

**IMPACTS FOR D7**

**Winds/US Coast – Extreme**

**Winds/SRR – Extreme**

**Waves/US Coastal – Extreme**

**Waves/SRR – Extreme**

through next 5 days

**US Storm Surge – Extreme**

**US Rainfall/Flash Flooding – High**

**US Tornadoes – High**

# HURRICANE HELENE BRIEFING



4:00 PM EDT

Wednesday, September 25, 2024

Prepared by:

**Keren Rosado-Vázquez**

*Tropical Analysis and Forecast Branch*

*NWS National Hurricane Center*





# Changes Since The Last Briefing

Hurricane Helene



Tropical Analysis and Forecast Branch  
NWS National Hurricane Center

- Helene is now a hurricane Category 1.
- The hurricane will likely rapidly intensify and be Category 3 or 4 at the time of landfall.
- Storm Surge peak values raised accordingly.



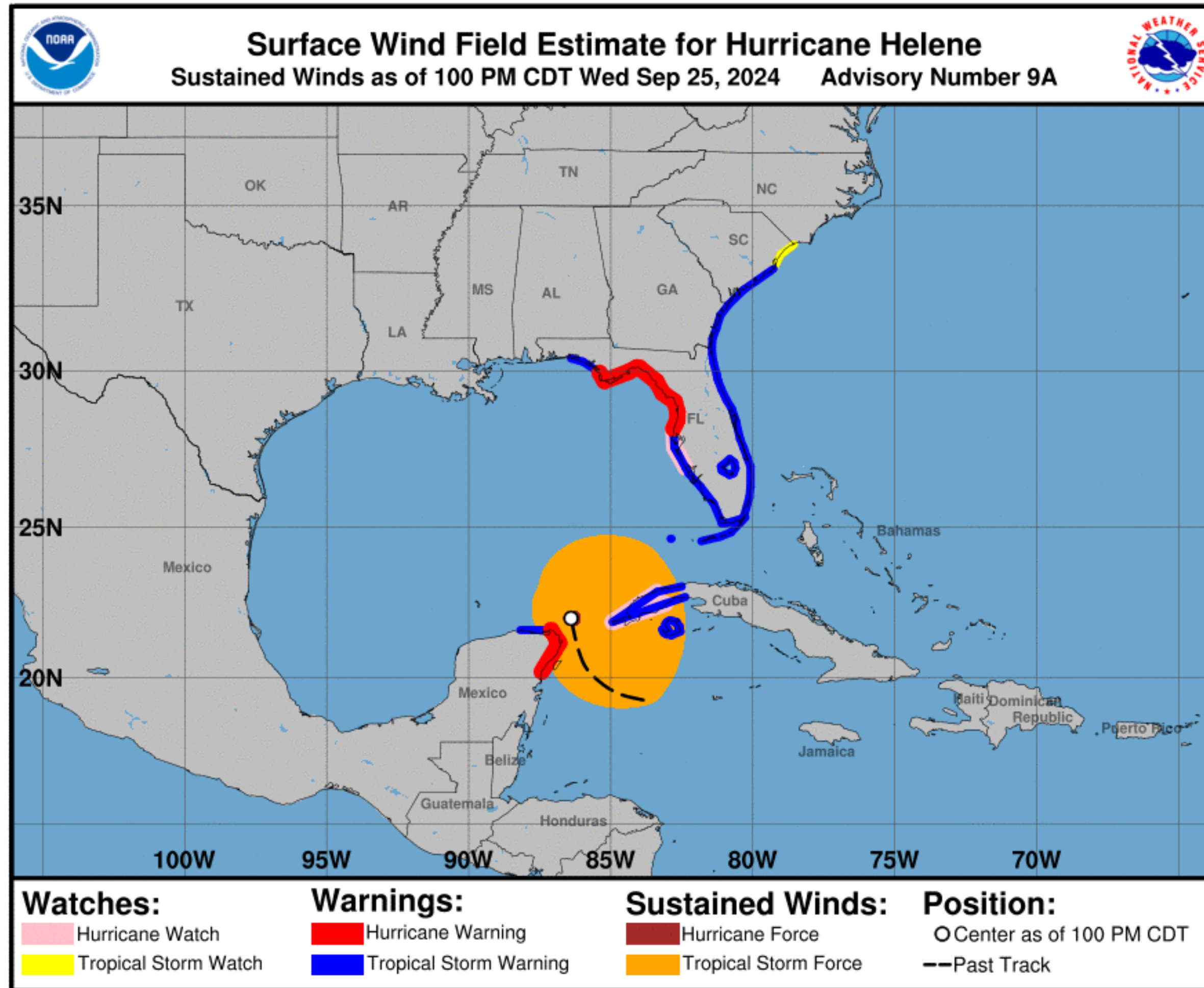


# Situation Overview

## Hurricane Helene



Tropical Analysis and Forecast Branch  
NWS National Hurricane Center



**...HELENE MOVING INTO THE SOUTHEASTERN GULF OF MEXICO...  
...PREPARATIONS TO PROTECT LIFE AND PROPERTY FROM STORM SURGE AND DAMAGING WINDS ALONG THE FLORIDA BIG BEND COAST SHOULD BE RUSHED TO COMPLETION TODAY...**

### SUMMARY OF 200 PM EDT... INFORMATION

LOCATION...22.0N 86.4W  
ABOUT 100 NM... NNE OF COZUMEL MEXICO  
ABOUT 420 NM...SSW OF TAMPA FLORIDA  
MAXIMUM SUSTAINED WINDS...70 KT  
PRESENT MOVEMENT...NNW OR 345 DEGREES AT 9 KT  
MINIMUM CENTRAL PRESSURE...980 MB

Hurricane-force winds extend outward up to 20 nm from the center and tropical-storm-force winds extend outward up to 240 nm.

12 FT SEAS..180NE 180SE 90SW 90NW.

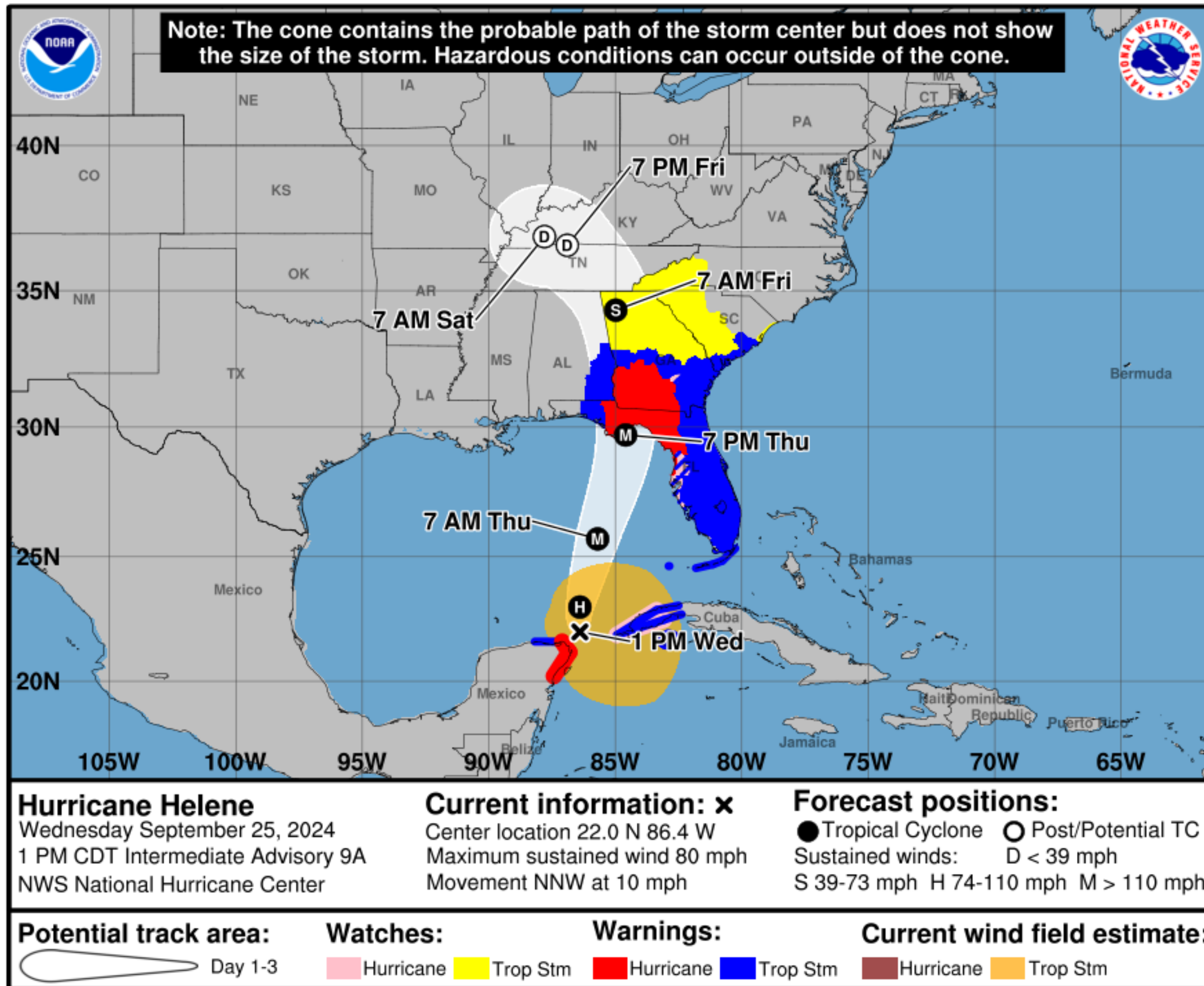


# Forecast Information

## Hurricane Helene



Tropical Analysis and Forecast Branch  
NWS National Hurricane Center



- **A turn toward the north and north-northeast with an increase in forward speed is expected later today, bringing the center of Helene across the eastern Gulf of Mexico tomorrow.**
- **Helene is expected to be a major hurricane Category 3 or 4 when it reaches the Florida Big Bend coast Thursday evening.**
- **Weakening is expected after landfall, but Helene's fast forward speed will allow strong, damaging winds, especially in gusts, to penetrate well inland across the southeastern United States.**

- Current center forecast positions through the next 3 days (if applicable) illustrated by dots
- White swatch of potential track error added to each side of the forecast track through day 3
- Hatched swatch of potential track error added to each side of the forecast track days 4-5

\*\* Swaths are calculated using average track errors and actual track may be well inside, or possibly outside the potential track areas indicated.

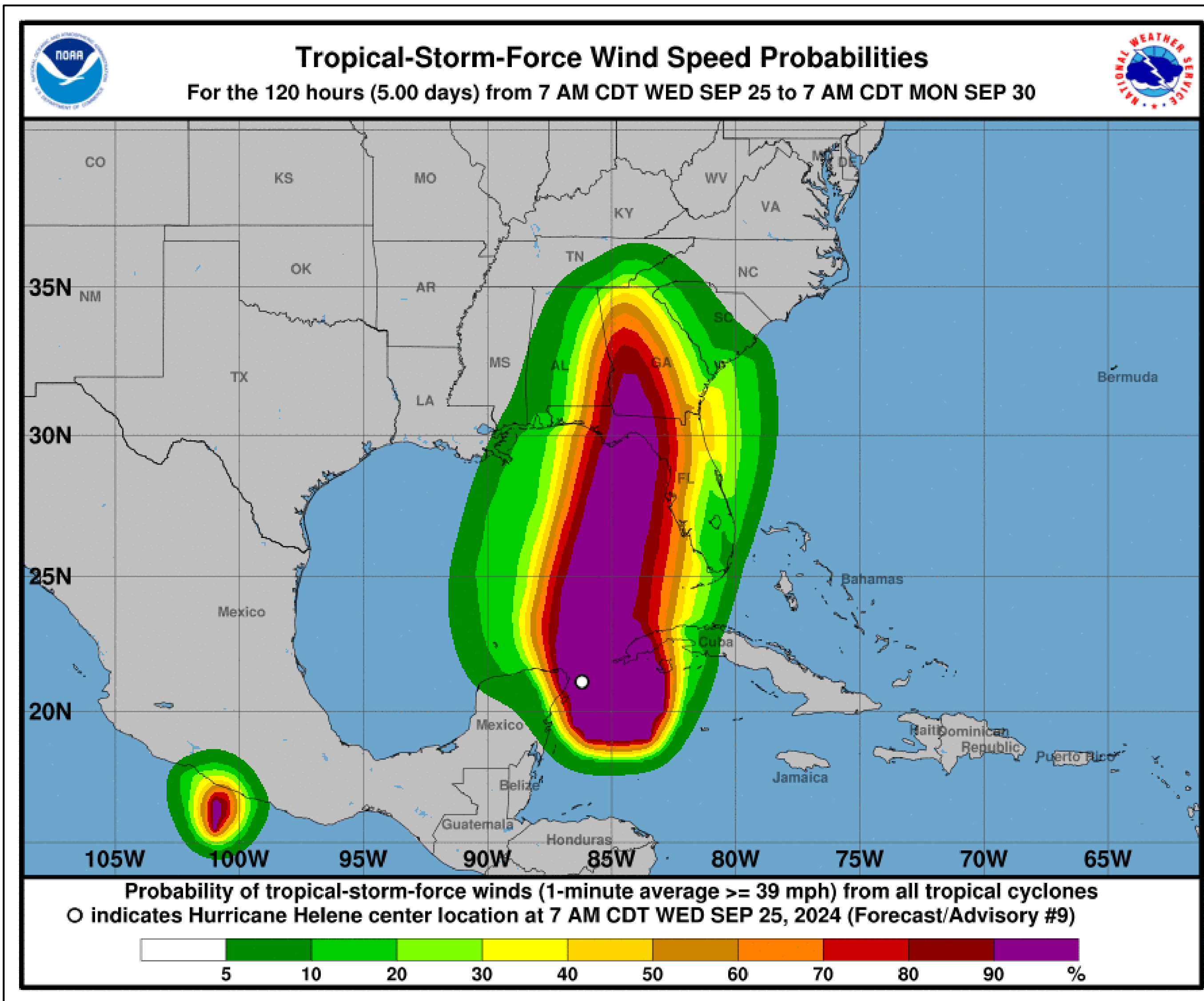
**NOTE:** Do not focus on the exact track. Impacts can occur well outside the area enclosed by the cone.

# T.S. Wind Speed Probabilities

Hurricane Helene



Tropical Analysis and Forecast Branch  
NWS National Hurricane Center



- MARATHON 21%
- KEY WEST FL 35%
- NAPLES 45%
- FT MYERS 34%
- VENICE 68%
- TAMPA FL 73%
- CEDAR KEY 86%
- FT LAUDERDALE 12%
- W PALM BEACH 15%
- FT PIERCE 21%
- PATRICK AFB 31%
- COCOA BEACH 30%
- DAYTONA BEACH 25%
- JACKSONVILLE 42%
- MAYPORT 50%
- KINGS BAY 51%
- SAVANNAH 17%
- CHARLESTON 15%

**GREEN** - Probabilities have decreased  
**RED** - Probabilities have gone up  
**BLACK** - Probabilities unchanged  
**Locations** boldfaced & underlined - At least 50% chance of TS Winds

- Probabilities of sustained tropical storm force winds (34 kt to 63 kt) over the next 5 days, based off this cyclone's wind radii and track.
- Clear or dark green are the lowest chances of 0-30%. Yellow to orange is 31-70%. Red through purple are the highest probabilities of 71%-100%.

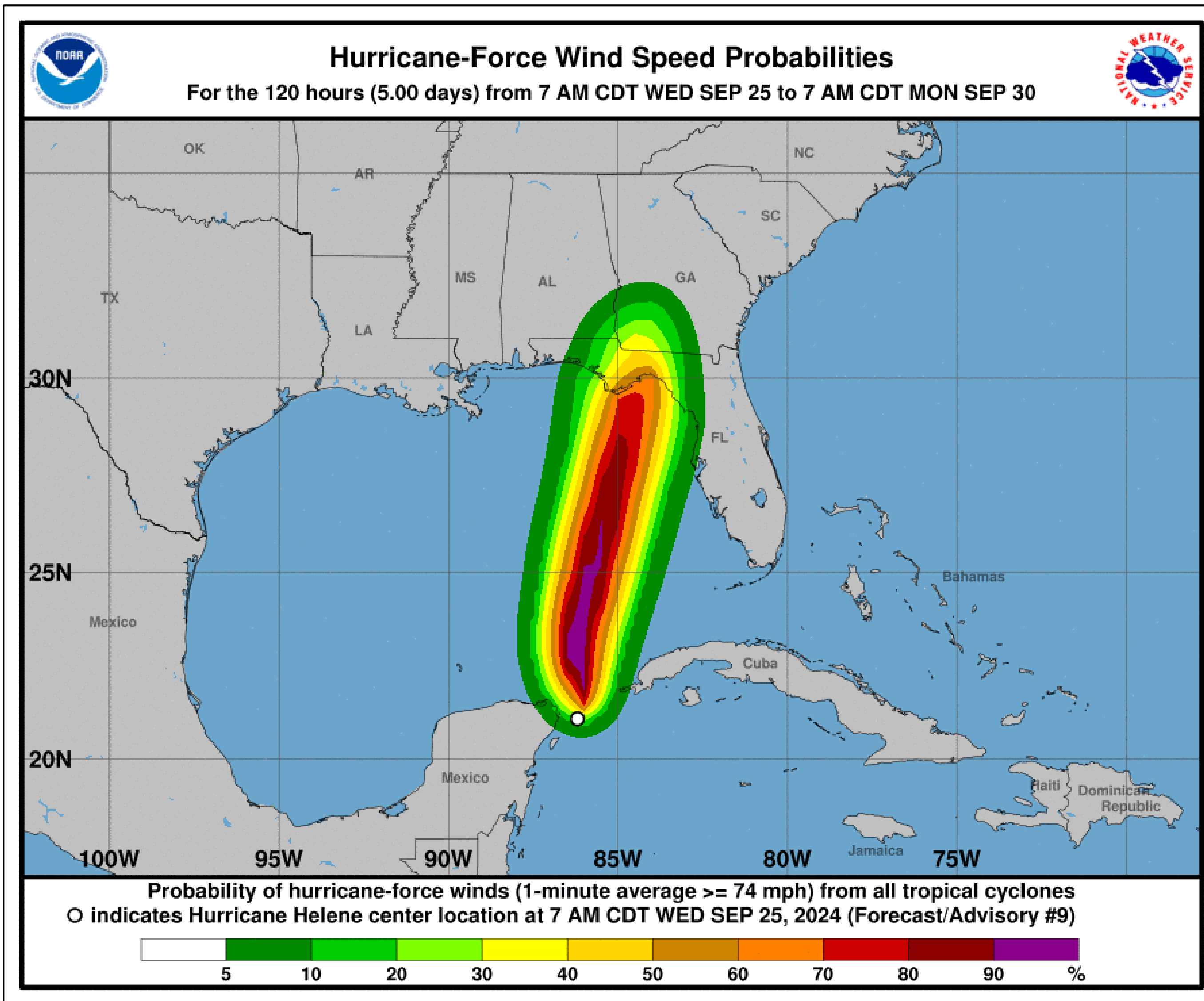


# Hurricane Wind Speed Probabilities



Tropical Analysis and Forecast Branch  
NWS National Hurricane Center

Hurricane Helene



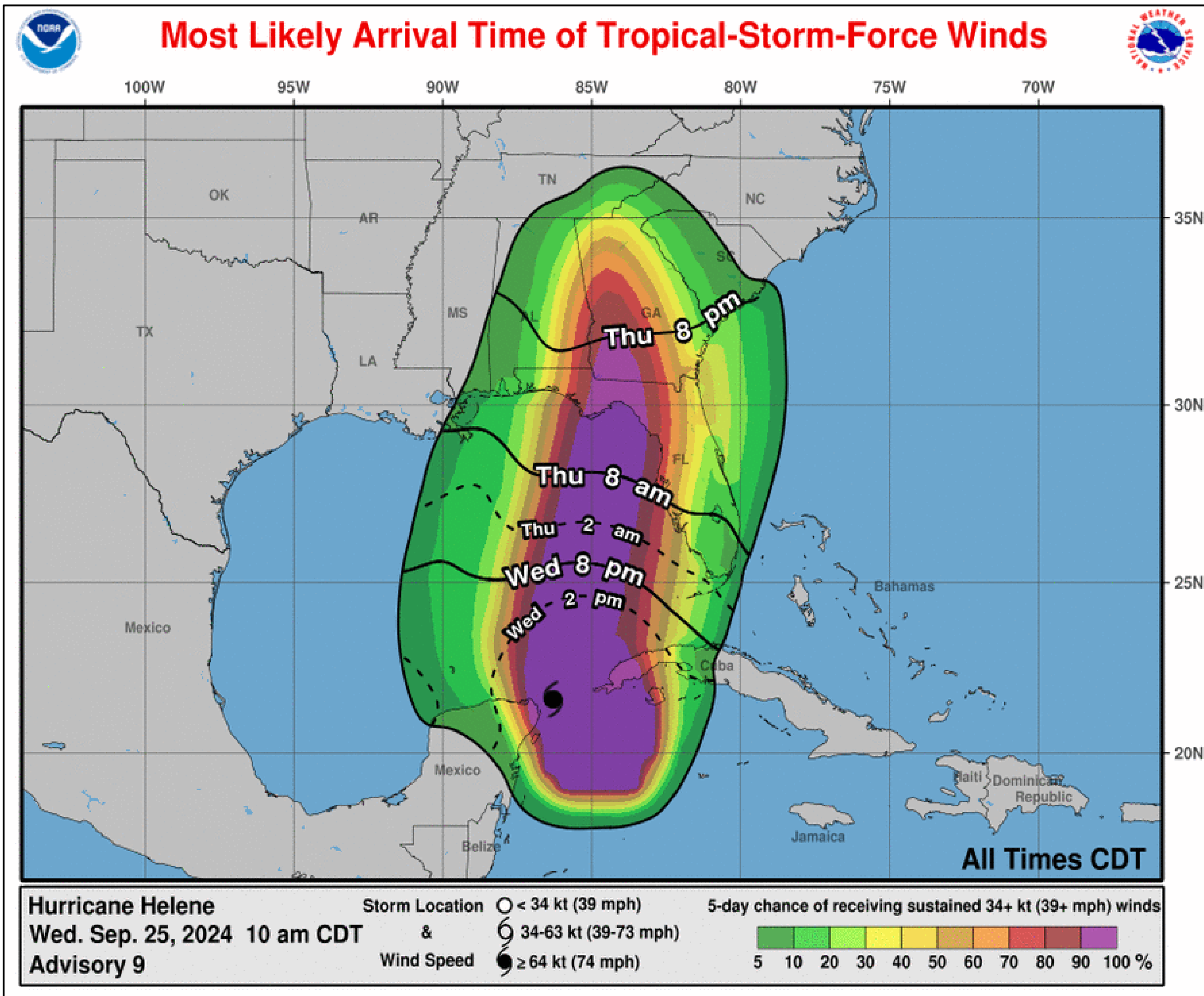
- CEDAR KEY FL 13%
- ST MARKS 43%
- **APALACHICOLA 64%**
- PANAMA CITY FL 33%

**GREEN** - Probabilities have decreased  
**RED** - Probabilities have gone up  
**BLACK** - Probabilities unchanged  
**Locations boldfaced & underlined** - At least 50% chance of H Winds

- Probabilities of sustained hurricane force winds (64 kt +) over the next 5 days, based off this cyclone's wind radii and track.
- Clear or dark green are the lowest chances of 0-30%.
- Yellow to orange is 31-70%
- Red through purple are the highest probabilities of 71%-100%
- See the color bar below the image for more details.



## Hurricane Helene



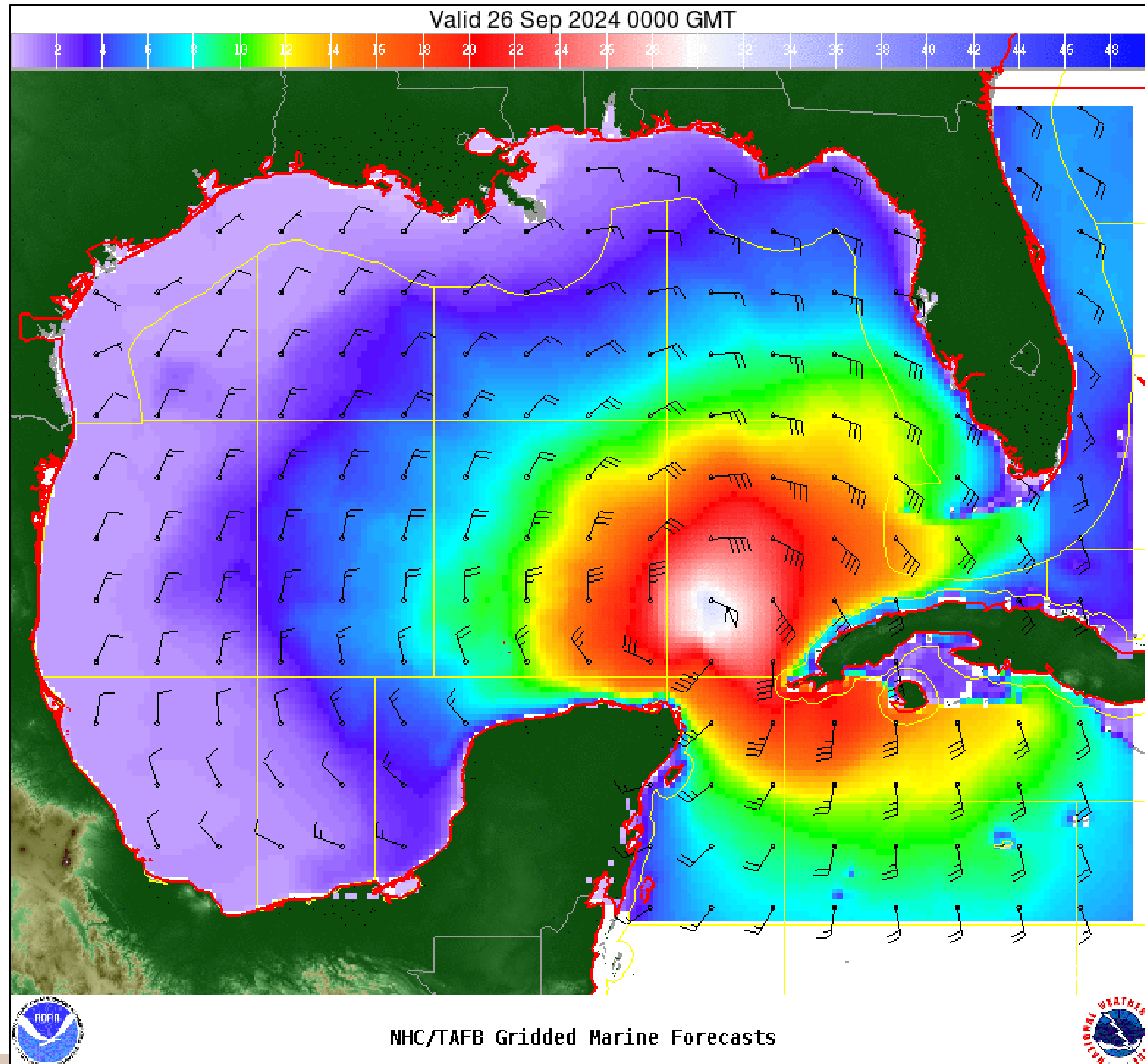
- **FL Keys/SW Florida –late night tonight/early Thu morning.**
- **Tampa –Thu morning.**
- **Big Bend/FL Panhandle – Thu afternoon.**
- **NE Florida/Georgia –Thu late afternoon.**
- The most likely time of arrival of Tropical Storm Force Winds (34kt to 63 kt) for this cyclone based off the current track and wind radii.
- Clear or dark green are the lowest chances of 0-30%.
- Yellow to orange is 31-70%
- Red through purple are the highest probabilities of 71%-100%
- See the color bar below the image for more details.

# Wind And Waves

Hurricane Helene



Tropical Analysis and Forecast Branch  
NWS National Hurricane Center



Tonight

Wednesday, September 25 at 8:00 PM EDT

Peak Winds: 80 kt

Peak Seas: 32 ft

■ Wave heights are in feet



Significant Wave Height (ft)



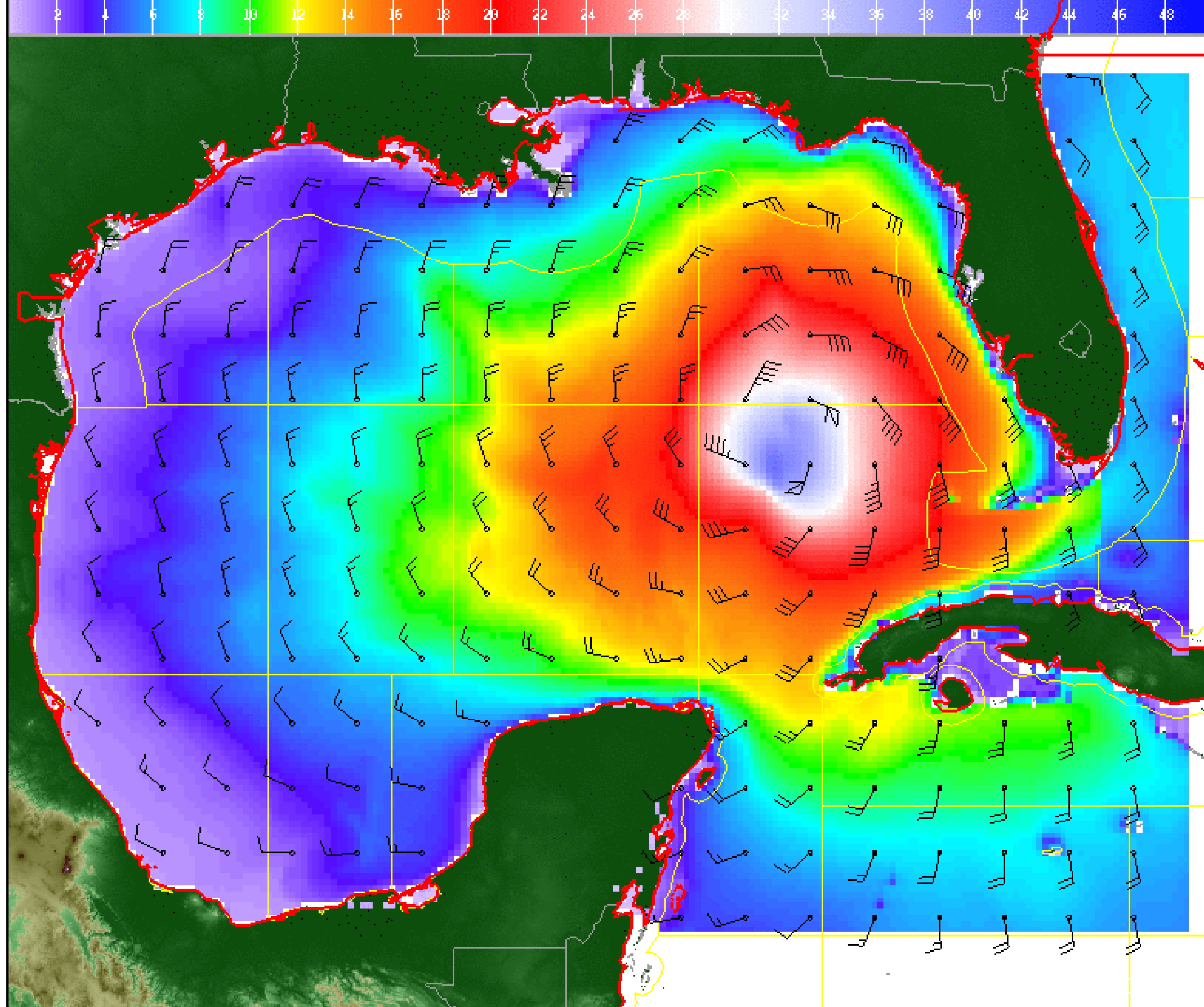
# Wind And Waves

Hurricane Helene



Tropical Analysis and Forecast Branch  
NWS National Hurricane Center

Valid 26 Sep 2024 1200 GMT



NHC/TAFB Gridded Marine Forecasts

## 12 Hour Forecast

Thursday, September 26 at 8:00 AM EDT

Peak Winds: 95 kt

Peak Seas: 40 ft

■ Wave heights are in feet



Significant Wave Height (ft)

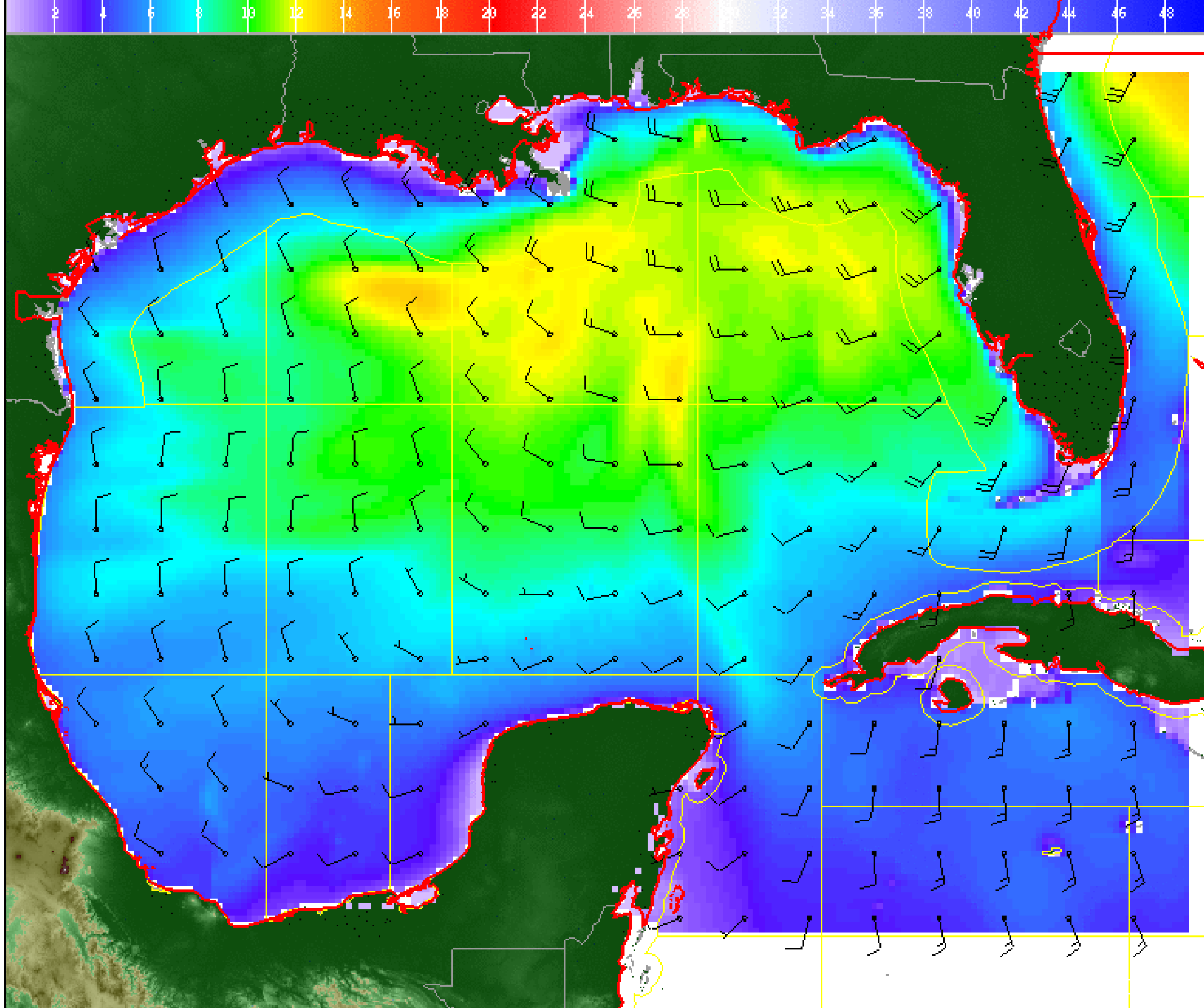
# Wind And Waves

Hurricane Helene



Tropical Analysis and Forecast Branch  
NWS National Hurricane Center

Valid 27 Sep 2024 1200 GMT



## 36 Hour Forecast

Friday, September 27 at 8:00 AM EDT

Peak Winds: 25 kt

Peak Seas: 13 ft

■ Wave heights are in feet



Significant Wave Height (ft)



NHC/TAFB Gridded Marine Forecasts



9/25/2024 4:17 PM

www.nhc.noaa.gov

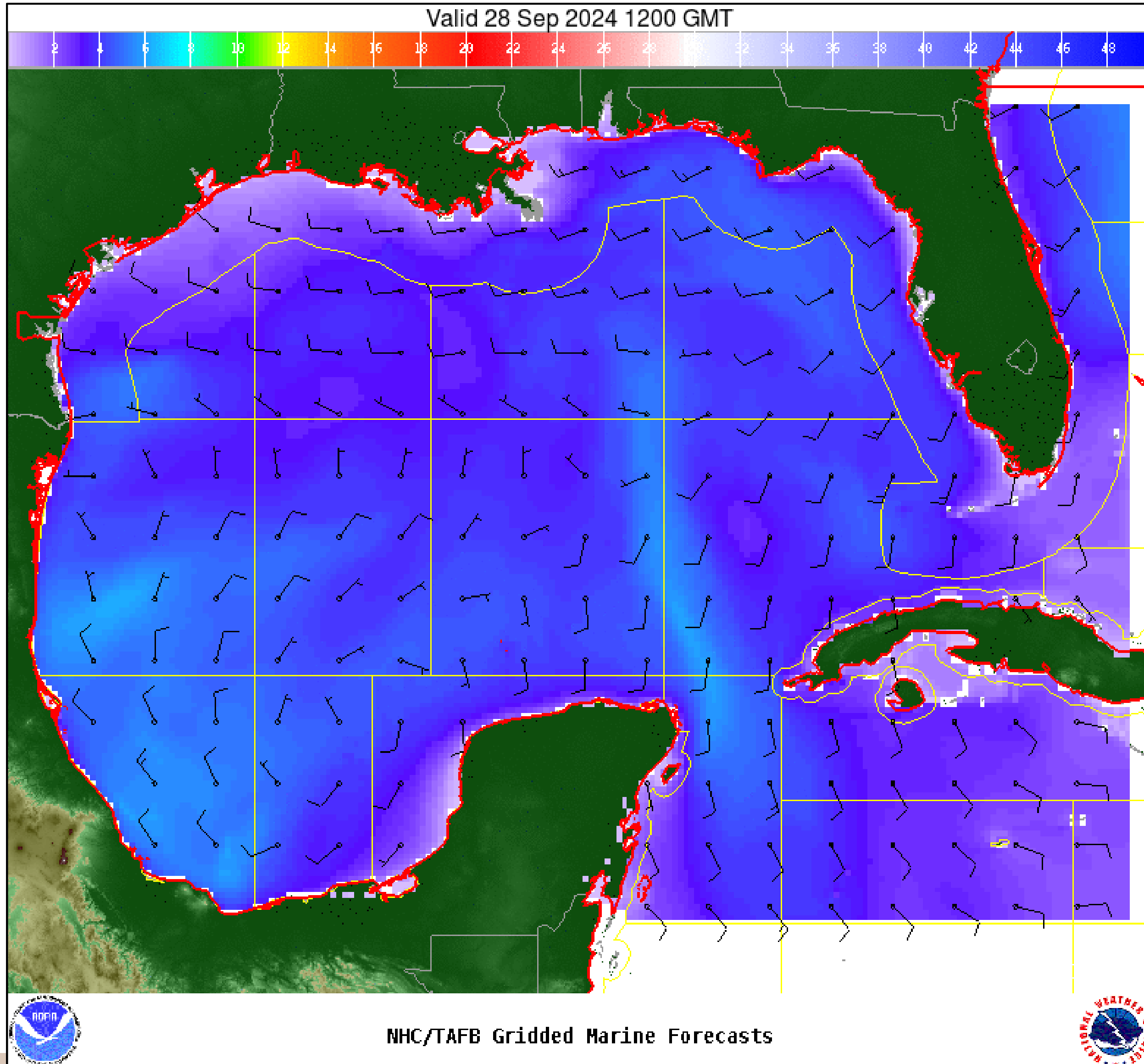


# Wind And Waves

Hurricane Helene



Tropical Analysis and Forecast Branch  
NWS National Hurricane Center



60 Hour Forecast

**Saturday, September 28 at 8:00 AM EDT**

Peak Winds: 15 kt

Peak Seas: 5 ft

■ Wave heights are in feet



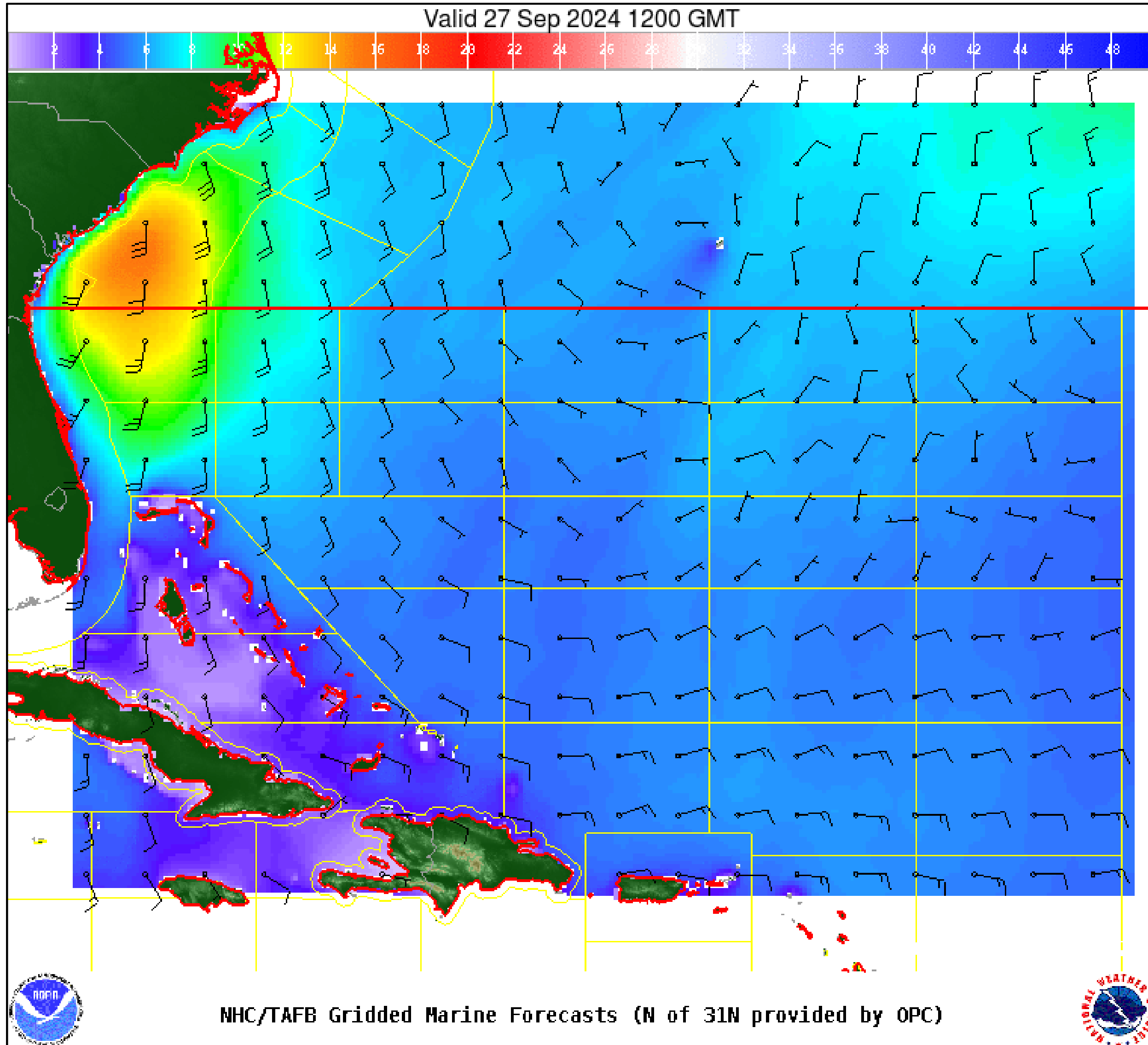
Significant Wave Height (ft)

# Wind And Waves

Hurricane Helene



Tropical Analysis and Forecast Branch  
NWS National Hurricane Center



## 36 Hour Forecast

Friday, September 27 at 8:00 AM EDT

Peak Winds: 34 kt

Peak Seas: 15 ft

■ Wave heights are in feet



Significant Wave Height (ft)

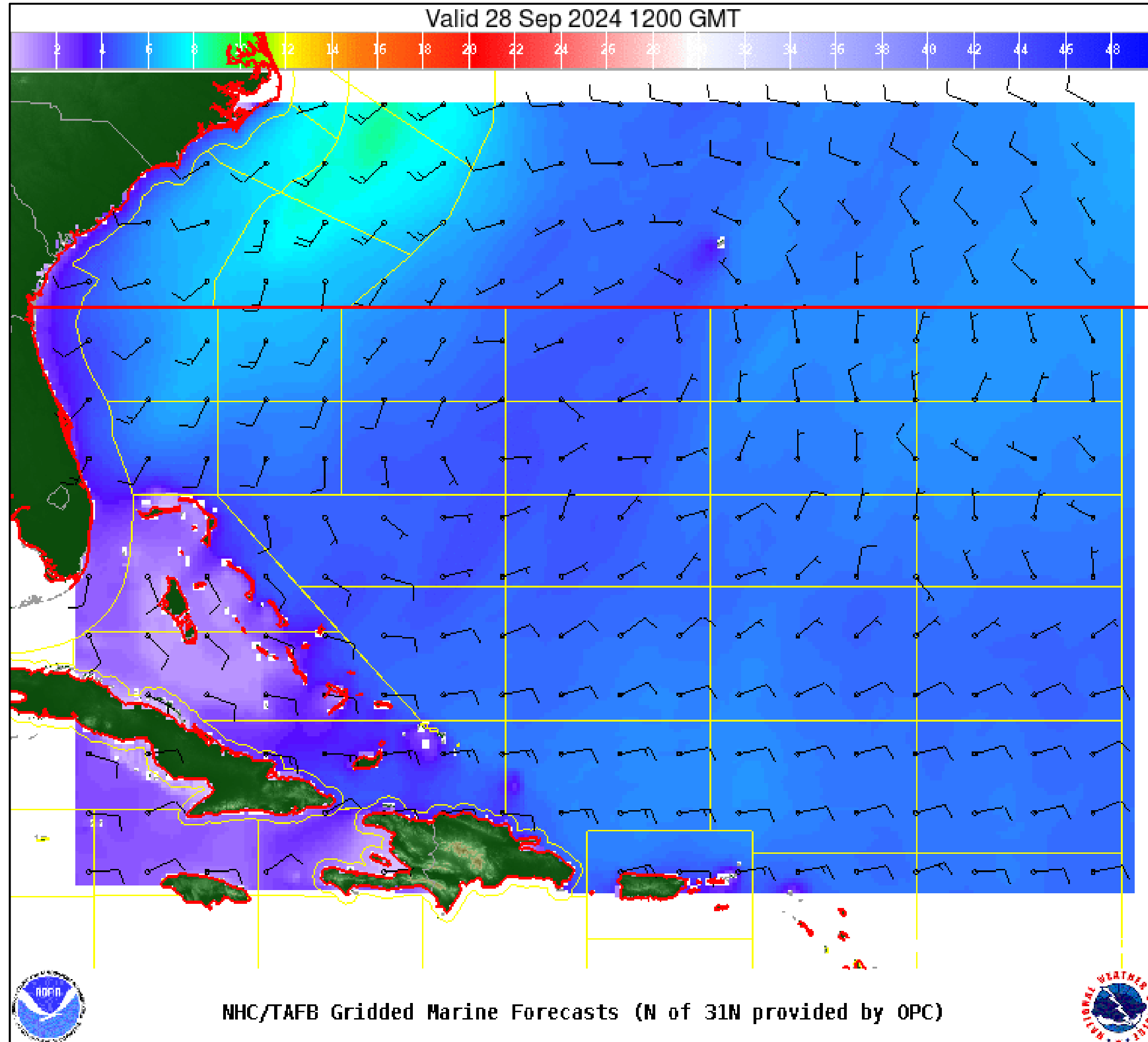


# Wind And Waves

Hurricane Helene



Tropical Analysis and Forecast Branch  
NWS National Hurricane Center



## 60 Hour Forecast

**Saturday, September 28 at 8:00 AM EDT**

Peak Winds: 20 kt

Peak Seas: 9 ft

■ Wave heights are in feet



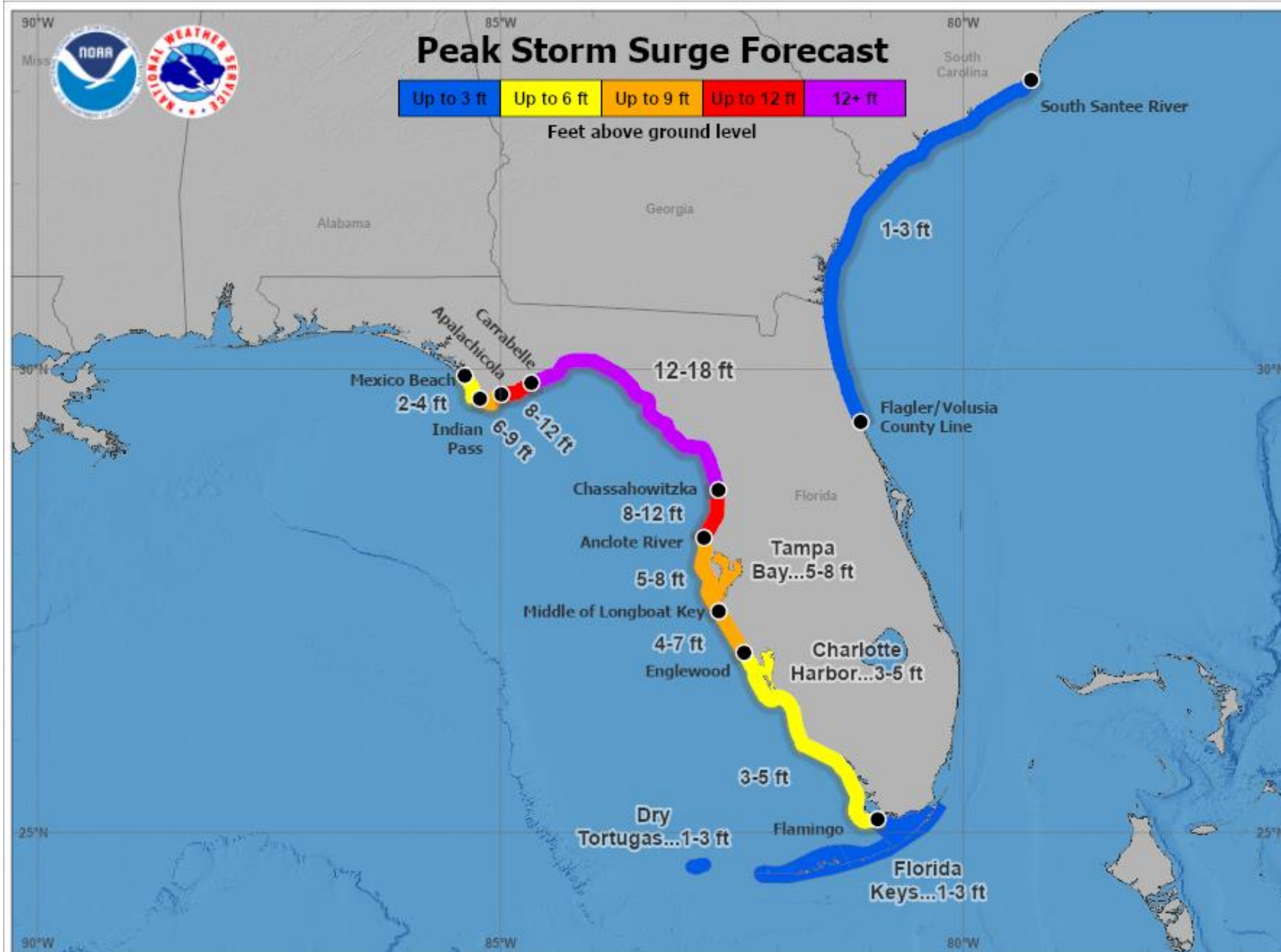
Significant Wave Height (ft)

# Potential Peak Storm Surge / Watches and Warnings



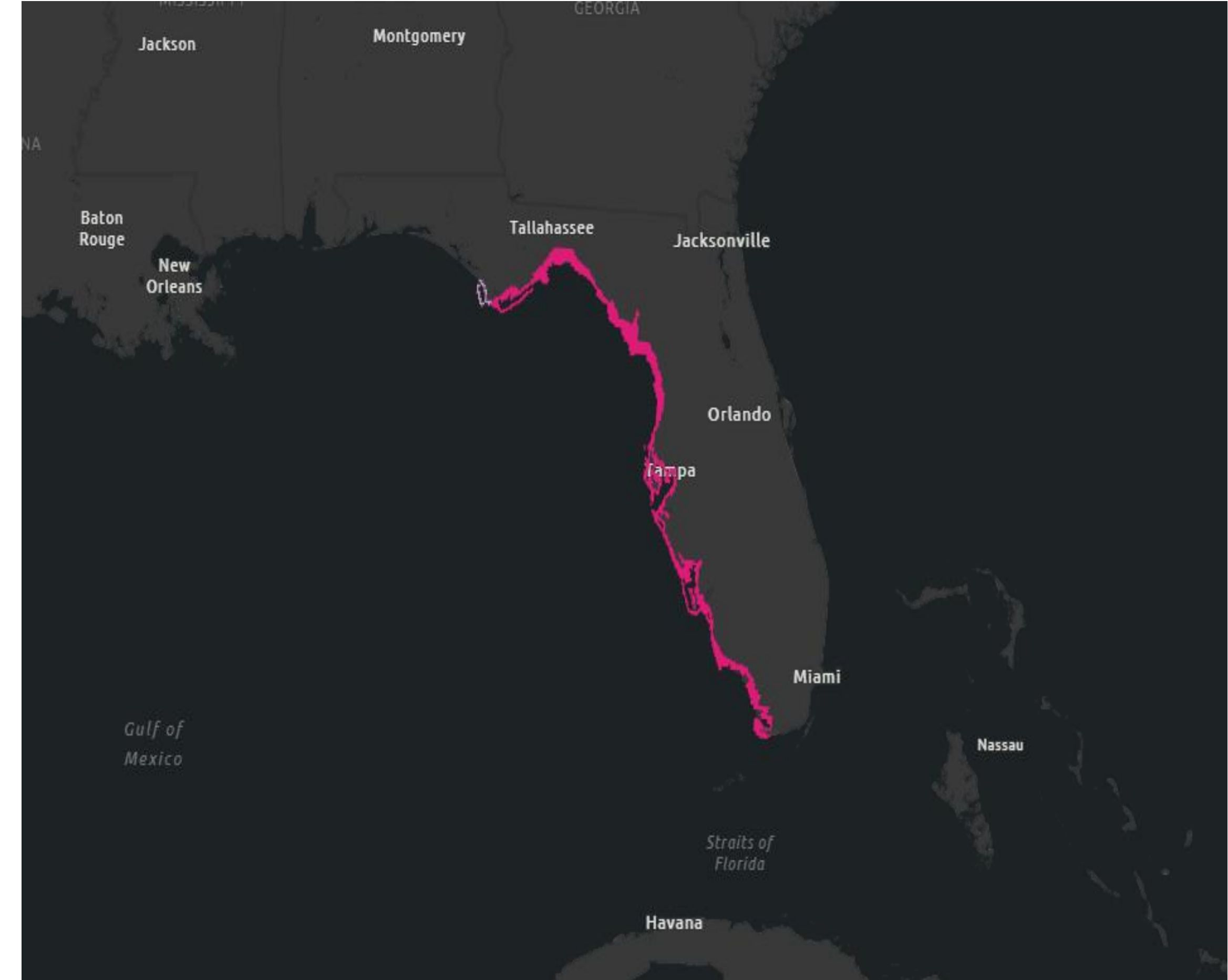
Tropical Analysis and Forecast Branch  
NWS National Hurricane Center

## Hurricane Helene



Hurricane Helene  
Wednesday September 25, 2024  
02 PM EDT Advisory 9A  
NWS National Hurricane Center

**User Notes:** Water levels along the immediate coast could reach the following heights above ground level within the indicated areas. Elevated water levels will likely be accompanied by large and destructive waves. Colors are determined by the highest values in the associated forecast peak surge range. Values shown on this graphic are inclusive of tide.





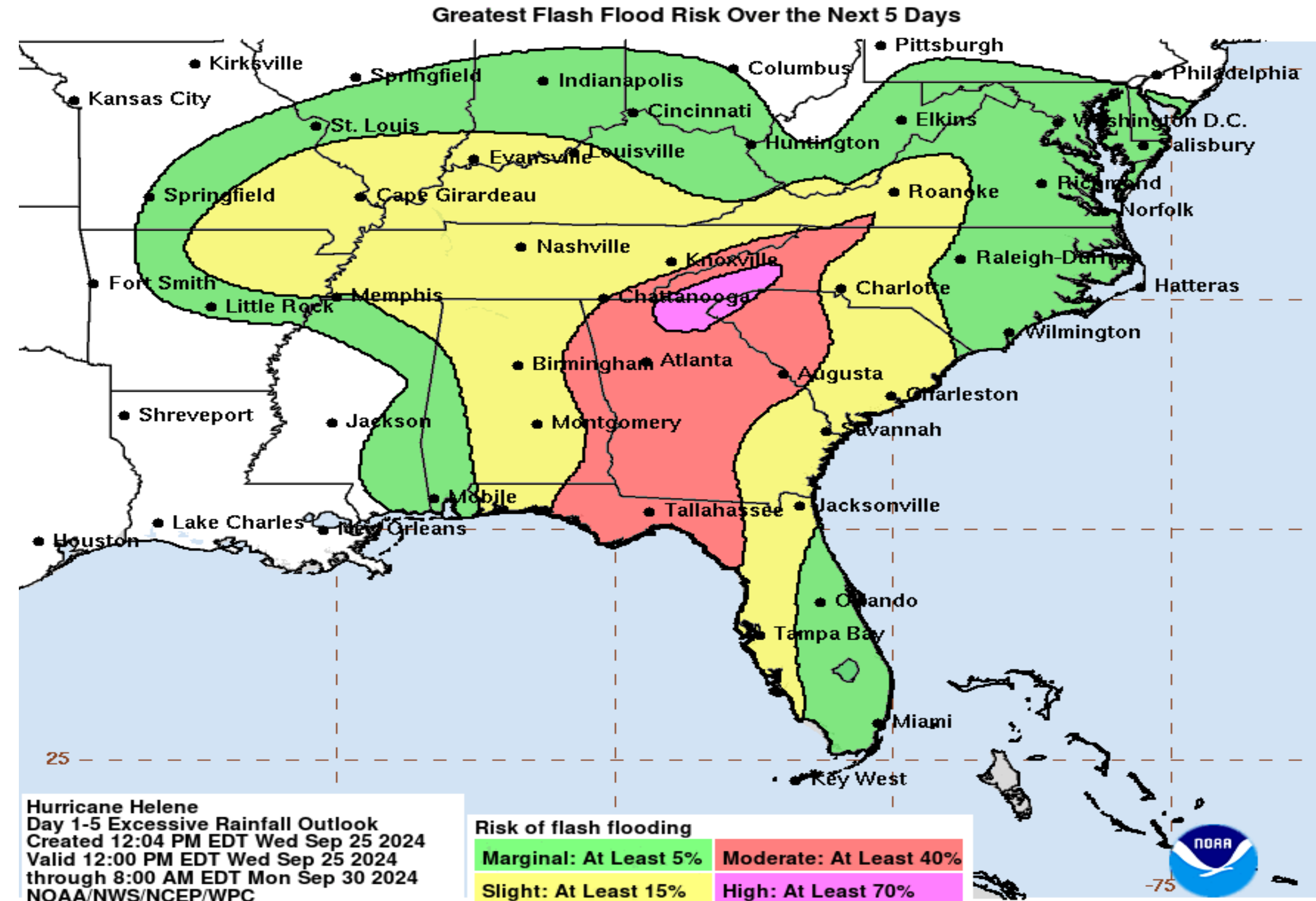
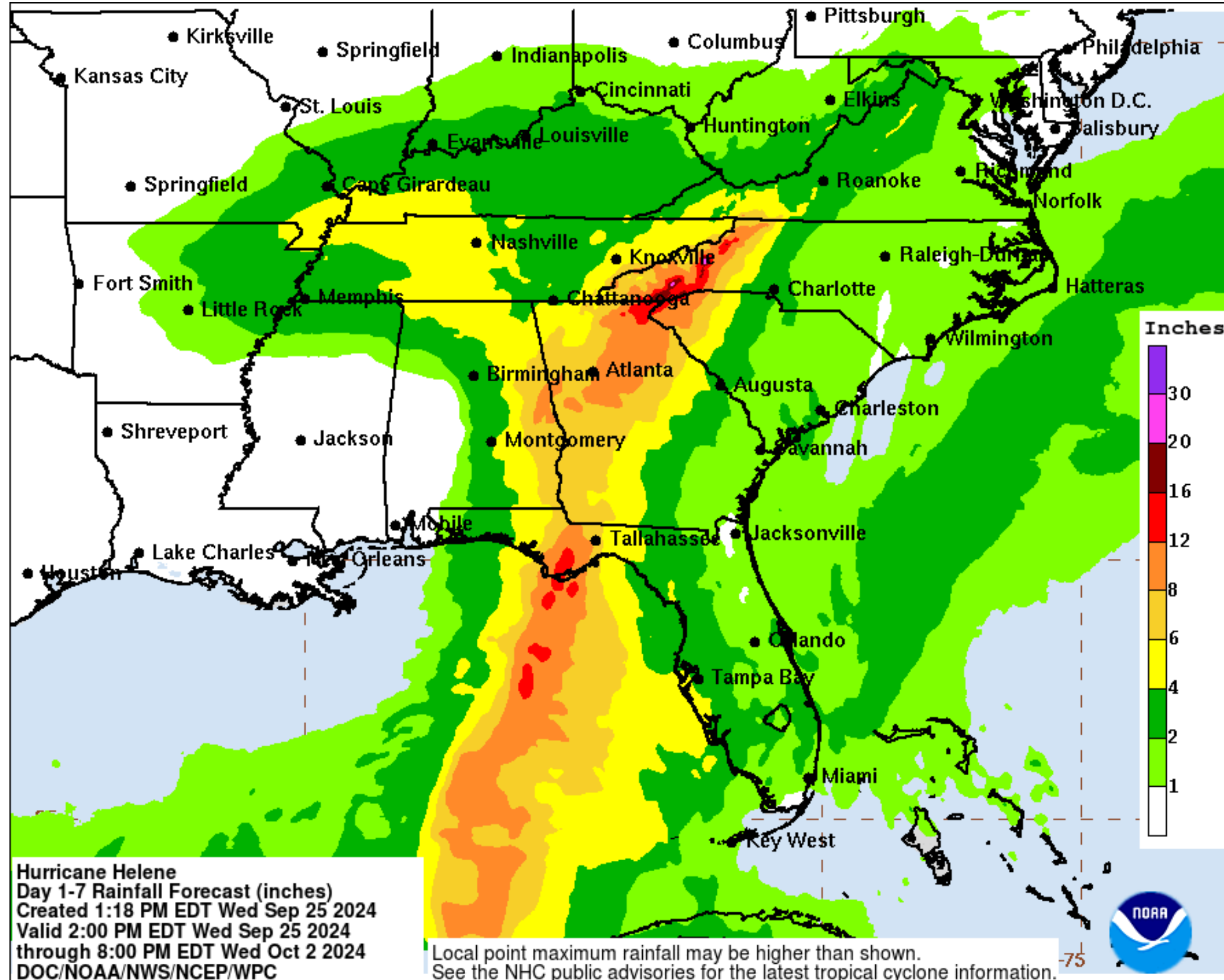
# Expected Storm Total Rainfall and Chance of Rainfall Flooding



Tropical Analysis and Forecast Branch  
NWS National Hurricane Center

Hurricane Helene

Images from NWS Weather Prediction Center



Risk of rainfall exceeding flash flood guidance within 25 miles of a point

**HIGH: > 50%**      **SLGT: 10%-20%**  
**MDT: 20%-50%**    **MRGL: 5%-10%**

Refer to map legend for Valid Time

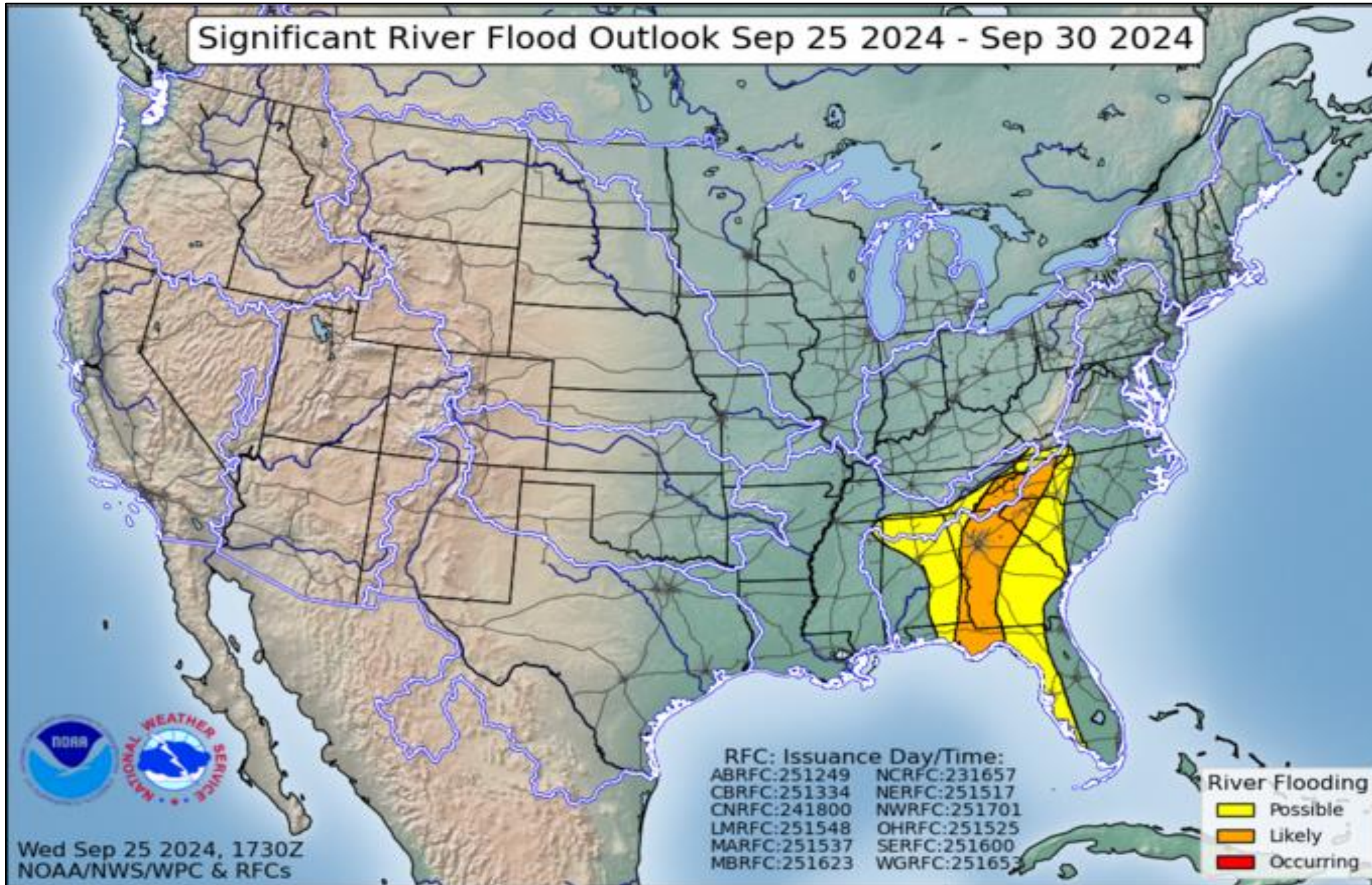


# Flood Outlook

Hurricane Helene



Tropical Analysis and Forecast Branch  
NWS National Hurricane Center



Possible river flooding in FL, GA, AL, and SC after Helene passes through.

Likely river flooding for parts of the Panhandle of FL, GA, AL, and SC.



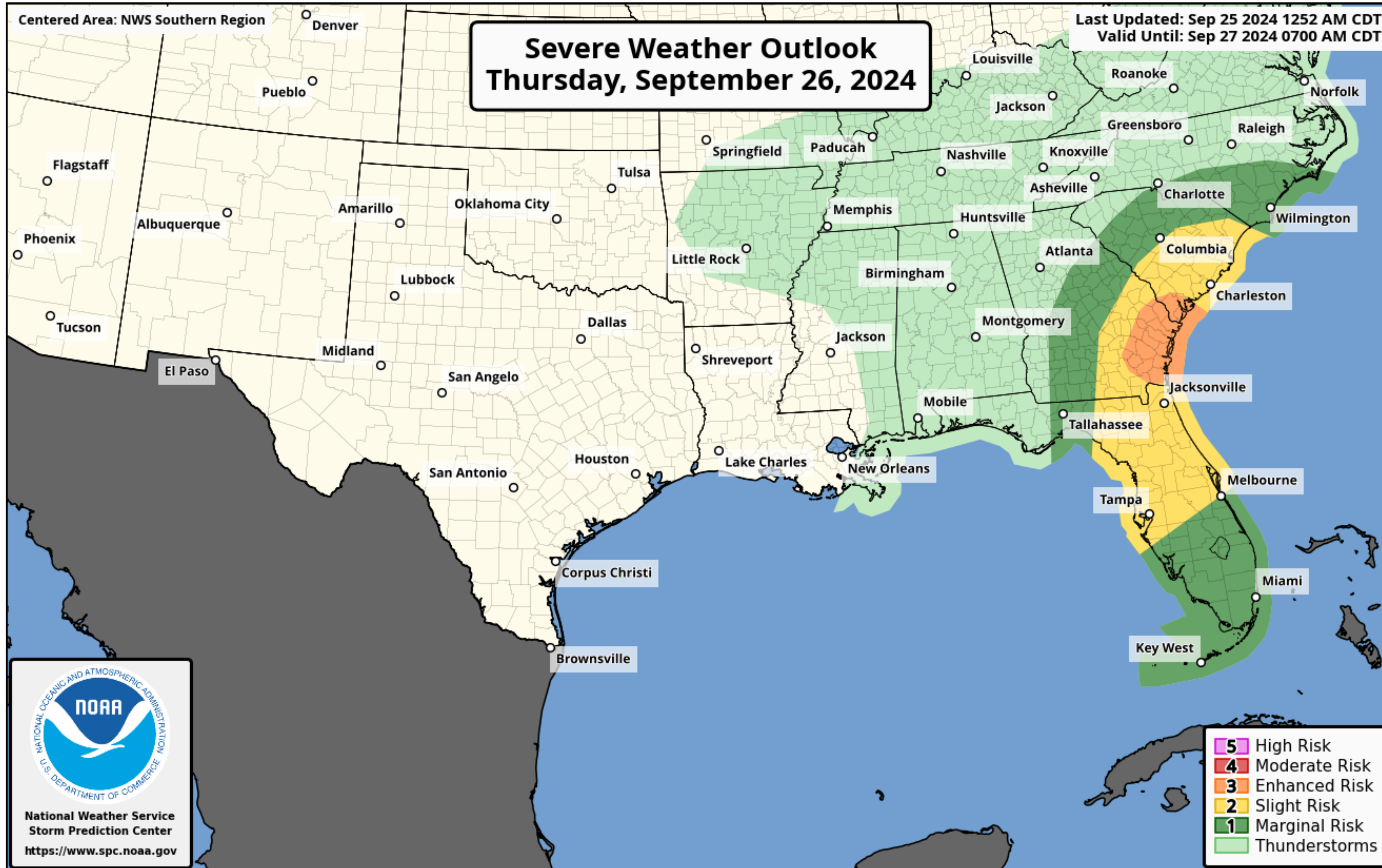
# Tornado Outlook – Day 2

Hurricane Helene

Image from NWS Storm Prediction Center



Tropical Analysis and Forecast Branch  
NWS National Hurricane Center



**Thursday:**

**Marginal Risk of Tornadoes in parts of FL, GA, SC, & NC**

**Slight Risk of Tornadoes for parts FL, GA, & SC.**

**Enhanced Risk of Tornadoes for parts of GA & SC.**



# Key Messages


## Tropical Storm Helene



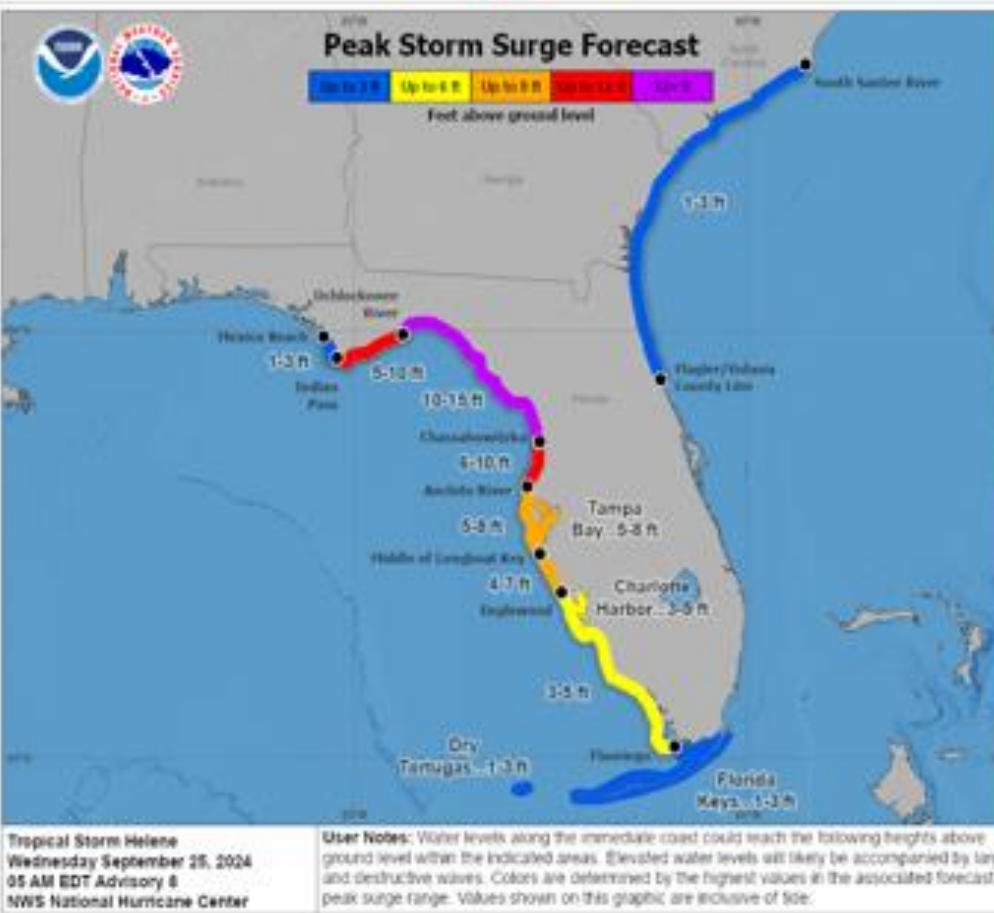
Tropical Analysis and Forecast Branch  
NWS National Hurricane Center

**Key Messages for Tropical Storm Helene**  
Advisory 8: 4:00 AM CDT Wed Sep 25, 2024

1. Helene is forecast to intensify and be near hurricane strength when it passes near the northeastern coast of the Yucatan Peninsula during the next several hours, where a Hurricane Warning is in effect.
2. Helene is expected to rapidly intensify and grow in size over the eastern Gulf of Mexico. There is a danger of life-threatening storm surge along the entire west coast of the Florida Peninsula and Florida Big Bend. The highest inundation levels are expected along the coast of the Florida Big Bend. Residents in those areas should follow advice given by local officials and evacuate if told to do so.
3. Damaging hurricane-force winds are expected along portions of coast of the Florida Big Bend, where a Hurricane Warning is now in effect. Preparations to protect life and property should be completed by early Thursday since tropical storm conditions are expected to begin within this area on Thursday.
4. Tropical Storm Helene will bring heavy rain to portions of the western Caribbean with potentially significant flooding across western Cuba and the northeastern Yucatan Peninsula. Considerable and potentially life-threatening flash and urban flooding is expected across portions of Florida, the Southeast, the Southern Appalachians, and the Tennessee Valley beginning today through Friday. This includes the risk of landslides across the southern Appalachians. Widespread minor to moderate river flooding is likely, and isolated major river flooding is possible.



**Peak Storm Surge Forecast**



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

### IMPACTS FOR D7 through next 5 days

Winds/US Coast – **Extreme**

Winds/SRR – **Extreme**

Waves/US Coastal – **Extreme**

Waves/SRR – **Extreme**

US Storm Surge – **Extreme**

US Rainfall/Flash Flooding – **High**

US Tornadoes – **High**

### Key Messages:

- Conditions will continue to rapidly deteriorate in the SE Gulf.
- Thursday afternoon NE Gulf:
  - Peak winds of 110 kt are likely.
  - Peak seas near 45 ft are likely.
- While Gulf will quickly return to normal on Fri, the Atlantic waters off of NE Florida/ Georgia will build on Fri before diminishing Sat.



You can contact the  
Tropical Analysis and  
Forecast Branch at  
305-229-4424



# HURRICANE HELENE BRIEFING

**TIME of NEXT NHC Advisory:**

**21 UTC: 5 PM EDT**

*The Next Briefing Will Be:*

*Thursday 9:00 AM EDT*

*You can always find get the latest graphics and information for this storm at [www.hurricanes.gov](http://www.hurricanes.gov)*



NHC\_TAFB

[www.nhc.noaa.gov](http://www.nhc.noaa.gov)