

4:00 PM EST

Sunday, November 8, 2020 Tropical Storm Eta, Invest 97L in Northeast Atlantic (30%), and New Caribbean Wave (20%)

This update is intended for government and emergency response officials, and is provided for informational and situational awareness purposes only. Forecast conditions are subject to change based on a variety of environmental factors. For additional information, or for any life safety concerns with an active weather event please contact your County Emergency Management or Public Safety Office, local National Weather Service forecast office, or visit the National Hurricane Center website at www.hurricanes.gov.

Tropical Storm Eta

4 PM ET Friday: Florida Threats & Changes Since Last Packet



FDE



Overview/Recent Changes: Hurricane and Storm Surge Warnings remain for the Keys Potentially significant flooding is possible across the metro areas of Southeast Florida. Tropical-storm-force winds to begin soon in South Florida and the Keys. ***Impacts will extend well away from the center***

Current Florida Radar As of 3:20 PM ET



Some of the stronger showers and thunderstorms are already producing wind gusts of 40-60 mph. This will continue through the day. Sustained tropical-stormforce winds begin this evening in Southeast Florida and the Keys.

FDE





82°W 80°W 78°W 76°W 74°W

Official Forecast Track

From the National Hurricane Center – Tropical Storm Eta



- The center of Tropical Storm Eta is about 115 miles east-southeast of Marathon, moving northwest at 14 mph.
- Maximum sustained winds are near 65 mph, and Eta is now forecast to be near or at hurricane intensity as it passes near or over the Keys.
- Eta will move near or over the Keys tonight, then turn southwestward over the southeast Gulf of Mexico Monday night.
- Eta will sharply turn back to the north on Tuesday and turn north-northeastward mid to late week. Eta is forecast to be near the West Coast or Big Bend on Friday.

It's important to not focus too much on the cone as impacts will extend well outside of the cone.

Key Messages

TONA

From the National Hurricane Center

Key Messages for Tropical Storm Eta Advisory 34: 4:00 PM EST Sun Nov 08, 2020

1. Hurricane conditions are expected tonight and early Monday across portions of the Florida Keys, and are possible across portions of southern Florida. Tropical storm conditions will extend well away from Eta's center across the southern and central portions of the Florida peninsula.

2. There is a danger of life-threatening storm surge in portions of the Florida Keys. Life-threatening storm surge is possible along portions of the southern coast of the Florida peninsula. Residents in these areas should follow any advice given by local officials.

3. Heavy rainfall from Eta will continue across portions of Cuba, Jamaica, the Bahamas, and southern Florida and will spread north into central Florida. This rain may result in significant, life- threatening flash flooding and river flooding in Cuba. Significant flash and urban flooding are also possible for Jamaica, the Bahamas and southern Florida, along with potential minor river flooding in central Florida.





For more information go to hurricanes.gov





Time of Arrival & Wind Speed Probabilities

MOST LIKELY Time of Arrival of Tropical Storm Force Winds (>39 mph)



City	Chance for TS Winds	Changes Since Last Packet
Key West	96%	+11%
Marathon	99%	+10%
Miami	89%	+56%
Ft. Lauderdale	73%	+28%
West Palm Beach	54%	+24%
Naples	85%	+24%
Ft. Myers	54%	+31%
Tampa	49%	+18%
Orlando	20%	+10%
Daytona Beach	15%	+8%
^{25N} Apalachicola	23%	+8%
Panama City	17%	+5%

Tropical storm force winds are likely to begin in South Florida and the Keys Sunday night into Monday morning, then along the West Coast on Monday. If tropical-stormforce winds occur farther north toward the Nature Coast or the Big Bend, they would likely begin on Wednesday into Thursday.



Hurricane Wind (74+ mph) Speed Probabilities

Probability of Sustained Winds of 74+ mph



5	City	Chance for	
ER PA		Hurricane-Force	
		Winds	
	Key West	13%	
	Marathon	10%	
	Naples	2%	

Chances for hurricane-force remain nearly the same. While chances are small, they are relatively significant.

Damaging Wind Threat Overview

Tropical Storm Eta

The greatest wind threat is across the Florida Keys and the coastal areas of far southern Florida. Sustained winds of 55-75 mph are possible in these areas with gusts of 75-85 mph possible.

Across South Florida (south of Lake Okeechobee), sustained winds of 50-60 mph are expected with wind gusts of 60-70 mph possible, especially in the heavy squalls.

Sustained winds of 35-45 mph with gusts of 50-55 mph are possible from Port Charlotte to Titusville southward.

Saturated soils, especially along the Treasure Coast through the Keys make trees and power lines more susceptible to wind damage.

https://www.weather.gov/srh/tropical? <u>office=mfl</u> Click on "Threats and Impacts" Tab



Wind Threat				
Potential for wind greater than 110 mph				
Potential for wind 74 to 110 mph				
Potential for wind 58 to 73 mph				
Potential for wind 39 to 57 mph				
Wind less than 39 mph				



Forecast Wind Gusts

Through Early Week



Tropical-storm-force wind gusts across parts of South Florida and the Keys. Sustained tropical-storm-force winds are expected to begin this evening in Southeast Florida then spread across Southwest Florida through the overnight. Winds may not subside until tomorrow afternoon in South Florida and the Keys.



Wind Watches and Warnings

In Effect Until Further Notice

Tropical Storm Warnings:

Glades, Hendry, Collier, Monroe (mainland), Miami-Dade, Broward, Palm Beach

Tropical Storm Watches:

Brevard, Indian River, St. Lucie, Martin, Charlotte, Lee, and Okeechobee







Tropical Storm & Hurricanes Watches Versus Warnings

WATCH

WARNING

Tropical storm and/or hurricane conditions are **POSSIBLE** in Watch area

Issued up to 48 hours in advance of tropical storm force winds

Tropical storm and/or hurricane conditions are **EXPECTED** in Warning area

Issued up to 36 hours in advance of onset of tropical storm force winds

Hurricane preparedness activities become difficult once winds reach tropical storm force. Watches & Warnings are issued in advance of onset of tropical storm force winds, 39-73mph





eather.gov/mob

FDEM CHICE OF THE GOVERNOR

Flood Threat Overview

Tropical Storm Eta

A potentially significant flood threat is evolving across the Treasure Coast and Southeast Florida. Very heavy rain on top of saturated soil will result in a higher chance of flash flooding. Space Coast and the Lake Okeechobee area could see some isolated flash flooding.

Flood Watches are in effect for much of South Florida and the Treasure Coast.

https://www.weather.gov/srh/tropical? office=mfl Click on "Threats and Impacts" Tab



Potential for localized flooding rain

Little to no potential for flooding rain



Flood Watches

Links: <u>NWS Miami</u> <u>NWS Melbourne</u> <u>NWS Tampa Bay</u>

Through late Monday Night:

Indian River, St. Lucie, Martin, and Okeechobee Counties

Through Tuesday Evening:

Glades, Hendry, Collier, mainland Monroe, Palm Beach, Broward, and Miami-Dade Counties

Through Wednesday Evening:

Charlotte and Lee Counties



Rainfall Totals Next 7 Days

Ending 7 PM ET Sunday



An additional 4-8" of rain is expected across South Florida and the Keys, primarily tonight and Monday. Localized areas could see an additional 10-12"

Areas between I-4 and Lake Okeechobee could see 1.5-3" of rain with localized totals of 3-5".

Rainfall totals over the northern half of the state become more uncertain and will be dependent on the future track of Eta.



Drought Index – Soil Moisture

KBDI – Full Report from the FFS

Keetch Byram Drought Index (KBDI) County Averages for November 08, 2020



4 km Resolution KBDI Statewide November 08, 2020



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FDEM PRICE OF THE GOVERNOR

Flash Flood Guidance

How Much Rain is Needed to Create Flash Flooding?



South Florida remains very wet from rainfall over the last several months. This area remains very prone to flooding.

It will only take about 1.5-3" of rain within 6 hours in parts of Broward, Miami-Dade, and Monroe Counties.

Inches

>= 0.25

> = 0.5

> = 1

>= 2

> = 3

>= 1.5

> = 2.5

> = 3.5

>= 4

>= 4.5

>= 5

> = 5.5

>=б

>= 7

>= 8

>= 6.5

> = 0

Elsewhere in South Florida, it will take about 3-4" of rain in 1 hour or 4-5" in 6 hours to cause flash flooding.

Flash Flood Outlook

3-Day Event Summary



Significant flash flooding is possible across Southeast Florida tonight, possibly northward toward the Treasure Coast. A risk of flash flooding continues across much of South Florida and the East Coast through the next few days.



Flash Flood Risk Categories

Understanding the Weather Prediction Center Risk Scale

Understanding WPC Excessive Rainfall Risk Categories

No Area/Label	MARGINAL (MRGL)	SLIGHT (SLGT)	MODERATE (MDT)	HIGH (HIGH)	
Flash floods are generally not expected.	Isolated flash floods possible	Scattered flash floods possible	Numerous flash floods likely	Widespread flash floods expected	
www.wpc.ncep.noaa.gov @NWSWPC	Localized and primarily affecting places that can experience rapid runoff with heavy rainfall.	Mainly localized. Most vulnerable are urban areas, roads, small streams and washes. Isolated significant flash floods possible.	Numerous flash flooding events with significant events possible. Many streams may flood, potentially affecting larger rivers.	Severe, widespread flash flooding. Areas that don't normally experience flash flooding, could. Lives and property in greater danger.	
Flash Flooding flooding near me? NO Flash Flooding	2 + 2 + 2	$\{(\lambda, \lambda, \lambda)\}$	<u>restares</u>	235 <u>(</u> 165)	
WEATHER PREDICTION CENTER	Risk of rainfall exceeding flash flood guidance within 25 miles of a point to the right of a line HIGH: > 50% SLGT: 10%-20% MDT: 20%-50% MRGL: 5%-10%				



Possible River Flooding

Chance of River Flooding Based on Range of Forecasted Rainfall



Some minor flooding is possible along some North and Central Florida rivers if heavier rainfall materializes. The Peace River has about a 1 in 3 chance of reaching minor flood. The St. Johns River at Astor remains in minor flood through the next 5 days.



Storm Surge Threat Overview

Tropical Storm Eta

The greatest storm surge threat will be across Southwest Florida and the Keys, where 2-4' of storm surge is forecast

Current forecasts call for 1-3 feet of storm surge possible along the West Coast, East Coast, and the St. Johns River.

Storm surge will increase into tonight along the Keys and South Florida, then along the West Coast later this week, depending on the track.

> https://www.weather.gov/srh/tropical? <u>office=mfl</u> Click on "Threats and Impacts" Tab





Coastal Flood/Storm Surge Alerts

Tropical Storm Eta



Coastal Flood Advisories are in effect for Southeast Florida for 2-3' of surge, and **Coastal Flood Statements** are in effect for Northeast Florida and the St. Johns River in Duval County for 1-2' of surge.

Storm Surge Warning

Storm Surge Watch

There is a danger of life-threatening inundation from rising water moving inland from the shoreline generally within 36 hours.

Promptly follow evacuation and other instructions from local officials.

There is a **possibility of lifethreatening inundation** from rising water moving inland from the shoreline generally **within 48 hours**.

Promptly follow evacuation and other instructions from local officials.



Storm Surge/Coastal Flooding

Tropical Storm Eta

The highest storm surge will be along coastal South Florida and the Florida Keys where 2-4' of storm surge is possible.

Along the East Coast, 1-2' of storm surge is expected. Storm surge of 1-2' may be possible along the West Coast, depending on track and intensity.



Forecast Wave Heights

Through Early Week







High surf of 7-13 feet will be possible along the East Coast Monday, subsiding to 4-8' by Tuesday and Wednesday. Waves will build across Gulf Coast beaches through this week as Eta moves into the Gulf. Significant beach erosion and dune overwash is possible at many beaches into next week.



Rip Current Outlook



Dangerous rip currents continue due to strong easterly winds and rough surf.





Tornado Threat Overview

Tropical Storm Eta

The greatest tornado threat is across South Florida and the Florida Keys, mainly today, Monday, and possibly Tuesday.

Isolated tornadoes are possible in the outer rain bands of Tropical Storm Eta.

https://www.weather.gov/srh/tropical? <u>office=mfl</u> Click on "Threats and Impacts" Tab



Tornadoes not expected

Severe Weather Outlook Tonight

From the Storm Prediction Center



FDEN

Isolated tornadoes will be possible across South Florida and the Keys in some of the outer bands. The tornado threat is locally higher across Miami-Dade and Monroe Counties where a Slight Risk of severe weather (level 2 of 5) is in place. A Marginal Risk (level 1 of 5) remains across the rest of south Florida and the Treasure Coast.

Severe Weather Outlook Monday

From the Storm Prediction Center



FDEN

Isolated tornadoes will be possible across South Florida and the Keys in some of the outer bands on Monday. There is a **Marginal Risk** (level 1 of 5) of Severe Weather.



Severe Thunderstorm Risk Categories

Understanding the Storm Prediction Center Risk Scale

Thunderstorms (no label)

No severe* thunderstorms expected Lightning/flooding threat exists with all thunderstorms Winds to 40 mph and small hail possible

Isolated severe thunderstorms possible



Understanding Severe Thunderstorm Risk Categories

Marginal Risk (MRGL) Limited in duration and/or coverage and/or intensity 3 - ENHANCED THUNDERSTORMS 1 - MARGINAL 2 - SLIGHT 4 - MODERATE 5 - HIGH Wind to 40-60 mph, hail up to 1", and low tornado risk (no label) (MRGL) (SLGT) (ENH) (MDT) (HIGH) Scattered severe storms possible No severe* **Isolated severe** Scattered Numerous Widespread Widespread Short-lived and/or not widespread, isolated Slight Risk (SLGT) thunderstorms severe storms thunderstorms severe storms severe storms severe storms intense storms possible possible possible likely One or two tornadoes expected expected Reports of strong winds and wind damage Hail ~1", isolated 2" Lightning/flooding Limited in duration Short-lived and/or More persistent Long-lived, very threats exist with all and/or coverage not widespread, and/or widespread, widespread and widespread and thunderstorms isolated intense and/or intensity particularly intense a few intense **Enhanced Risk** Numerous severe storms possible storms possible More persistent and/or widespread, a few intense (ENH) A few tornadoes Several wind damage reports Damaging hail, 1"-2"

NWS defines a severe thunderstorm as measured wind gusts to at least 58 mph, and/or hail to at least one inch in diameter, and/or a tornado. All thunderstorm categories imply lightning and the potential for flooding. Categories are also tied to the probability of a severe weather event within 25 miles of your location.



National Weather Service www.spc.noaa.gov



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Moderate Risk

High Risk

HIGH



Widespread severe storms expected Long-lived, very widespread and particularly intense Tornado outbreak Derecho



Tropical Weather Outlook

Possible Areas of Development During the Next 5 Days (LINK)

Five-Day Graphical Tropical Weather Outlook National Hurricane Center Miami, Florida



Recent satellite-derived wind data confirm that a low pressure system has developed several hundred miles southwest of the Azores.

Shower and thunderstorm activity associated with this system is currently disorganized.

However, the low could slowly develop tropical or subtropical characteristics during the next several days while it moves eastward or east-northeastward over the northeastern Atlantic Ocean.

*Formation chance through 48 hours...low...10%. *Formation chance through 5 days...low...30%.

Tropical Weather Outlook

Possible Areas of Development During the Next 5 Days (LINK)

Five-Day Graphical Tropical Weather Outlook National Hurricane Center Miami, Florida



Ø Post-Tropical Cyclone or Remnants

A tropical wave is forecast to move over the central Caribbean Sea, where an area of low pressure could form in a few days.

Environmental conditions may be conducive for at least gradual development thereafter while the system moves slowly westward through the end of the week.

This system may need to be monitored later in the week or next weekend.

*Formation chance through 48 hours...low...near 0%. *Formation chance through 5 days...low...20%.



Overall Summary

Tropical Storm Eta

- The center of Eta is located about 235 miles south-southeast of Miami, FL, moving north at 14 mph.
- Maximum sustained winds are near 65 mph, and additional strengthening is expected through Sunday night. Eta is now forecast to be a hurricane as it passes near and over the Keys and into the southern Gulf of Mexico.
- Eta will move over or near the Keys tonight and into the southeastern Gulf of Mexico on Monday.
- Eta will turn northward over the eastern the Gulf of Mexico early to mid next week, then turn northeastward later in the week.
- The forecast in the Gulf of Mexico remains highly uncertain, but areas farther north in the state should continue to monitor. Invest 97L – Northeast Atlantic
- A non-tropical low pressure system several hundred miles of the Azores could acquire some tropical or subtropical characteristics later this week as it moves east or east-northeast.
- This system has a 10% (low) chance of formation during the next 48 hours and a 30% (low) chance during the next 5 days.
- This system does not need to be monitored.

Caribbean Wave

- A tropical wave moving over the Caribbean could spawn an area of low pressure over the central Caribbean as it slowly
 moves westward through the end of the week.
- This system has a 0% (low) chance of formation during the next 48 hours and a 20% (low) chance during the next 5 days.
- This system may need to be monitored later in the week or next weekend.



Florida Outlook

Florida Outlook:

- It is important to NOT focus on the exact track of Eta. Impacts will extend well beyond the cone away from the center.
- Hurricane Warnings: Monroe (Keys)
- Hurricane Watches: coastal Collier, Monroe (Mainland), Miami-Dade
- Tropical Storm Warnings: Glades, Hendry, Collier, Monroe (Mainland), Miami-Dade, Broward, Palm Beach
- Tropical Storm Watches: Okeechobee, Martin, St. Lucie, Indian River, Lee, Charlotte, and Brevard
- Tropical-storm-force winds will likely begin Sunday night across the Keys and South Florida, then along the West Coast on Monday. If tropical-storm-force winds occur in the Big Bend and Nature Coast, it would be Tuesday into Wednesday
- Sustained winds of 55-75 mph with gusts of 75-85 mph will be possible in the Keys and coastal parts of South Florida. Sustained winds of 50-60 mph with gusts of 60-70 mph near and south of Lake Okeechobee. Sustained winds of 35-45 mph with gusts of 50-55 mph are possible from Port Charlotte to Titusville southward to Lake Okeechobee.
- Saturated soils make trees and power lines more susceptible to wind damage.
- An additional 4-8" of rain is expected across South Florida and the Keys with localized totals of 10-12" possible. Areas between I-4 and Lake Okeechobee could see an additional 1.5-3" with localized totals of 3-5" possible.
- Flood Watches are in effect for all of South Florida, the Treasure Coast, and Okeechobee County.
- Storm Surge Warnings: Monroe (Keys)
- Storm Surge Watches: Collier and Monroe (Mainland)
- 2-4' of storm surge is expected along coastal South Florida and the Florida Keys.
- Isolated tornadoes will also be possible in any of the outer bands through tonight and Monday across South Florida and the Keys.
- Beach erosion and dangerous rip currents from very high surf are expected along the East Coast. This become possible across the Gulf beaches next week.
- This system could impact other parts of the state farther north. However, details there become highly uncertain.

The next tropics packet will be issued Monday morning. For the latest information on the tropics, please visit the National Hurricane Center website at <u>www.hurricanes.gov</u>.



TROPICAL UPDATE



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