

**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**

# TROPICAL STORM HELENE BRIEFING



9:00 AM EDT  
Wednesday, September 25, 2024  
Prepared by:  
**Keren Rosado-Vázquez**  
*Tropical Analysis and Forecast Branch*  
*NWS National Hurricane Center*



NHC\_TAFB

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

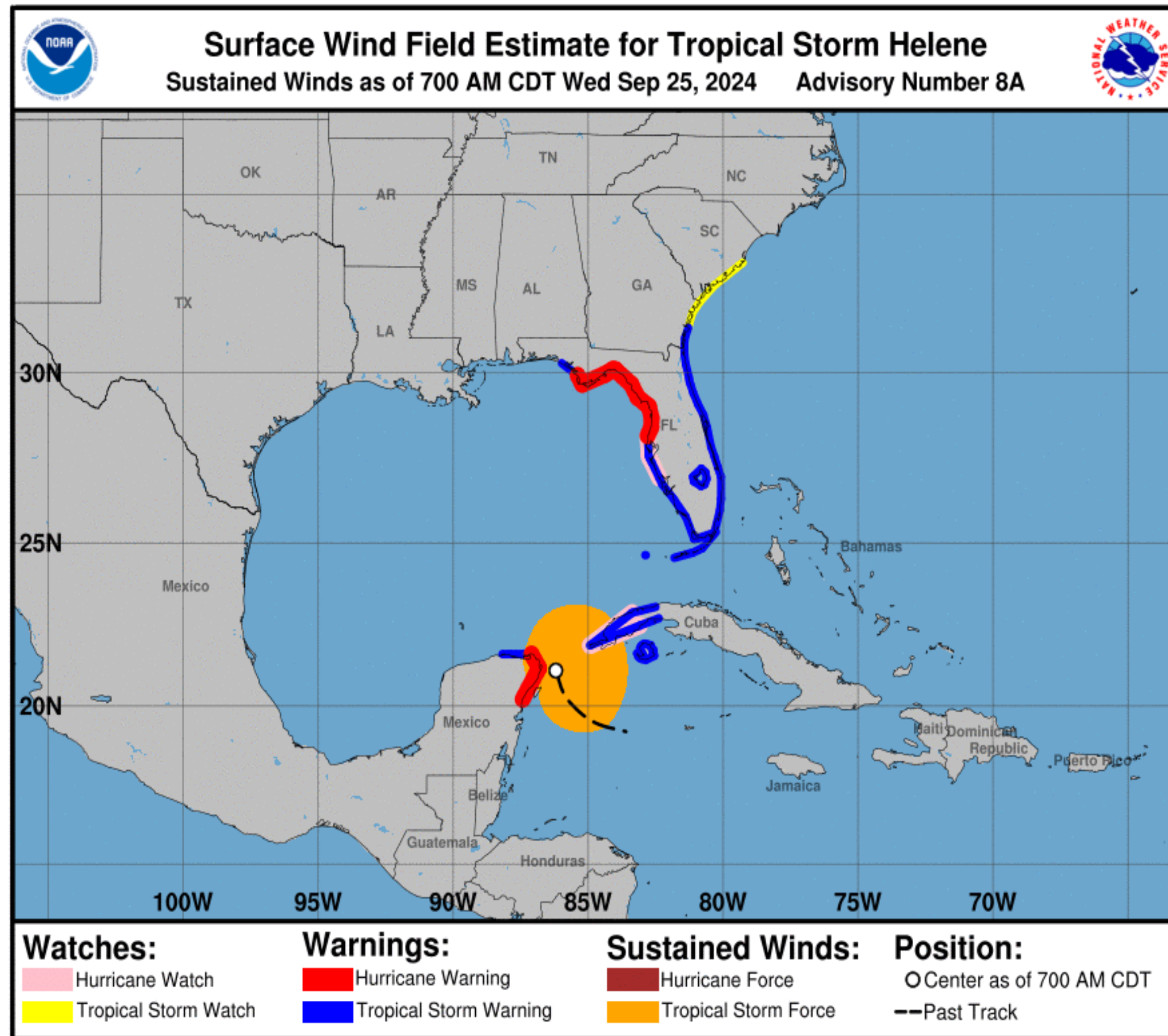


# Situation Overview

## Tropical Storm Helene



Tropical Analysis and Forecast Branch  
NWS National Hurricane Center



**...HELENE JUST OFFSHORE THE  
NORTHEASTERN COAST OF THE YUCATAN  
PENINSULA, CLOSE TO HURRICANE  
STRENGTH...**

### SUMMARY OF 800 AM EDT...INFORMATION

LOCATION...21.1N 86.2W  
ABOUT 52 NM... ENE OF COZUMEL MEXICO  
ABOUT 87 NM... WSW OF THE WESTERN TIP OF CUBA  
MAXIMUM SUSTAINED WINDS...60 KT  
PRESENT MOVEMENT...NW OR 325 DEGREES AT 8 KT  
MINIMUM CENTRAL PRESSURE...979 MB  
12 FT SEAS..180NE 180SE 60SW 60NW.

**Tropical-storm-force winds extend outward up to  
150 nm from the center.**

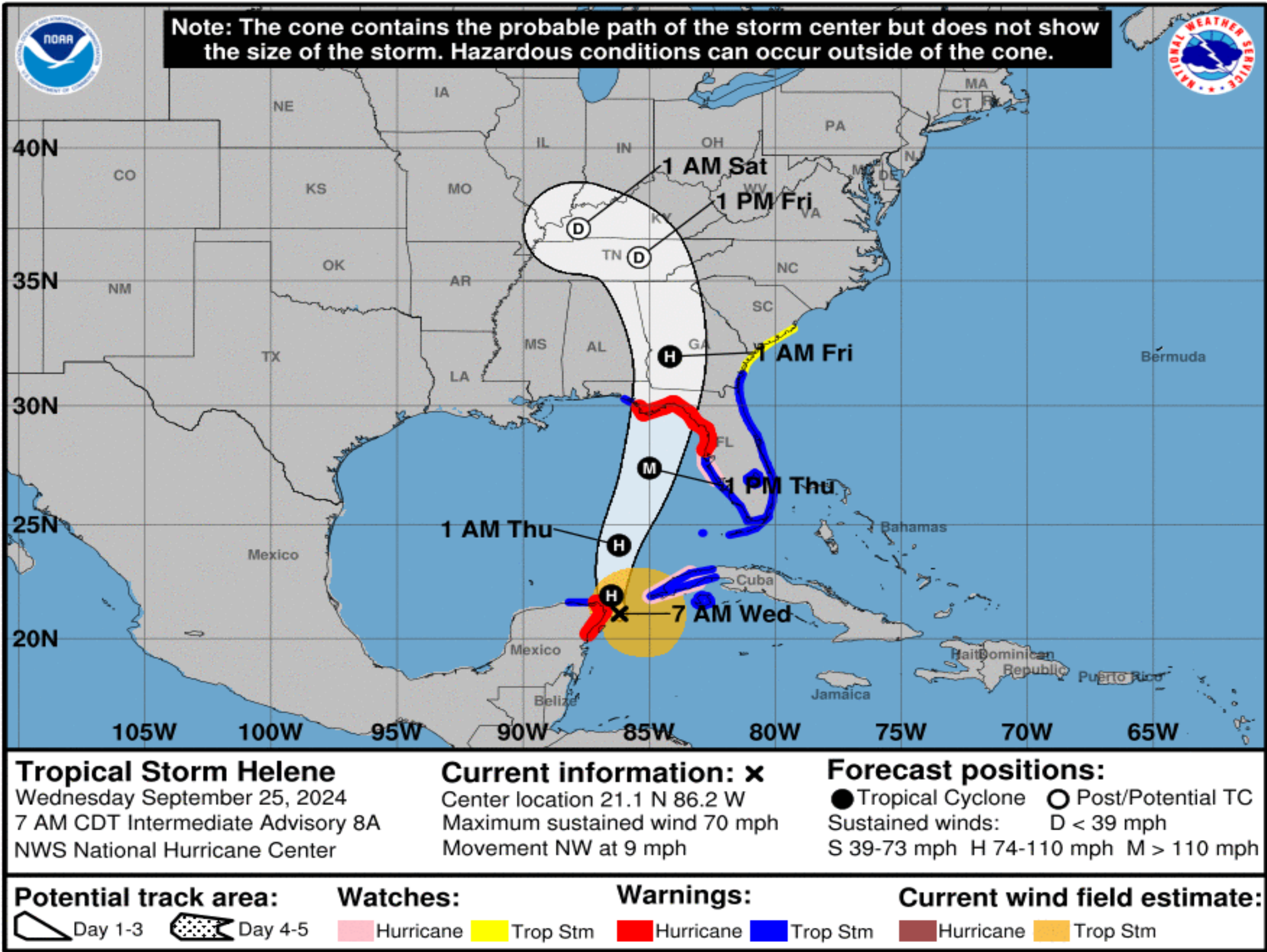


# Forecast Information

## Tropical Storm Helene



Tropical Analysis and Forecast Branch  
NWS National Hurricane Center



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

- **A general northward motion will begin later today and continuing through Friday.**
- **On the forecast track, the center of Helene will pass near the northeastern coast of the Yucatan Peninsula this morning, move across the eastern Gulf of Mexico on later today and Thursday, and reach the Big Bend coast of Florida late Thursday.**
- **Additional strengthening is forecast, and Helene is expected to become a hurricane later today. The storm is forecast to rapidly strengthen over the eastern Gulf of Mexico and become a major hurricane on Thursday.**
- **Helene should make landfall somewhere between Big Bend and Nature Coast Thu afternoon or evening as a Category 2 or 3 hurricane.**
- **After landfall, the system should continue moving quickly northward within the SE United States.**

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

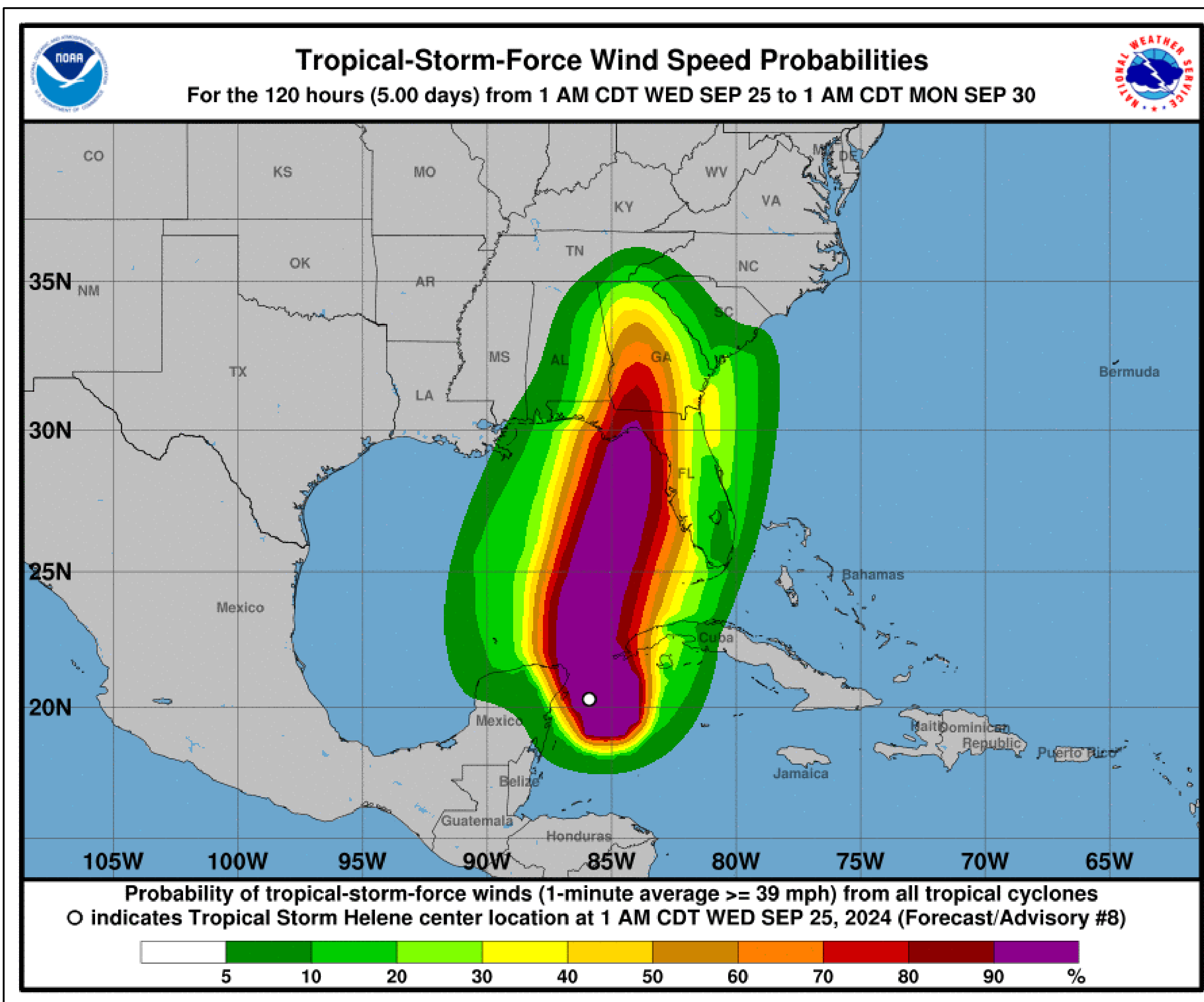


# T.S. Wind Speed Probabilities

## Tropical Storm Helene



Tropical Analysis and Forecast Branch  
NWS National Hurricane Center



- MARATHON 18%
- KEY WEST FL 27%
- NAPLES 40%
- FT MYERS 24%
- VENICE 65%
- TAMPA FL 69%
- CEDAR KEY 81%
- ST MARKS 88%
- APALACHICOLA 91%
- PANAMA CITY 75%
- DESTIN 28%
- FT LAUDERDALE 12%
- W PALM BEACH 14%
- FT PIERCE 19%
- PATRICK AFB 27%
- COCOA BEACH 26%
- DAYTONA BEACH 15%
- JACKSONVILLE 29%
- MAYPORT 44%
- KINGS BAY 47%
- SAVANNAH 14%
- CHARLESTON 15%

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

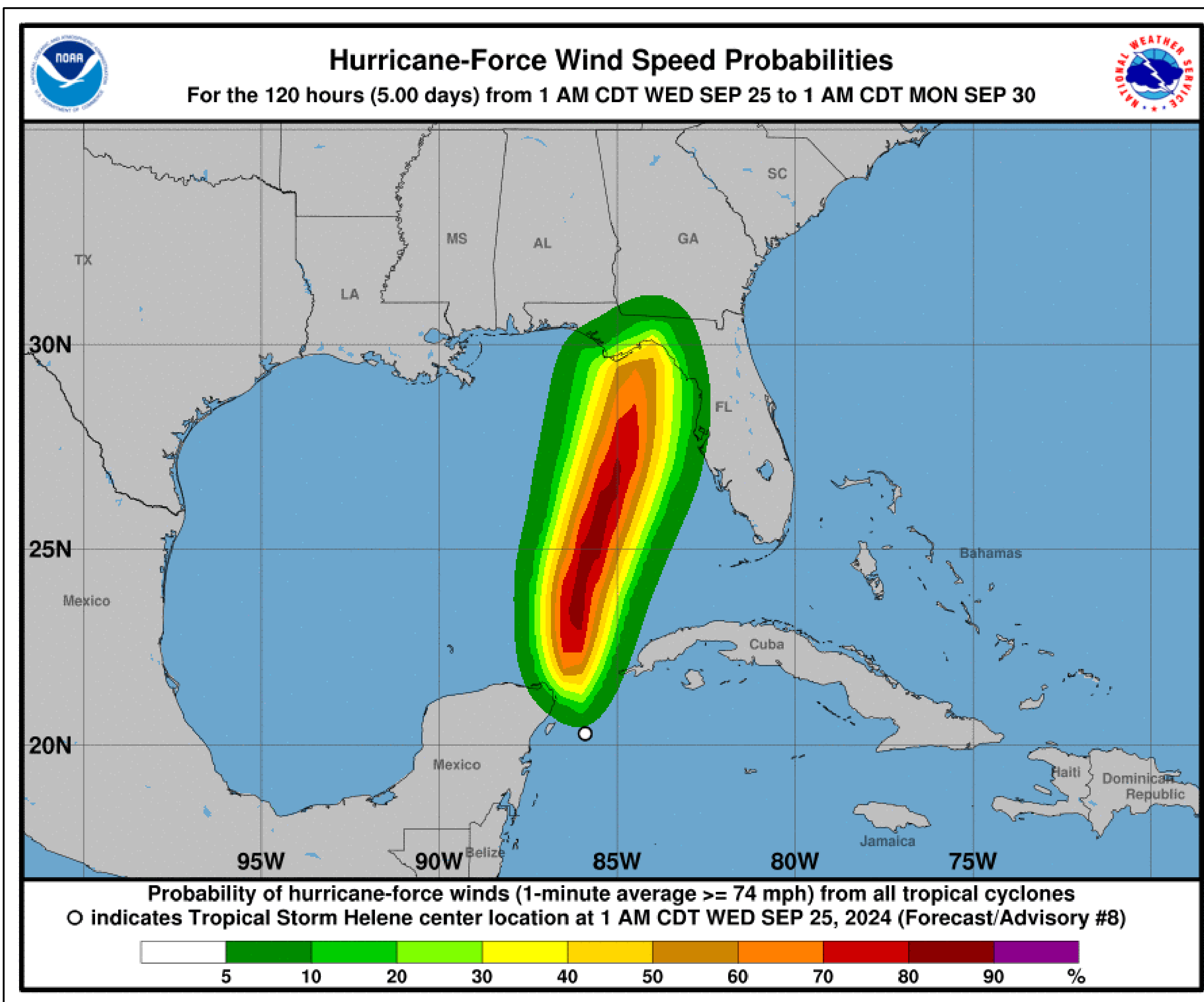
- Probabilities of sustained tropical storm force winds (34 kt to 63 kt) over the next 5 days, based off this cyclone's wind radii and track.
- Clear or dark green are the lowest chances of 0-30%. Yellow to orange is 31-70%. Red through purple are the highest probabilities of 71%-100%.

# Hurricane Wind Speed Probabilities

## Tropical Storm Helene



Tropical Analysis and Forecast Branch  
NWS National Hurricane Center



- **CEDAR KEY FL 15%**
- **ST MARKS 17%**
- **APALACHICOLA 45%**
- **PANAMA CITY FL 22%**

**GREEN** - Probabilities have decreased

**RED** - Probabilities have gone up

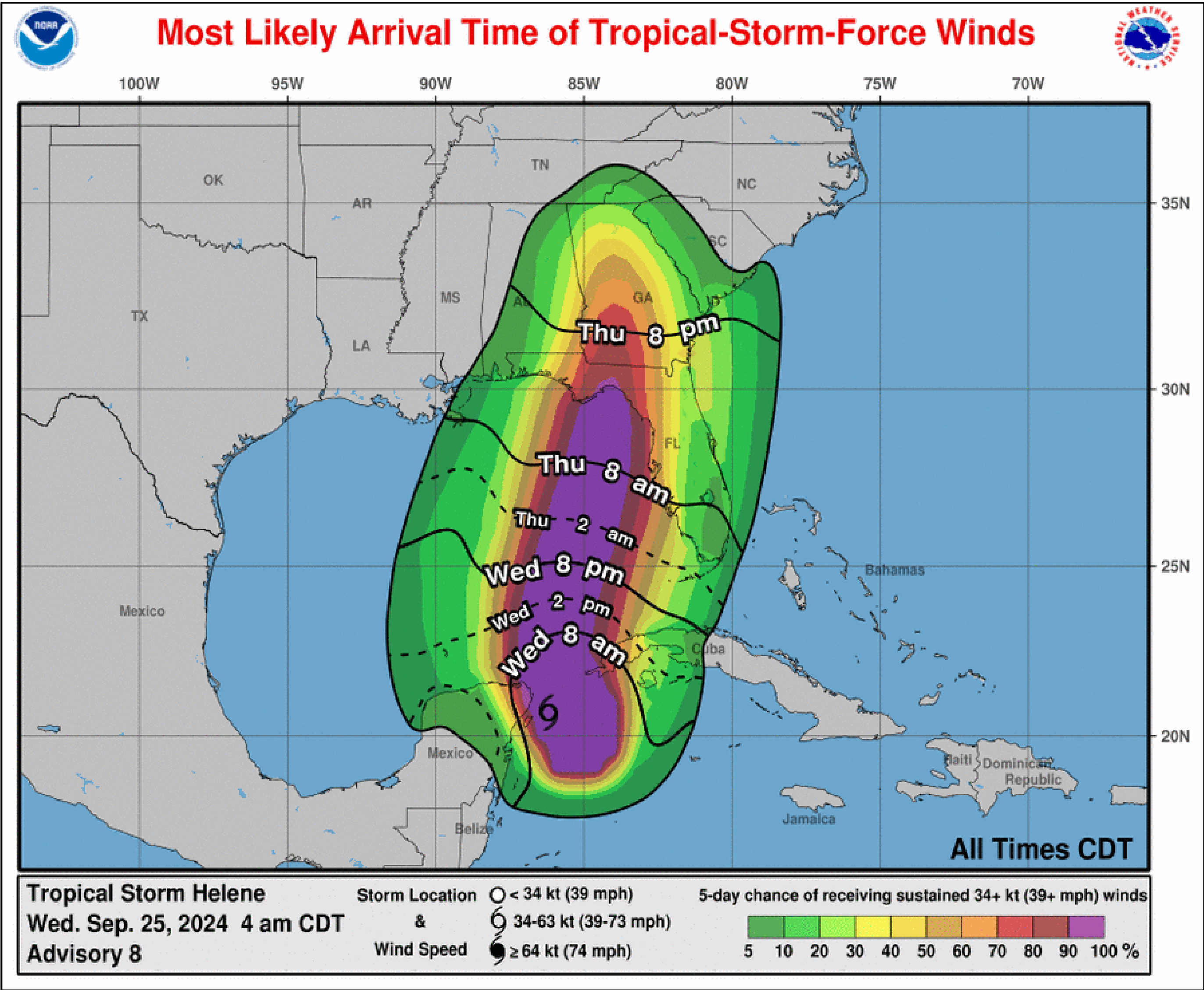
**BLACK** - Probabilities unchanged

**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.



Tropical Storm 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.

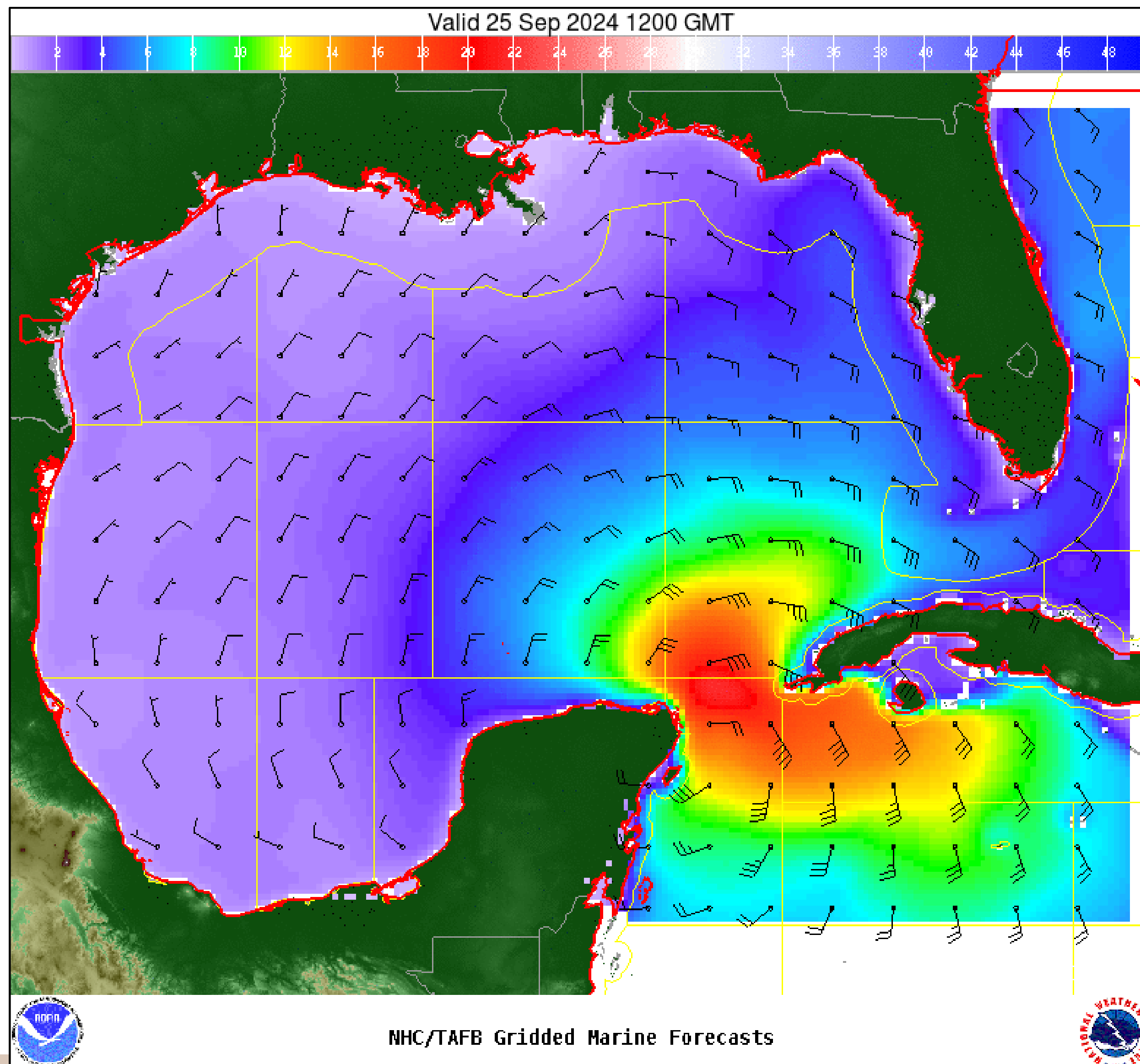


# Wind And Waves

## Tropical Storm Helene



Tropical Analysis and Forecast Branch  
NWS National Hurricane Center



### Current Conditions

Wednesday, September 25 at 8:00 AM EDT

Peak Winds: 60 kt

Peak Seas: 23 ft

- Wave heights are in feet



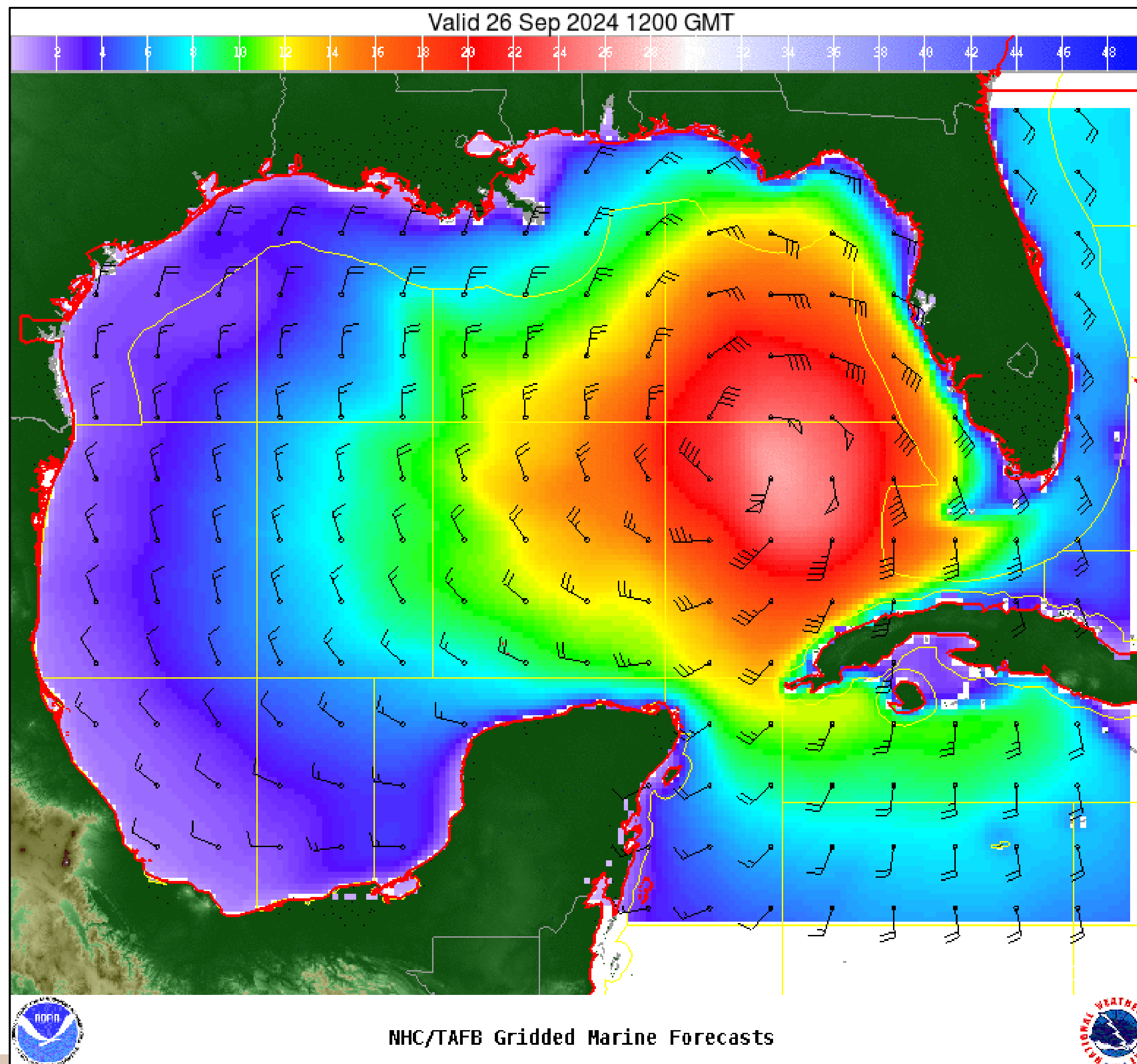
Significant Wave Height (ft)

# Wind And Waves

## Tropical Storm Helene



Tropical Analysis and Forecast Branch  
NWS National Hurricane Center



## 24 Hour Forecast

Thursday, September 26 at 8:00 AM EDT

Peak Winds: 95 kt

Peak Seas: 30 ft

- Wave heights are in feet



Significant Wave Height (ft)

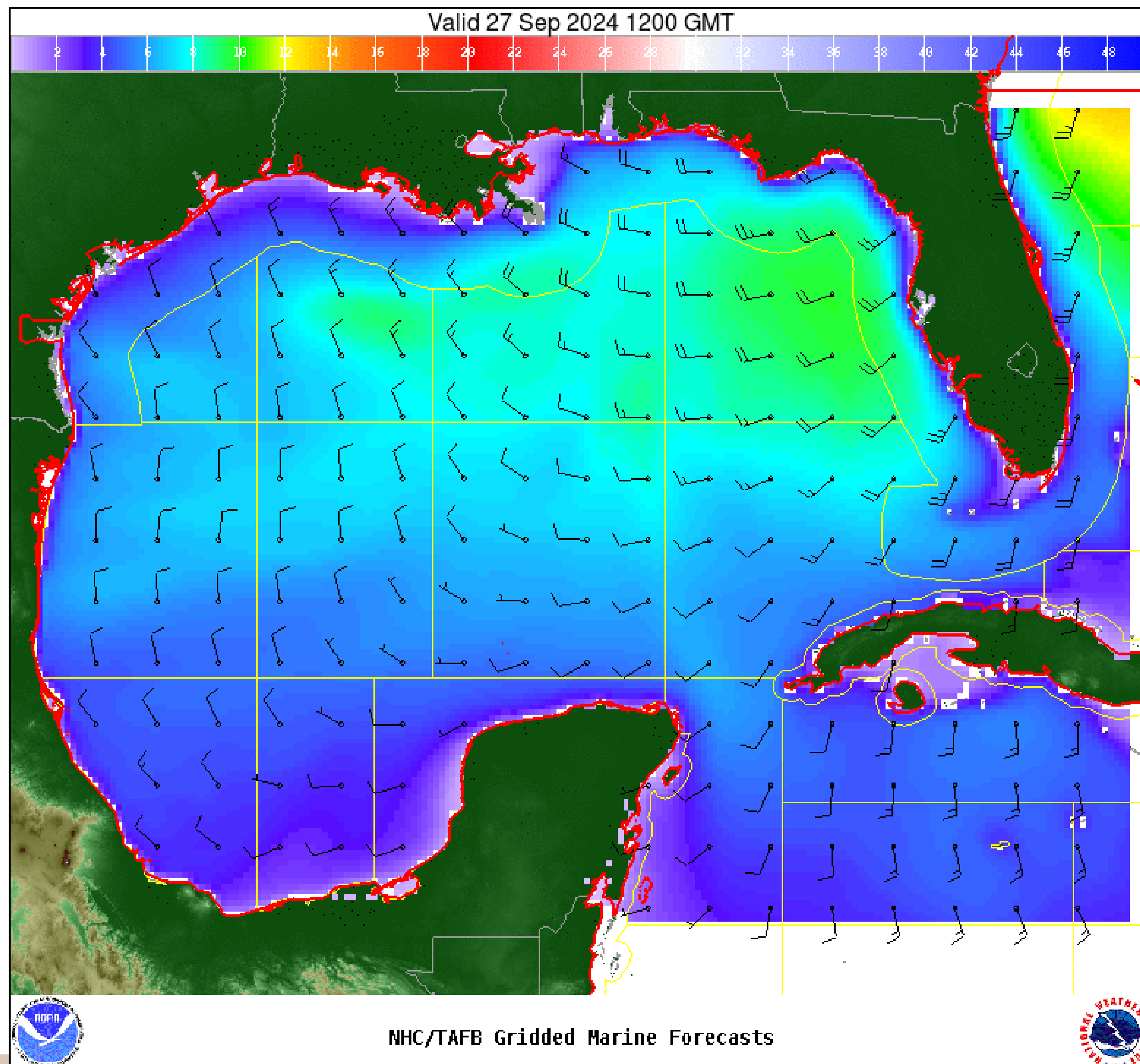


# Wind And Waves

## Tropical Storm Helene



Tropical Analysis and Forecast Branch  
NWS National Hurricane Center



### 48 Hour Forecast

Friday, September 27 at 8:00 AM EDT

Peak Winds: 25 kt

Peak Seas: 11 ft

- Wave heights are in feet



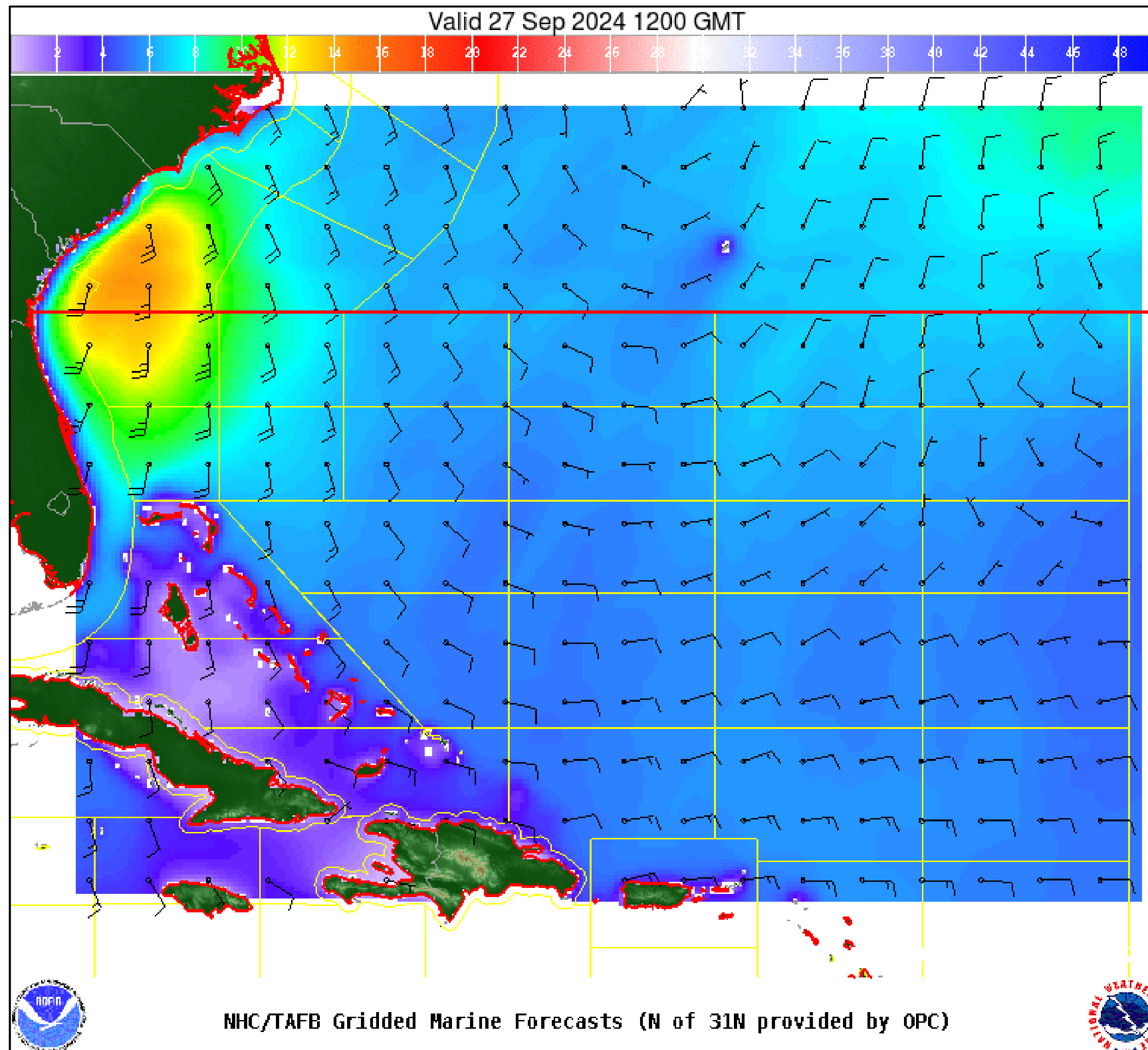
Significant Wave Height (ft)

# Wind And Waves

## Tropical Storm Helene



Tropical Analysis and Forecast Branch  
NWS National Hurricane Center



### 48 Hour Forecast

Friday, September 27 at 8:00 AM EDT

Peak Winds: 30 kt

Peak Seas: 15 ft

- Wave heights are in feet



Significant Wave Height (ft)

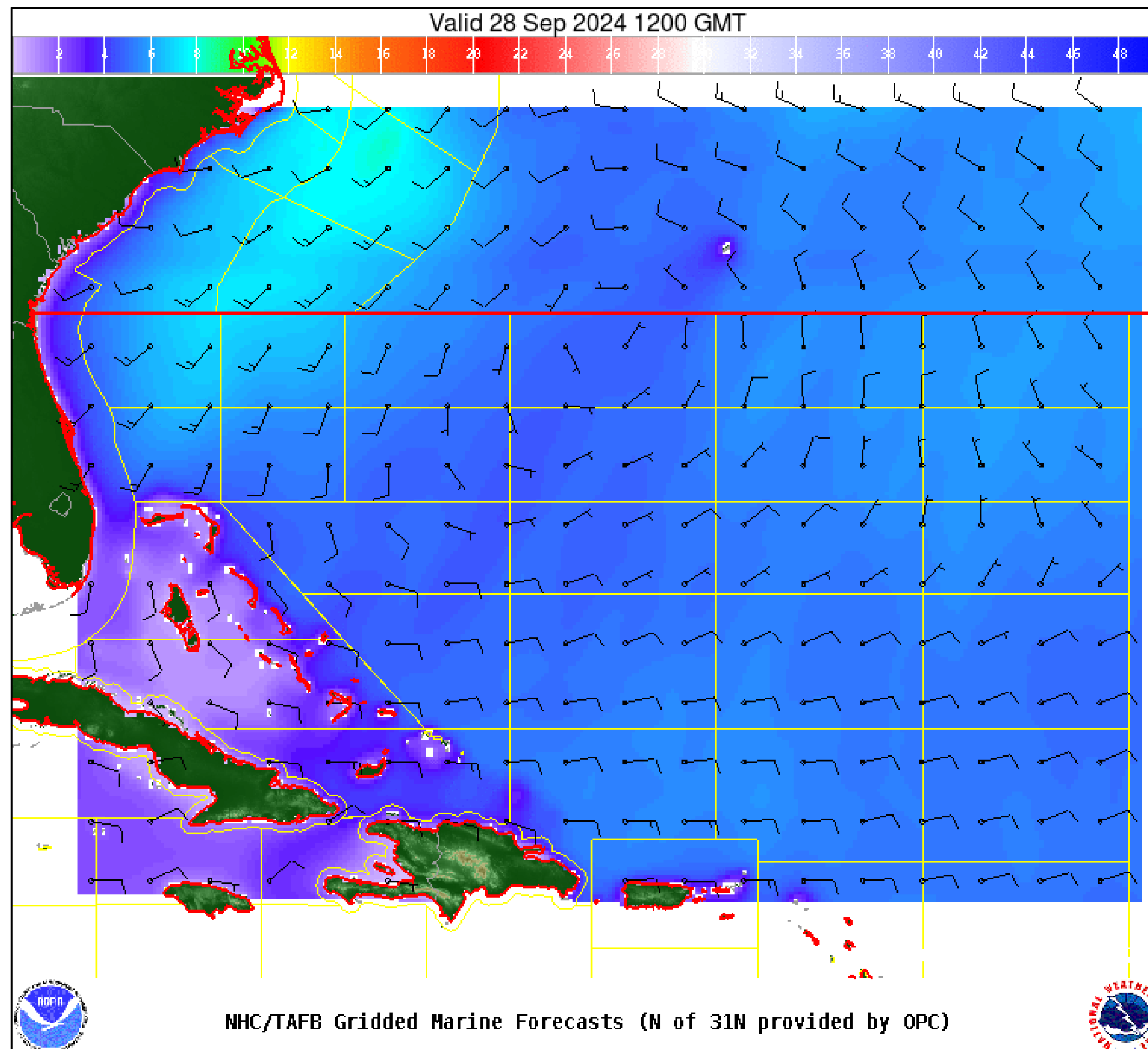


# Wind And Waves

## Tropical Storm Helene



Tropical Analysis and Forecast Branch  
NWS National Hurricane Center



## 72 Hour Forecast

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

Peak Winds: 15 kt

Peak Seas: 8 ft

- Wave heights are in feet



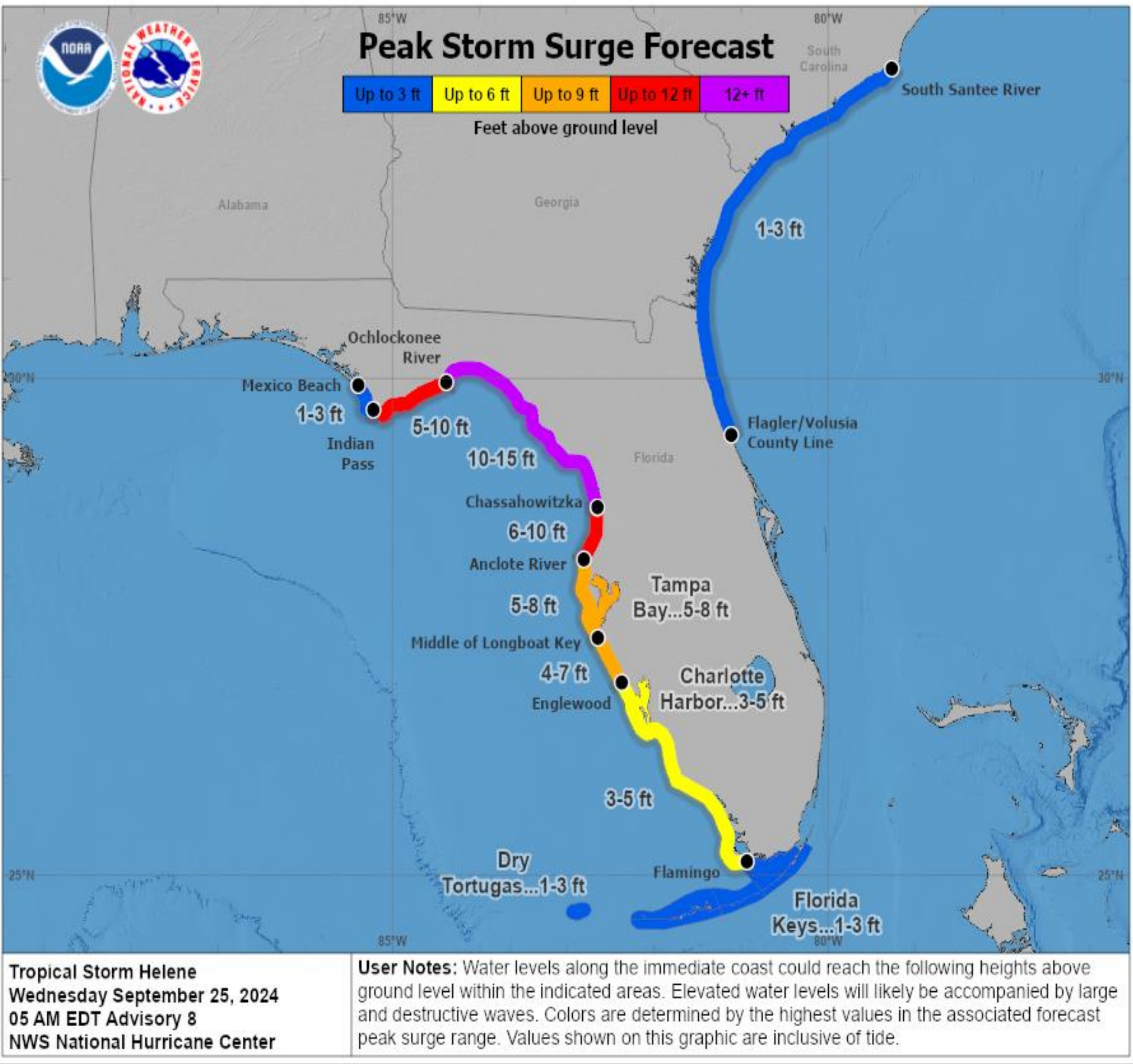
Significant Wave Height (ft)

# Potential Peak Storm Surge / Watches and Warnings

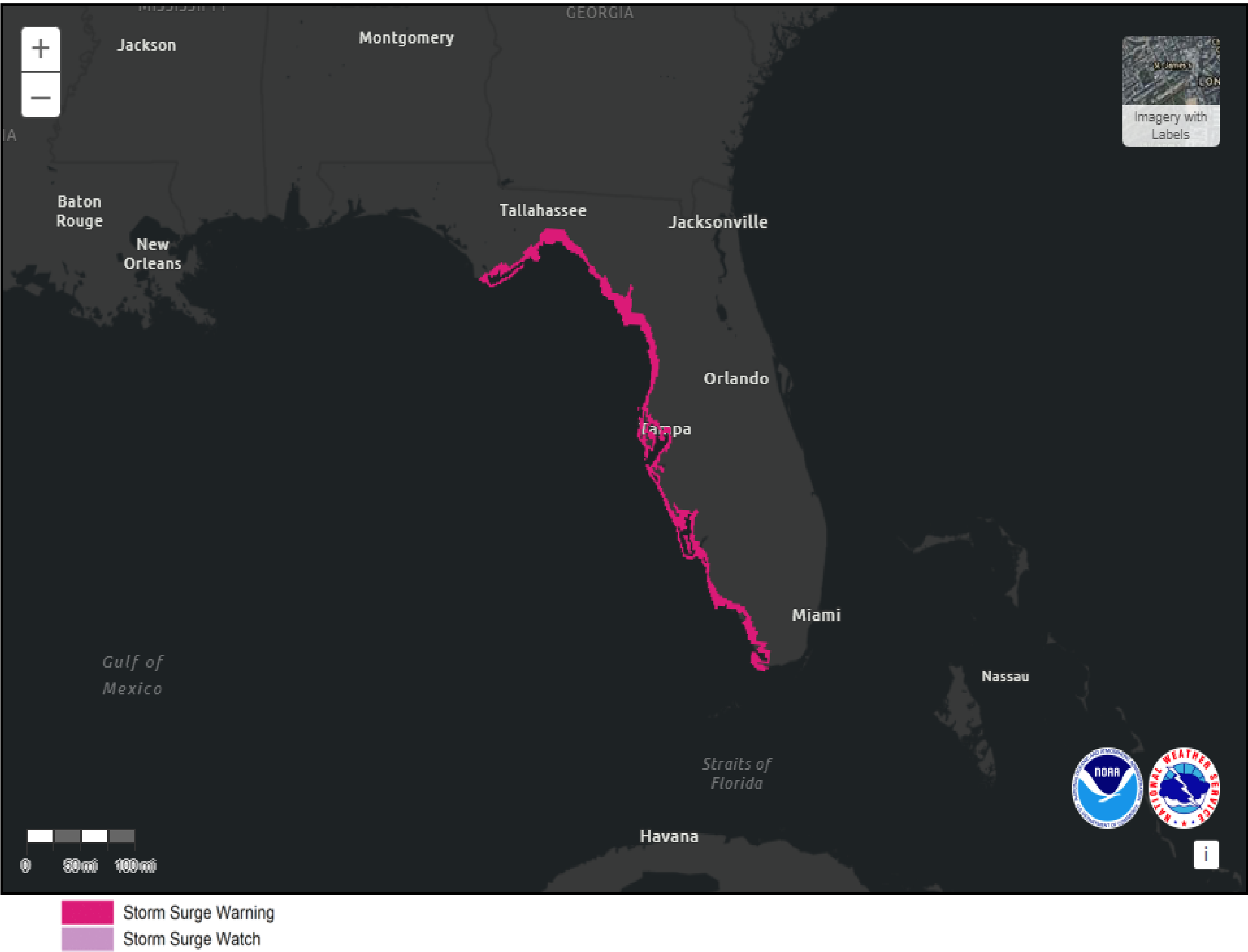


Tropical Analysis and Forecast Branch  
NWS National Hurricane Center

## Tropical Storm Helene



**Tropical Storm Helene**  
Advisory 8 — Issued: 4:00 AM CDT Wed Sep 25





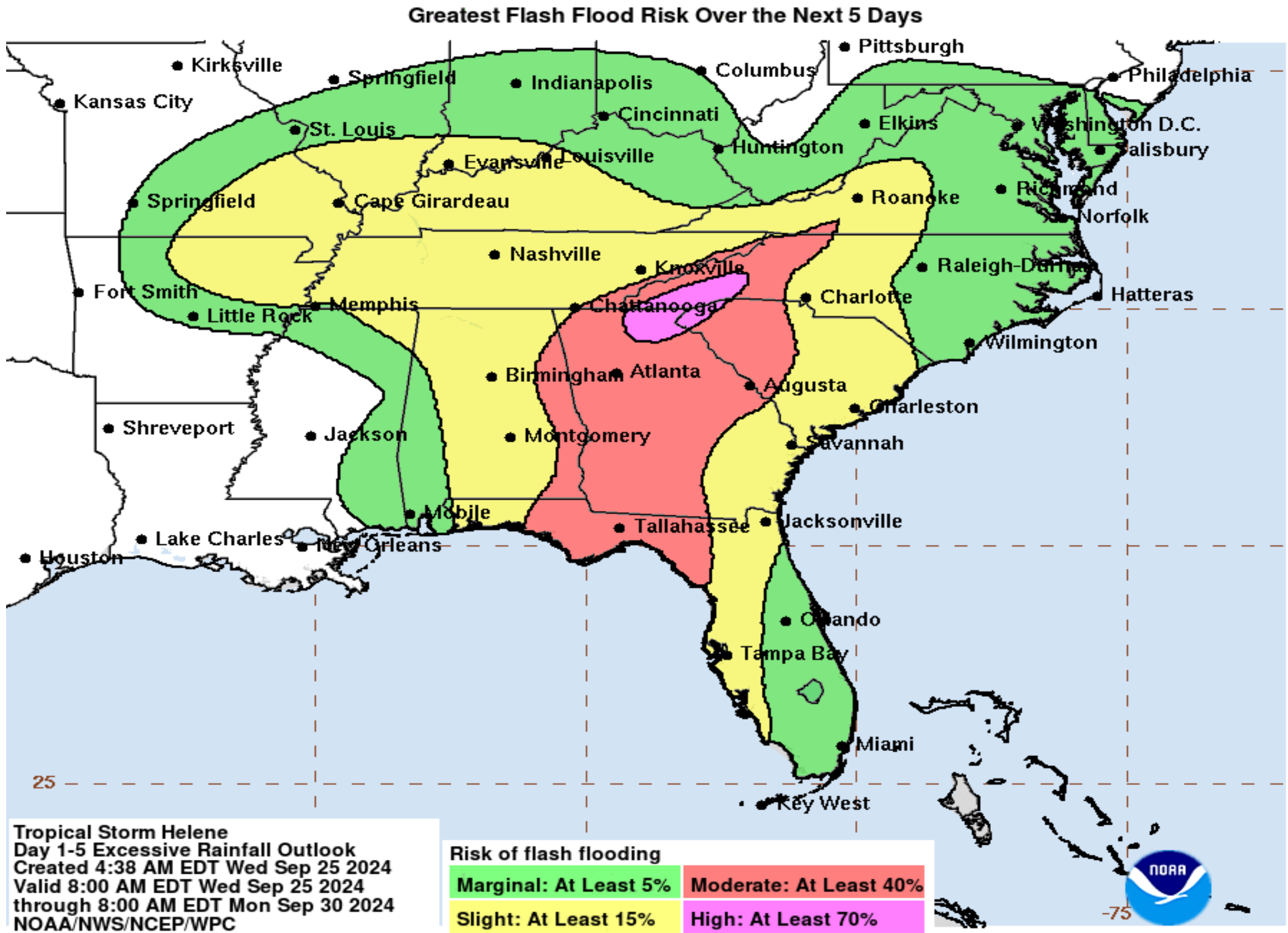
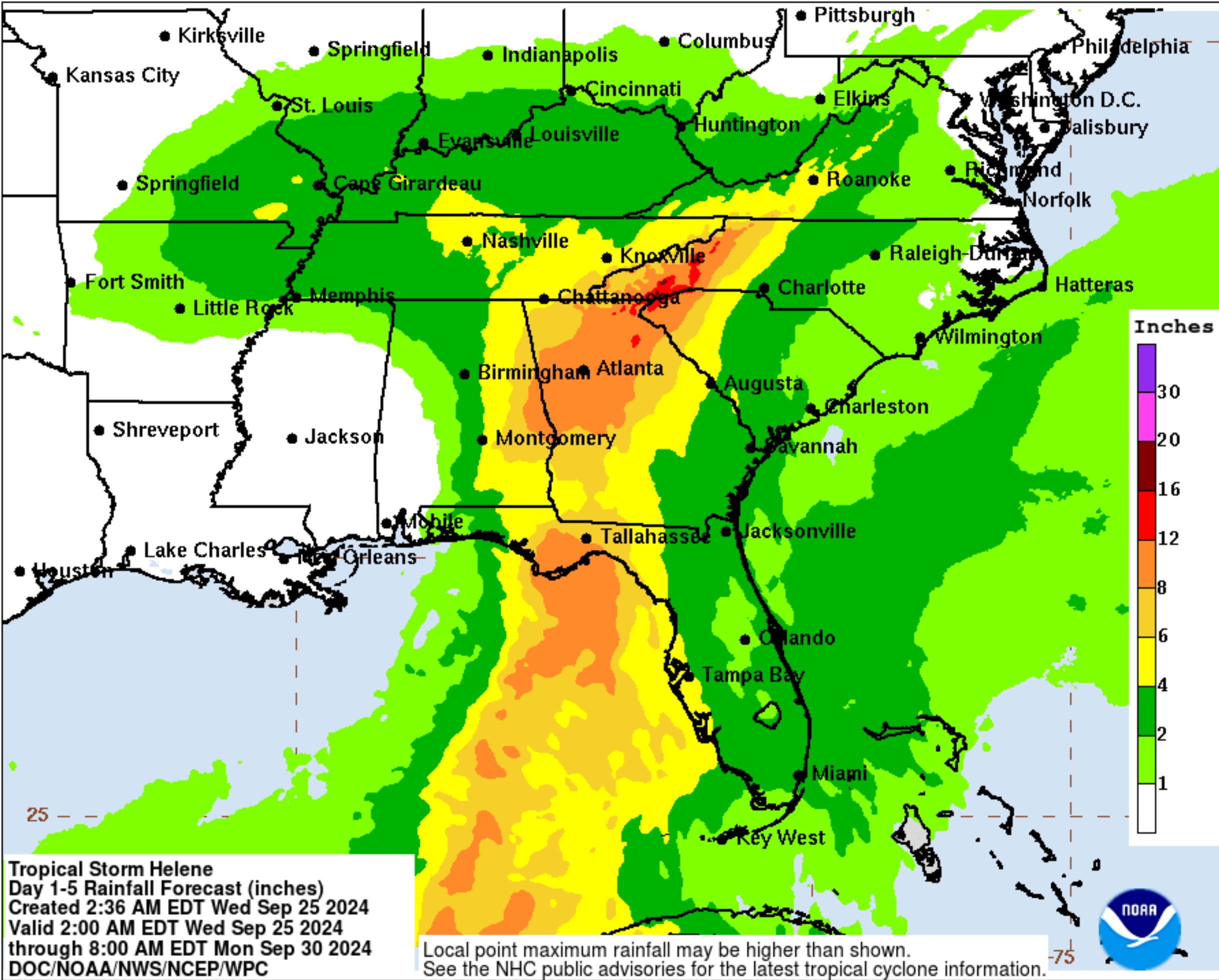
# Expected Storm Total Rainfall and Chance of Rainfall Flooding

Tropical Storm Helene

Images from NWS Weather Prediction Center



Tropical Analysis and Forecast Branch  
NWS National Hurricane 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

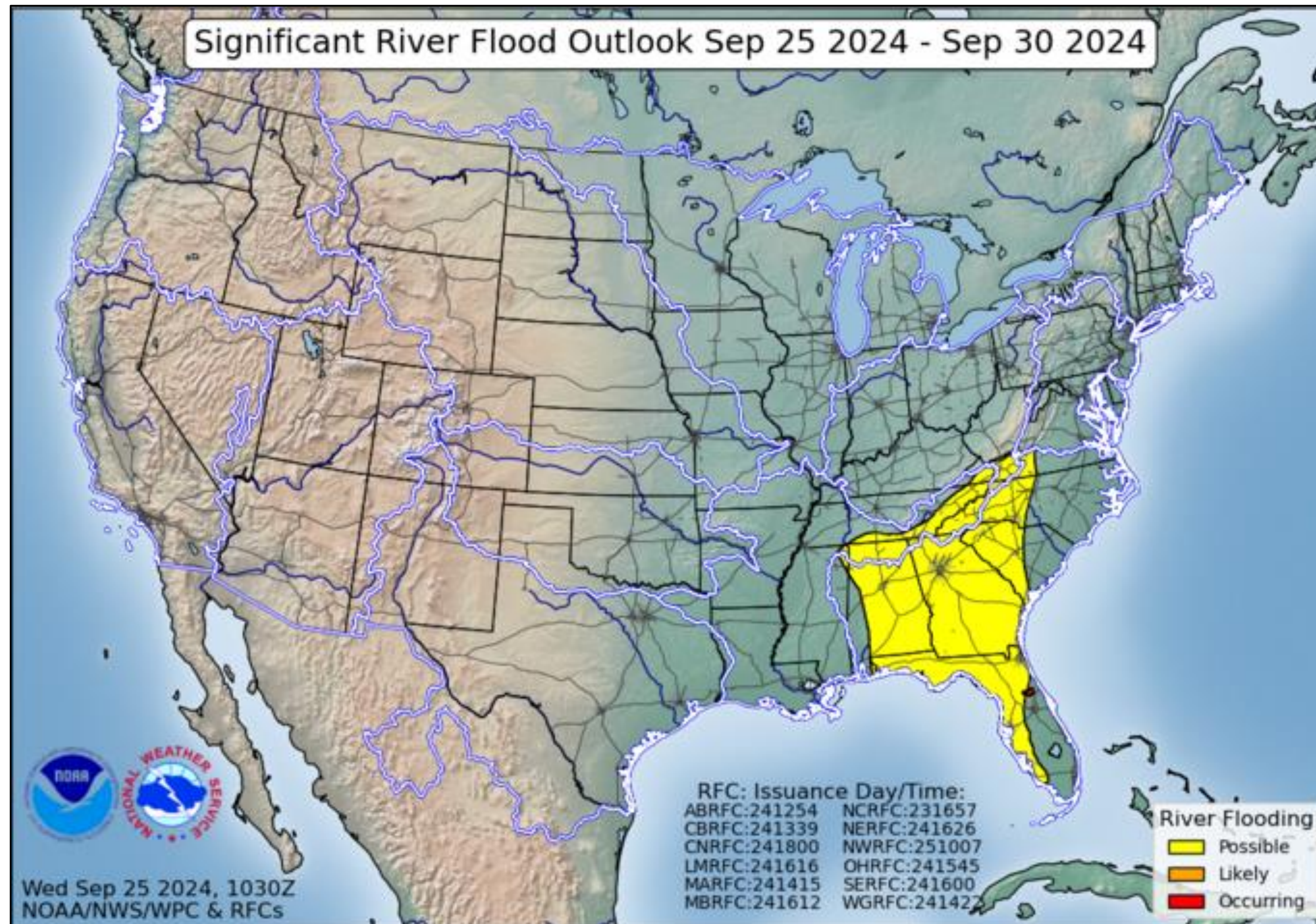


# Flood Outlook

Tropical Storm Helene



Tropical Analysis and Forecast Branch  
NWS National Hurricane Center



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



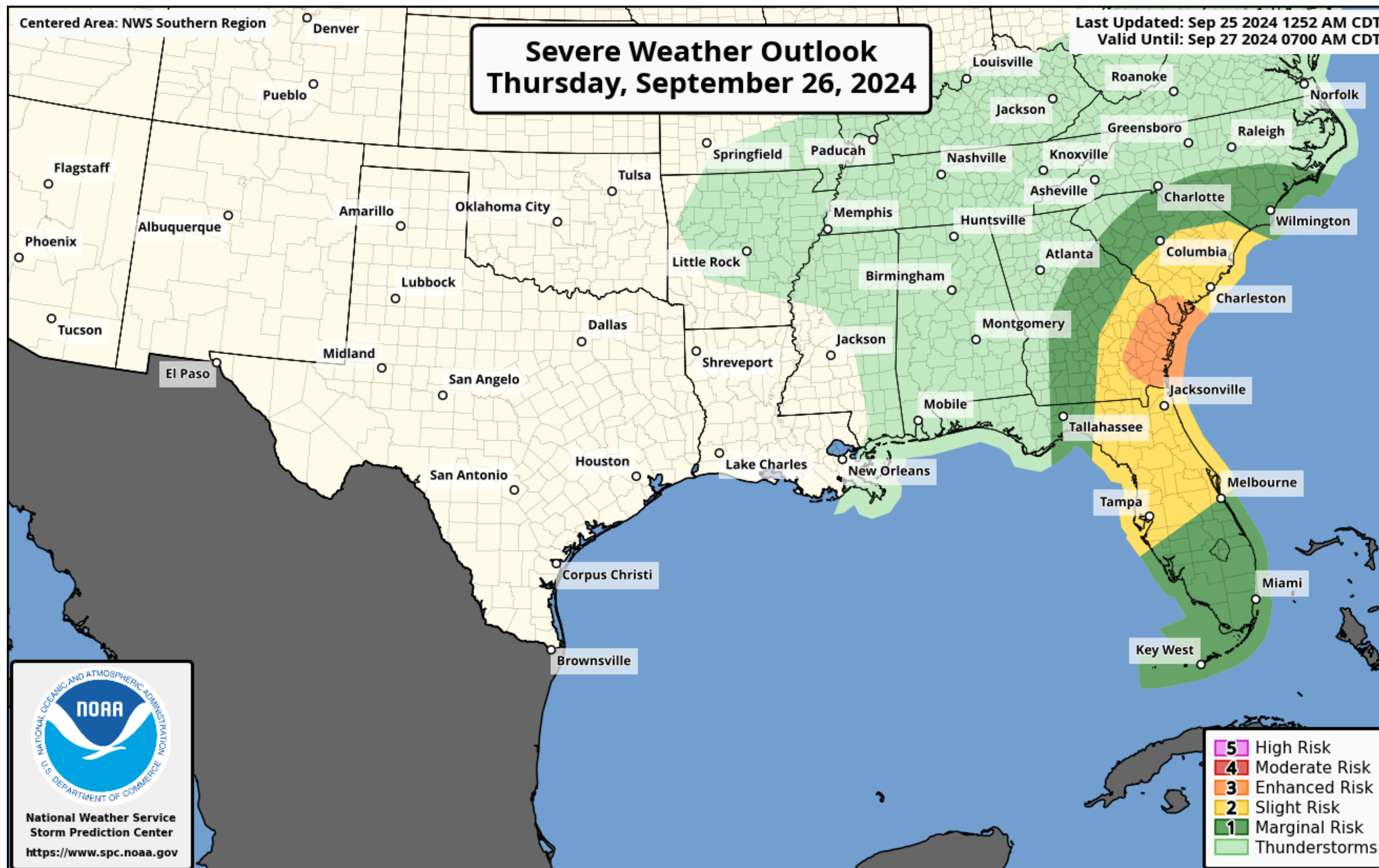
# Tornado Outlook – Day 2

Tropical Storm 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

- 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.
- 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.
- 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.
- 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.




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.

**Tropical Storm Helene**  
Wednesday September 25, 2024  
4 AM CDT Advisory 8  
NWS National Hurricane Center

**Current information:** x  
Center location 20.7 N 86.2 W  
Maximum sustained wind 65 mph  
Movement NW at 9 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 field estimate:** Hurricane Trop Stm



**Peak Storm Surge Forecast**  
Feet above ground level

**Tropical Storm Helene**  
Wednesday September 25, 2024  
05 AM EDT Advisory 8  
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.

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

### IMPACTS FOR **D7** through next 5days

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**

### Marine Key Messages:

- Conditions will rapidly deteriorate in the SE Gulf today.
- Thursday afternoon NE Gulf:
  - Peak winds of 105 kt are likely
  - Peak seas near 42 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



# TROPICAL STORM HELENE BRIEFING

**TIME of NEXT NHC Advisory:**  
**15 UTC: 11 AM EDT**

*The Next Briefing Will Be:*  
*Wednesday 6:00 PM 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)