

## Current Watches and Warnings

A **Tropical Storm Watch** is in effect for the Cuban provinces of La Habana, Artemisa, Mayabeque, Pinar del Rio, and the Isle of Youth

## Current Details from the National Hurricane Center (NHC)

**COORDINATES:** 22.7° north, 85.3° west

**LOCATION:** 60 miles (95 kilometers) north-northwest of the western tip of Cuba

**MOVEMENT:** Stationary

**WINDS:** 60 mph (95 kph) with gusts to 75 mph (120 kph)

**RADIUS OF TROPICAL STORM-FORCE WINDS:** 60 miles (95 kilometers)

**MINIMUM CENTRAL PRESSURE:** 992 millibars

**SAFFIR-SIMPSON SCALE RANKING\*:** Tropical Storm

**24-HOUR LANDFALL POTENTIAL:** NONE

**1<sup>st</sup> U.S. LANDFALL LOCATION:** Lower Matecumbe Key, Florida (United States)

**1<sup>st</sup> U.S. LANDFALL TIMEFRAME:** approximately 11:00 PM local time Nov. 8 (04:00 UTC Nov. 9)

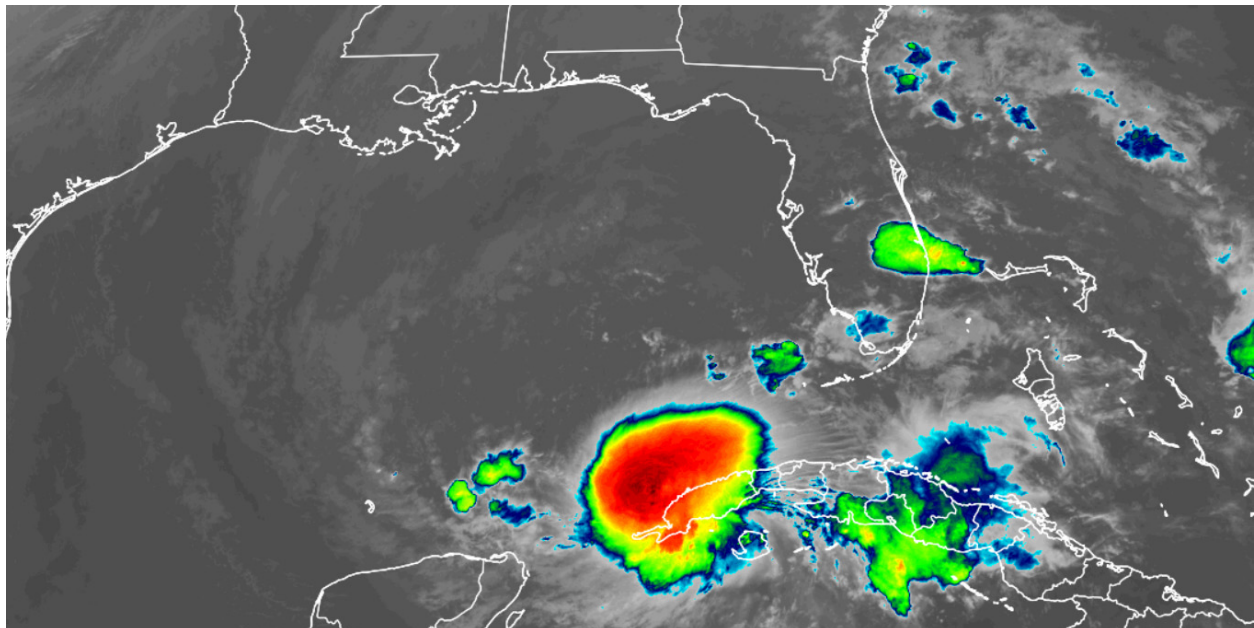
**1<sup>st</sup> U.S. LANDFALL INTENSITY:** 65 mph (100 kph) – Tropical Storm

**CUBA LANDFALL LOCATION:** Sancti Spiritus Province, Cuba

**CUBA LANDFALL TIMEFRAME:** approximately 4:00 AM local time Nov. 8 (09:00 UTC)

**CUBA LANDFALL INTENSITY:** 65 mph (100 kph) – Tropical Storm

## Latest Satellite Picture



Source: NOAA / NASA / Colorado State University (RAAMB)

# Discussion

Tropical Storm Eta, located approximately 60 miles (95 kilometers) north-northwest of the western tip of Cuba, is currently stationary. A significant increase in deep convection has occurred in the past few hours, which includes cold thunderstorm clouds very near the low-level center. However, recent passive microwave satellite images indicate that the center is displaced to the northwest of the coldest cloud tops due to modest northwesterly mid- and upper-level vertical wind shear. The NHC has set an initial intensity of 60 mph (95 kph).

Eta has essentially been stationary for the past 9 hours or so. Radar data from Casablanca, Cuba, and satellite suggest that Eta has been making a small cyclonic/counter-clockwise loop within the larger gyre in which the small center is embedded. Until the gyre breaks down or moves northward, there will be little northward motion by Eta today. By tonight, however, the forecast models are in good agreement on a broad mid-level trough moving eastward across the central and eastern United States, which is expected to erode a ridge of high pressure located to the north of the Eta, allowing both the larger gyre and Eta to move slowly northward. This steering pattern is expected to continue through about 72 hours. After that time, the model guidance diverges significantly. One cluster tracks more westward (GFS / U.S.) or to the north (ECMWF / European) or northeastward. The 96-120 hour motions are directly related to the strength of the cyclone, with a much weaker Eta forecast to move westward and a stronger hurricane solution moving northeastward. The latter scenario seems unlikely given that the vertical shear is forecast to increase from the northwest and west. This should weaken Eta and also impart a slight eastward push on the system. As a result, the official NHC forecast track calls for Eta to move slowly northward through the five-day forecast period and gradually weaken into a shallow cyclone that drifts northward.

Eta is expected to remain in a low-to-moderate vertical wind shear environment and over warm sea surface temperatures during the next couple of days. Although the surrounding environment is expected to be somewhat dry, the other two favorable environmental factors should allow for some strengthening into Thursday. After that time, increasing shear from the northwest and west, along with drier mid-level air and cooler ocean waters are likely to cause Eta to weaken. The rate of this weakening remains uncertain, and depends heavily on how much Eta re-intensifies over the next couple of days. The new NHC intensity forecast is essentially the same as the previous advisory, and is a little below the consensus models.

## Key Messages from the National Hurricane Center

1. Heavy rainfall from Eta will continue across western Cuba and South Florida today and tonight. Additional flash and urban flooding, especially across previously inundated areas, will be possible in South Florida. Flash and urban flooding will also be possible for western Cuba.
2. Eta could approach the northeastern or north-central U.S. Gulf Coast later this week as a tropical storm, and possibly bring impacts from rain, wind, and storm surge. Interests in this area should continue to monitor the progress of Eta and updates to the forecast this week.

### Additional Information

RAINFALL: Eta is expected to produce the following rainfall amounts today and tonight:

*Western Cuba:* an additional 3 to 5 inches (75 to 125 mm), with isolated maximum storm total accumulations of 25 inches (765 mm)

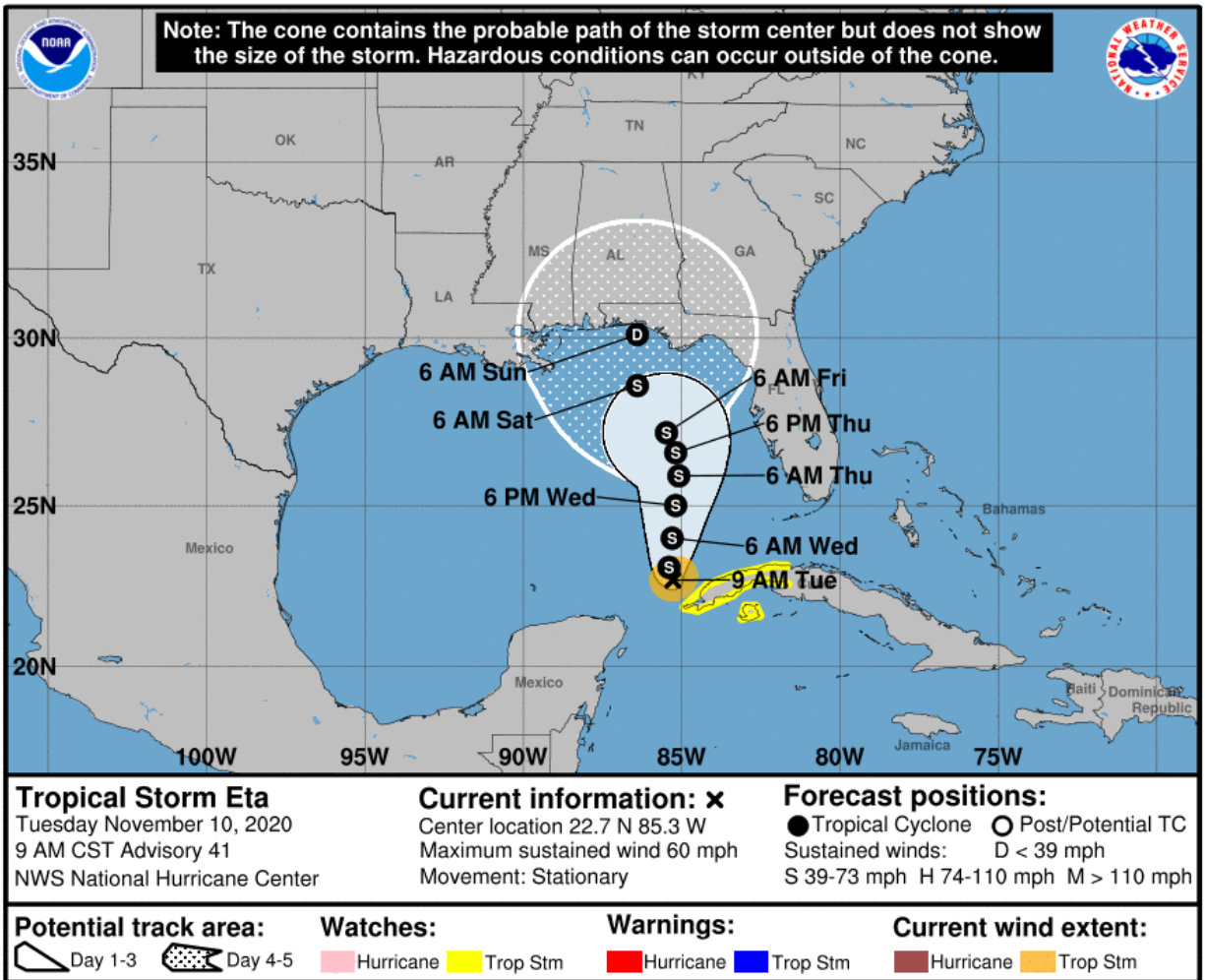
*South Florida:* an additional 1 to 2 inches (25 to 50 mm), with isolated maximum storm total accumulations of 20 inches (510 mm)

Flash and river flooding will be possible in western Cuba, along with landslides in areas of higher terrain. Additional flash and urban flooding, especially across previously inundated areas, will be possible in South Florida today and tonight.

WIND: Tropical storm conditions are possible in the Tropical Storm Watch area in Cuba today.

SURF: Swells generated by Eta are expected to affect the north coast of Cuba, the northwestern Bahamas, southern and western Florida, and the Florida Keys during the next day or so. These swells are likely to cause life-threatening surf and rip current conditions.

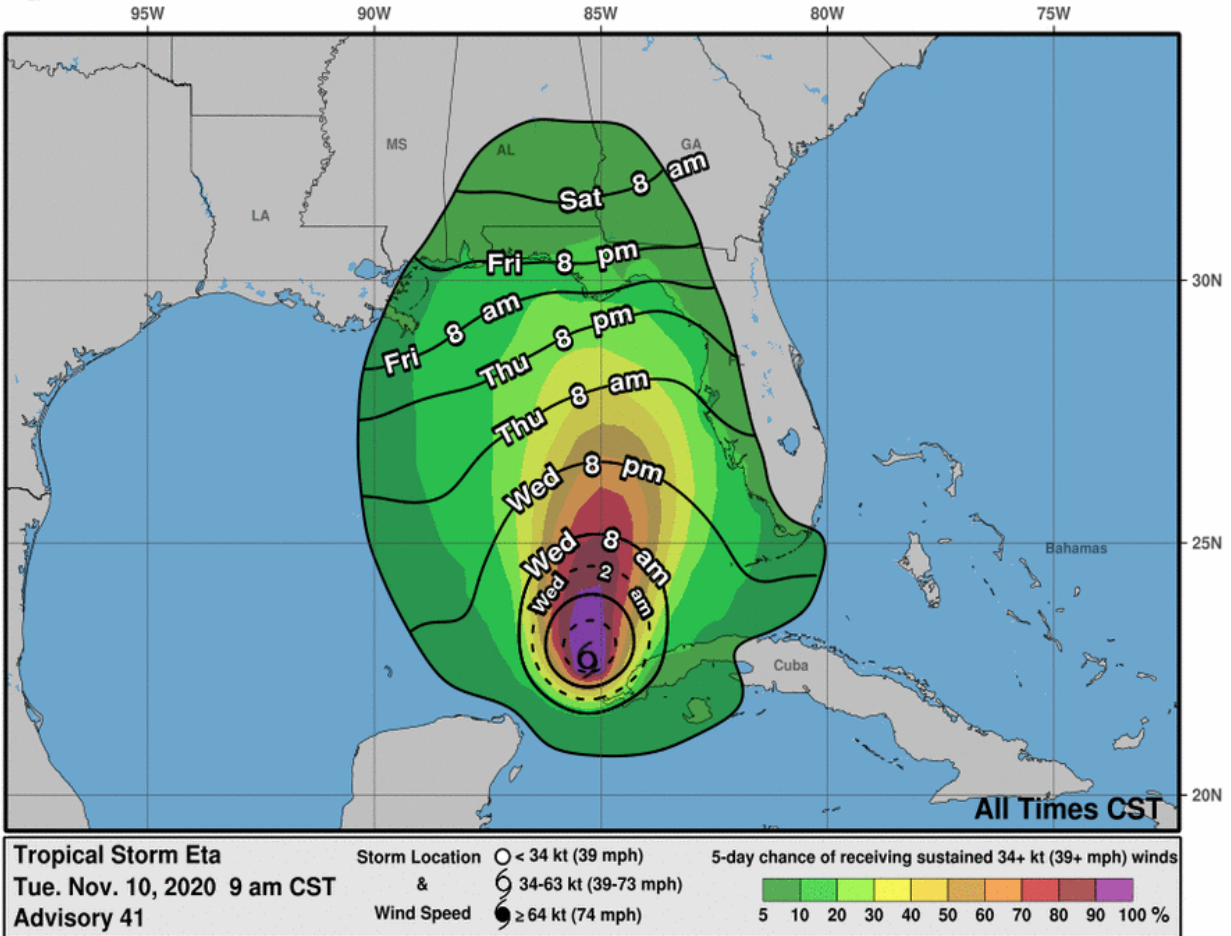
# National Hurricane Center (NHC) Forecast



# Most Likely Arrival Time of Tropical Storm-Force Winds

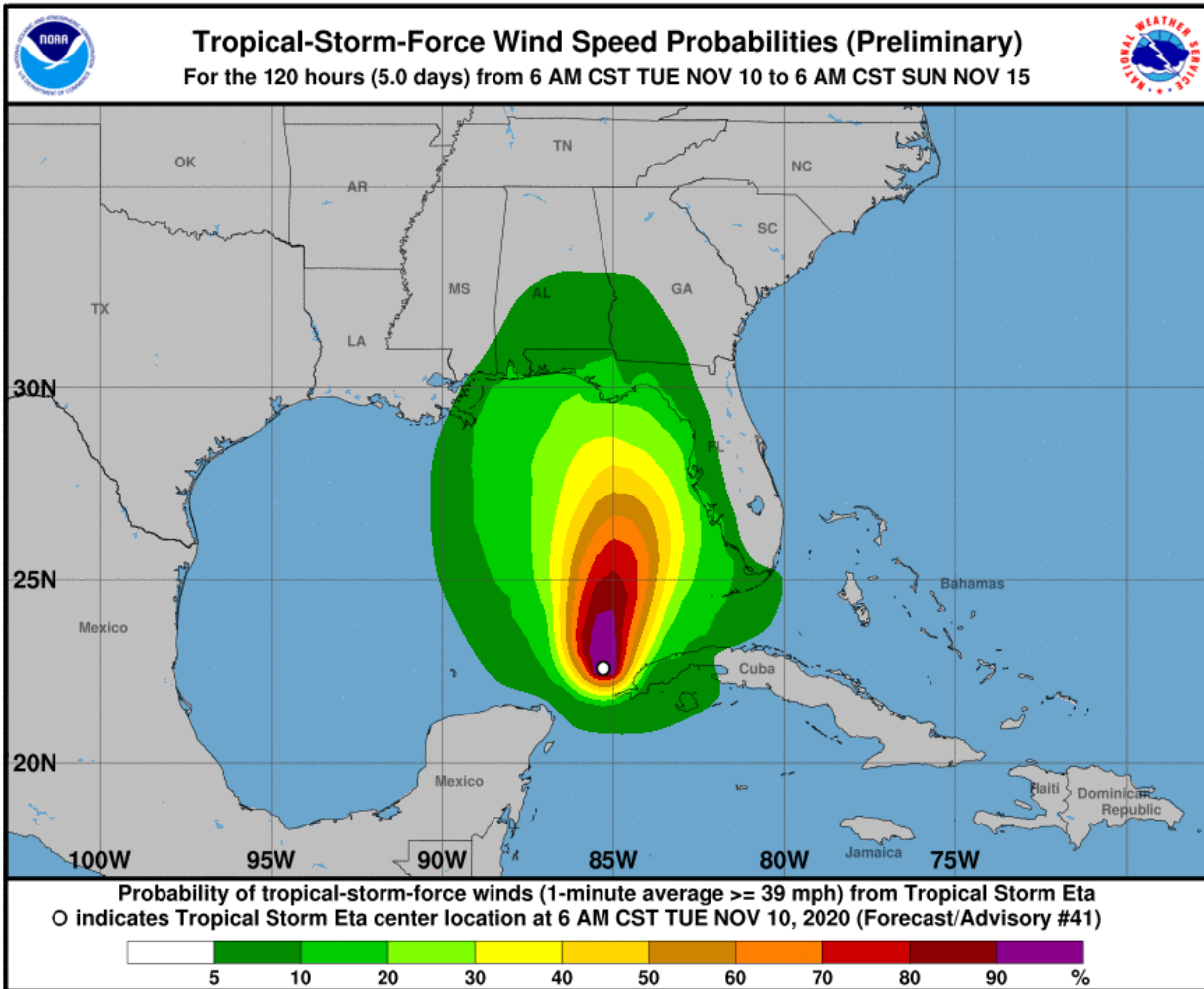


## Most Likely Arrival Time of Tropical-Storm-Force Winds

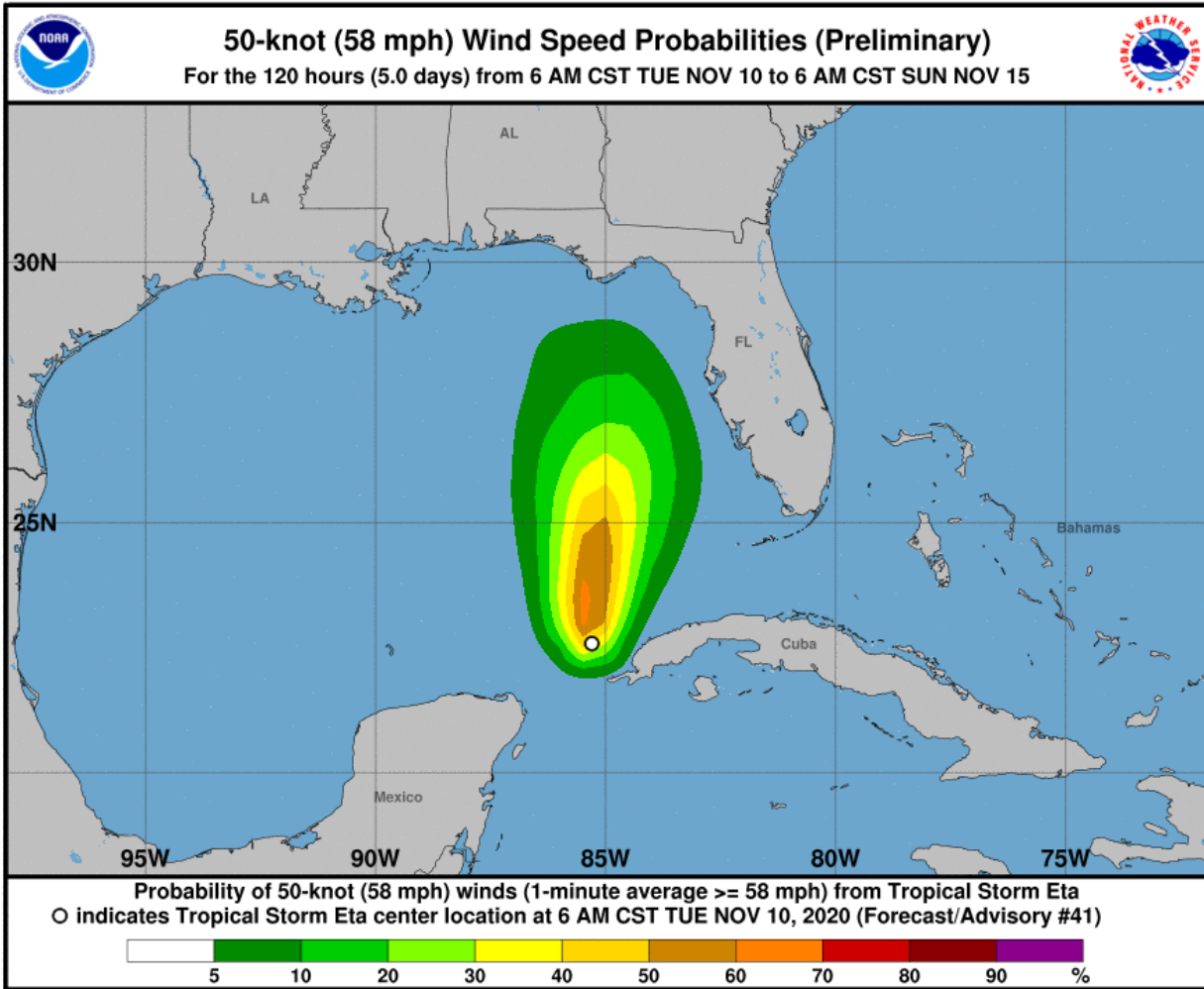


# National Hurricane Center: Wind Speed Probabilities

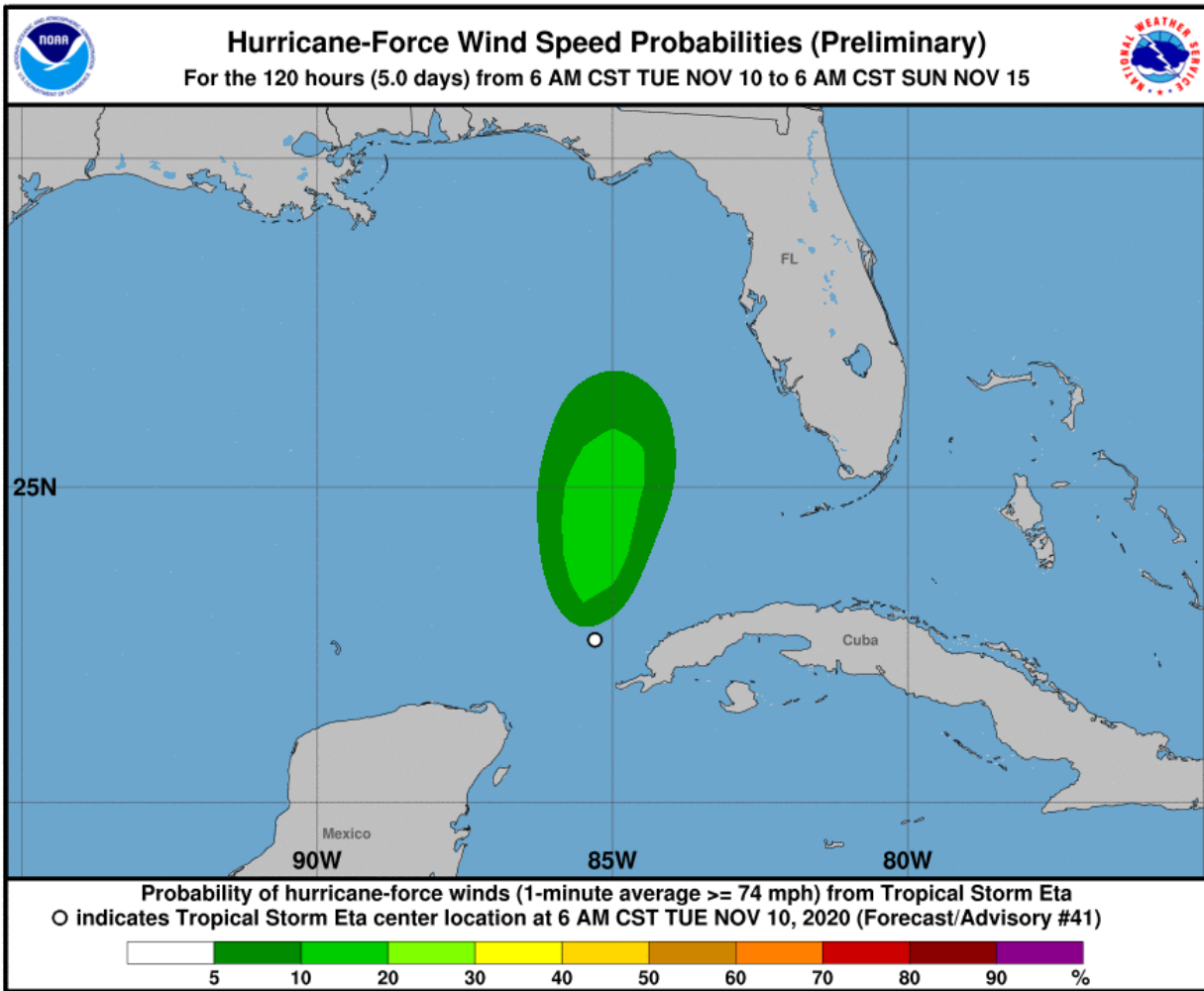
## Tropical Storm-Force Wind Probabilities ( $\geq 40$ mph (65 kph))



# Wind Probabilities ( $\geq 60$ mph (95 kph))

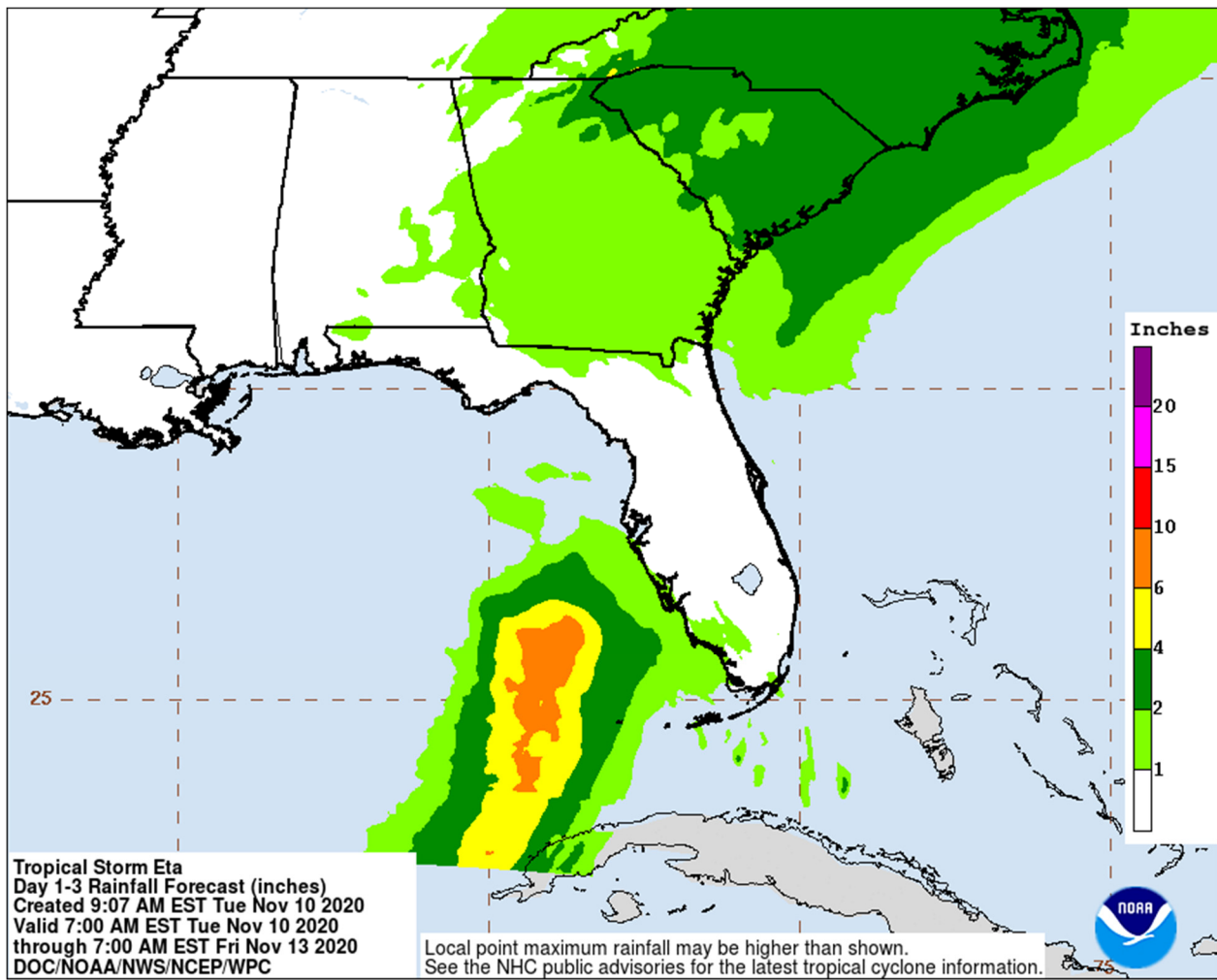


# Hurricane-Force Wind Probabilities ( $\geq 75$ mph (120 kph))

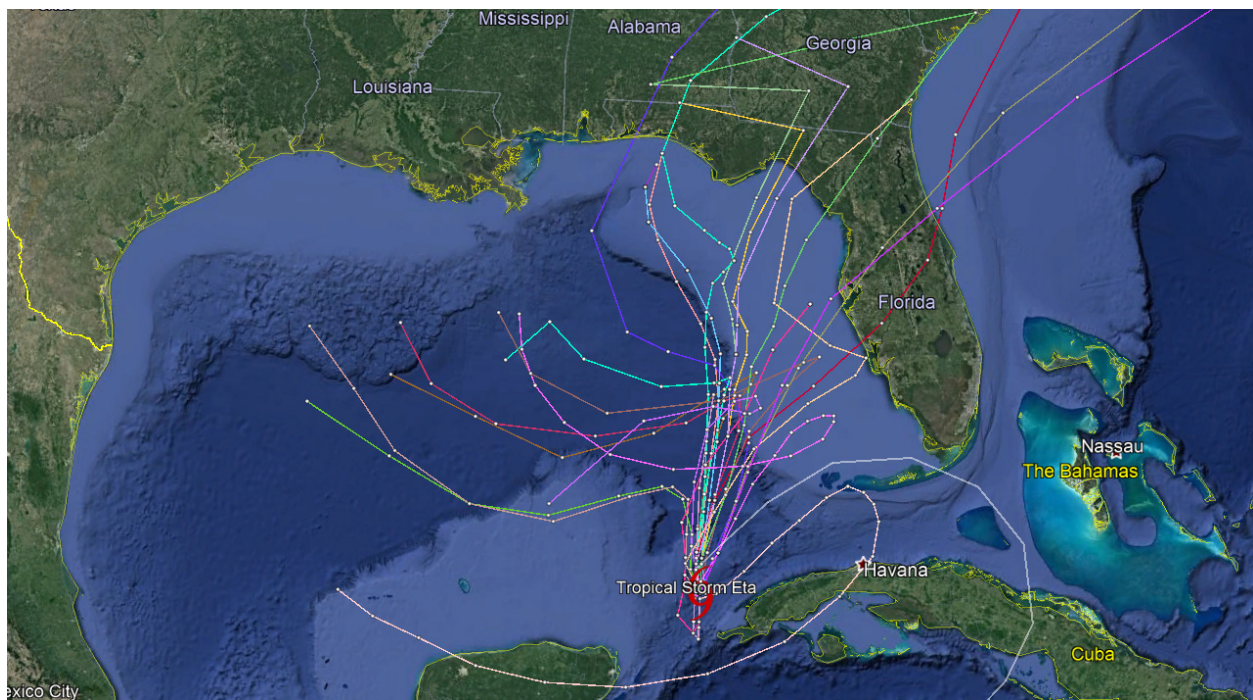




# Weather Prediction Center: Rainfall Potential



## Current 'Spaghetti' Model Output Data



## Additional Information and Update Schedule

Wind intensity forecasts and forecast track information can be found via the National Hurricane Center at [www.nhc.noaa.gov](http://www.nhc.noaa.gov)

**NEXT CAT ALERT:** With the storm now currently expected to meander and gradually weaken in the Gulf of Mexico, this will be the final Cat Alert. Should Eta unexpectedly intensify and threaten the U.S. Gulf Coast as a tropical storm or hurricane, Cat Alerts will be re-initiated.

# \*Tropical Cyclone Intensity Classifications for Global Basins

WIND SPEED			BASINS AND MONITORING BUREAU						
KTS <sup>1</sup>	MPH <sup>1</sup>	KPH <sup>1</sup>	NE Pacific, Atlantic	NW Pacific	NW Pacific	SW Pacific	Australia	SW Indian	North Indian
			National Hurricane Center (NHC)	Joint Typhoon Warning Center (JTWC)	Japan Meteorological Agency (JMA)	Fiji Meteorological Service (FMS)	Bureau Of Meteorology (BOM)	Meteo-France (MF)	India Meteorological Department (IMD)
30	35	55	Tropical Depression	Tropical Depression	Tropical Depression	Tropical Depression	Tropical Low	Tropical Depression	Deep Depression
35	40	65	Tropical Storm	Tropical Storm	Tropical Storm	Cat. 1 Tropical Cyclone	Cat. 1 Tropical Cyclone	Moderate Tropical Storm	Cyclonic Storm
40	45	75							
45	50	85							
50	60	95							
55	65	100							
60	70	110	Cat. 1 Hurricane	Typhoon	Typhoon	Cat. 3 Severe Tropical Cyclone	Cat. 3 Severe Tropical Cyclone	Tropical Cyclone	Very Severe Cyclonic Storm
65	75	120							
70	80	130							
75	85	140							
80	90	150							
85	100	160	Cat. 2 Hurricane	Typhoon	Typhoon	Cat. 4 Severe Tropical Cyclone	Cat. 4 Severe Tropical Cyclone	Intense Tropical Cyclone	Very Severe Cyclonic Storm
90	105	170							
95	110	175							
100	115	185	Cat. 3 Major Hurricane	Typhoon	Typhoon	Cat. 4 Severe Tropical Cyclone	Cat. 4 Severe Tropical Cyclone	Intense Tropical Cyclone	Very Severe Cyclonic Storm
105	120	195							
110	125	205							
115	130	210	Cat. 4 Major Hurricane	Super Typhoon	Super Typhoon	Cat. 5 Severe Tropical Cyclone	Cat. 5 Severe Tropical Cyclone	Very Intense Tropical Cyclone	Super Cyclonic Storm
120	140	220							
125	145	230							
130	150	240	Cat. 5 Major Hurricane	Super Typhoon	Super Typhoon	Cat. 5 Severe Tropical Cyclone	Cat. 5 Severe Tropical Cyclone	Very Intense Tropical Cyclone	Super Cyclonic Storm
135	155	250							
140	160	260							
>140	>160	>260	Cat. 5 Major Hurricane	Super Typhoon	Super Typhoon	Cat. 5 Severe Tropical Cyclone	Cat. 5 Severe Tropical Cyclone	Very Intense Tropical Cyclone	Super Cyclonic Storm

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