

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 – Low

TROPICAL STORM HELENE BRIEFING



6:00 PM EST

Tuesday, September 24, 2024

Prepared by:

Chris Landsea

*Tropical Analysis and Forecast Branch
NWS National Hurricane Center*



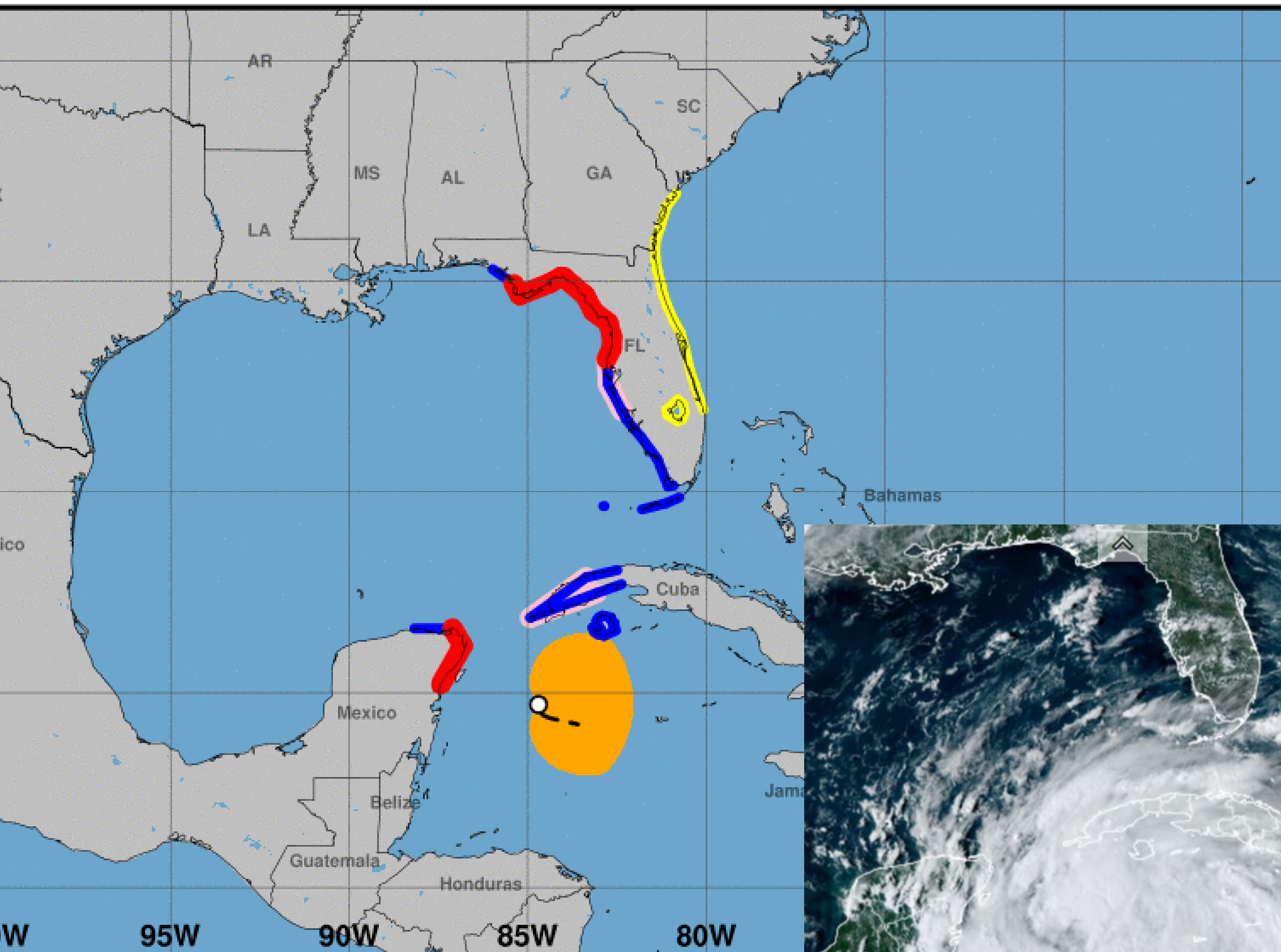
Situation Overview



Tropical Analysis and Forecast Branch
NWS National Hurricane Center

Tropical Storm Helene

Surface Wind Field Estimate for Tropical Storm Helene
Sustained Winds as of 500 PM EDT Tue Sep 24, 2024 Advisory Number 6

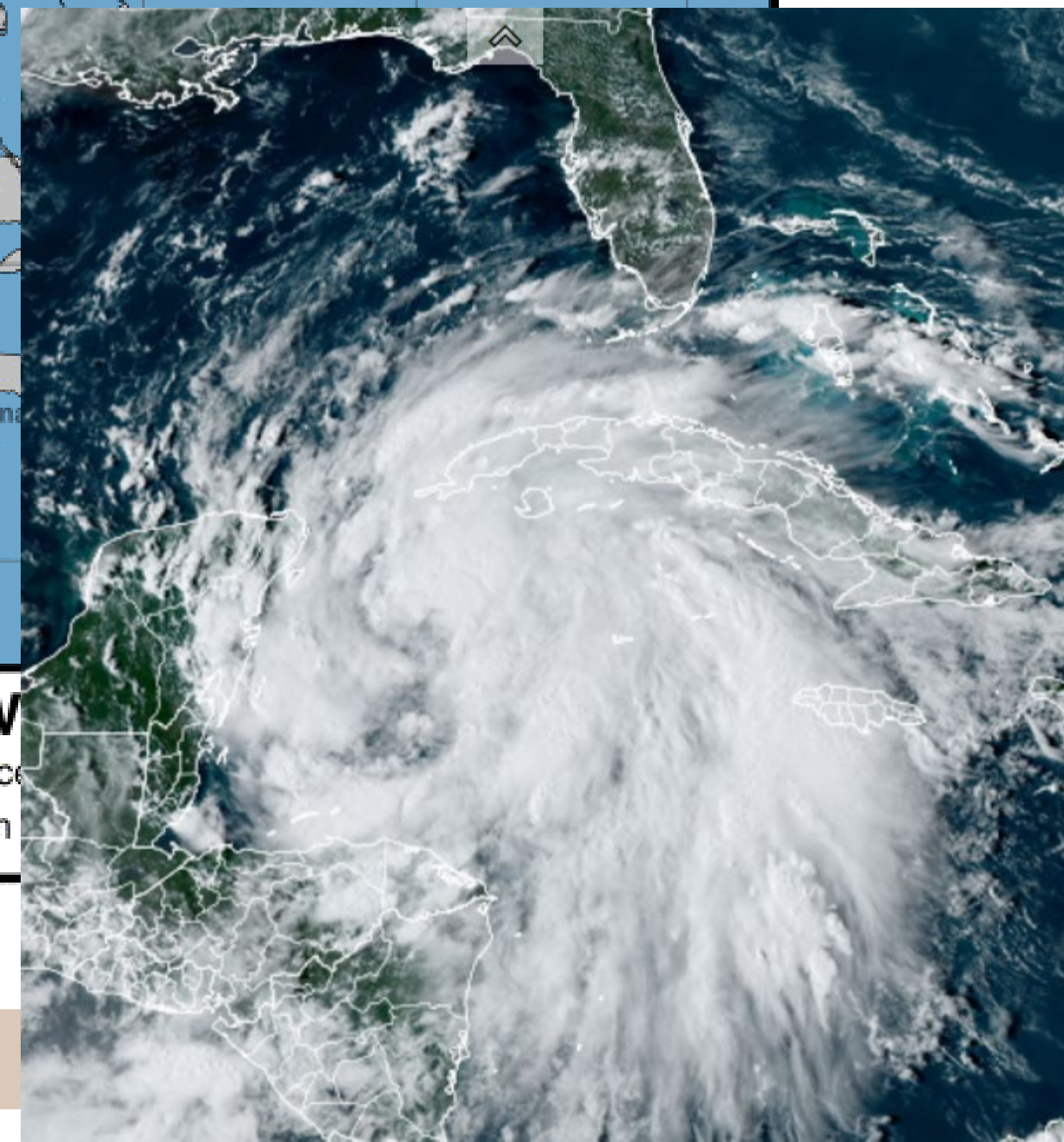


**...STORM SURGE AND HURRICANE WARNINGS ISSUED FOR THE GULF COAST OF FLORIDA...
...HELENE'S LARGE SIZE WILL LIKELY CAUSE AN EXTENSIVE AREA TO BE AFFECTED BY THE STORM'S HAZARDS...**

SUMMARY OF 500 PM EDT INFORMATION

LOCATION...19.7N 84.7W
ABOUT 135 NM ESE OF COZUMEL MEXICO
ABOUT 225 NM S OF WESTERN TIP OF CUBA
MAXIMUM SUSTAINED WINDS 45 KT
PRESENT MOVEMENT...WNW AT 11 KT

SIZE
34 KT.....150NE 150SE 0SW 0NW.
12 FT SEAS..120NE 150SE 0SW 0NW.
PEAK SEAS 15 FT



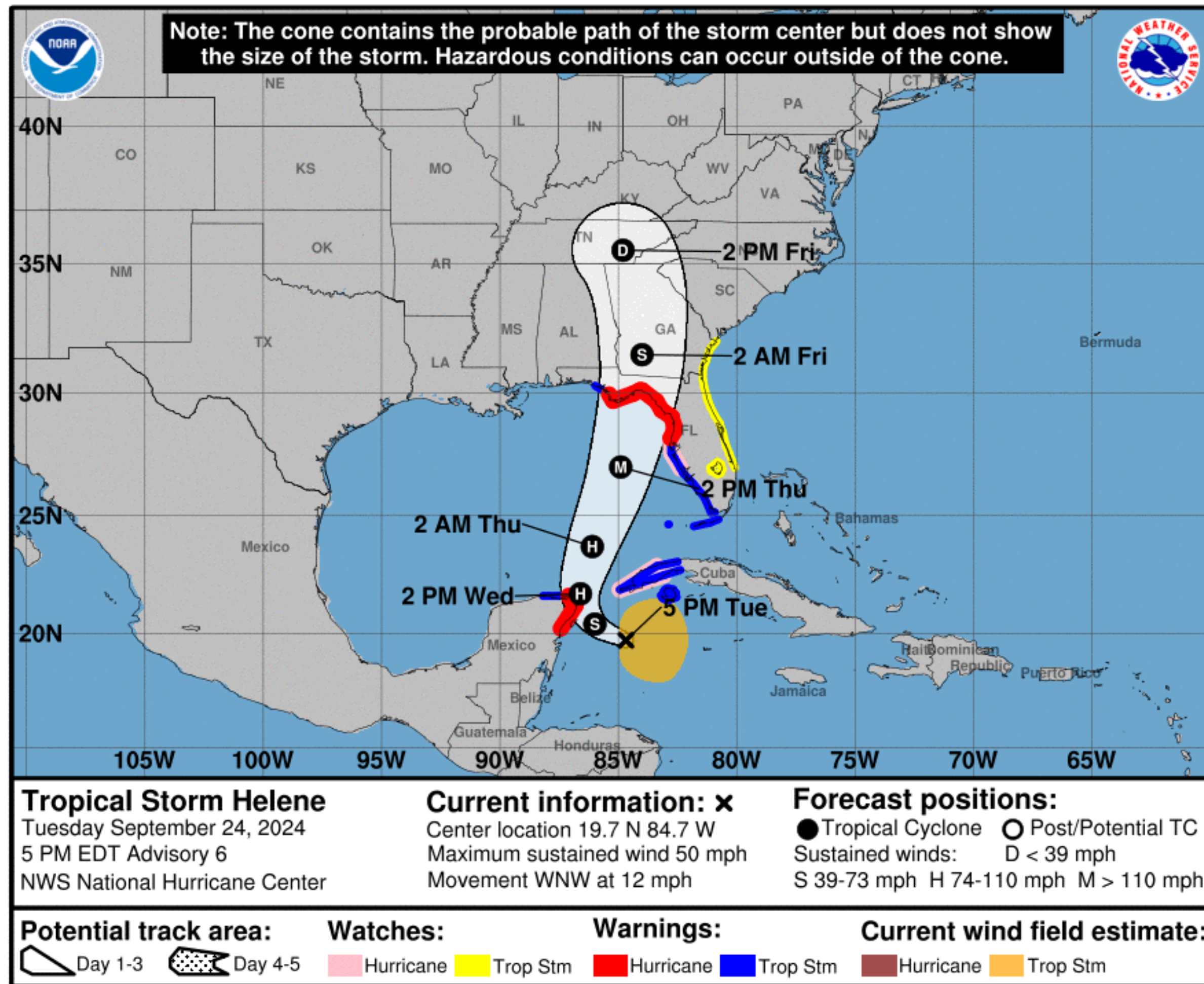
Warnings:
Storm Watch
Storm Watch
Hurricane Warning
Tropical Storm Warning
Sustained W
Hurricane Force
Tropical Storm

Forecast Information

Tropical Storm Helene



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

- **Helene will turn toward the north tomorrow, then accelerate north-northeastward on Thu**
- **The system is anticipated to intensify – perhaps rapidly - through Thu reaching Category 3 strength**
- **Helene should make landfall somewhere between Tampa Bay and Apalachicola 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 3 days illustrated by dots
- White swath of potential track error added to each side of the forecast track through day 3

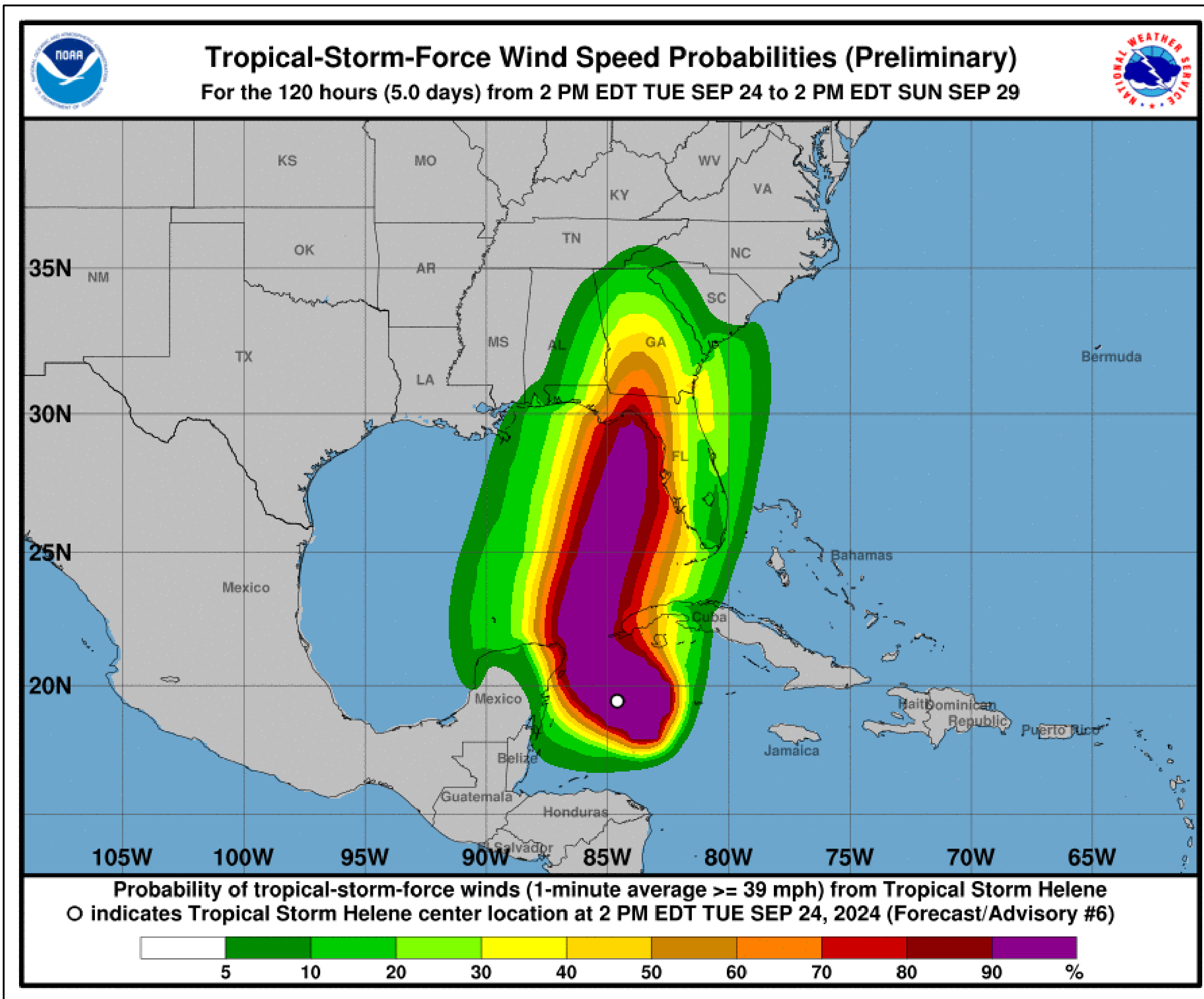
** Swaths are calculated using average track errors and actual track may be well inside, or possibly outside the potential track areas indicated.

T.S. Wind Speed Probabilities

Tropical Storm Helene



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- **MARATHON 25%**
- **KEY WEST FL 35%**
- **NAPLES 50%**
- **FT MYERS 30%**
- **VENICE 70%**
- **TAMPA FL 75%**
- **CEDAR KEY 85%**
- **ST MARKS 75%**
- **APALACHICOLA 80%**
- **PANAMA CITY 60%**
- **DESTIN 20%**
- **FT LAUDERDALE 15%**
- **W PALM BEACH 20%**
- **FT PIERCE 20%**
- **PATRICK AFB 30%**
- **COCOA BEACH 30%**
- **DAYTONA BEACH 20%**
- **JACKSONVILLE 30%**
- **MAYPORT 50%**
- **KINGS BAY 50%**
- **SAVANNAH 15%**
- **CHARLESTON 15%**

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

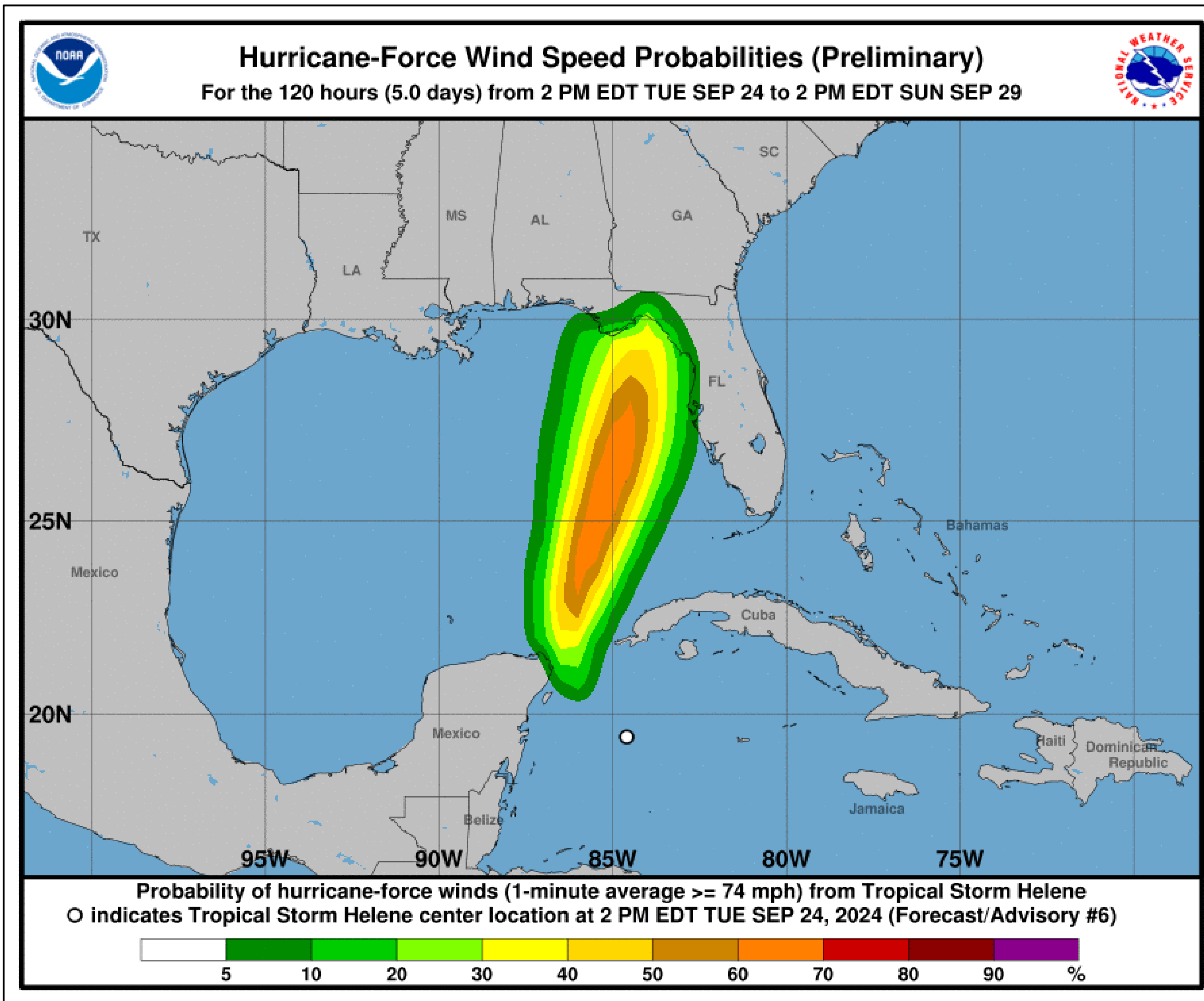
- Probabilities of sustained tropical storm force winds (34 kt to 63 kt) over the next 5 days, based off this cyclone's wind radii and track.
- Clear or dark green are the lowest chances of 0-30%. Yellow to orange is 31-70%. Red through purple are the highest probabilities of 71%-100%.

Hurricane Wind Speed Probabilities



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Tropical Storm Helene



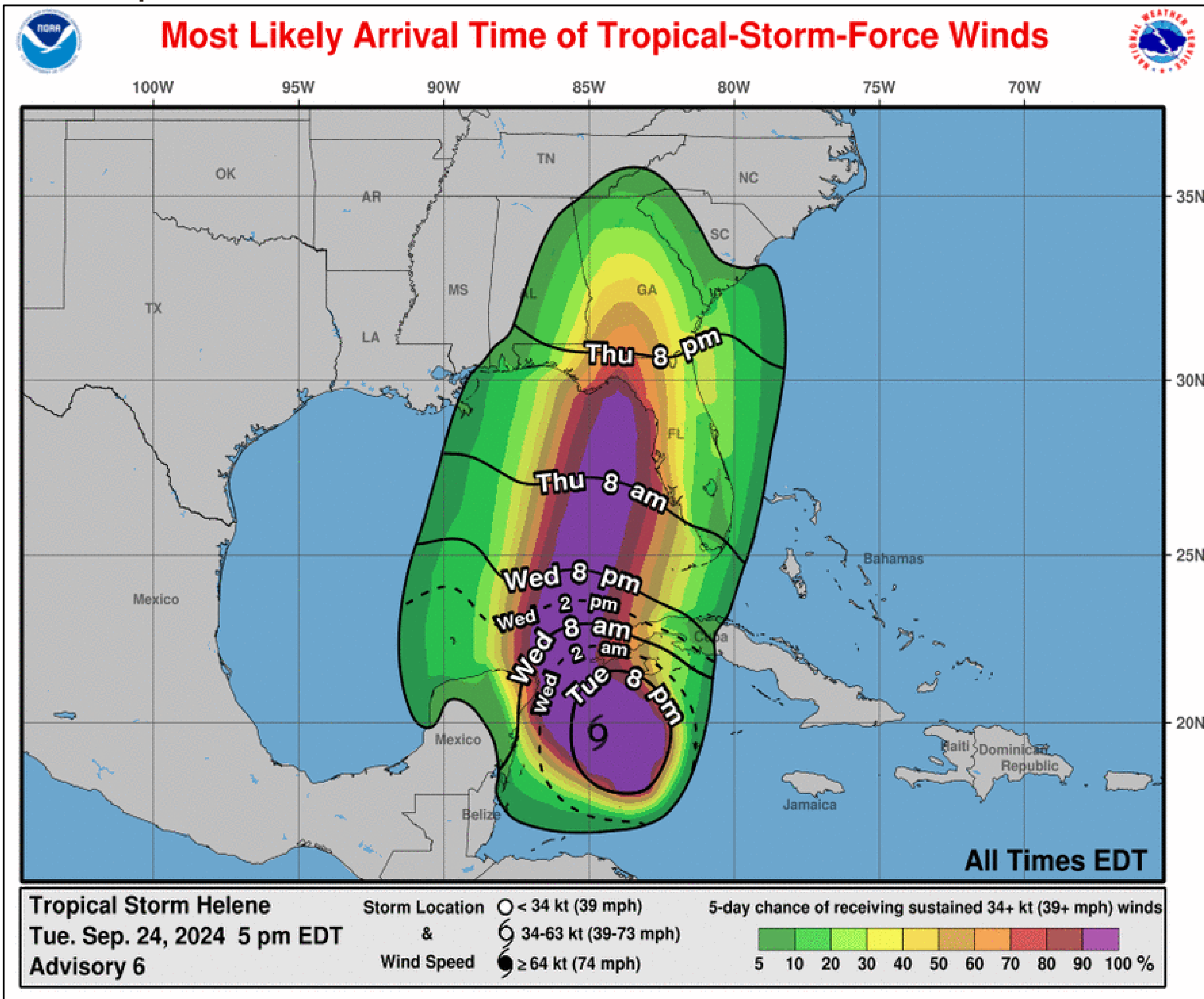
- VENICE 5%
- TAMPA FL 10%
- CEDAR KEY FL 20%
- **ST MARKS 10%**
- **APALACHICOLA 25%**
- **PANAMA CITY FL 15%**

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%



Tropical Storm Helene



- **FL Keys/SW Florida – Early Thu morning**
- **Tampa – Late 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.

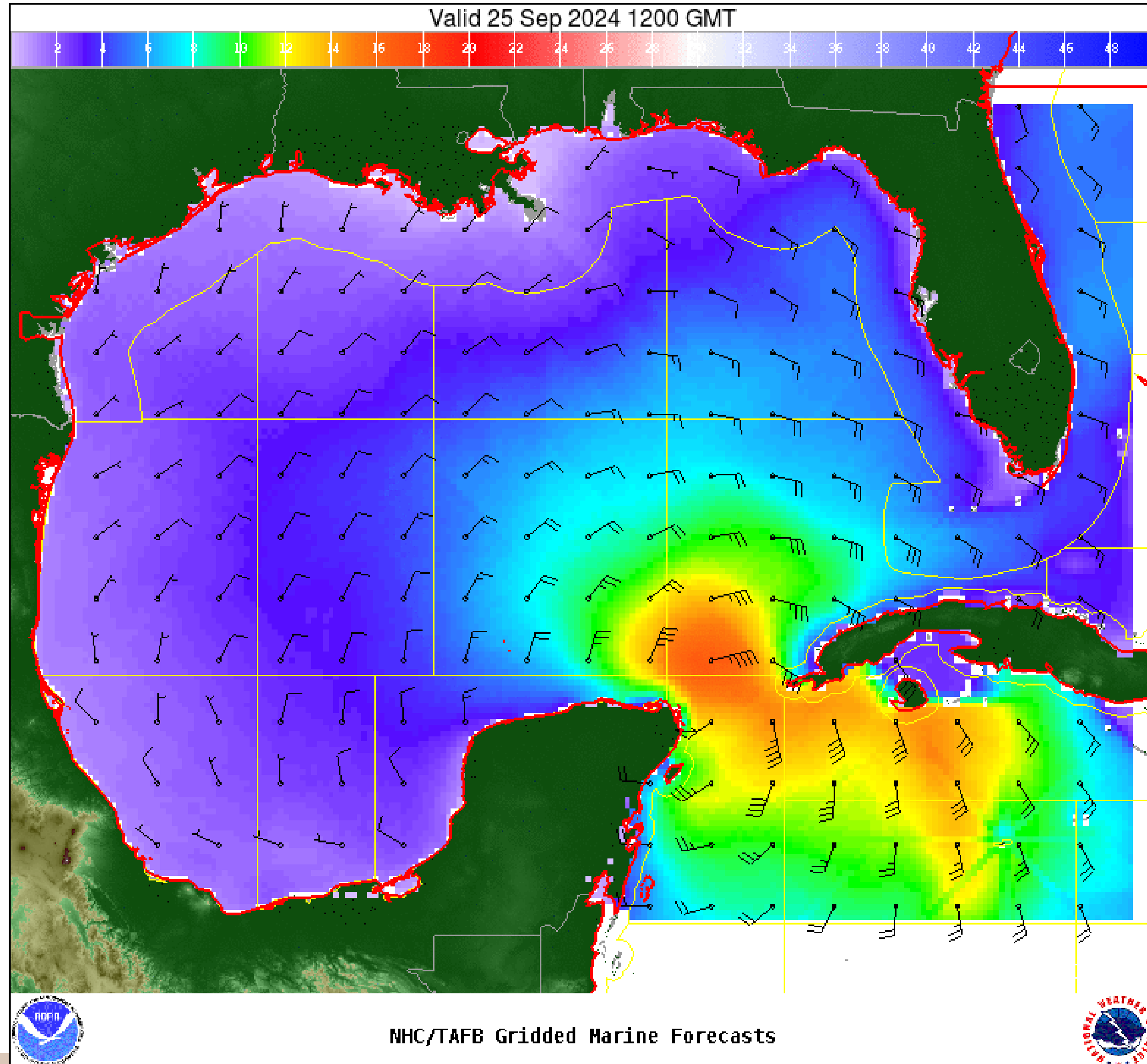
- Clear or dark green are the lowest chances of 0-30%. Yellow to orange is 31-70%. Red through purple are the highest probabilities of 71%-100%

Wind And Waves

Tropical Storm Helene



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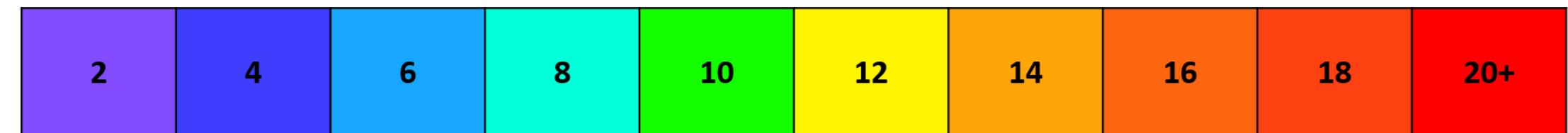
18 Hour Forecast

8am EDT, Wednesday, September 24th

Peak Winds: 60 kt

Peak Seas: 18 ft

■ Wave heights are in feet



Significant Wave Height (ft)

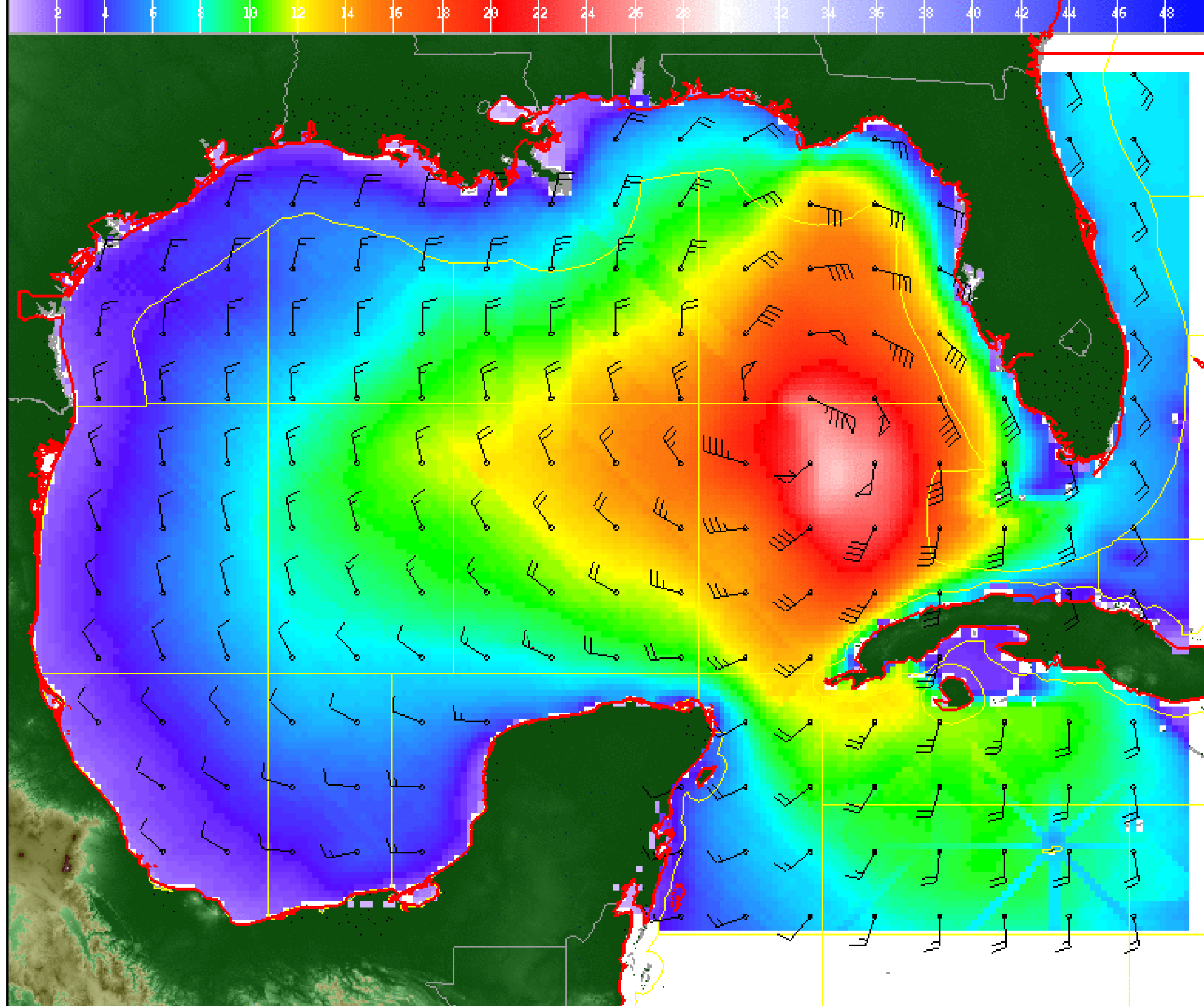
Wind And Waves

Tropical Storm Helene



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Valid 26 Sep 2024 1200 GMT



NHC/TAFB Gridded Marine Forecasts

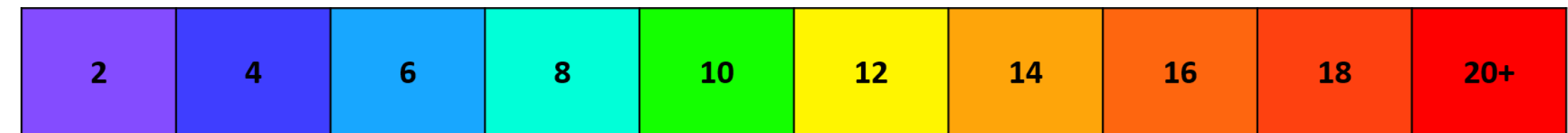
42 Hour Forecast

8am EDT, Thursday, September 26th

Peak Winds: 90 kt

Peak Seas: 30 ft

■ Wave heights are in feet



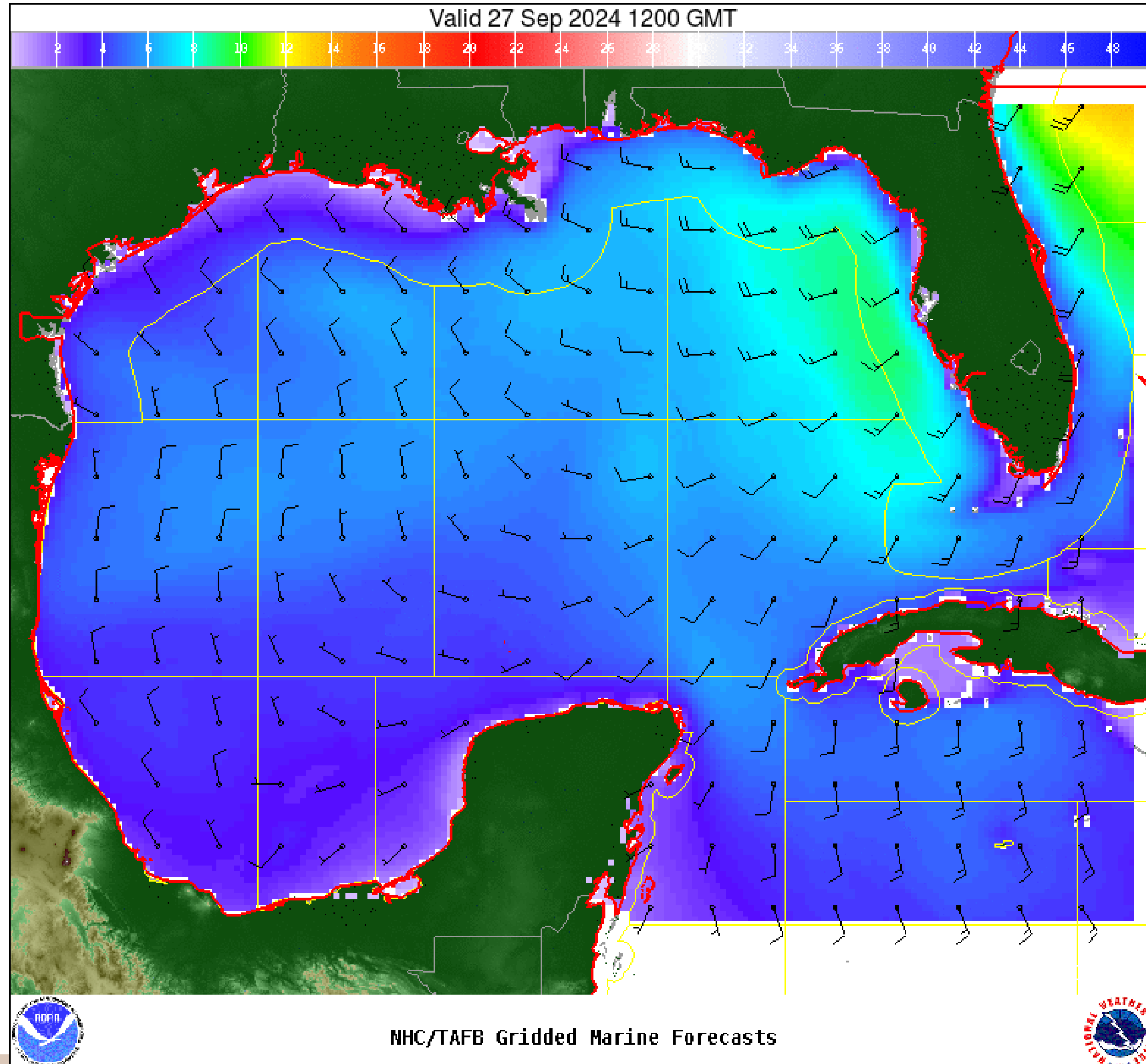
Significant Wave Height (ft)

Wind And Waves

Tropical Storm Helene



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66 Hour Forecast

8am EDT, Friday, September 27th

Peak Winds: 25 kt (over the Gulf)

Peak Seas: 10 ft (over the Gulf)

■ Wave heights are in feet



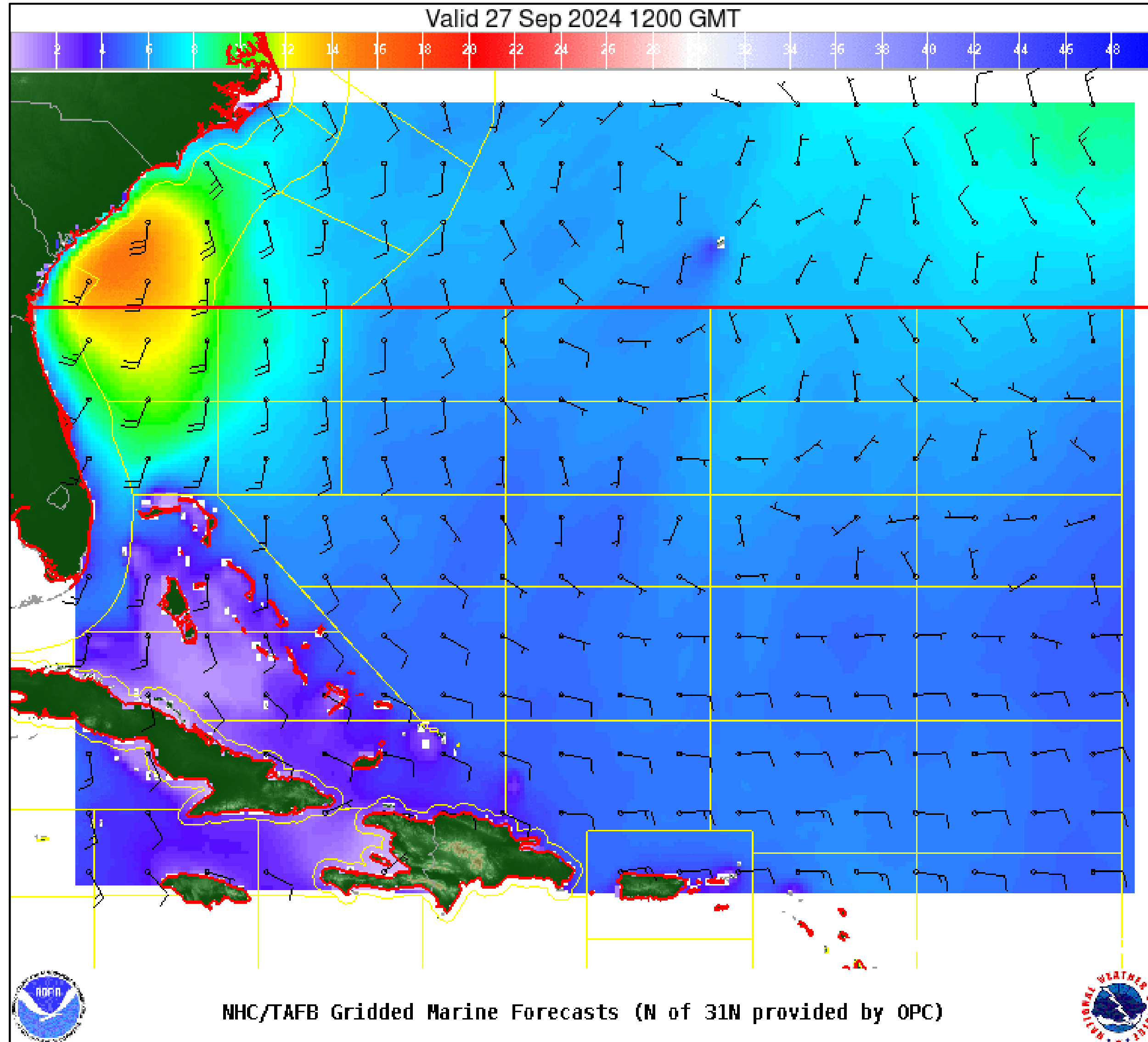
Significant Wave Height (ft)

Wind And Waves

Tropical Storm Helene



Tropical Analysis and Forecast Branch
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66 Hour Forecast

8am EDT, Friday, September 27th

Peak Winds: 35 kt (over the Atlantic)

Peak Seas: 15 ft (over the Atlantic)

■ Wave heights are in feet



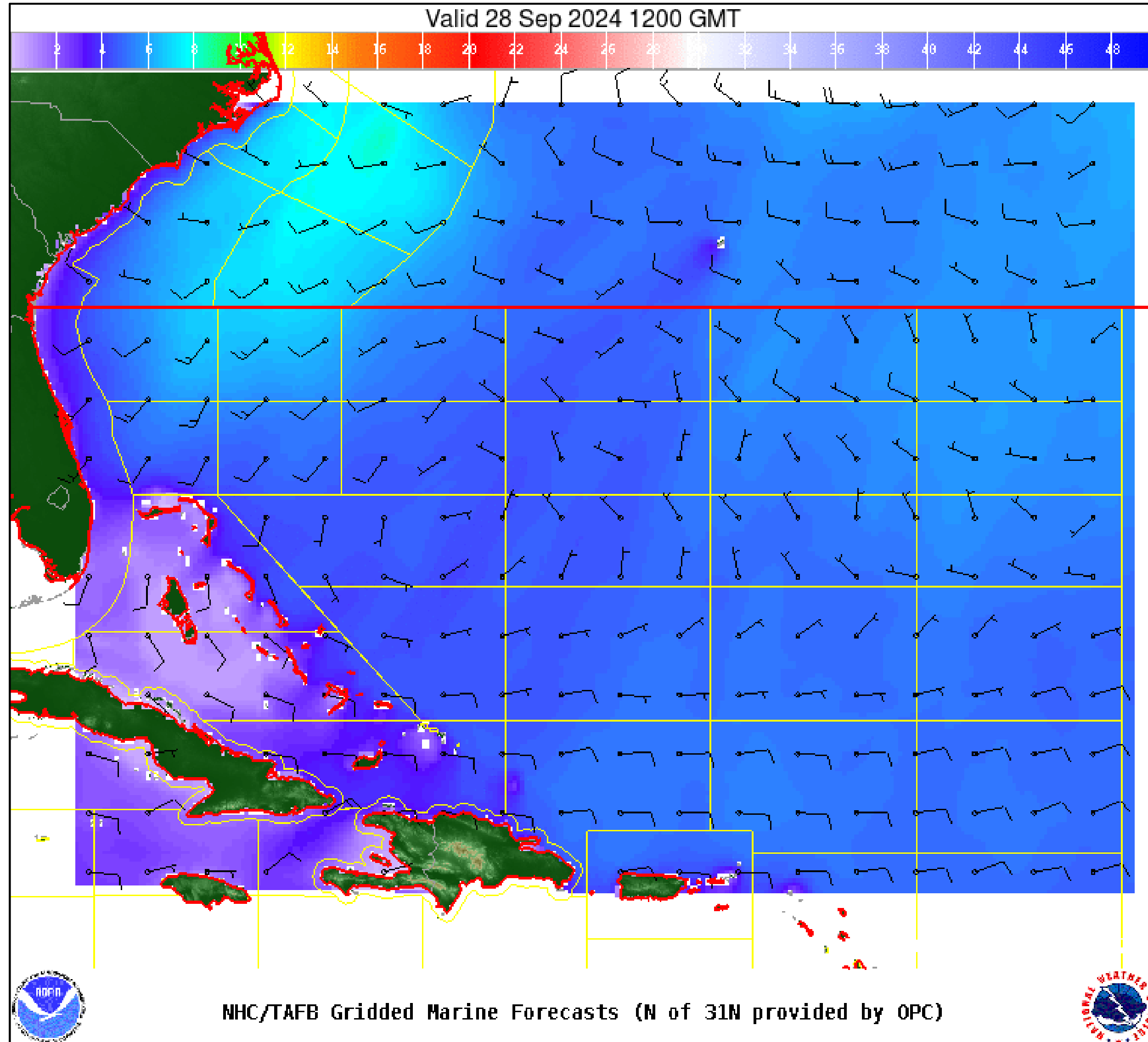
Significant Wave Height (ft)

Wind And Waves

Tropical Storm Helene



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90 Hour Forecast

8am EDT, Saturday, September 28th

Peak Winds: 10 kt (over the Atlantic)

Peak Seas: 6 ft (over the Atlantic)

■ Wave heights are in feet



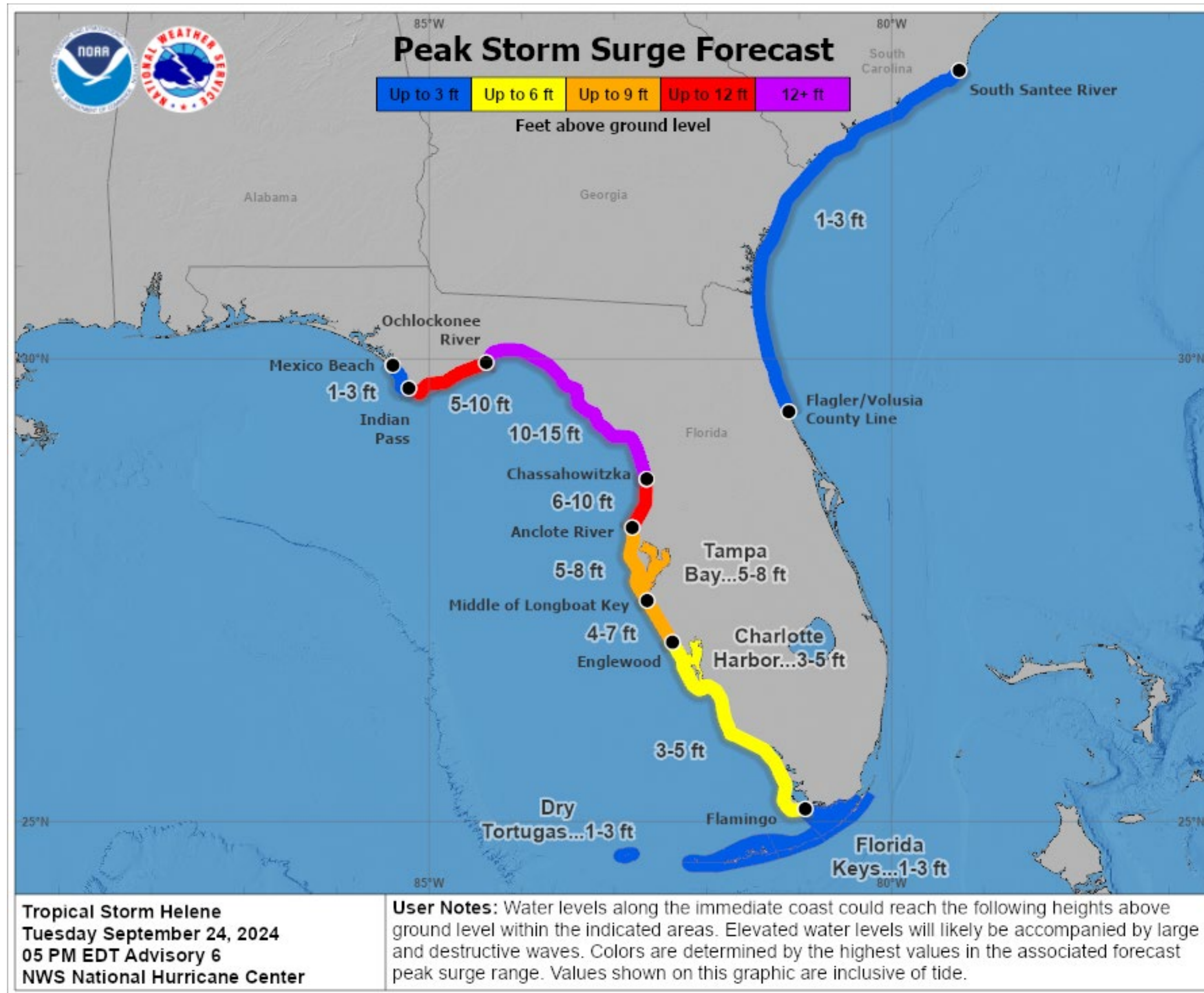
Significant Wave Height (ft)

Potential Peak Storm Surge / Watches and Warnings



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Tropical Storm Helene



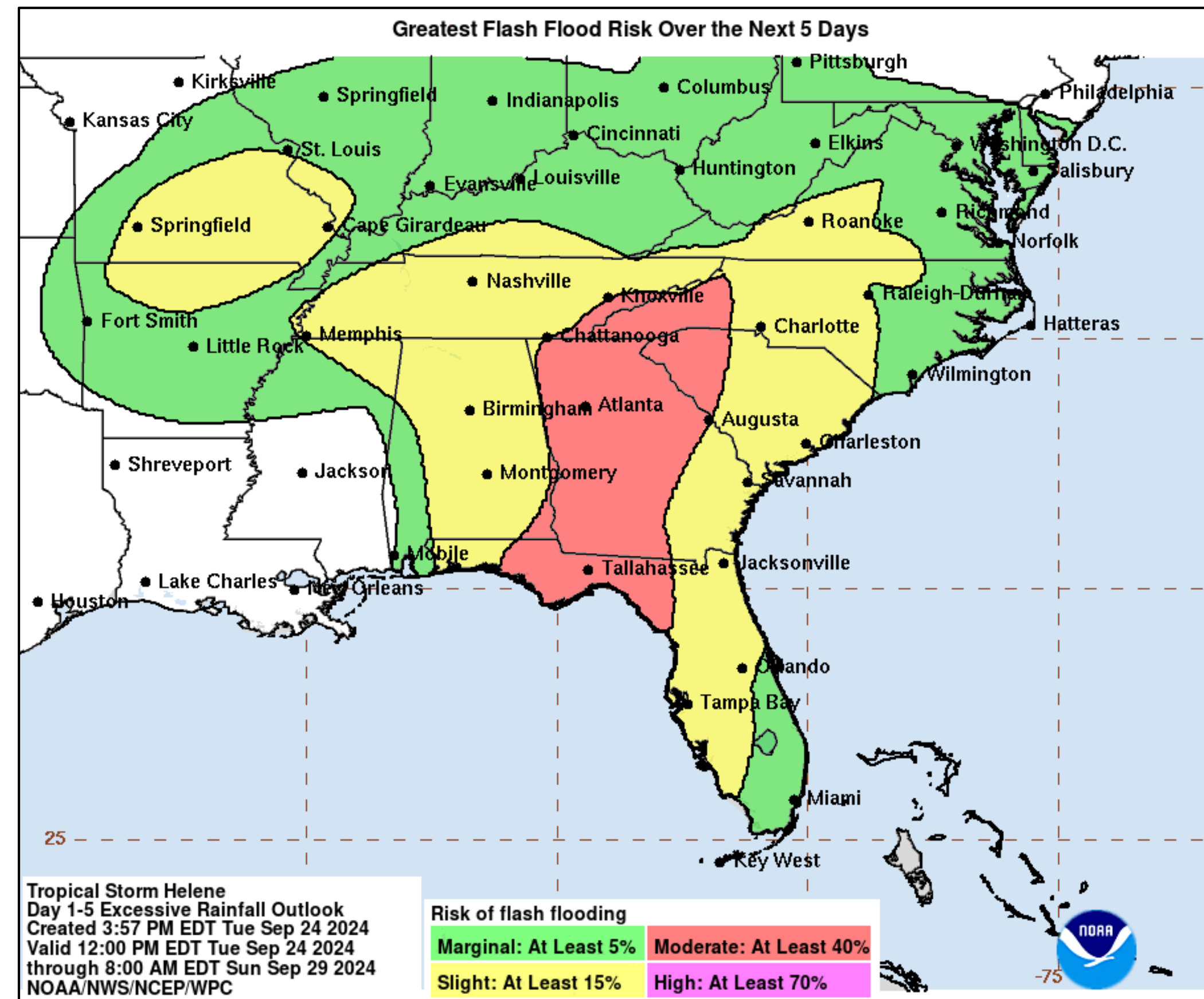
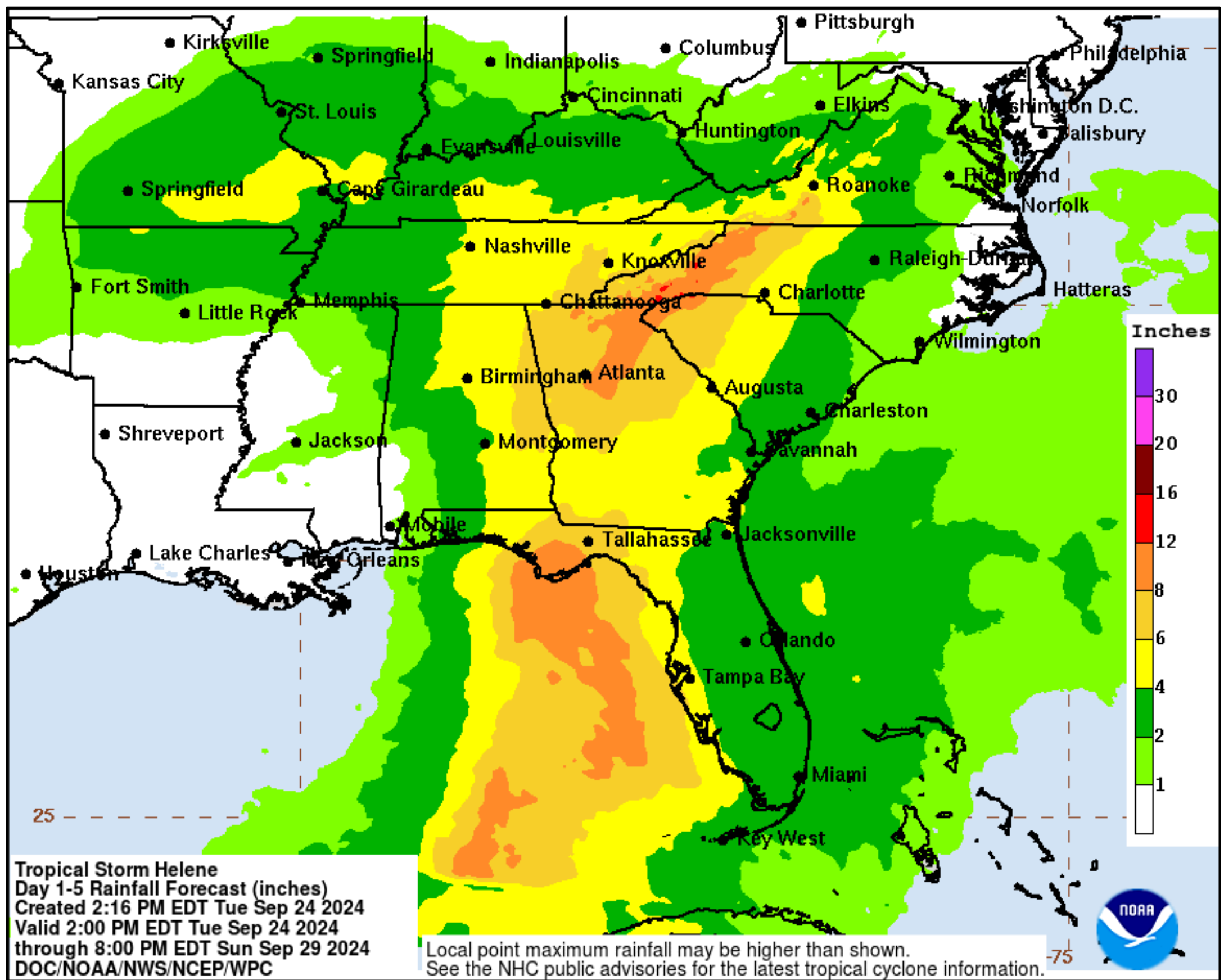
Expected Storm Total Rainfall and Chance of Rainfall Flooding



Tropical Analysis and Forecast Branch
NWS National Hurricane Center

Tropical Storm Helene

Images from NWS Weather Prediction Center



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

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

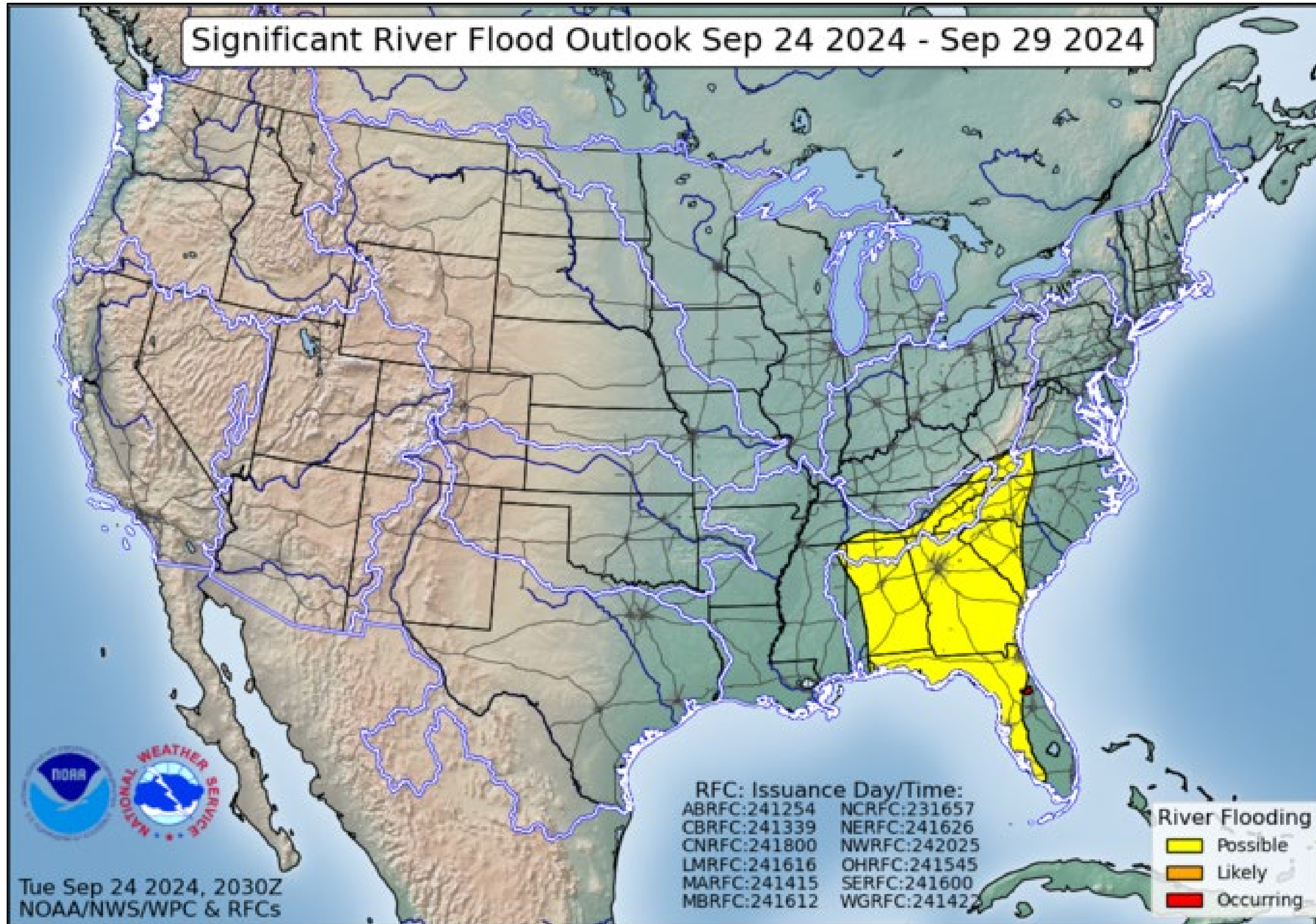
■ Rainfall expected through Sun night

Flood Outlook

Tropical Storm Helene



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

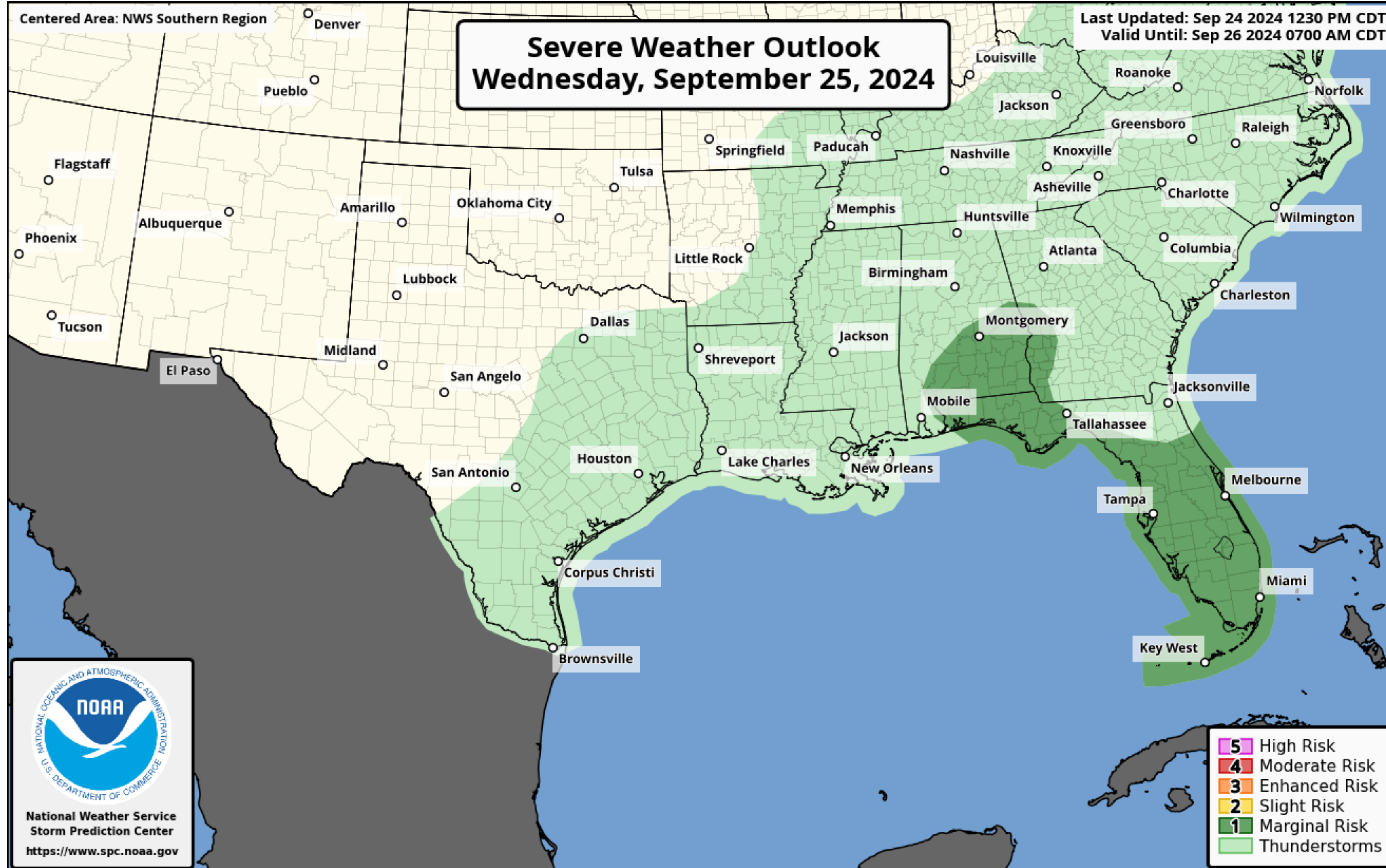
Tornado Outlook – Day 2

Tropical Storm Helene

Image from NWS Storm Prediction Center



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NWS National Hurricane Center



Marginal Risk of
Tornadoes in FL and AL
on Wed

Key Messages

Tropical Storm Helene



Tropical Analysis and Forecast Branch
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Key Messages for Tropical Storm Helene

Advisory 6: 5:00 PM EDT Tue Sep 24, 2024

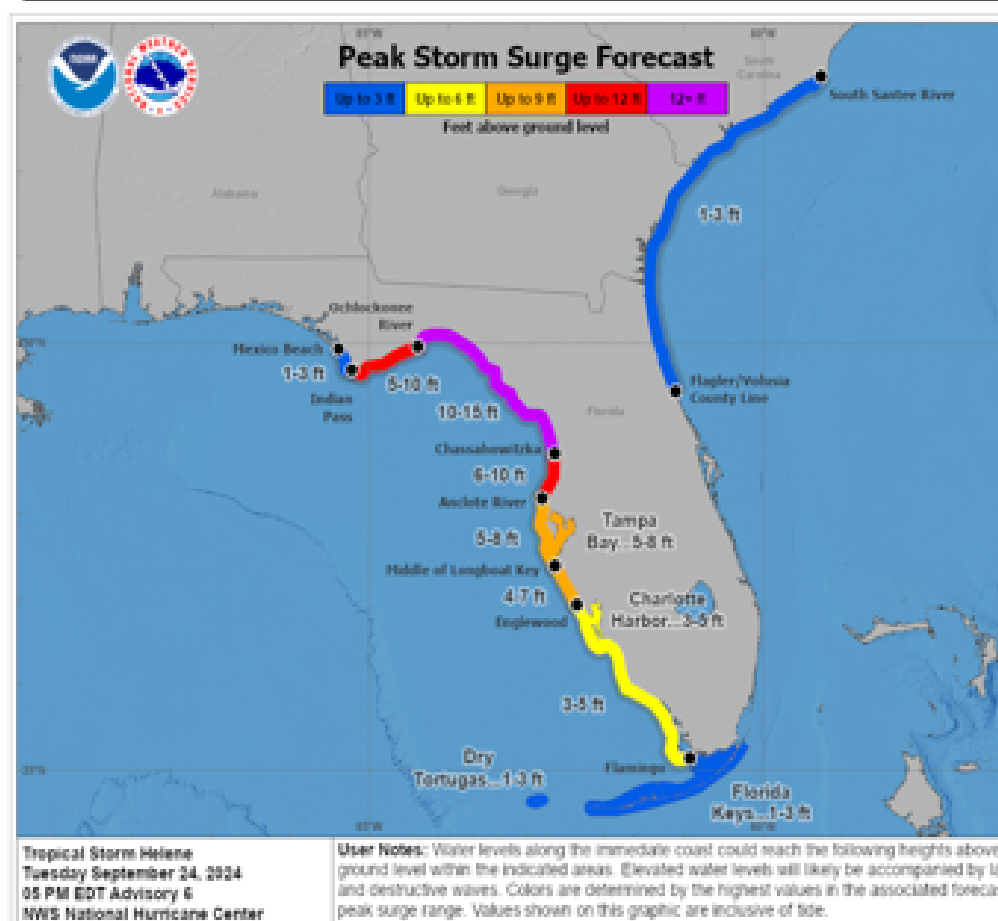
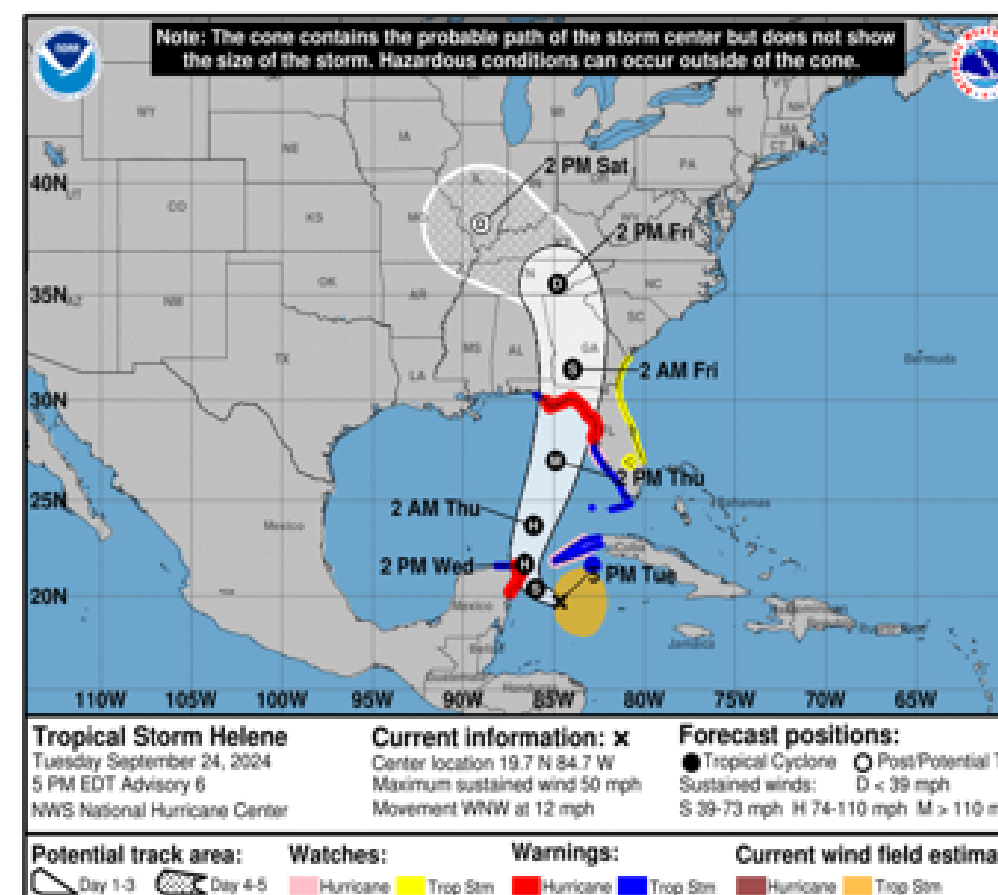


1. Helene is forecast to intensify and be near hurricane strength when it passes near the northeastern coast of the Yucatan Peninsula on Wednesday, where a Hurricane Warning is in effect.

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 complete by early Thursday since tropical storm conditions are expected to begin within this area on Thursday.

4. Helene will bring heavy rain to portions of the western Caribbean with potentially significant flooding and mudslides across western Cuba. Considerable flash and urban flooding is expected across portions of Florida, the Southeast, southern Appalachians, and the Tennessee Valley Wednesday 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.



For more information go to hurricanes.gov

IMPACTS FOR D7

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Winds/SRR – Extreme

Waves/US Coastal – Extreme

Waves/SRR – Extreme

US Storm Surge – Extreme

US Rainfall/Flash Flooding – High

US Tornadoes – Low

through next 5 days

Marine Key Messages:

- Conditions will rapidly deteriorate in the SE Gulf tomorrow
- Seas to peak in the E Gulf near 30 ft on Thu
- 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

This briefing was prepared by:

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TIME of NEXT NHC Advisory:

3 UTC: 11 PM EDT / 10 PM CDT

The Next Briefing Will Be:

Wednesday 9:00 AM EDT

You can always find get the latest graphics and information for this storm at www.hurricanes.gov



NHC_TAFB

www.nhc.noaa.gov