

IMPACTS FOR D7

Winds/US Coast – Medium

Winds/SRR – High

Waves/US Coastal – Medium

Waves/SRR – High

through next 5 days

US Storm Surge – Low

US Rainfall/Flash Flooding – Low

US Tornadoes – Low

HURRICANE RAFAEL BRIEFING



6:30 PM EST
Wednesday, November 6, 2024
Prepared by:
Chris Landsea

*Tropical Analysis and Forecast Branch
NWS National Hurricane Center*



NHC_TAFB

www.nhc.noaa.gov

Changes Since This Morning

Hurricane Rafael



Tropical Analysis and Forecast Branch
NWS National Hurricane Center

- Rafael intensified a Category 3 hurricane this afternoon and made landfall in Cuba
- Track shifted southward significantly from Saturday through Monday over the Gulf

...RAFAEL MAKES LANDFALL IN THE CUBAN PROVINCE OF ARTEMISA...

Rafael has made landfall in the Cuban province of Artemisa just east of Playa Majana.

SUMMARY OF 415 PM EST...2115 UTC...INFORMATION

LOCATION...22.7N 82.7W

ABOUT 35 NM SW OF HAVANA CUBA

MAXIMUM SUSTAINED WINDS...100 KT

PRESENT MOVEMENT...NW AT 13 KT

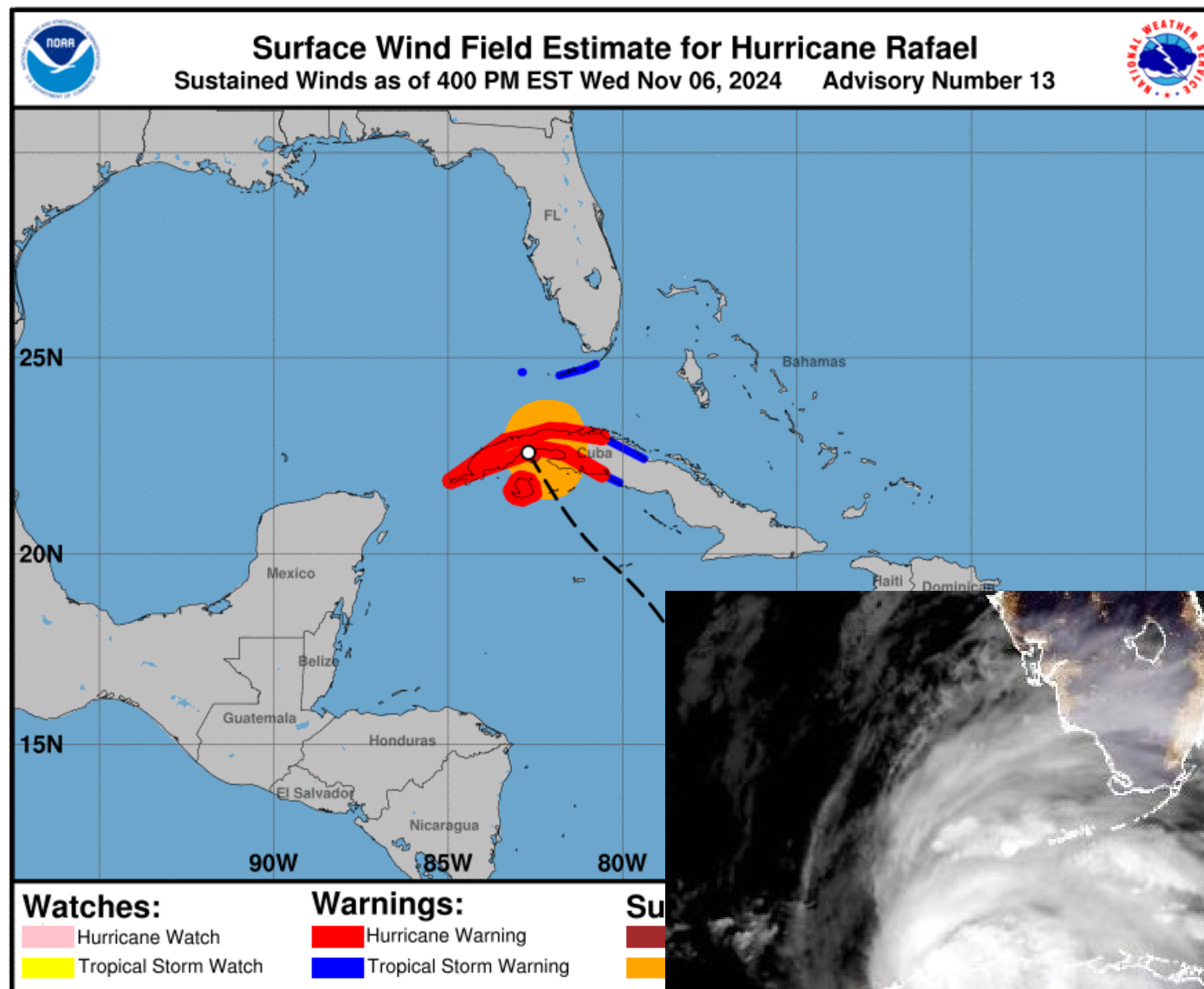
MINIMUM CENTRAL PRESSURE...956 MB

Situation Overview

Hurricane Rafael



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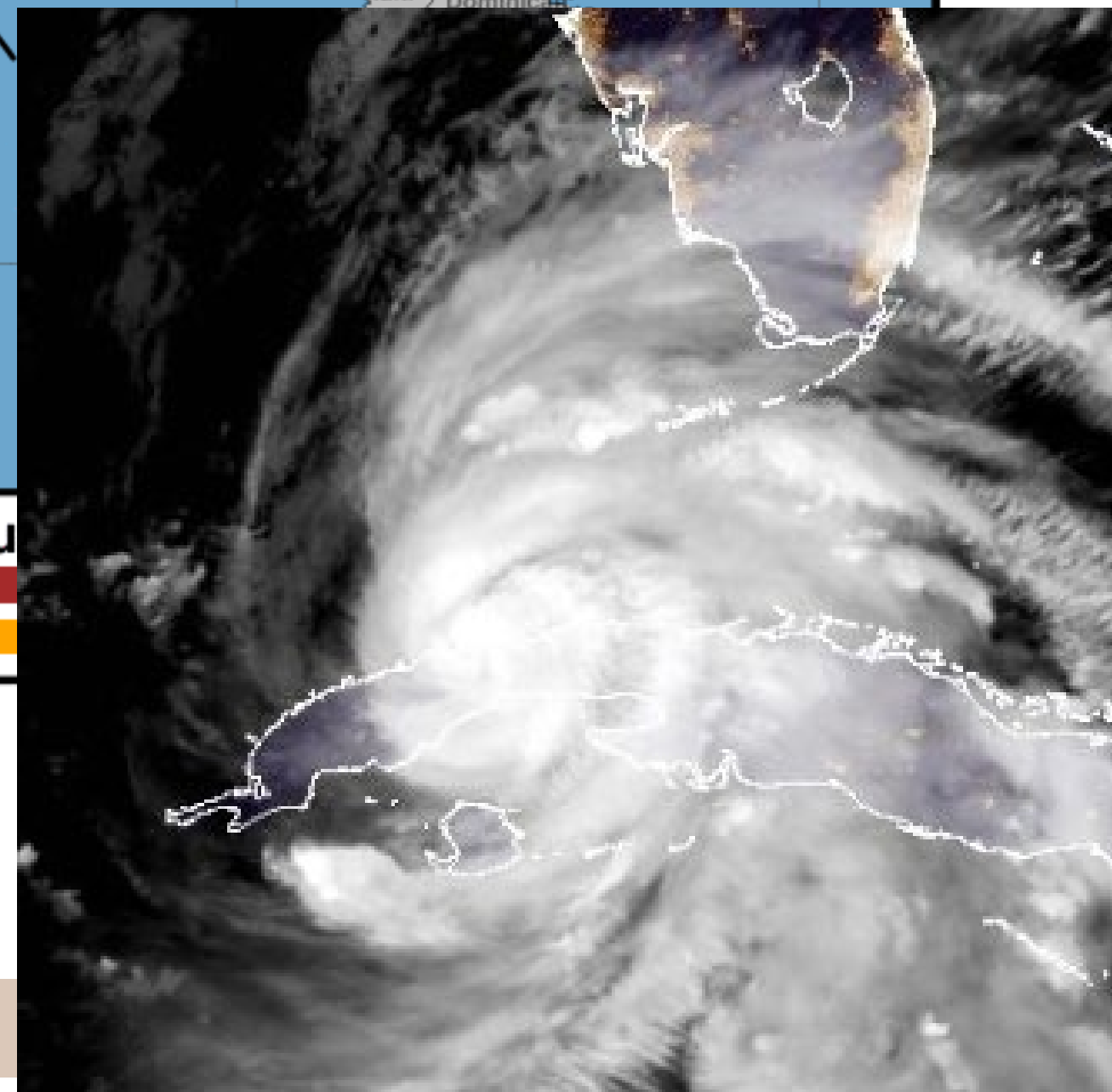
**...CENTER OF RAFAEL MOVING
THROUGH THE CUBAN PROVINCE OF
ARTEMISA...**

SUMMARY OF 500 PM EST INFORMATION

LOCATION...22.8N 82.8W
ABOUT 24 NM SW OF HAVANA CUBA
MAXIMUM SUSTAINED WINDS...95 KT
PRESENT MOVEMENT...NW AT 13 KT

SIZE

64 KT..... 25NE 20SE 10SW 15NW.
34 KT..... 100NE 90SE 40SW 50NW.
12 FT SEAS.. 60NE 90SE 60SW 60NW.

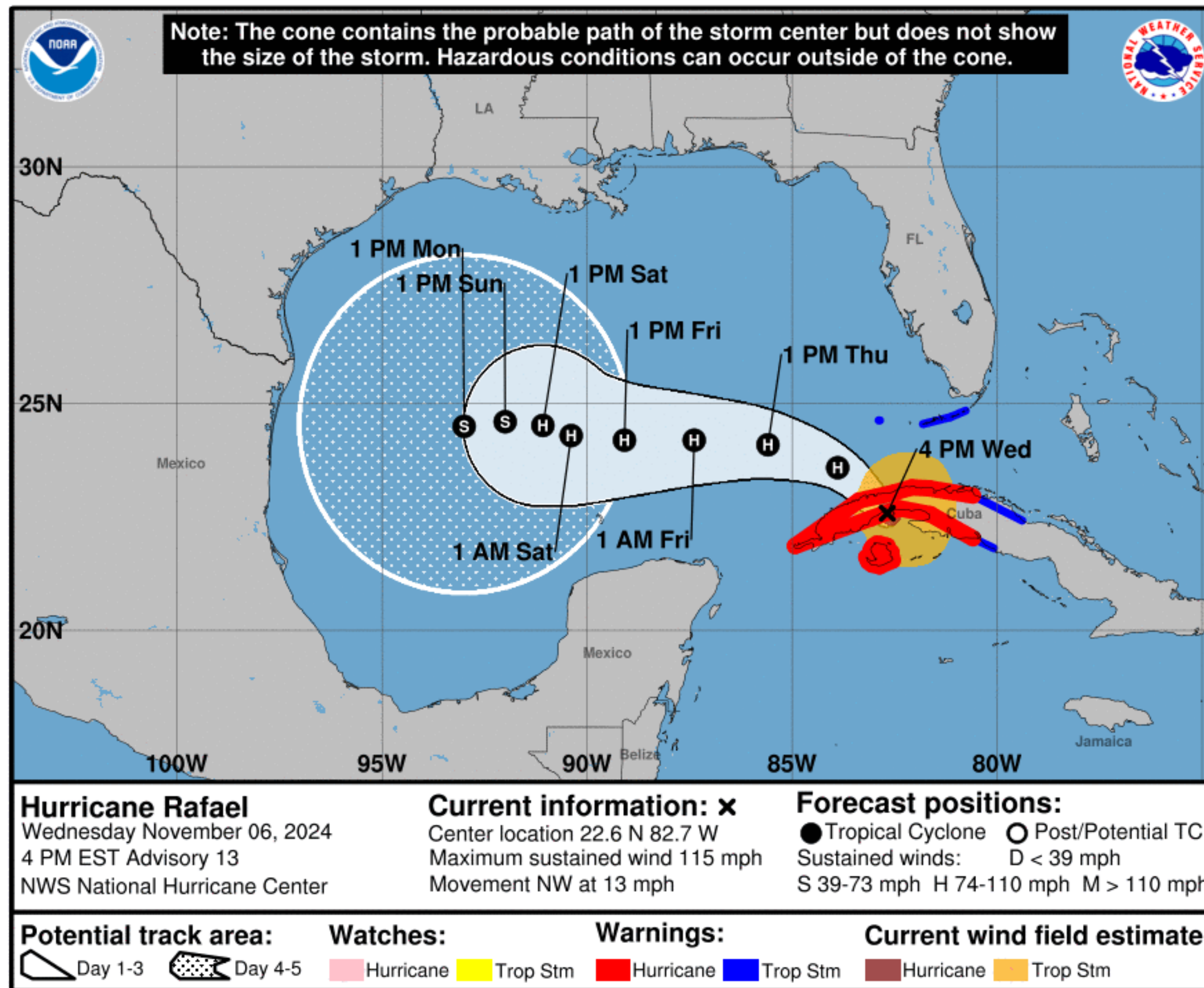


Forecast Information

Hurricane Rafael



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- **General NW motion anticipated over the next day, followed by a gradual W turn in the Gulf of Mexico**
- **Moving into the SE Gulf as a Hurricane tonight**
- **Should remain a Hurricane as it moves across the SE Gulf through Sat afternoon**
- **High uncertainty in both track and intensity remains beyond Fri night**

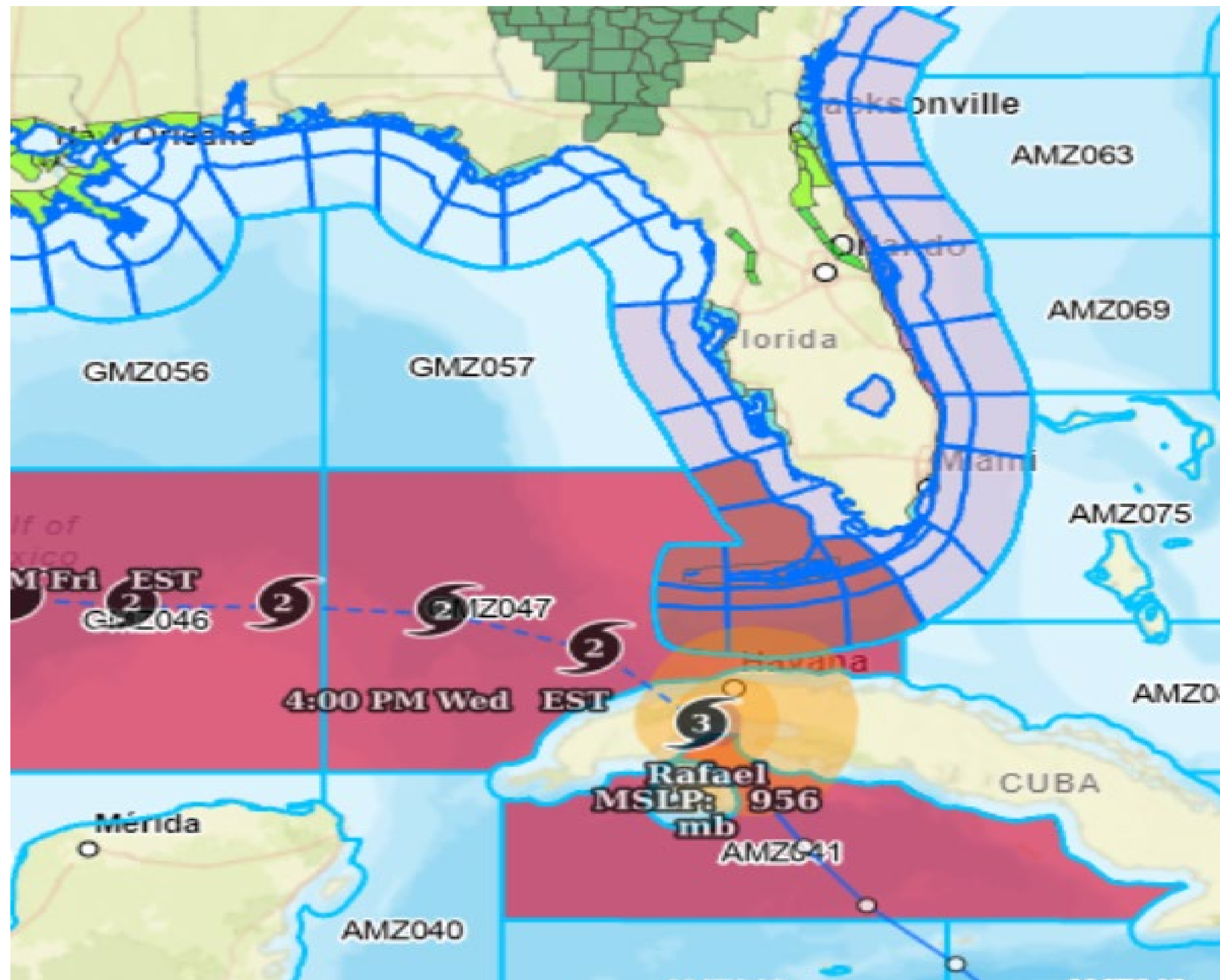
NOTE: Do not focus on the exact track. Impacts can occur well outside the area enclosed by the cone.

Hazards Map

Hurricane Rafael



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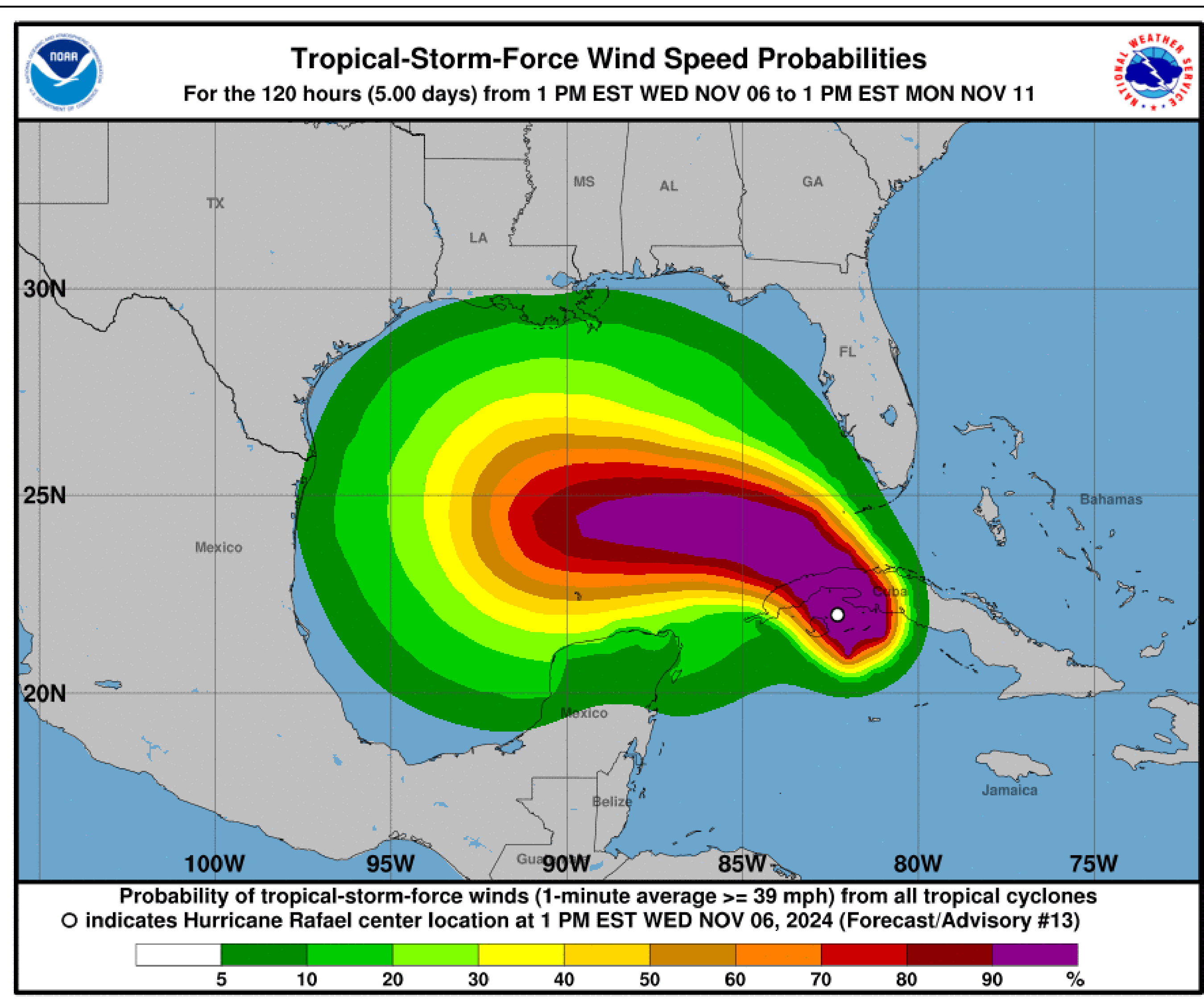
- Small Craft Advisory
- Tropical Storm Warning
- Hurricane Warning

T.S. Wind Speed Probabilities

Hurricane Rafael



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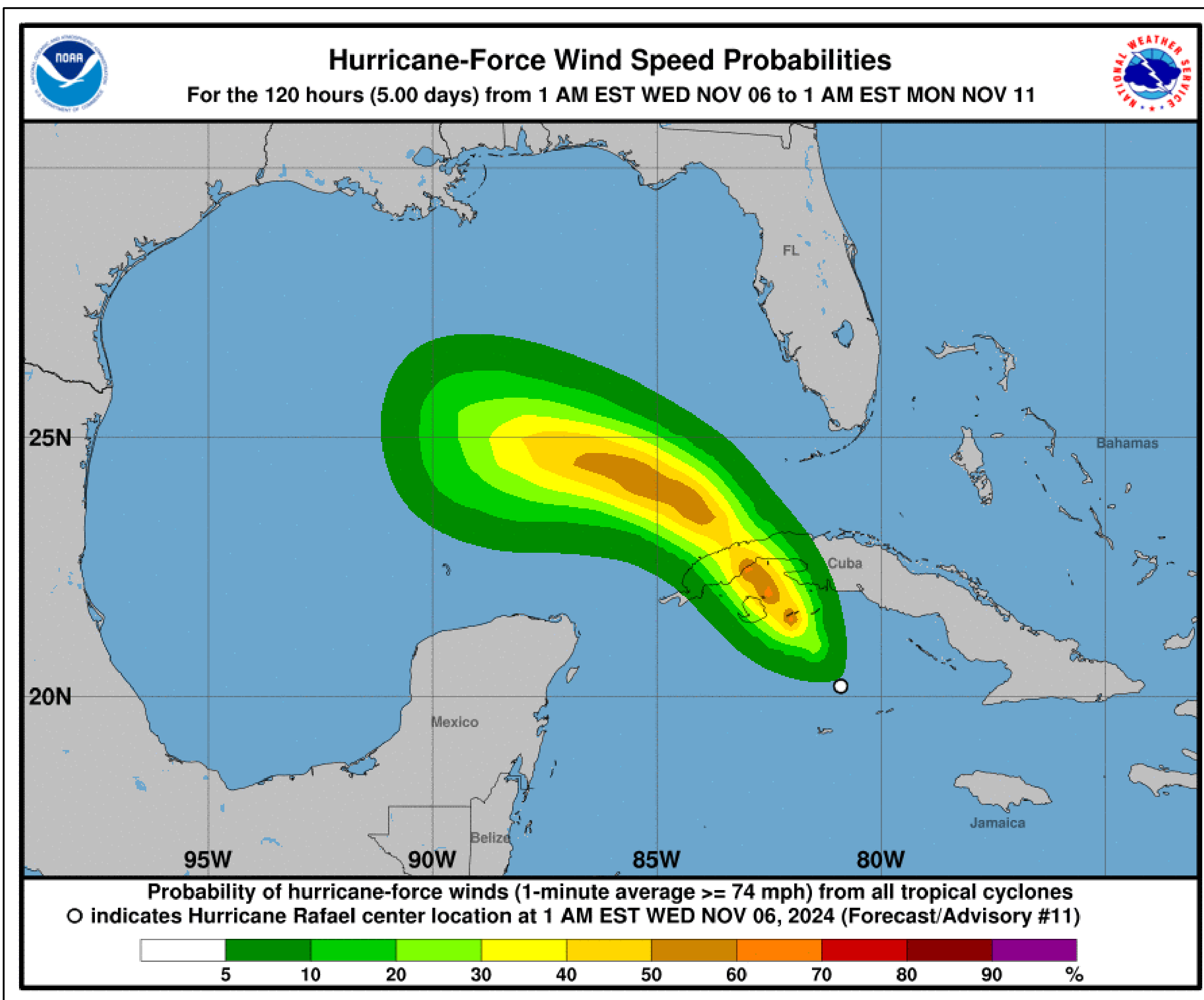
- **Key West 10%**
- Probabilities of sustained tropical storm force winds (34 kt to 63 kt) over the next 5 days, based off this cyclone's wind radii and track.
- Clear or dark green are the lowest chances of 0-30%.
- Yellow to orange is 31-70%
- Red through purple are the highest probabilities of 71%-100%

Hurricane Wind Speed Probabilities

Hurricane Rafael



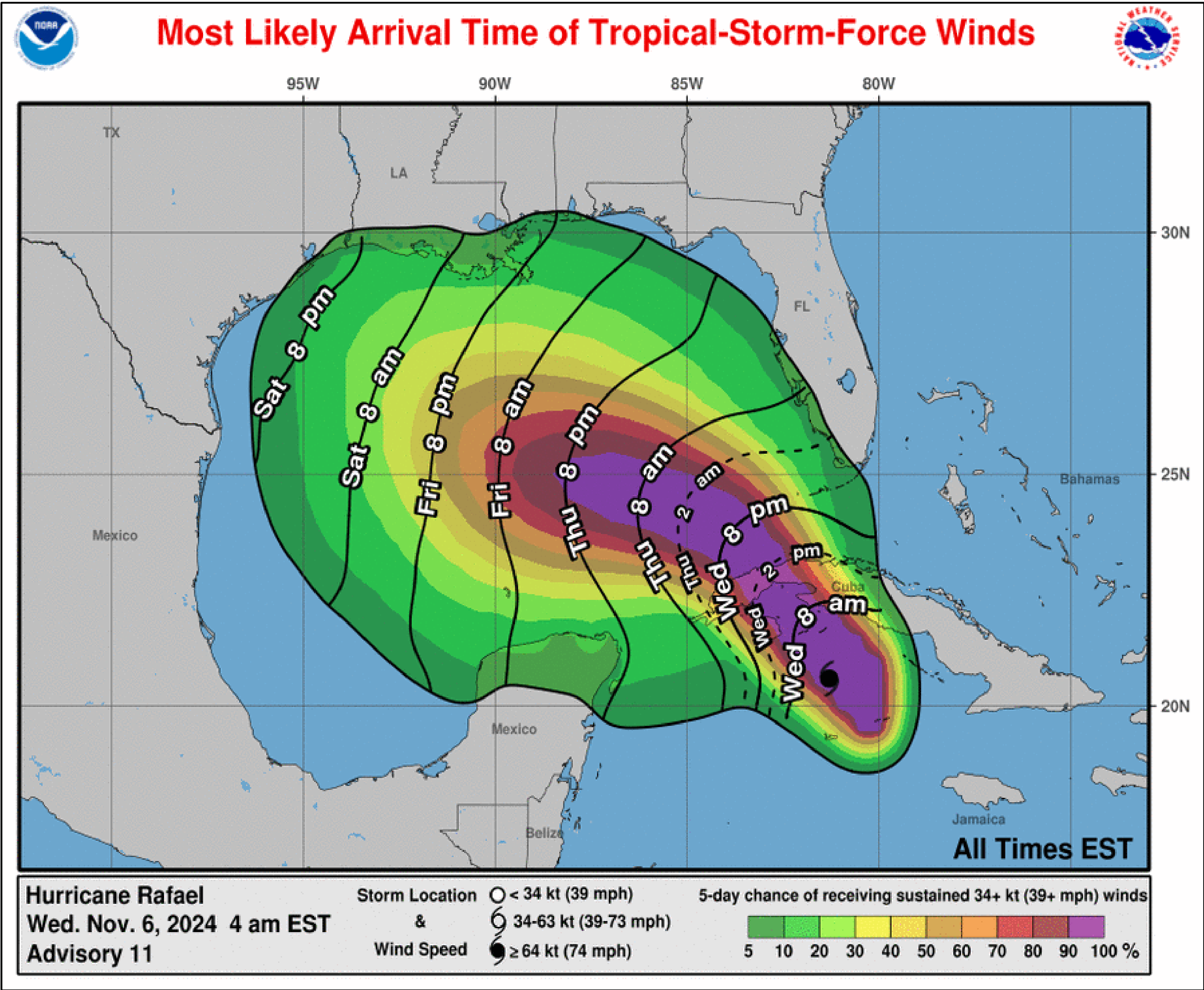
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NWS National Hurricane Center



- **RISK OF HURRICANE FORCE WINDS ON LAND: less than 5%**
- 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%



Hurricane Rafael



- **Florida Keys – Imminent (if they occur)**
- 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.

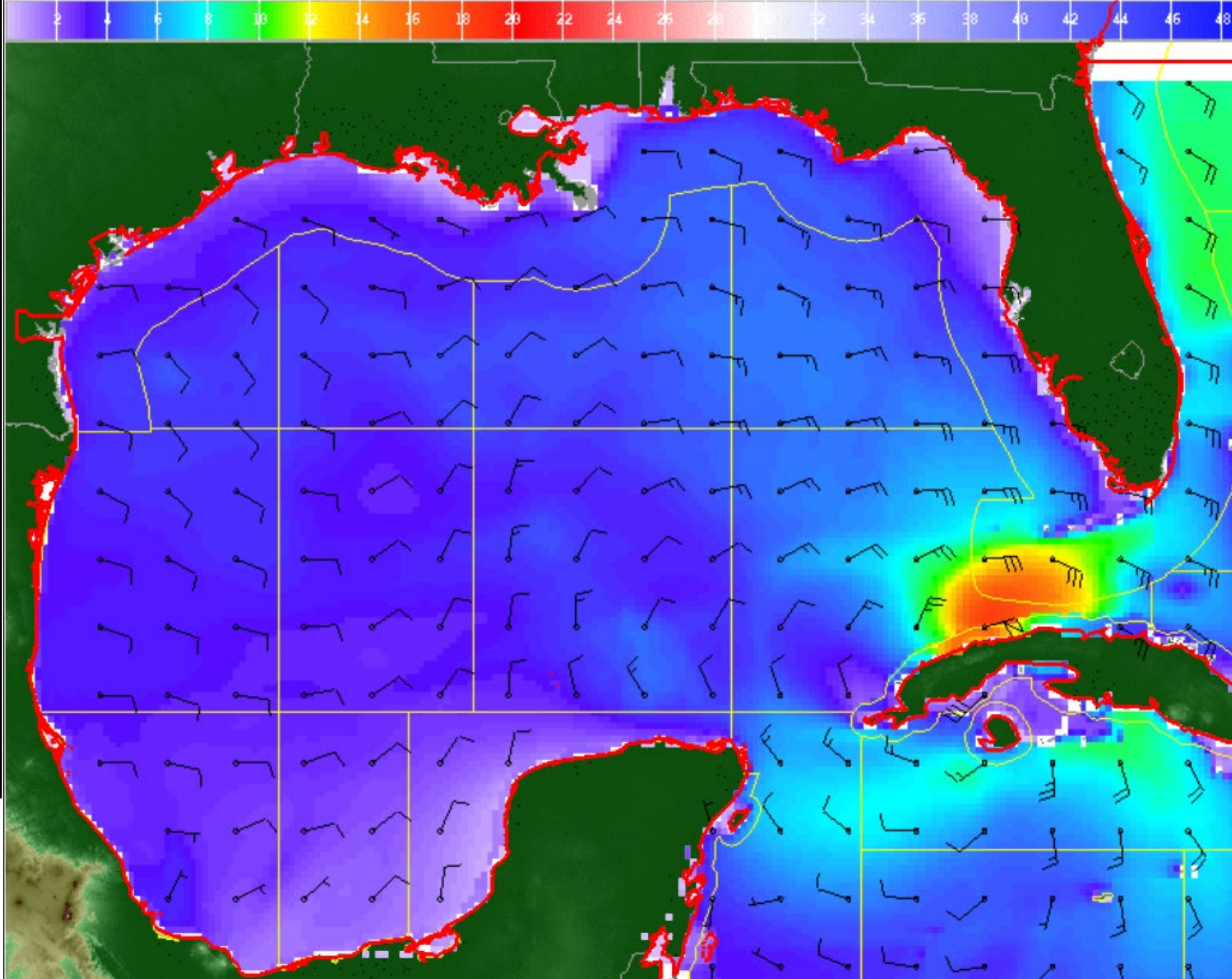
Wind And Waves

Hurricane Rafael



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Valid 7 Nov 2024 0000 GMT



Current Conditions

7pm EST Wednesday, November 6th

Peak Winds: 40 kt (in Straits of Florida)

Peak Seas: 18 ft (in Straits of Florida)

- Wave heights are in feet



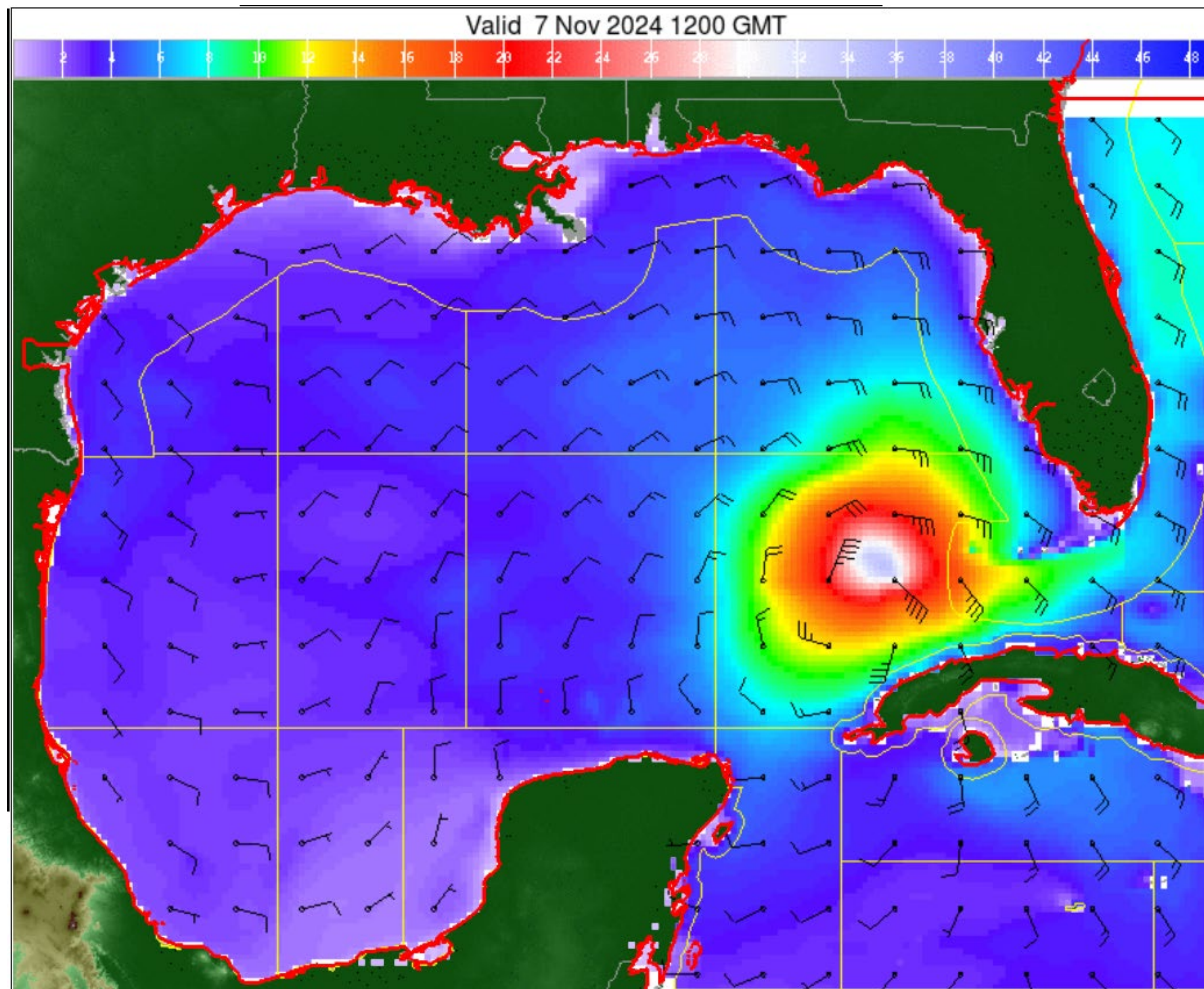
Significant Wave Height (ft)

Wind And Waves

Hurricane Rafael



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12 Hour Forecast

7am EST, Thursday, November 7th

Peak Winds: 90 kt

Peak Seas: 35 ft

- Wave heights are in feet



Significant Wave Height (ft)

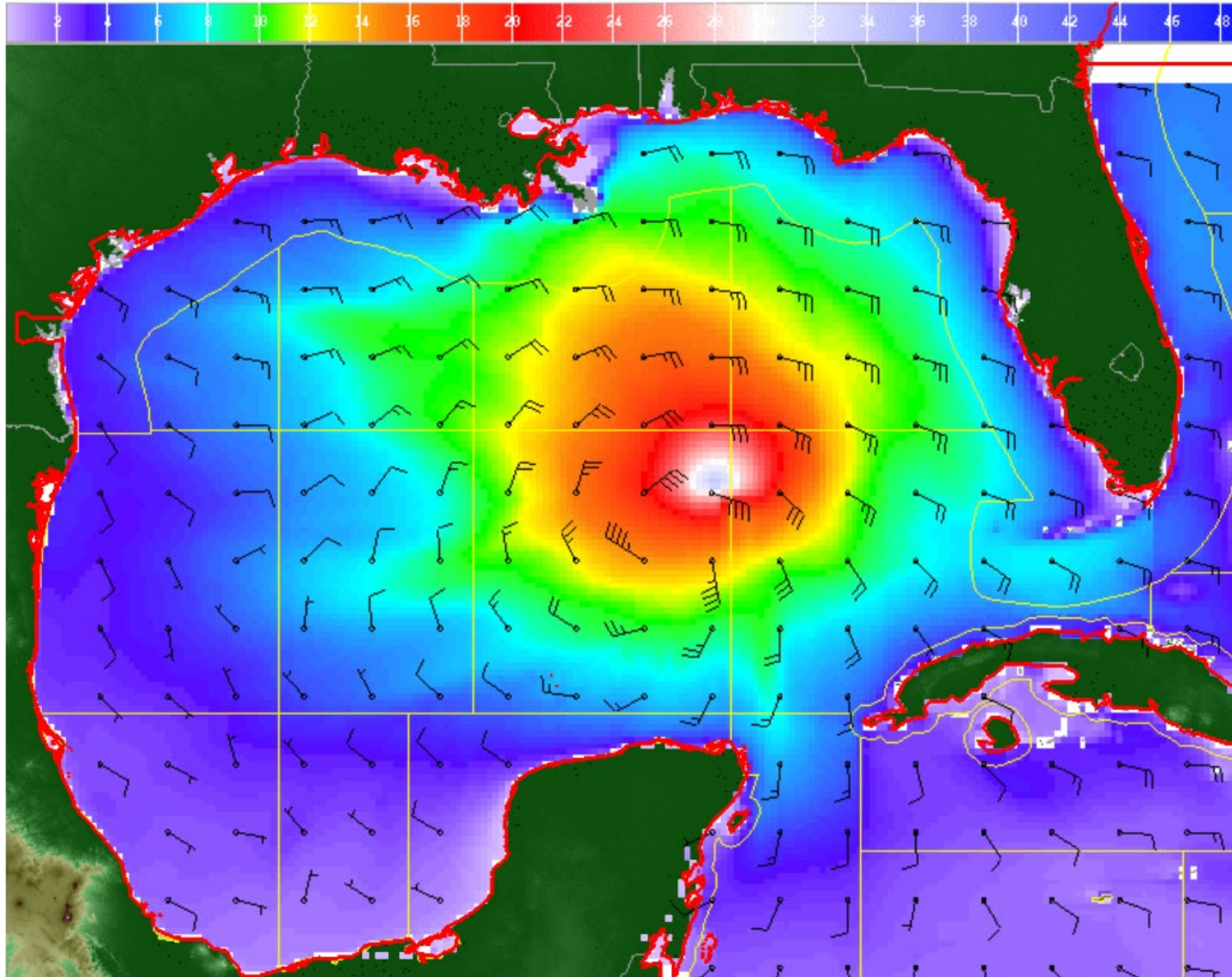
Wind And Waves

Hurricane Rafael



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Valid 8 Nov 2024 1200 GMT



36 Hour Forecast

7am EST Friday November 8th

Peak Winds: 90 kt

Peak Seas: 30 ft

■ Wave heights are in feet



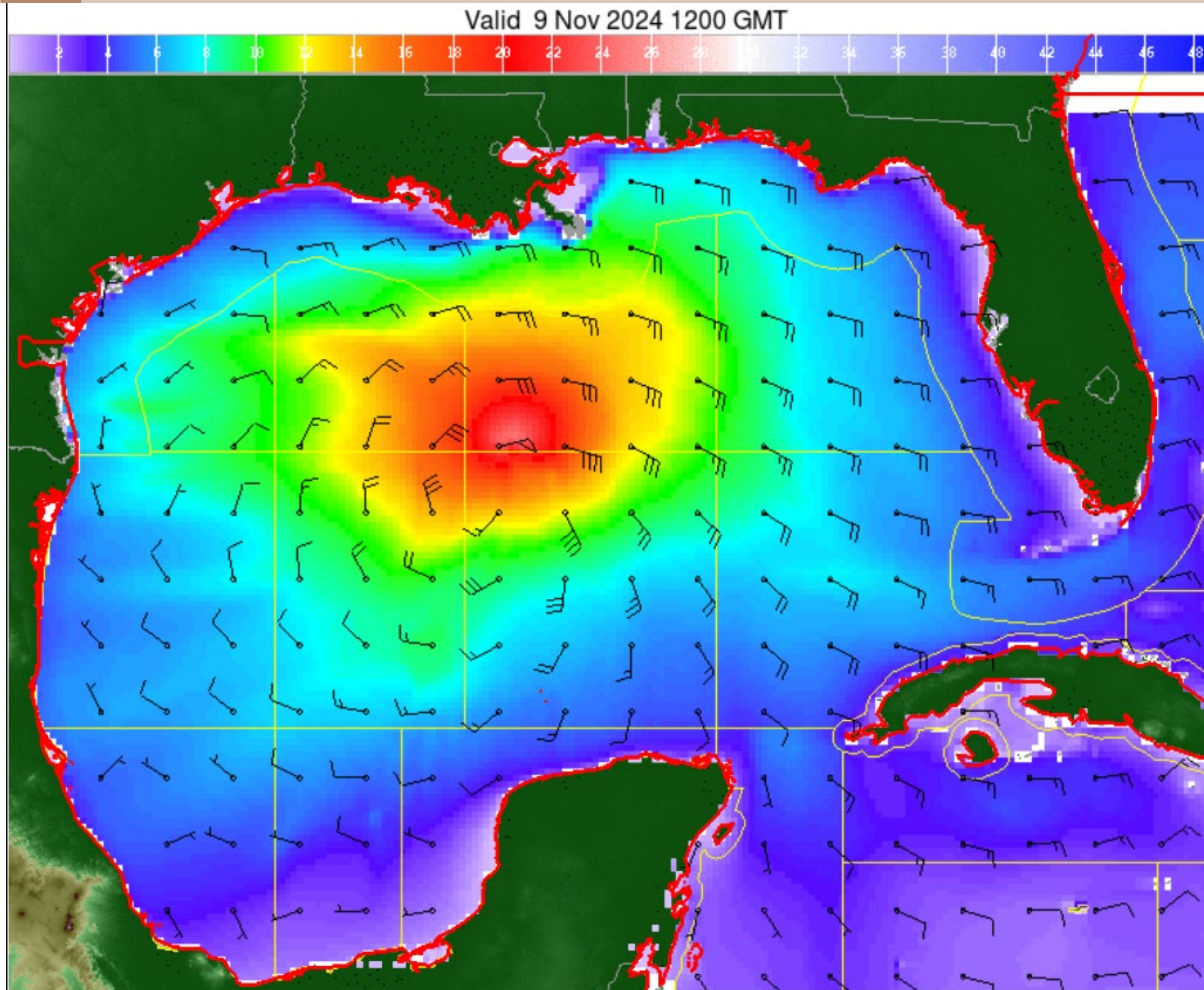
Significant Wave Height (ft)

Wind And Waves

Hurricane Rafael



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60 Hour Forecast

7am EST Saturday, November 9th

Peak Winds: 70 kt

Peak Seas: 25 ft

■ Wave heights are in feet



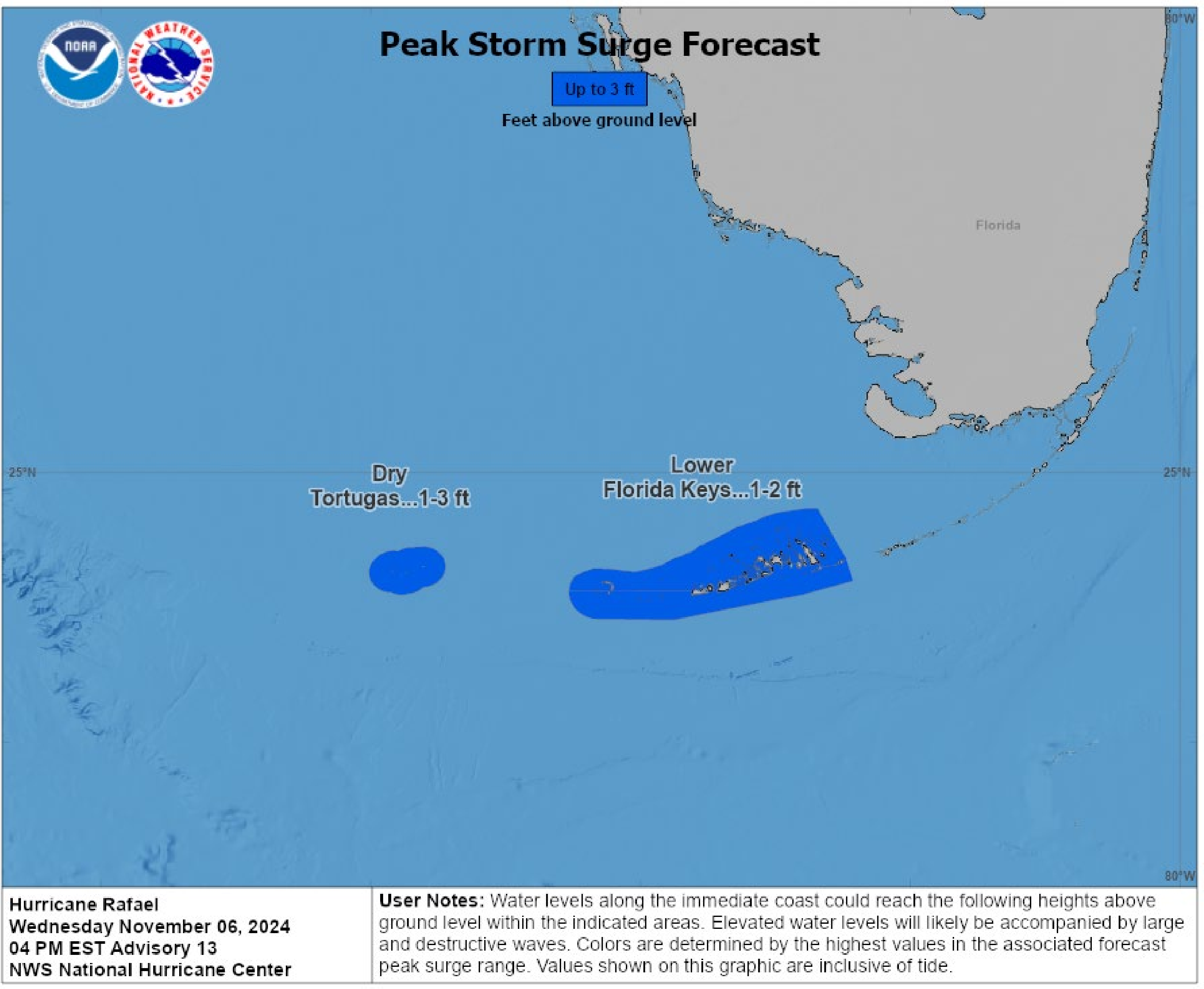
Significant Wave Height (ft)

Potential Peak Storm Surge / Watches and Warnings

Hurricane Rafael



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NWS National Hurricane Center



- Storm surge of 1-3 ft of salt water above normally dry ground in the Lower Keys and Dry Tortugas is expected

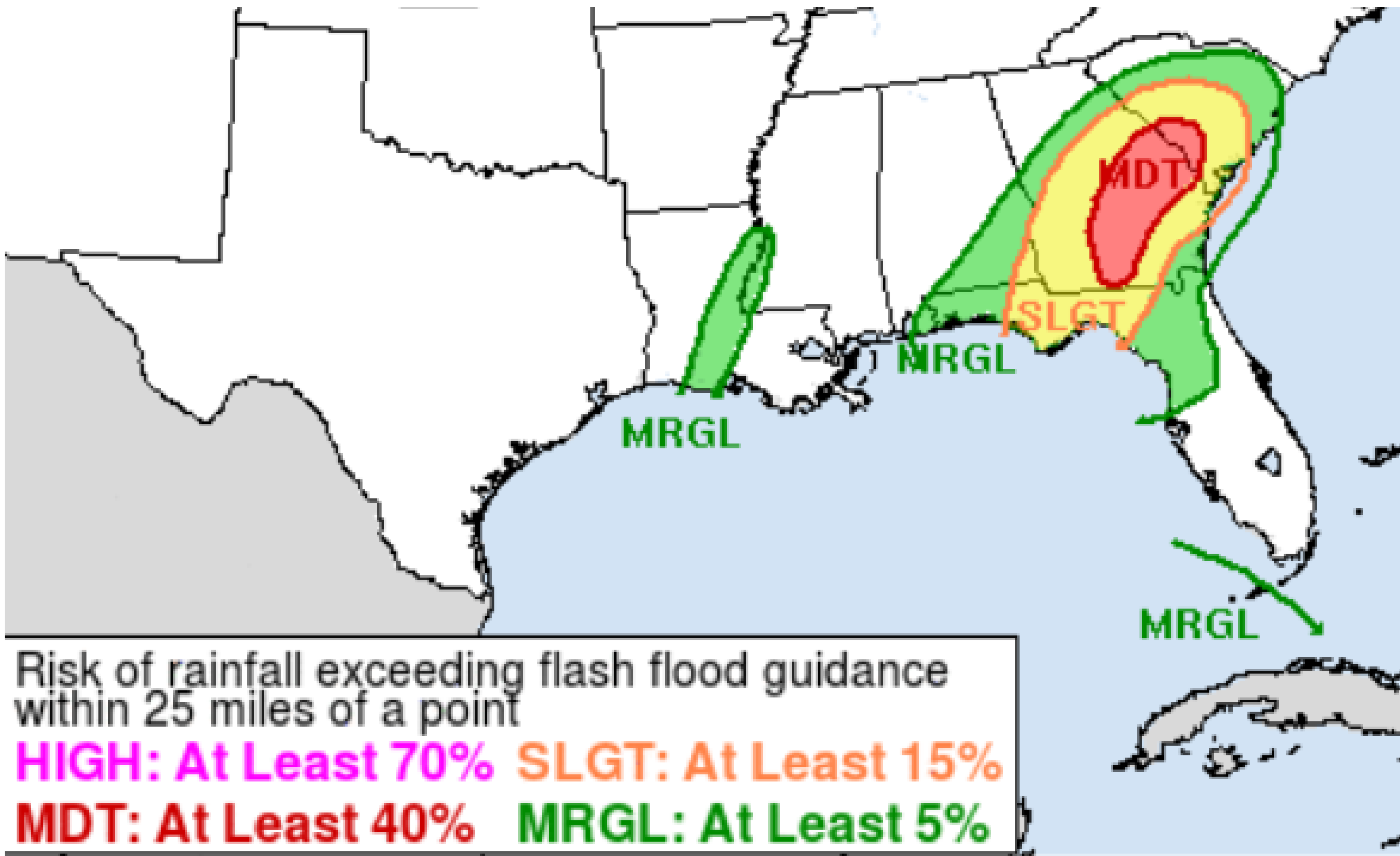
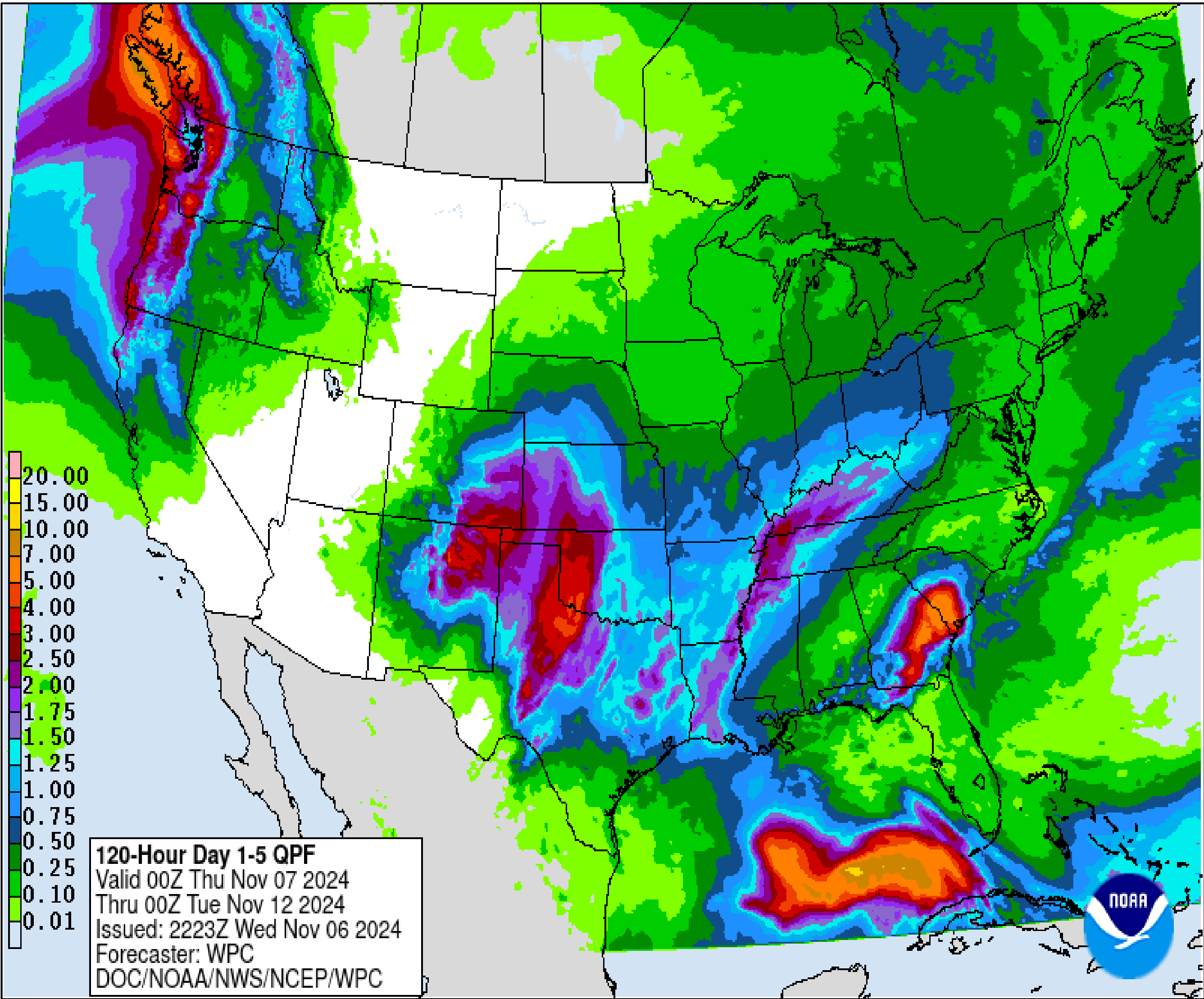
Expected Storm Total Rainfall and Chance of Rainfall Flooding

Hurricane Rafael

Images from NWS Weather Prediction Center



Tropical Analysis and Forecast Branch
NWS National Hurricane Center



Day 1 Excessive Rainfall Outlook
Valid 16Z Wed Nov 06 2024
Thru 12Z Thu Nov 07 2024
Issued: 1546Z Wed Nov 06 2024
Forecaster: ORRISON
DOC/NOAA/NWS/NCEP/WPC

Note that moderate
chance of flooding
rain in Georgia/South
Carolina is NOT
related to Rafael

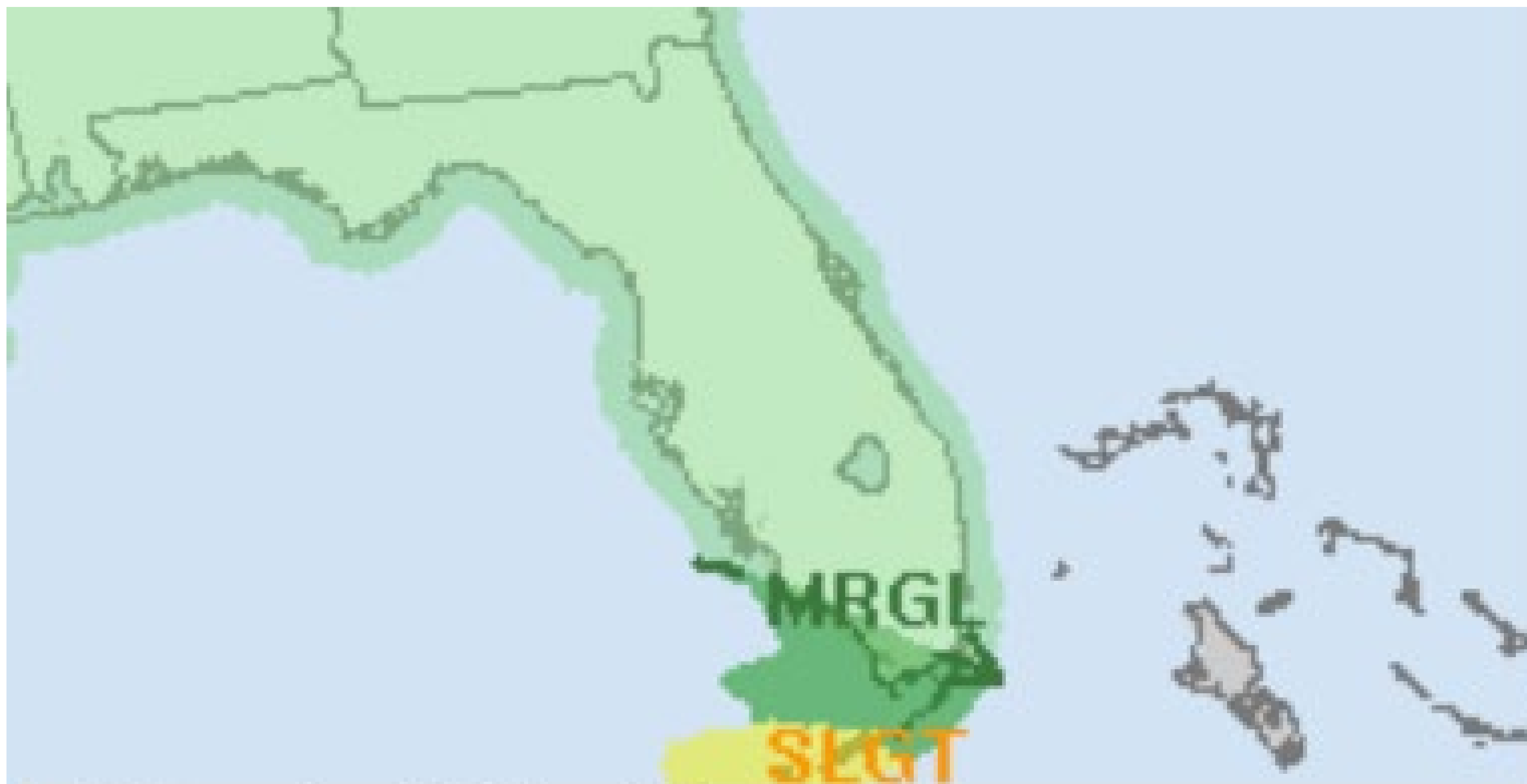
Tornado Outlook – Day 1 - Wednesday

Hurricane Rafael

Image from NWS Storm Prediction Center



Tropical Analysis and Forecast Branch
NWS National Hurricane Center



**Slight risk of tornadoes in
the Florida Keys and
extreme SW Florida
through Thursday morning**

Categorical Outlook Legend:

 TSTM	 1: MRGL	 2: SLGT
 3: ENH	 4: MDT	 5: HIGH

Key Messages

Hurricane Rafael



Tropical Analysis and Forecast Branch
NWS National Hurricane Center



Key Messages for Hurricane Rafael

Advisory 13: 4:00 PM EST Wed Nov 06, 2024

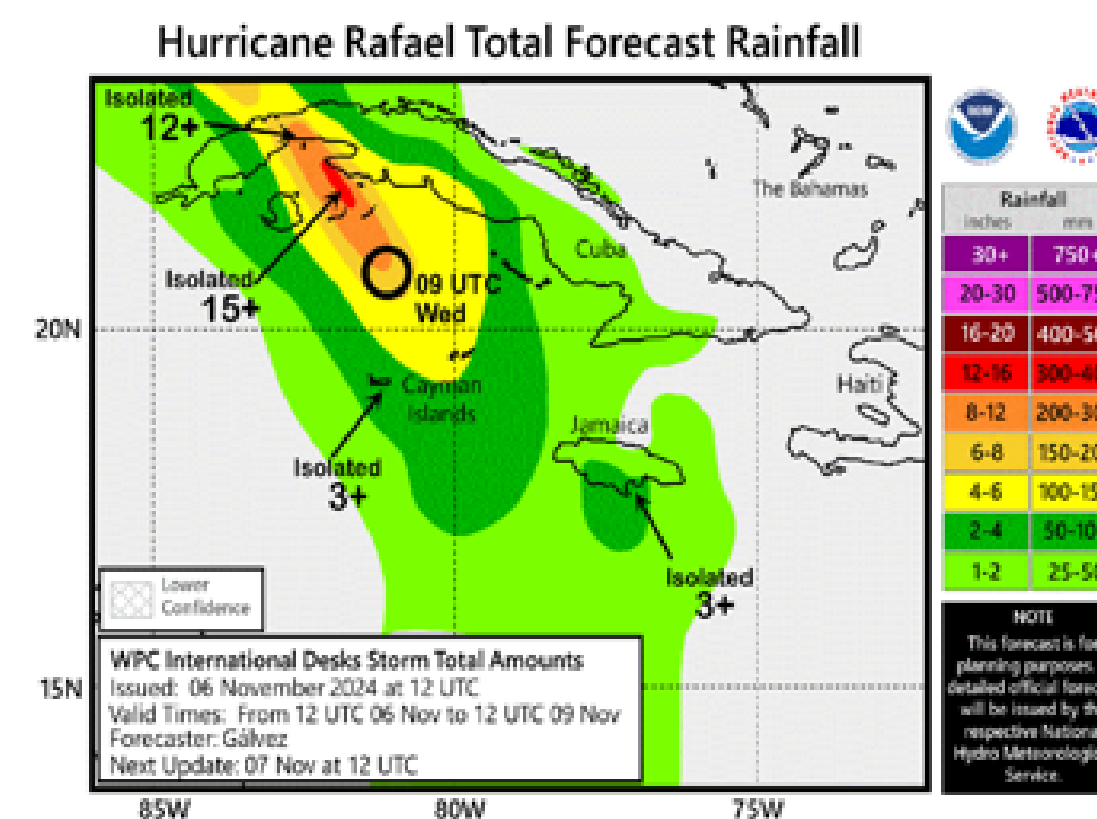
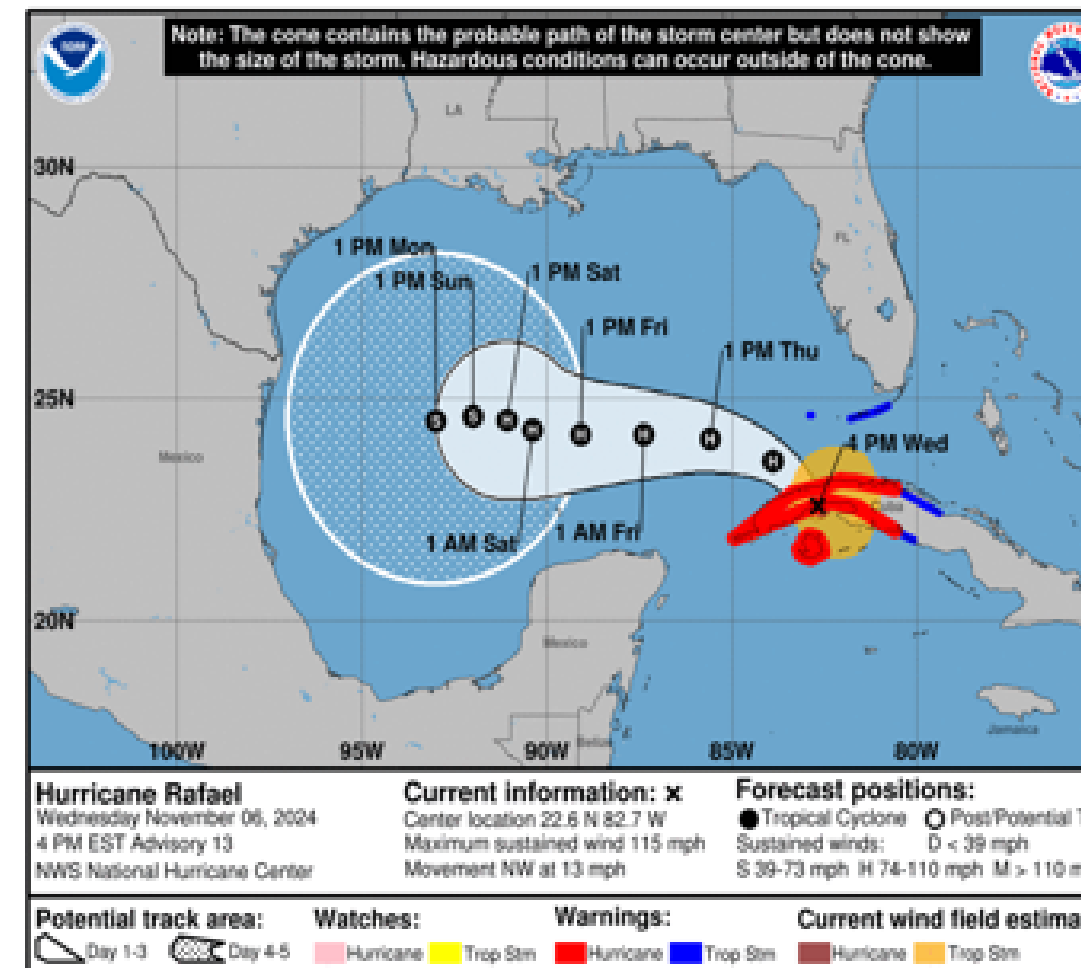


1. Rafael is forecast to cross western Cuba as a major hurricane this afternoon and evening. A hurricane warning is in effect for this region, where a life-threatening storm surge, damaging hurricane-force winds, and destructive waves are expected.

2. Tropical-storm-force winds, especially in gusts, are expected in the Lower and Middle Florida Keys beginning later today and tonight.

3. Rafael will bring areas of heavy rain to the Cayman Islands and western Cuba through Thursday. Flash flooding and mudslides are expected in areas of higher terrain in western Cuba.

4. Rafael is forecast to meander over the south-central Gulf of Mexico this weekend and early next week. Interests in the southern and southwestern Gulf of Mexico should monitor the progress of this system.



IMPACTS FOR D7

Winds/US Coast – Medium

Winds/SRR – High

Waves/US Coastal – Medium

Waves/SRR – High

US Storm Surge – Low

US Rainfall/Flash Flooding – Low

US Tornadoes – Low

- **Marine Key Messages:**
- Winds and Seas will ramp up quickly in the SE Gulf of Mexico tonight
- Peak seas tomorrow should be around 35 ft
- Seas over D7's waters will diminish by Friday

TIME of NEXT NHC Advisory:

03 UTC/ 10 PM EST



This briefing was prepared by:

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HURRICANE RAPHAEL BRIEFING

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

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



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www.nhc.noaa.gov