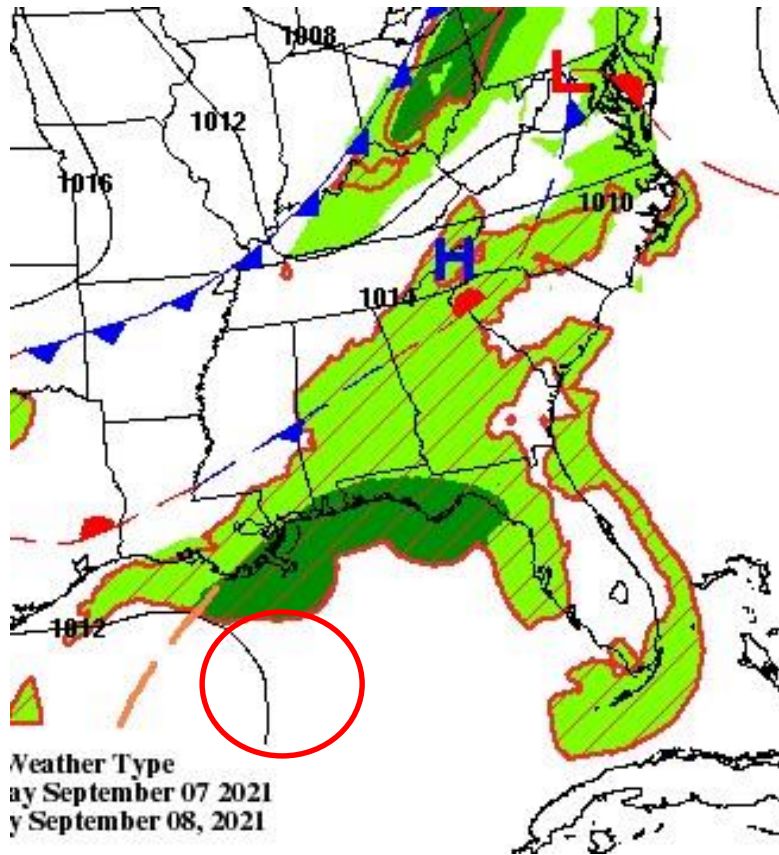




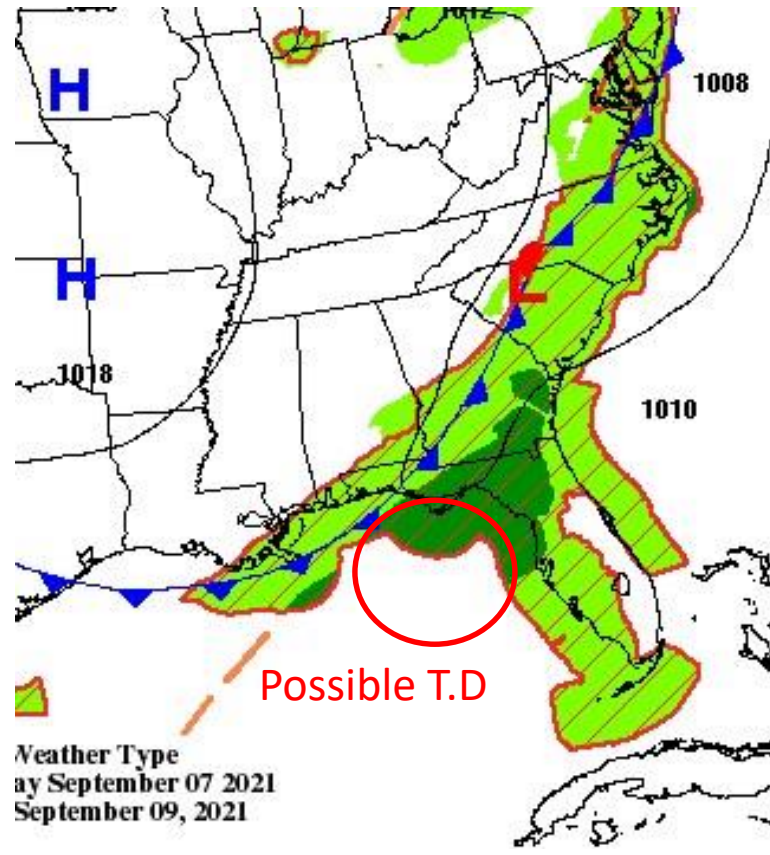


# Forecast Mid-Week

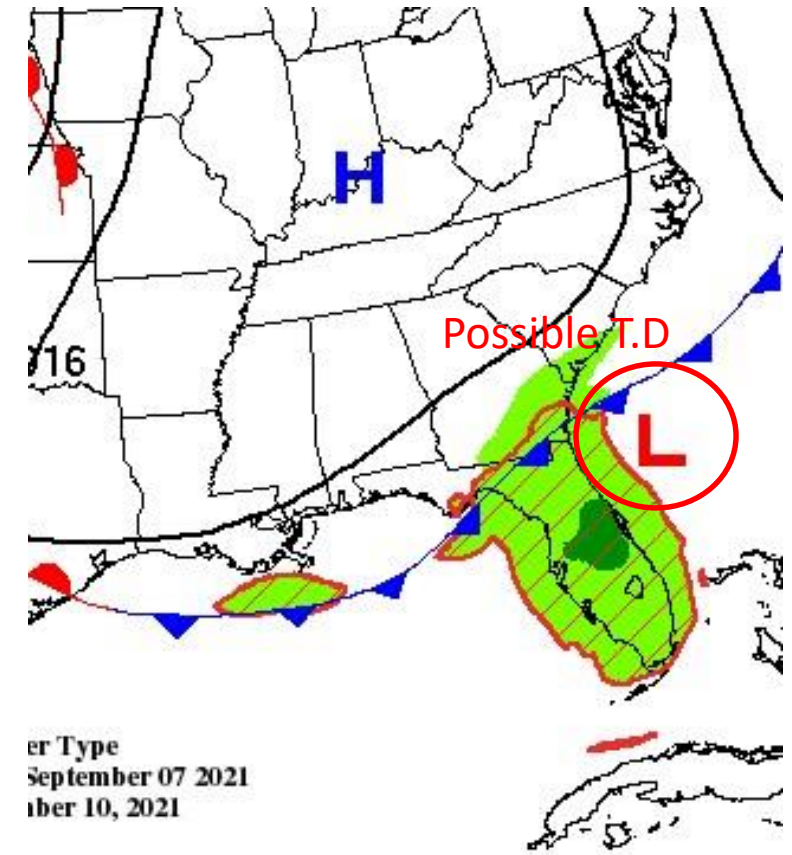
Surface Maps from the Weather Prediction Center



Wednesday



Thursday



Friday

Invest 91L will bring tropical moisture northward regardless if it develops or not. When combined with an approaching cold front, heavy rainfall is forecast for North Florida mid-week.





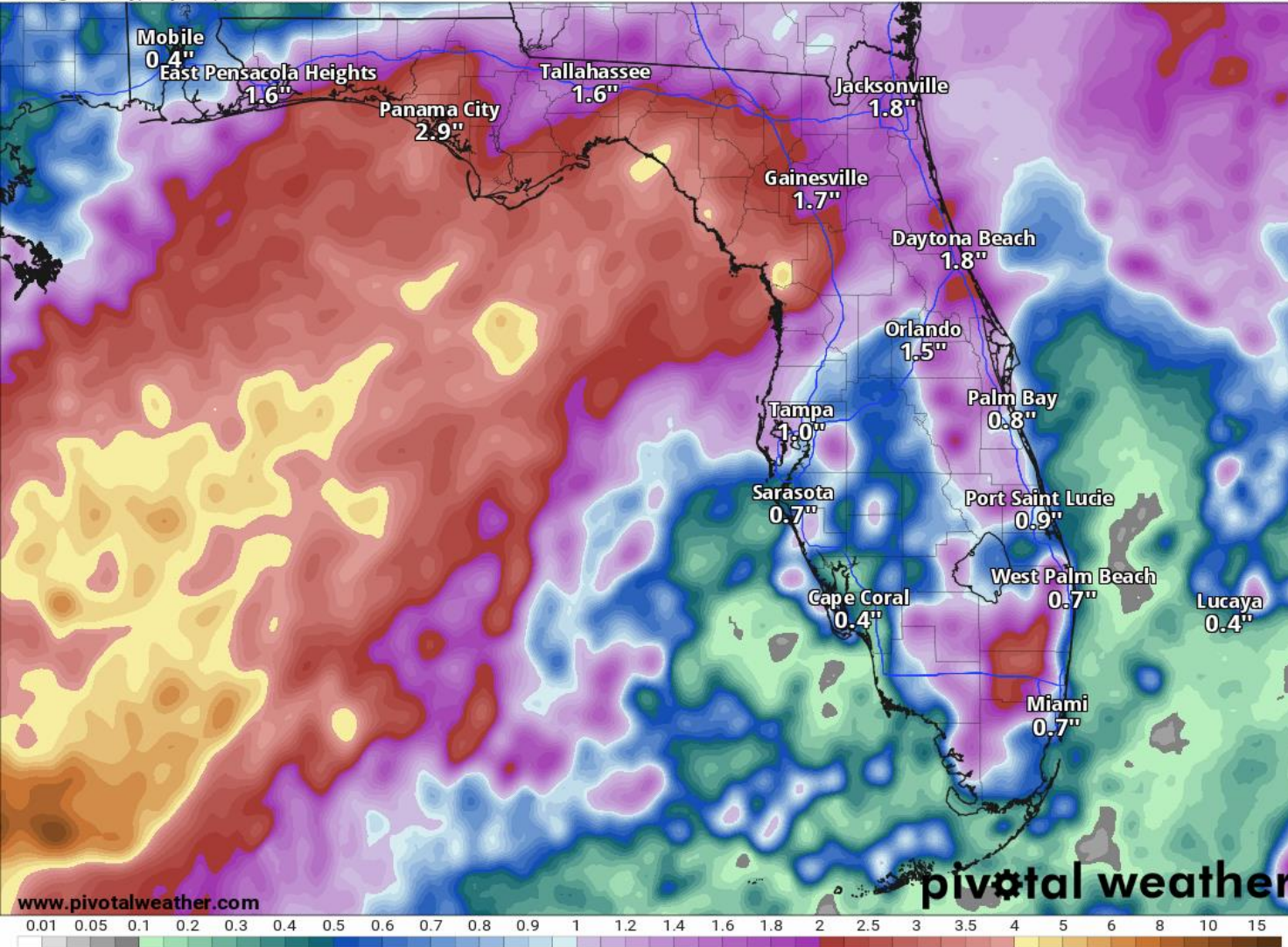
# Rainfall Totals Next 5 Days

Ending 8 AM ET Sunday

120-Hour Precipitation (in)

Ending Sunday, Sep. 12, 2021 at 8 a.m. EDT

Init: Tue 2021-09-07 12z WPC



Through the week, a widespread 2-4" of rain is forecast for much of North Florida as tropical moisture from 91L moves into the region and a cold front approaches from the North. **Locally higher totals of 6" are possible.**

Pockets of heavy rainfall are also possible over the next couple of days along the Treasure Coast and in Southeast Florida.



# Flash Flood Outlooks

From the Weather Prediction Center

**MARGINAL  
(MRGL)**

Isolated flash  
floods possible

Localized and  
primarily affecting  
places that can  
experience rapid  
runoff with heavy  
rainfall.

Tuesday

**MARGINAL  
(MRGL)**

Isolated flash  
floods possible

Localized and  
primarily affecting  
places that can  
experience rapid  
runoff with heavy  
rainfall.

Wednesday

**MARGINAL  
(MRGL)**

Isolated flash  
floods possible

Localized and  
primarily affecting  
places that can  
experience rapid  
runoff with heavy  
rainfall.

Thursday

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%**

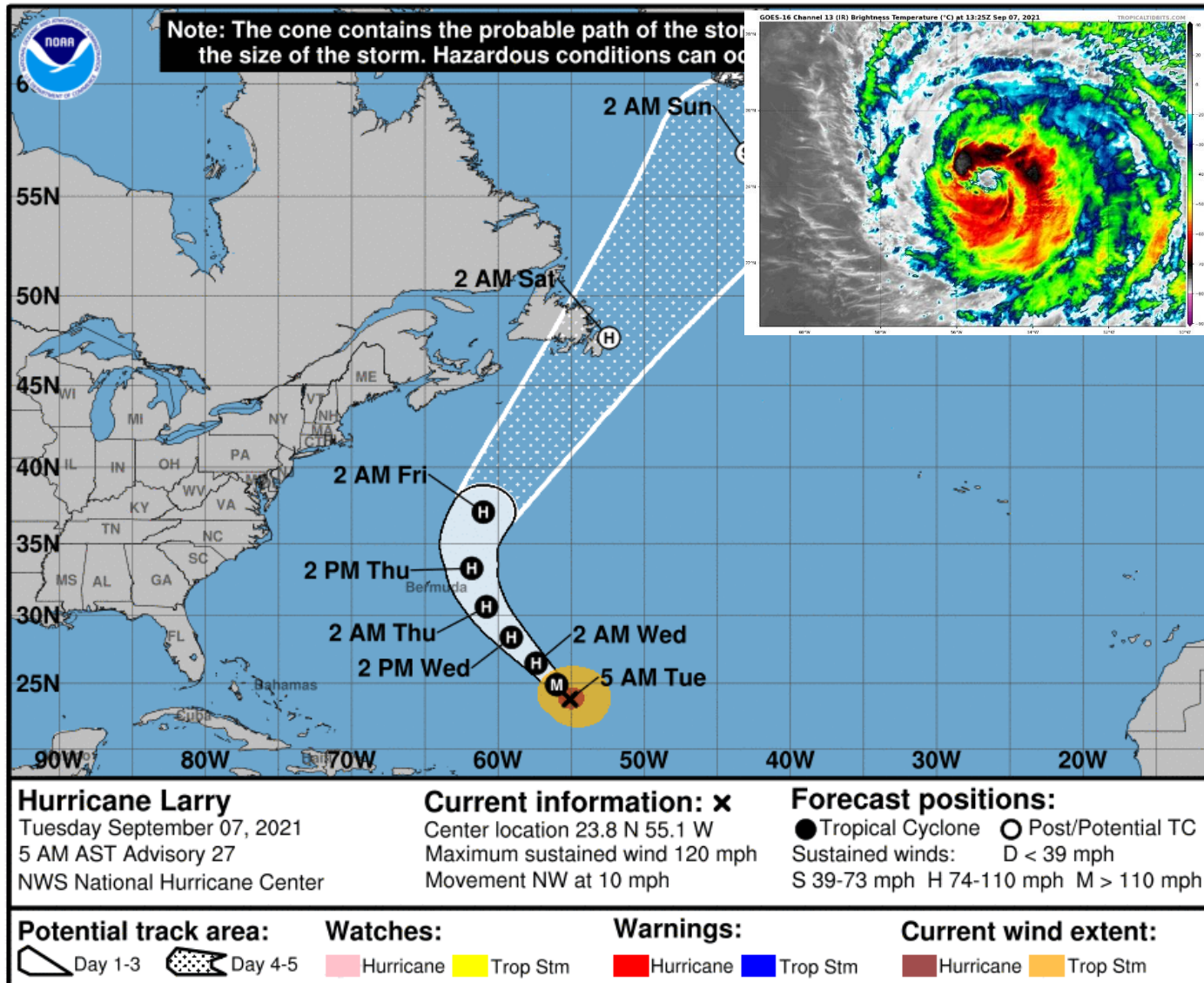
Because of the recent heavy rainfall, an isolated case of  
flash flooding is possible across the northern half of the  
state mid-week.





# Official Forecast Track

From the National Hurricane Center – Major Hurricane Larry

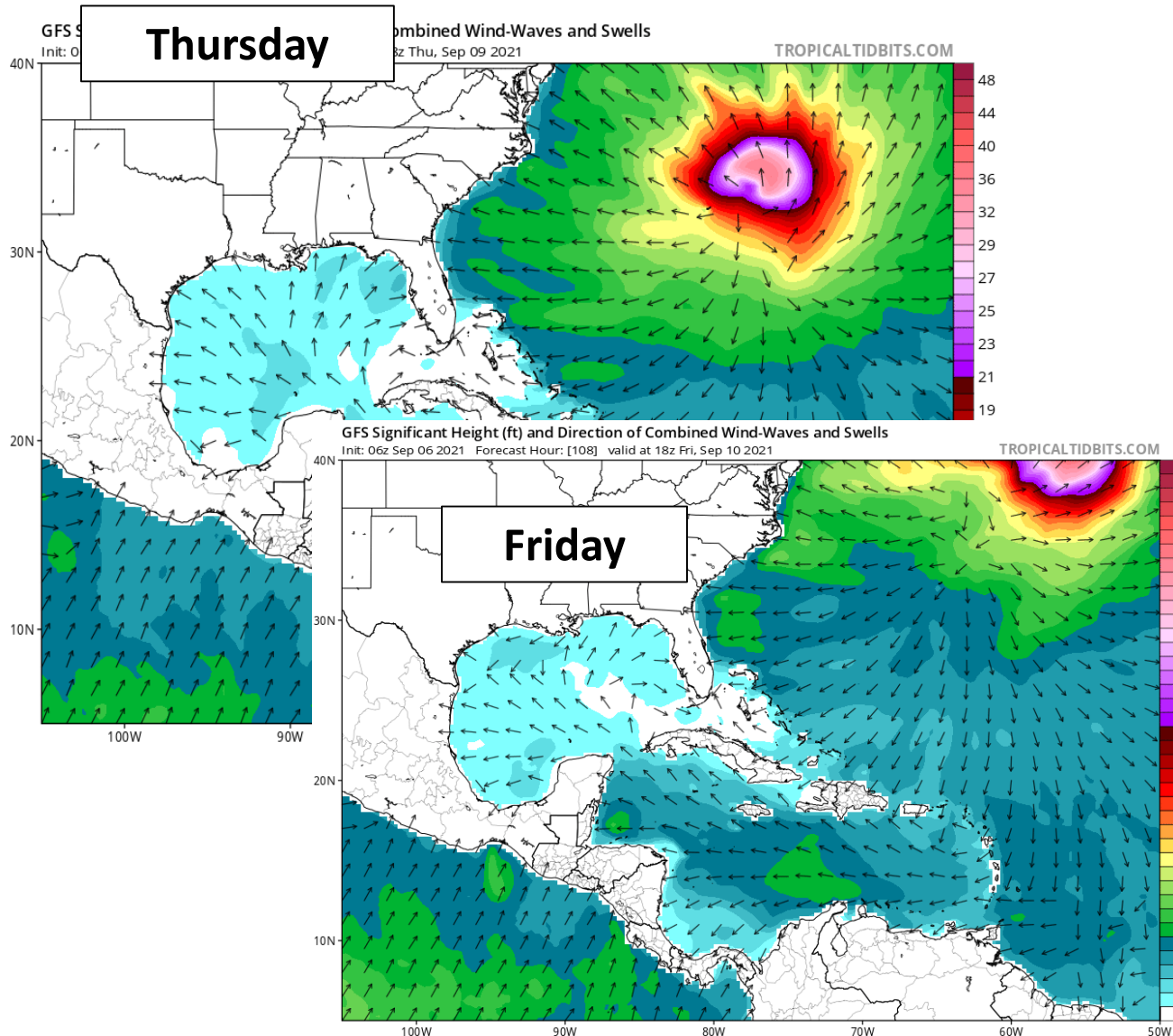


- **Location:** 800 miles southeast of Bermuda
- **Maximum sustained winds:** 120 mph (Category 3)
- **Movement:** NW at 10 mph
- **Forecast:** Larry will continue northwest through Wednesday at or near Major Hurricane intensity. As Larry turns northward on Thursday it may begin to weaken as it passes near Bermuda and turns northeast over colder waters near Atlantic Canada.
- This system poses no direct threat to Florida, but swells from Larry will arrive at Atlantic beaches over the next few days.



# Forecast Wave Heights

## Late Week



### Hurricane Larry:

The only threat to Florida will be the potential for ocean swells increasing the rip current risk along the East Coast beginning today, with increased waves noticeable by Wednesday and Thursday. The rip current risk is expected to continue through this weekend.

### Invest 91L:

Regardless of development, portions of the northern Gulf Coast may experience elevated ocean swells and an increased risk of rip currents mid-week.





# Overall Summary

## **Hurricane Larry:**

- At 5:00 am EDT Tuesday, the center of Larry was located about 800 miles southeast of Bermuda, and moving to the northwest at 10 mph.
- A northwest motion is expected during the next couple of days, followed by a turn to the north and northeast later in the week near Bermuda.
- Maximum sustained winds are at 120 mph, making Larry a Category 3 hurricane.
- It will weaken and transition to a non-tropical cyclone over the colder waters of the North Atlantic near Atlantic Canada later this week.

## **Gulf of Mexico Low (Invest 91L):**

- A low pressure disturbance, identified as Invest 91L, continues to produce disorganized showers and thunderstorms over portions of the Yucatan Peninsula and Gulf of Mexico.
- 91L is forecast to move northward over the central Gulf of Mexico today and tomorrow, followed by a northeastward motion later this week.
- Upper-level winds and dry air should limit development through Wednesday; however, atmospheric conditions could become marginally conducive for some gradual development Wednesday night or Thursday as the system nears North Florida.
- Late in the week it will emerge over the Southwest Atlantic and additional development is possible then as it moves away from Northeast Florida.
- Thus, the National Hurricane Center is currently giving this system a 10% chance of development within the next 48 hours, and a 30% (low) chance of development over the next 3-5 days.

## **Florida Outlook:**

- Hurricane Larry poses no direct threat to Florida, but large ocean swells from the hurricane will increase the rip current threat for Atlantic beaches.
- Regardless of development of Invest 91L, increased rain chances are expected across North Florida mid-week. Isolated flash flooding is possible with widespread rainfall totals of 2-4" and localized totals of 6".
- Elevated risk of rip currents is expected at Panhandle beaches through Thursday.
- Significant development with a damaging wind and storm surge threat is not anticipated from 91L at this time.

The next briefing packet will be issued Wednesday morning unless there are significant changes in the forecast before then. For the latest information, please visit the National Hurricane Center website at [www.hurricanes.gov](http://www.hurricanes.gov).



# TROPICAL UPDATE



Created by:

Michael Spagnolo, Deputy State Meteorologist

[Michael.Spagnolo@em.myflorida.com](mailto:Michael.Spagnolo@em.myflorida.com)

State Meteorological Support Unit

Florida Division of Emergency Management

Users wishing to subscribe (approval pending) to this distribution list, register at:

[https://public.govdelivery.com/accounts/FLDEM/subscriber/new?topic\\_id=SERT\\_Met\\_Tropics](https://public.govdelivery.com/accounts/FLDEM/subscriber/new?topic_id=SERT_Met_Tropics).

Other reports available for subscription are available at:

<https://public.govdelivery.com/accounts/FLDEM/subscriber/new?preferences=true>