

TROPICAL UPDATE



10:00 AM EST Sunday, November 8, 2020

Tropical Storm Eta

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

10 AM ET Friday: Florida Threats & Changes Since Last Packet





Overview/Recent Changes:

Hurricane and Storm Surge Warnings now in effect for the Florida Keys.

Potentially significant flooding is possible across the metro areas of Southeast Florida.

Eta will approach the Keys tonight. Tropical-storm-force winds may last into tomorrow across parts of South Florida and Keys. ***Impacts will extend well away from the center***

Current Florida Radar

As of 9:50 AM 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.





The center of Eta is either just along or just offshore of the north coast of Cuba. Again, due to some persistent shear, Eta remains a lopsided storm with most of the thunderstorms on the north and east sides. Shear may relax some as it moves into the Florida Straits, which could allow for some intensification.



Official Forecast Track

From the National Hurricane Center – Tropical Storm Eta



- The center of Tropical Storm Eta is about 235 miles south-southeast of Miami, FL, moving north at 14 mph.
- Maximum sustained winds are near 65 mph, and Eta is now forecast to be a hurricane as it passes near or over the Keys.
- Eta will move near or over the Keys tonight, then into the southern Gulf of Mexico Monday night into Tuesday.
- Eta will turn northeastward again and slow down in the eastern Gulf of Mexico early to mid next week and may slowly weaken as it moves over cooler water and encounters drier air.

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

PRICE OF THE GOVERNOR

Key Messages

From the National Hurricane Center

Key Messages for Tropical Storm Eta Advisory 33: 10:00 AM EST Sun Nov 08, 2020

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

2. Tropical storm conditions are expected to continue today in portions of Cuba and the northwestern Bahamas, where Tropical Storm Warnings are in effect.

3. Hurricane conditions are expected in portions of the Florida Keys by early Monday where a Hurricane Warning is now in effect. Damaging tropical-storm-force winds are expected to begin in the Florida Keys by this afternoon. Tropical Storm conditions are also expected and hurricane conditions are possible for portions of the southern Florida peninsula where a Tropical Storm Warning and Hurricane Watch are in effect. Elsewhere across portions of the east and west coasts of the Florida peninsula, the risk of tropical-storm-force winds will extend well away from Eta's center, and Tropical Storm Watches and Warnings are in effect.

4. A dangerous storm surge is expected in portions of the Florida Keys where a Storm Surge Warning is in effect. A Storm Surge Watch is also in effect for portions of the southern coast of the Florida peninsula. Residents in the Storm Surge Warning and Watch areas should follow any advice given by local officials.



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	85%	+38%	
Marathon	89%	+33%	
Miami	33%	-19%	
Ft. Lauderdale	45%	-16%	
West Palm Beach	30%	-14%	
Naples	61%	+4%	
Ft. Myers	23%	-13%	
Tampa	31%	-1%	
Orlando	10%	-3%	
Daytona Beach	7%	-2%	
Apalachicola	15%	-2%	
Panama City	12%	-2%	

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 begin Tuesday or Wednesday.



Hurricane Wind (74+ mph) Speed Probabilities

Probability of Sustained Winds of 74+ mph



City	Chance for Hurricane-Force		
	Winds		
Key West	16%		
Marathon	14%		
Naples	2%		

Chances for hurricane-force sustained winds have increased in the Florida Keys. They remain the same for Southwest Florida. 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



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 are already occurring this morning across 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



Hurricane Warning: Monroe (Keys)

Hurricane Watch:

Coastal Collier, coastal Broward, Miami-Dade, Monroe (Mainland)





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? <u>office=mfl</u> Click on "Threats and Impacts" Tab





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 AM ET Sunday

FDEN



A widespread 6-12" of rain is possible across South Florida through next week, most of which will fall in the next 3 days. Localized areas in South Florida and the Keys could see 15"+ of rain.

Areas between I-4 and Lake Okeechobee could see 3-5" of rain with localized totals of 6-8".



Drought Index – Soil Moisture

KBDI – Full Report from the FFS

Keetch Byram Drought Index (KBDI) County Averages for November 07, 2020



4 km Resolution KBDI Statewide November 07, 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 today, 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	withi HIG		ling flash flood gu bint to the right of SLGT: 10%-20° MRGL: 5%-109	a line %



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 South 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 begin increasing this afternoon into tonight along the Keys and East Coast, then along the West Coast early in the week.

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





Coastal Flood/Storm Surge Alerts

Tropical Storm Eta



Coastal Flood Watches are also in effect for coastal Northeast Florida and the tidal St. Johns River along the Clay/St. Johns Line. Significant coastal flooding is possible.

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. Significant beach erosion and dune overwash is possible at many beaches into next week.

19z issuance

Graphic created-Nov 07 2:28PM EST



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? office=mfl Click on "Threats and Impacts" Tab



Potential for many tornadoes	
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Potential for several tornadoes

Potential for a few tornadoes

Tornadoes not expected

Severe Weather Outlook

From the Storm Prediction Center



FDEM

Isolated tornadoes will be possible across South Florida and the Keys in some of the outer bands. 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



Ø Post-Tropical Cyclone or Remnants

A broad non-tropical area of low pressure appears to be developing several hundred miles southwest of the Azores.

This system could slowly develop subtropical characteristics later this week while it moves eastward or east-northeastward over the northeastern Atlantic Ocean.

*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.



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 Broward, all of Miami-Dade, coastal Collier, and Monroe (Mainland)
- Tropical Storm Warnings: Glades, Hendry, Collier, Monroe (Keys and 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.
- 7-day rainfall totals could approach a widespread 6-12" with localized totals of 15"+ in South Florida and the Keys. Northward to the I-4 corridor, rainfall totals of 2-4" with localized totals of 6-8" are 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: Miami-Dade, Collier, 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, possibly beginning Sunday across South Florida and the Keys, spreading northward into early next week.
- Beach erosion and dangerous rip currents from very high surf are expected along the East Coast.
- This system could impact other parts of the state farther north. However, details there become highly uncertain.

The next tropics packet will be issued this afternoon with the 4PM ET Advisory. 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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