

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

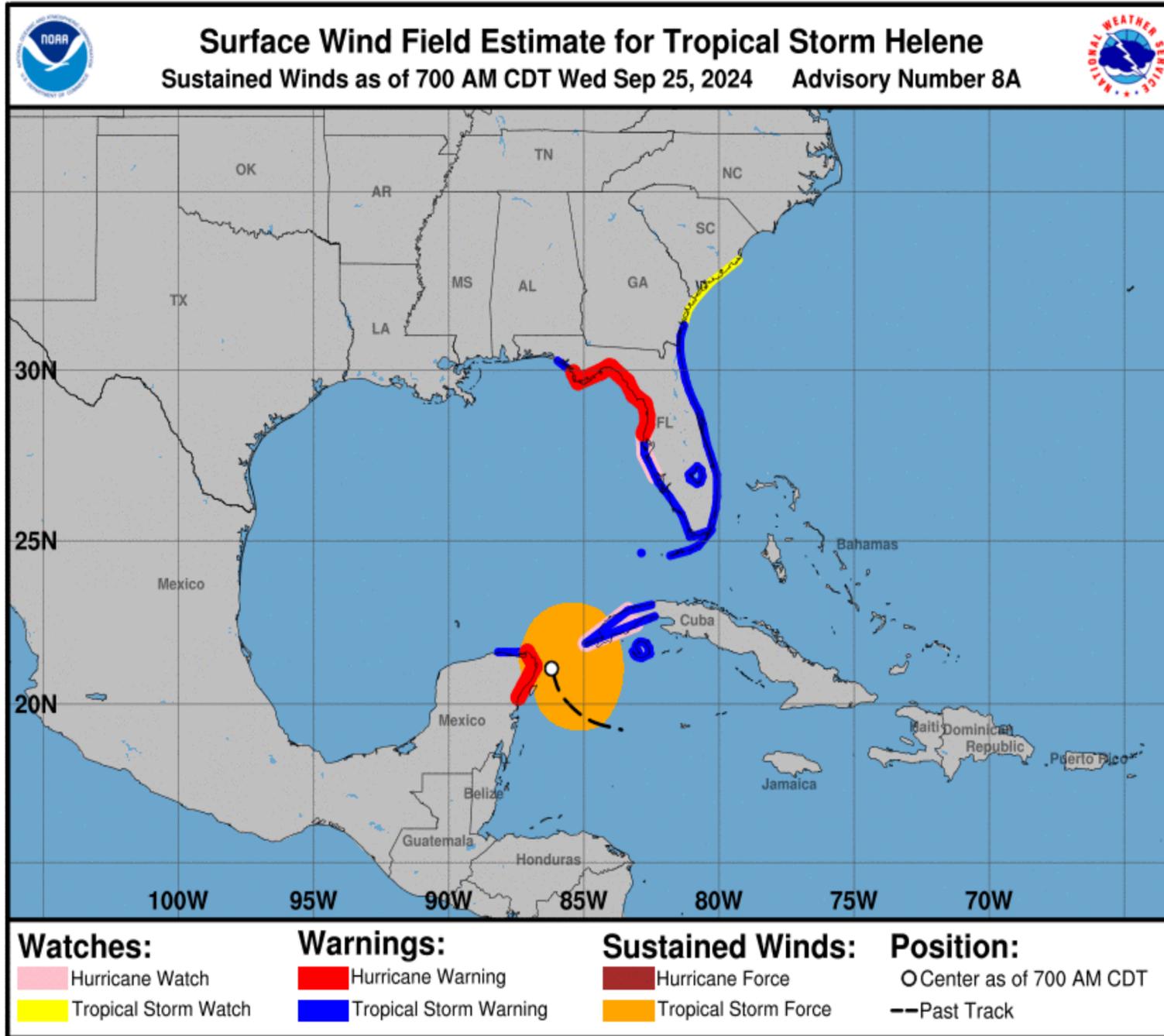


Situation Overview

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.

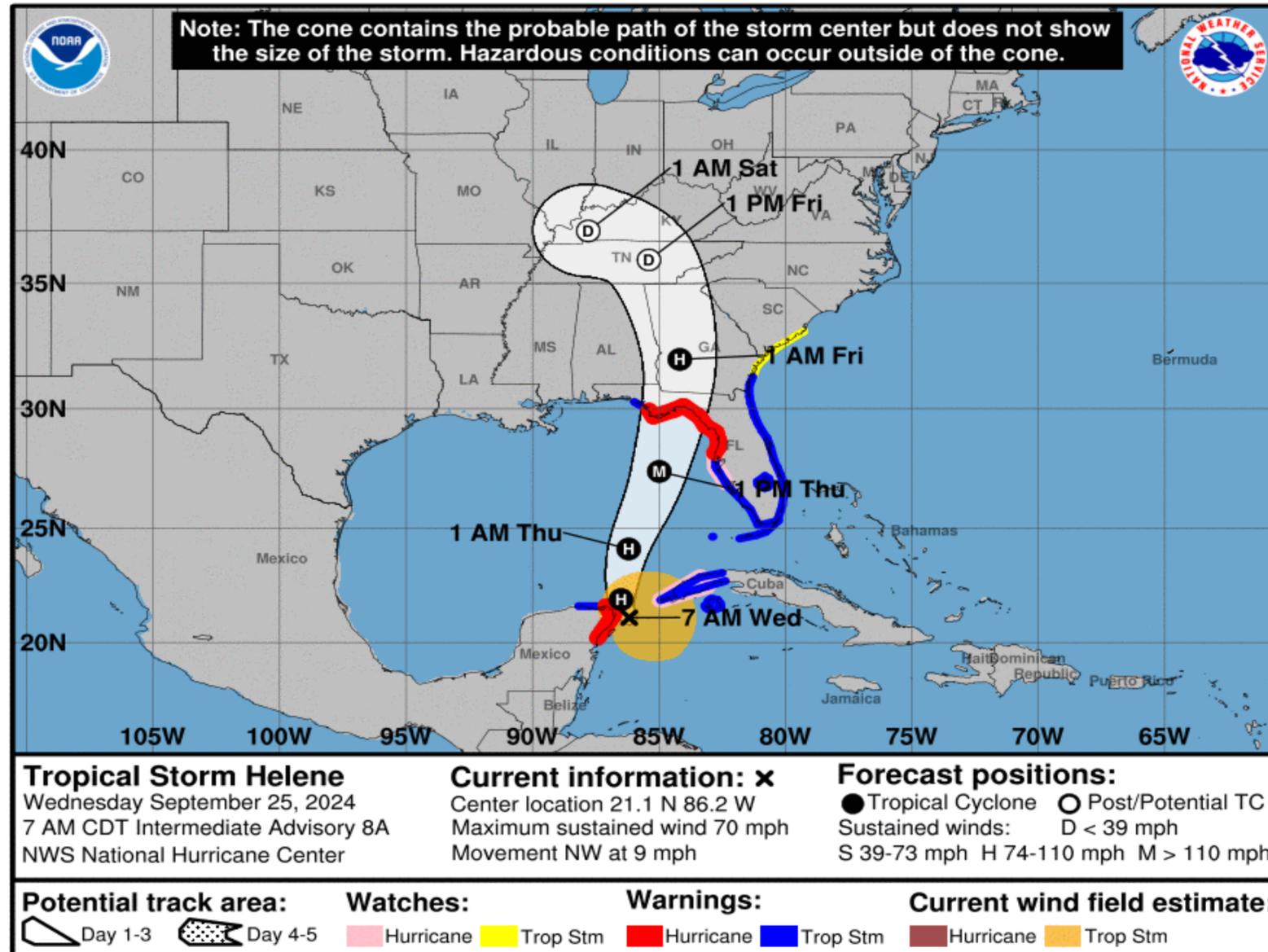
**Tropical-storm-force winds extend outward up to
150 nm from the center.**

Forecast Information

Tropical Storm Helene



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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



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- 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

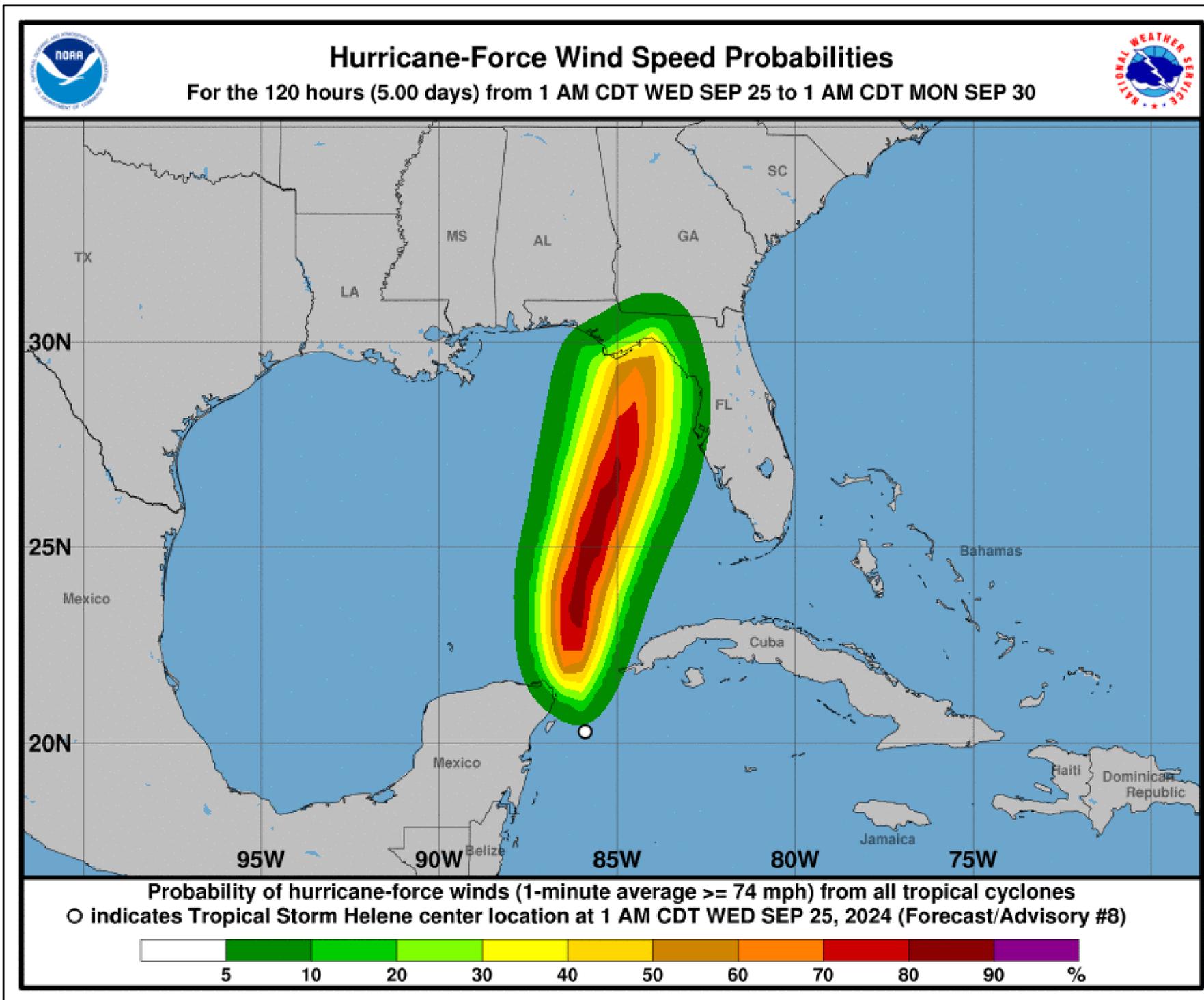
- Probabilities of sustained tropical storm force winds (34 kt to 63 kt) over the next 5 days, based off this cyclone's wind radii and track.
- Clear or dark green are the lowest chances of 0-30%. Yellow to orange is 31-70%. Red through purple are the highest probabilities of 71%-100%.

Hurricane Wind Speed Probabilities



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NWS National Hurricane Center

Tropical Storm Helene



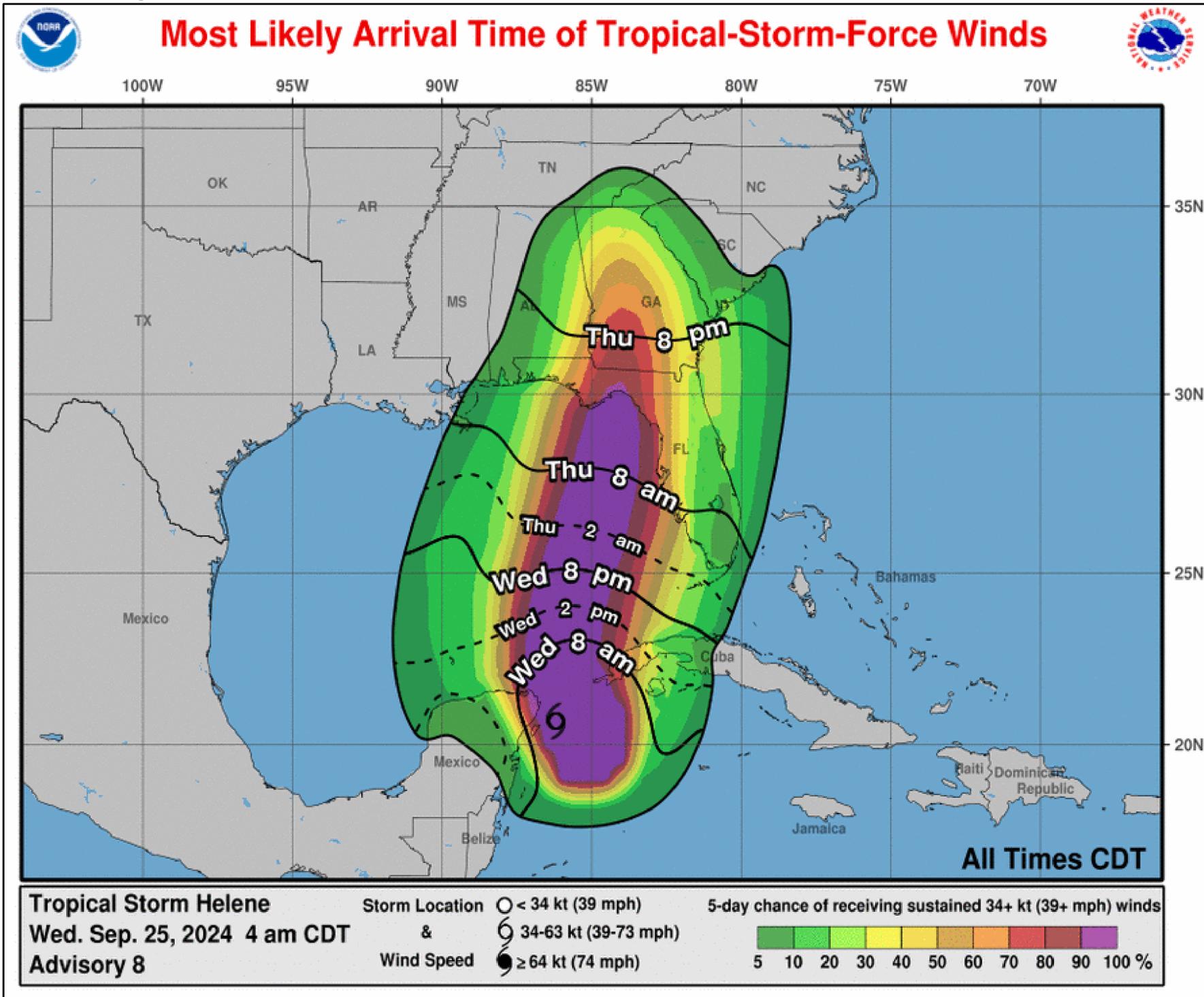
- **CEDAR KEY FL 15%**
- **ST MARKS 17%**
- **APALACHICOLA 45%**
- **PANAMA CITY FL 22%**

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



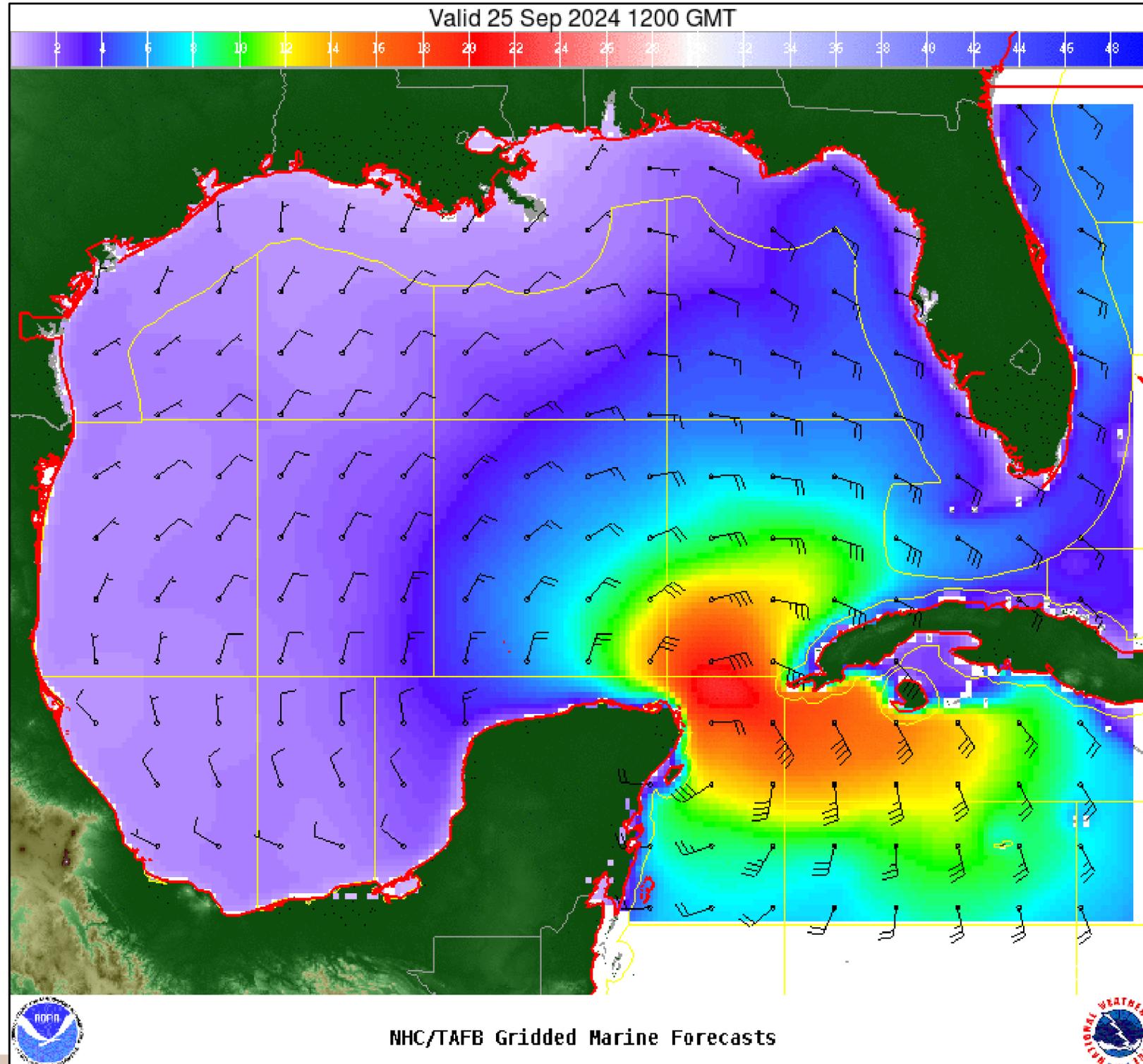
- **FL Keys/SW Florida –late night tonight/early Thu morning.**
- **Tampa –Thu morning.**
- **Big Bend/FL Panhandle – Thu afternoon.**
- **NE Florida/Georgia –Thu late afternoon.**
- The most likely time of arrival of Tropical Storm Force Winds (34kt to 63 kt) for this cyclone based off the current track 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



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Current Conditions

Wednesday, September 25 at 8:00 AM EDT

Peak Winds: 60 kt

Peak Seas: 23 ft

■ Wave heights are in feet



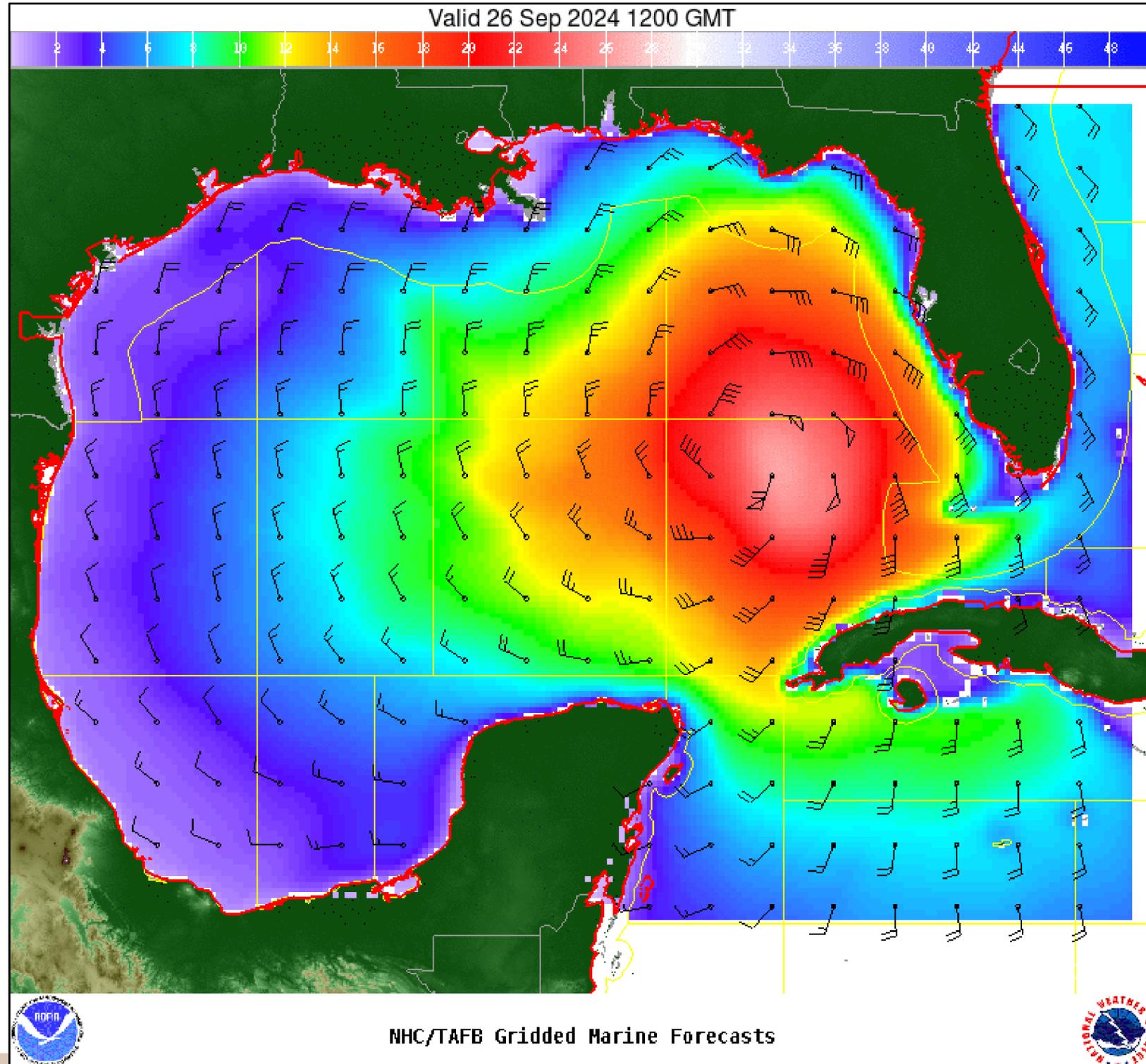
Significant Wave Height (ft)

Wind And Waves

Tropical Storm Helene



Tropical Analysis and Forecast Branch
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24 Hour Forecast

Thursday, September 26 at 8:00 AM EDT

Peak Winds: 95 kt

Peak Seas: 30 ft

■ Wave heights are in feet



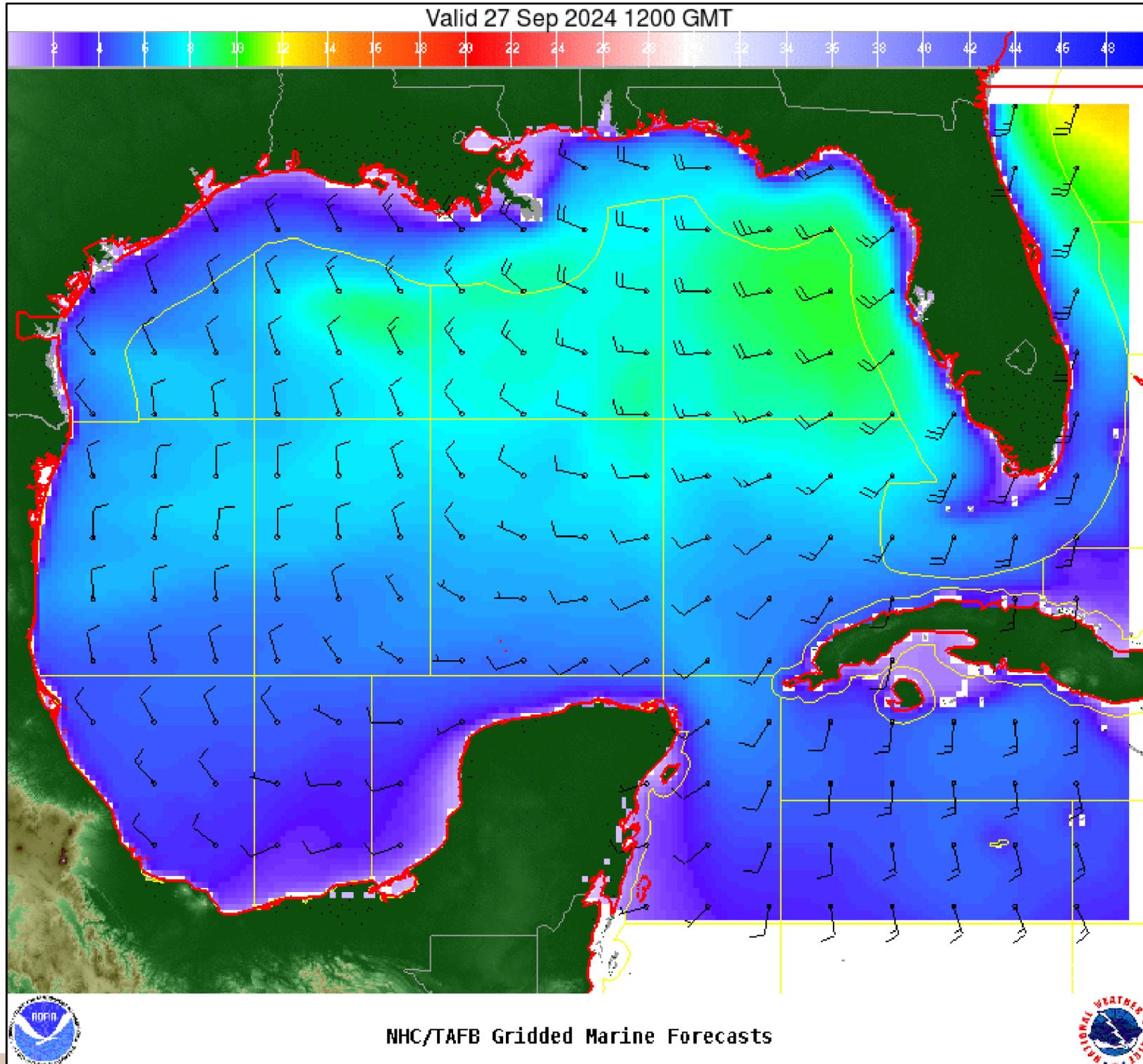
Significant Wave Height (ft)

Wind And Waves

Tropical Storm Helene



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48 Hour Forecast

Friday, September 27 at 8:00 AM EDT

Peak Winds: 25 kt

Peak Seas: 11 ft

■ Wave heights are in feet



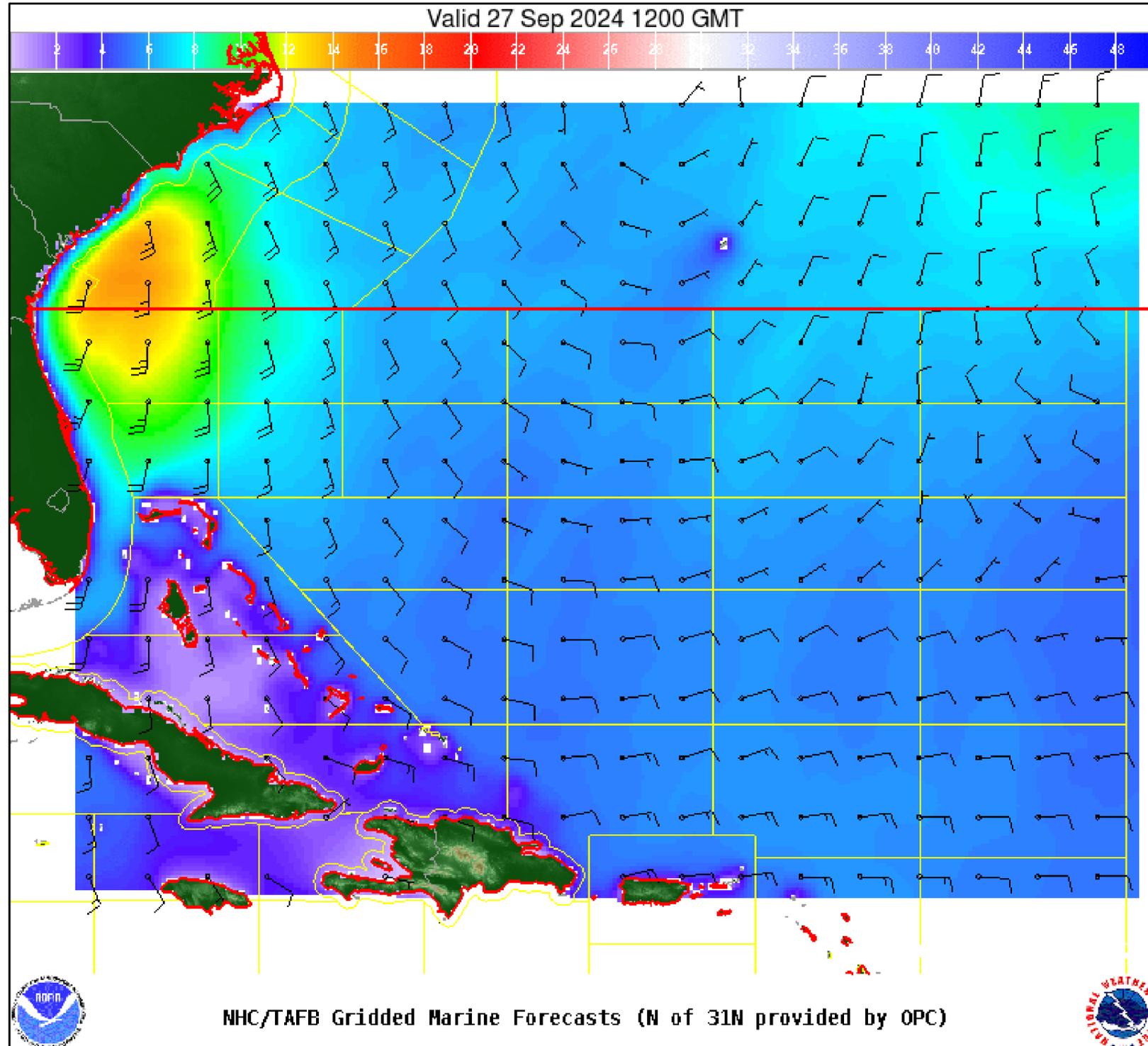
Significant Wave Height (ft)

Wind And Waves

Tropical Storm Helene



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48 Hour Forecast

Friday, September 27 at 8:00 AM EDT

Peak Winds: 30 kt

Peak Seas: 15 ft

■ Wave heights are in feet



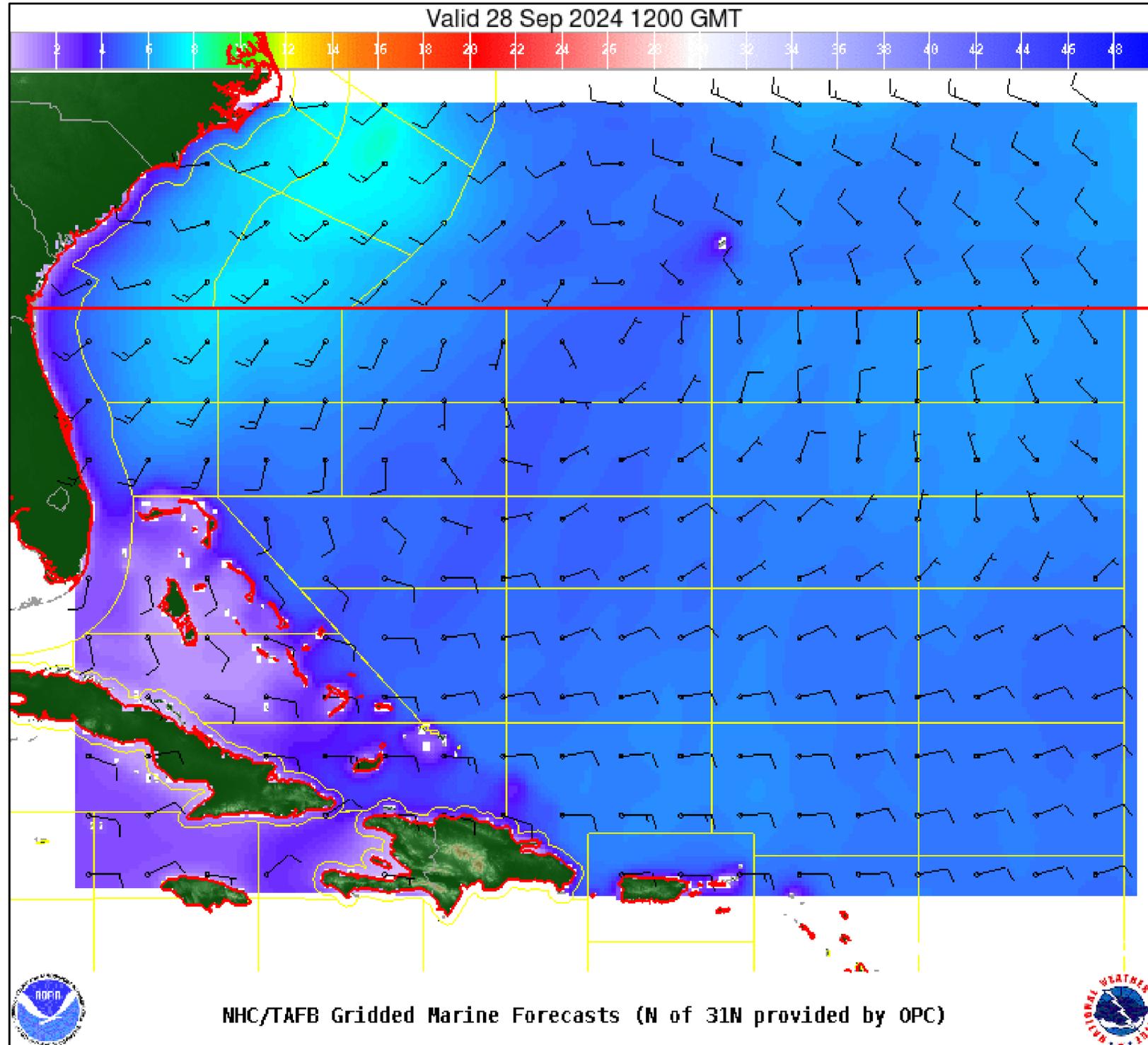
Significant Wave Height (ft)

Wind And Waves

Tropical Storm Helene



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72 Hour Forecast

Saturday, September 28 at 8:00 AM EDT

Peak Winds: 15 kt

Peak Seas: 8 ft

■ Wave heights are in feet



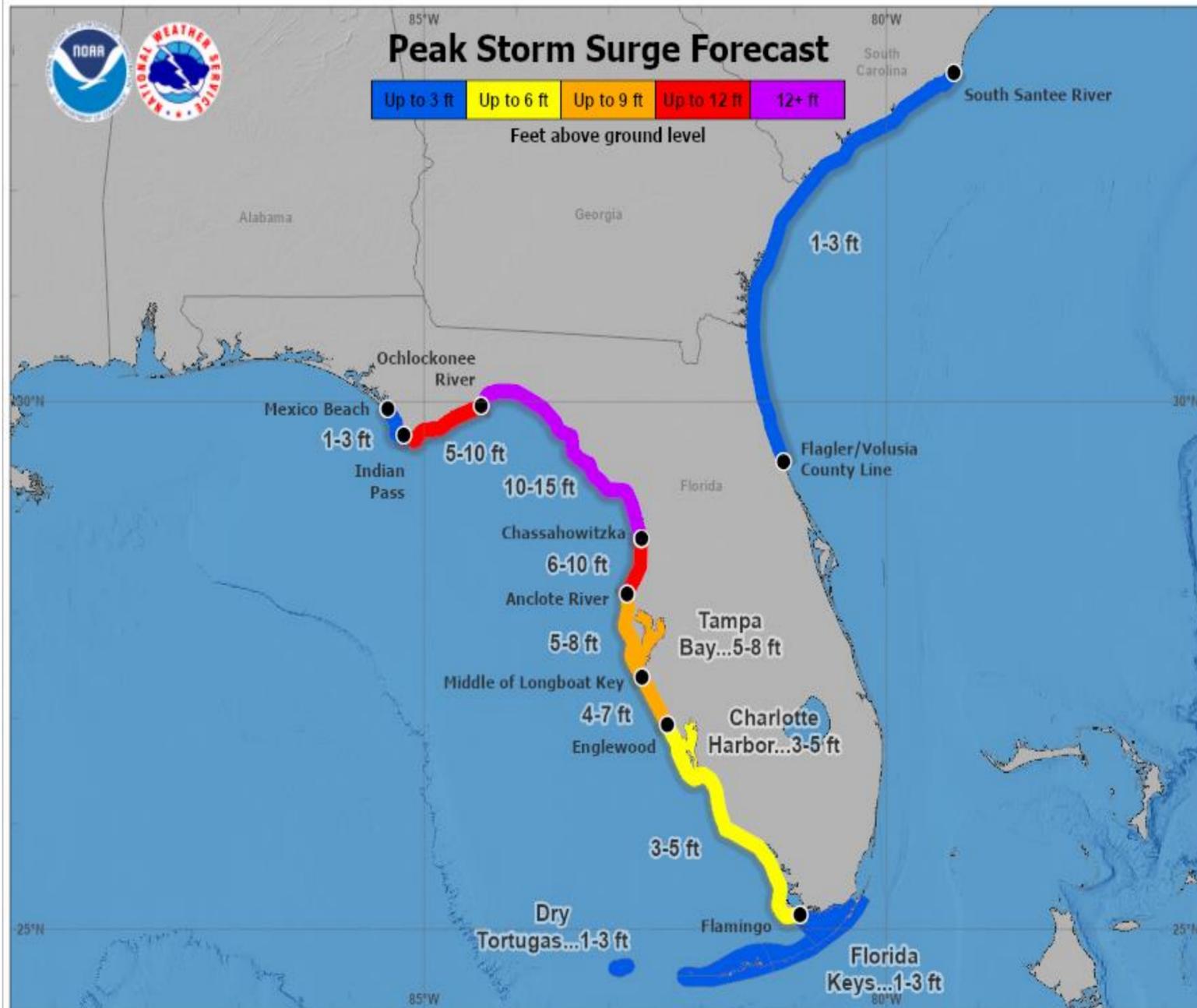
Significant Wave Height (ft)

Potential Peak Storm Surge / Watches and Warnings



Tropical Analysis and Forecast Branch
NWS National Hurricane Center

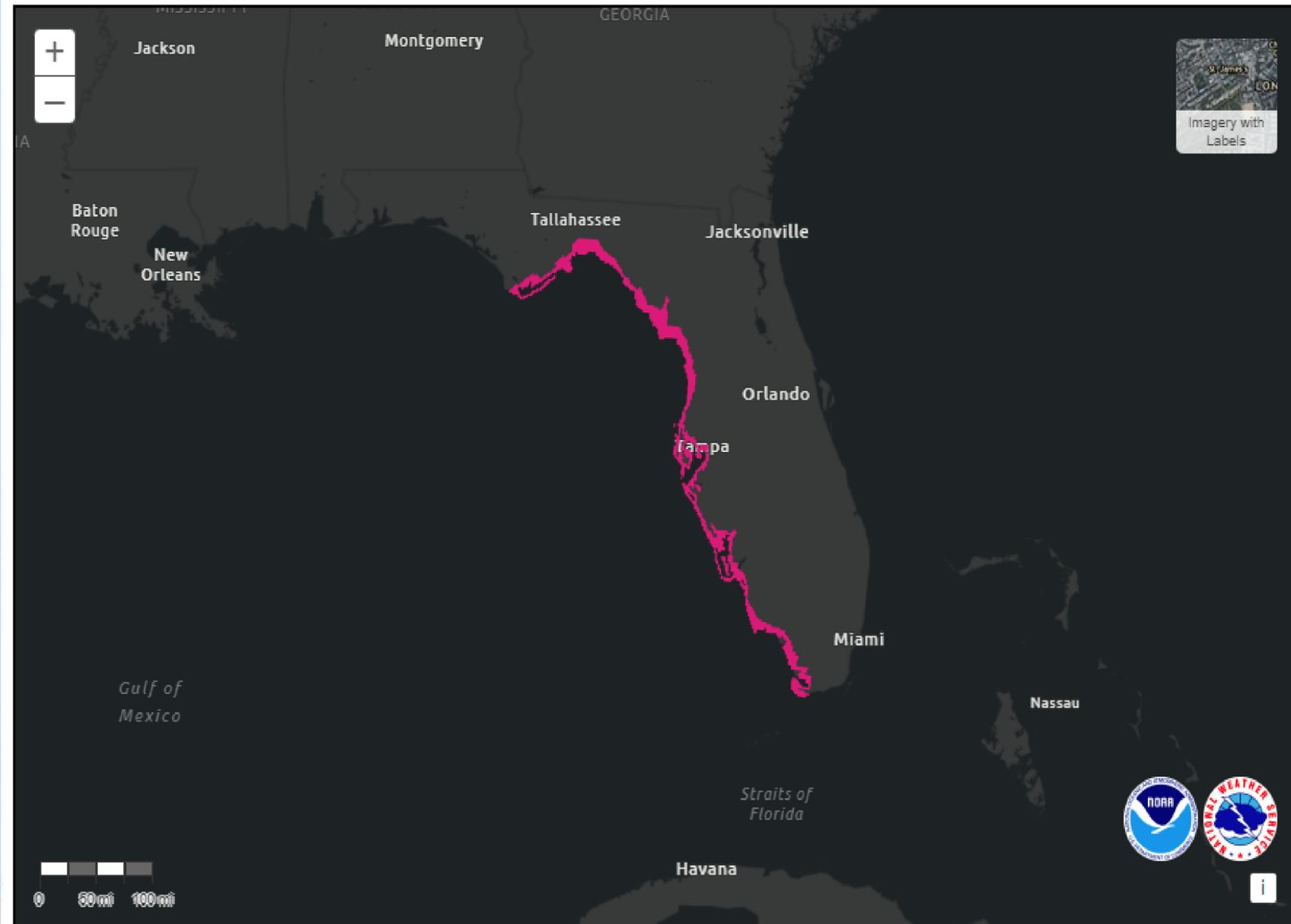
Tropical Storm Helene



Tropical Storm Helene
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.

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



Storm Surge Warning
Storm Surge Watch

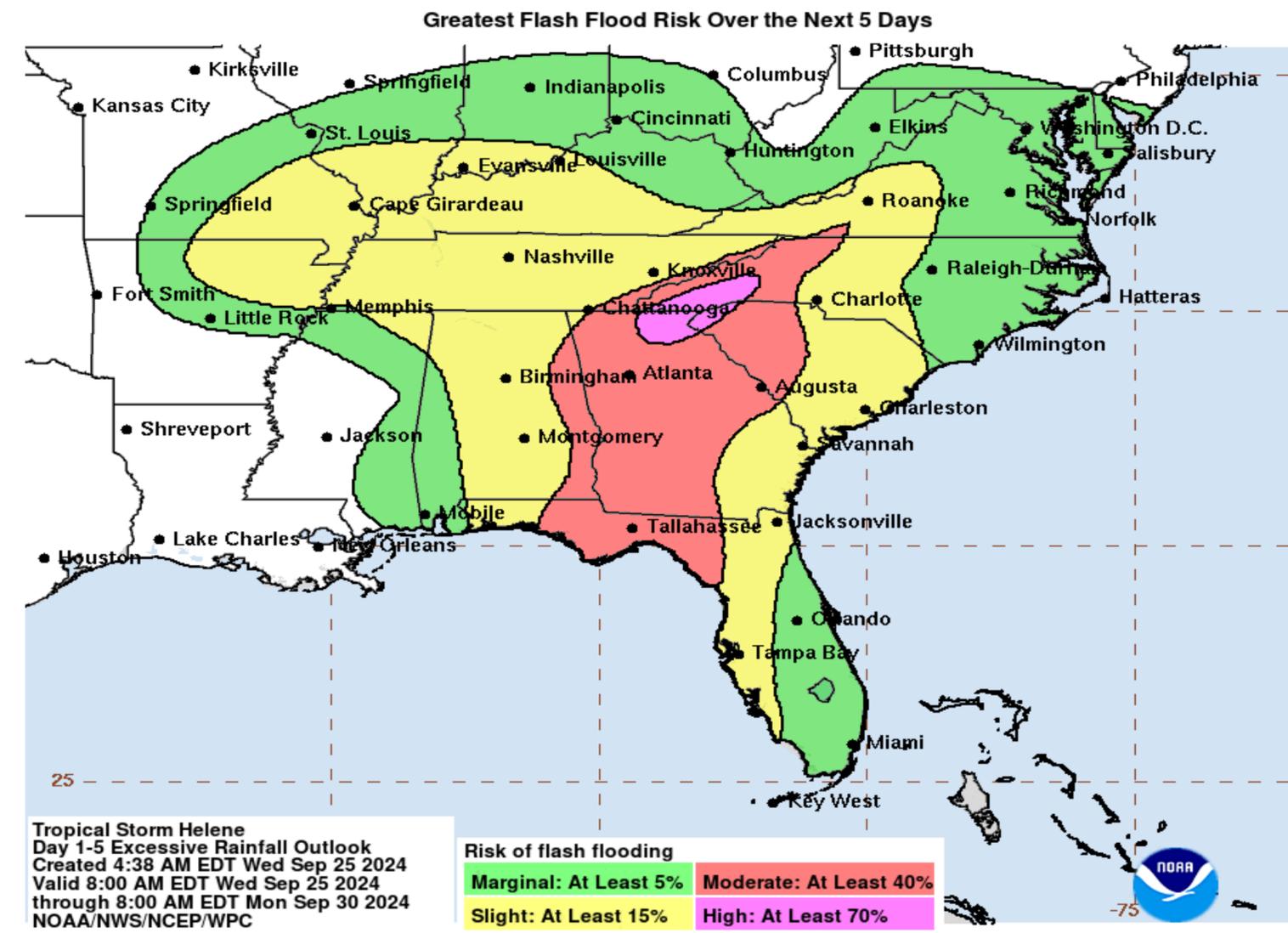
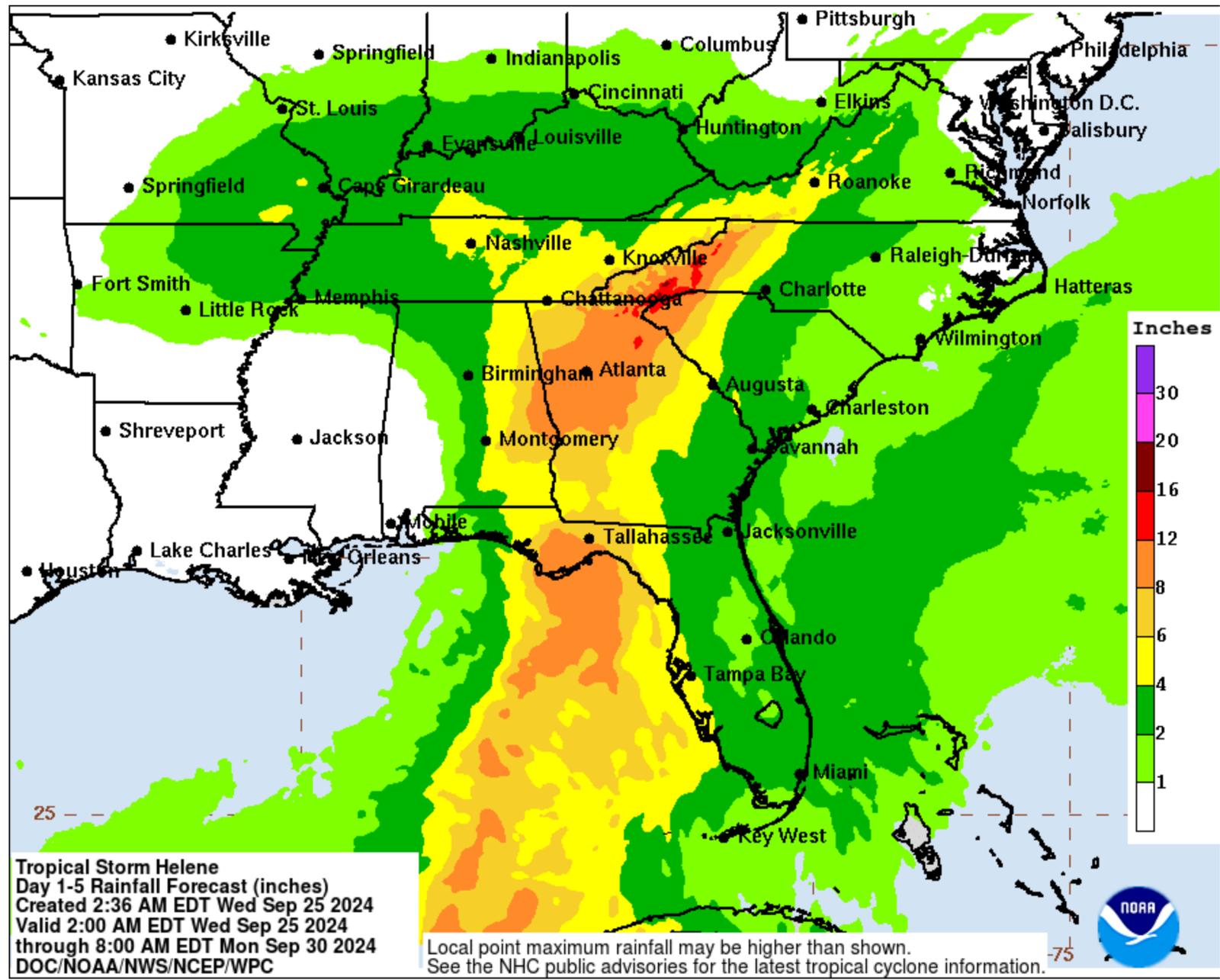
Expected Storm Total Rainfall and Chance of Rainfall Flooding



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% **SLGHT: 10%-20%**
MDT: 20%-50% **MRGL: 5%-10%**

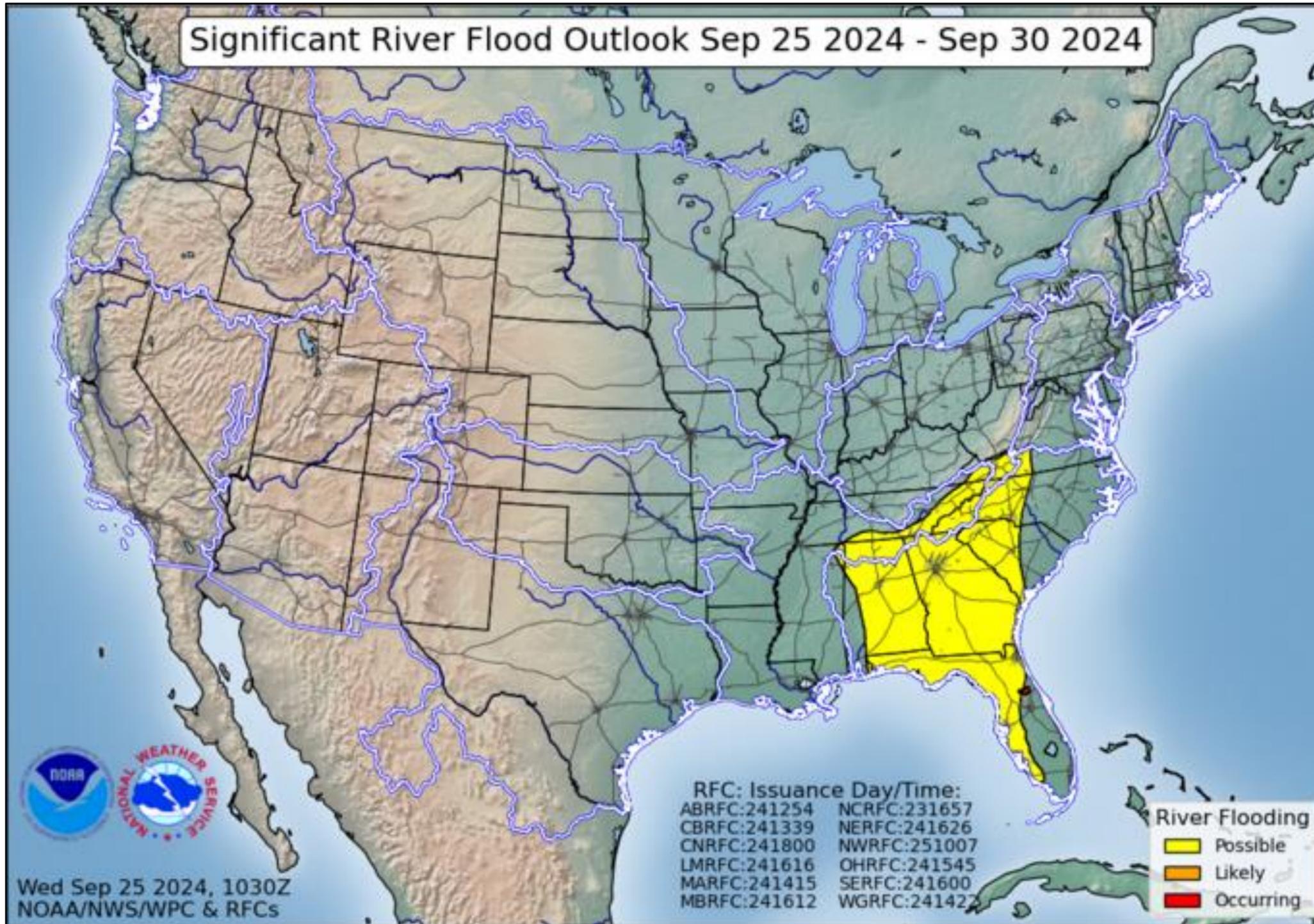
Refer to map legend for Valid Time

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

Key Messages

Tropical Storm Helene



Tropical Analysis and Forecast Branch
NWS National Hurricane Center

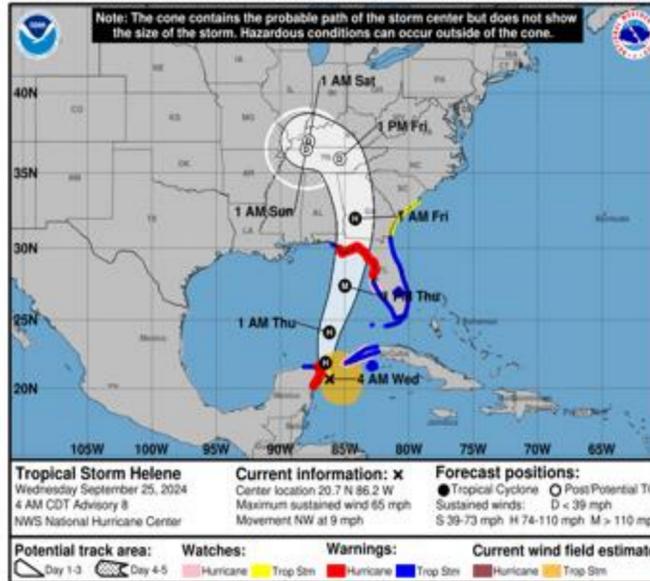


Key Messages for Tropical Storm Helene



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.

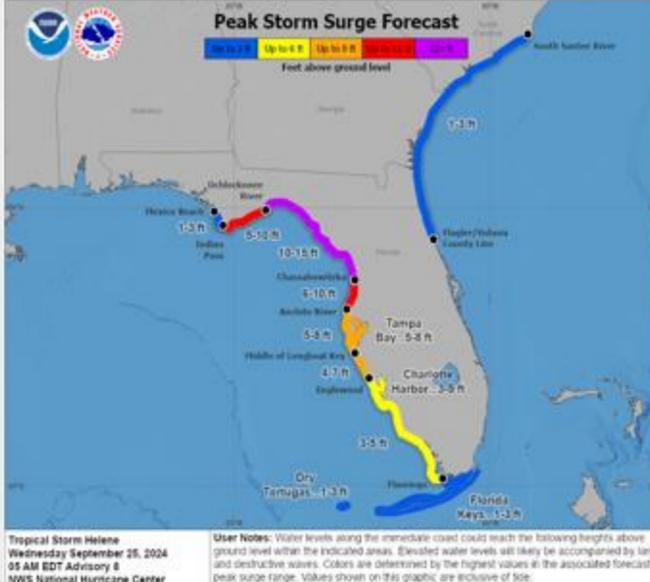


Tropical Storm Helene
Wednesday September 25, 2024
4 AM CDT Advisory 8
NWS National Hurricane Center

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

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05 AM EDT Advisory 8
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For more information go to 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



NHC_TAFB

www.nhc.noaa.gov