









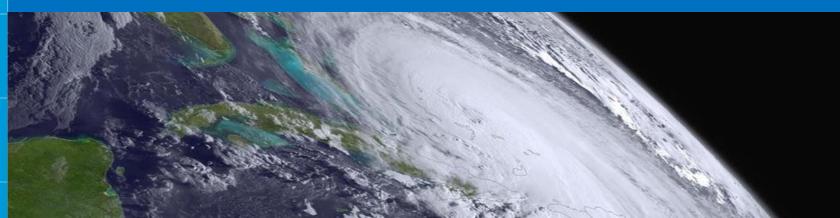




# NOAA National Weather Service

# **USCG District 7 Visit**

**NWS Miami: Larry Kelly & Rob Molleda** 















# Daily Operations & Tools

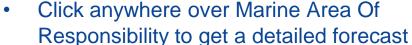






# Point & Click







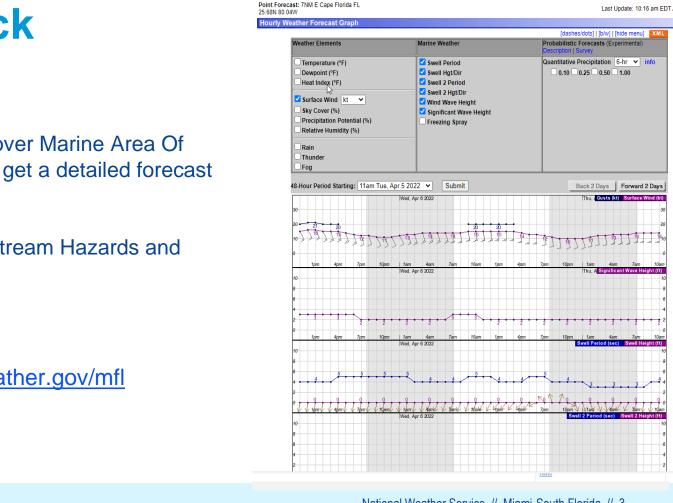
Synopsis, Gulf Stream Hazards and **Daily Forecast** 



https://www.weather.gov/mfl



.gov not .com









# **Point & Click Portal**



Experimental Marine Portal for forecast

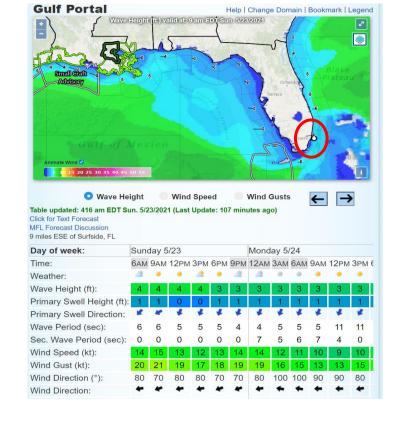


3 hourly forecast for an point, shows advisories, warnings etc.



https://www.weather.gov/greatlake s/?portal=gulf







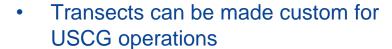




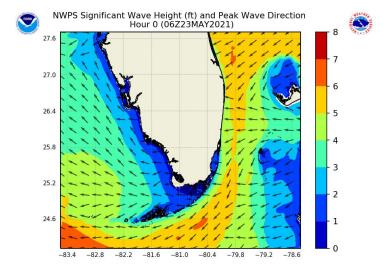
# **NWPS**

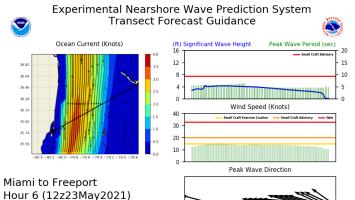






 https://polar.ncep.noaa.gov/nwps/n wpsloop.php?site=MFL&cg=1









Distance: 166NM



# Graphical Hazard Outlook NATIONAL WEATHER SERVICE

Homestead

Flamingo







## **Experimental Graphical Hazardous Weather Outlook**

Weather Forecast Office Miami, FL Updated: April 5th 2022, 10:08:42 am



Threat Risk

Limited

Elevated

NWSMiami



No Marine Risk.

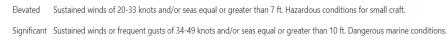
Limited

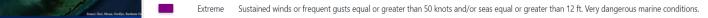
Small craft should exercise caution





















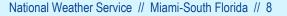






# Decision Support Services (DSS)



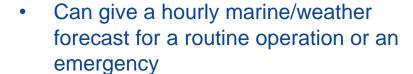






# **Spot Forecast**







Call our duty forecaster to give lat/lon and we will provide the forecast for you 305-229-4525



https://www.weather.gov/spot/request/





```
National Weather Service Miami/South Florida
2021-05-23 5:55 AM EDT
Spot Forecast for MAIRNE TEST...NWS
National Weather Service Miami FL
554 AM EDT Sun May 23 2021
Forecast is based on forecast start time of 0700 EDT on May 23.
If conditions become unrepresentative...contact the National Weather
Please contact our office at (305) 229-4522, if you have questions
or concerns with this forecast.
High pressure with mostly sunny skies and a slight chance of
showers over the waters mainly this morning. Easterly winds 10 to
15 mph with seas around 4 feet.
Sky/weather......Mostly sunny (25-35 percent). Slight chance of
                  sprinkles in the morning.
Max temperature....Around 78.
Surface winds......East winds 12 to 14 mph.
Chance of pcpn.....10 percent.
Swell height......Northeast swell 0 feet.
Wave height.....4 feet.
Swell period.....6 SECONDS.
              7AM 8AM 9AM 10A 11A 12P 1PM 2PM 3PM 4PM 5PM
Sky (%)......39 29 25 28 25 23 25 30 30 26 24
Weather cov....SCH SCH SCH SCH SCH
Weather type....RW RW RW RW RW
Tstm cov.....
Chc of pcpn (%).10
                  10
                     10
                         10
                             10
                                 10
                                     0
SWELL DIRECTION.W SW W
                             NE NE
                                     NE
SWELL HGT (FT)..0
                 0 0 0
                             0
Swell period (s)6 6
Wave height (ft)4 4
TONTGHT
Sky/weather.....Partly cloudy (25-35 percent).
Min temperature....Around 76.
Surface winds......East winds 9 to 14 mph.
Chance of pcpn.....10 percent.
Swell height......North swell 1 feet.
Wave height..... 3 feet.
Swell period...... SECONDS.
               6PM 7PM 8PM 9PM 10P 11P MID 1AM 2AM 3AM 4AM 5AM
Sky (%)........28 26 27 30 37 34 29 19 21 24 20 24
Weather type....
Tstm cov.....
Temp......77
Chc of pcpn (%).0
                  0
                      0
                             0
                                     0
                                             10
SWELL DIRECTION NE NE
SWELL HGT (FT)..0
                  0
                      0 0
                             1
                                 1
                                     1
                                         1
                                            1
Swell period (s)5
                  4 4
                             4
Wave height (ft)3
.MONDAY...
Sky/weather.....Sunny (15-25 percent).
Max temperature....Around 79.
Surface winds......East winds 8 to 12 mph.
Chance of pcpn.....10 percent.
Swell height......Northeast swell 1 feet.
Wave height..... 3 feet.
Swell period...... SECONDS.
TIME (EDT)
              6 AM
                     8 AM
                           10 AM
                                  NOON
                                                4 PM
Sky (%)......23
                                         13
Weather cov....
Weather type....NONE
                                  NONE
                                                NONE
Tstm cov.....
Temp.....76
Chc of pcpn (%).10
SWELL HGT (FT)..N 1
                     N 1
                            N 1
                                  NE 1
                                         NE 1
                                               NE 1
Swell period (s)5
Wave height (ft)3
```



# **Briefing for Specific Operations**



# **National Weather Service Miami/South Florida**

Phone: 305-229-4525 Email: sr-mfl.ops@noaa.gov

Valid As Of: 4:30am Sunday, May 23, 2021

**USCG Miami Sector Operations Decision Support Forecast** 

### SYNOPSIS:

Today should be mostly dry. An approaching weak cold front will bring a slight chance of showers tomorrow. The front is forecast to move across the area Wednesday night, bringing somewhat better chances of rain. Behind the front on Thursday, high pressure is forecast to build in with drier conditions.

### Watches/Warnings/Advisories:

None.

SB LIV Operations – Miami Bayfront Park						
	Weather	Chop	Winds			
Tue 28 Jan	Partly Sunny, Dry	Light Chop	NNW 10 KT			
Wed 29 Jan	Slight chance of showers	Light Chop	Variable 5 to 10 KT			
Thu 30 Jan	Partly Sunny, Dry	Light Chop	NNW 5 to 10 KT			

Todays Hazards					
Hazard	Timing	Hazard Impact Level			
Winds	All of Tuesday	None			
Chop	All of Tuesday	None			
Lightning	All of Tuesday	None			

















# Tropical Ops & Briefings





# **NHC & NWS Office Forecasts**

Working together to provide a clear, consistent, and effective tropical message

# **National Hurricane Center**



Large Scale

Location of interest moves with storm



Storm intensity, track, size



Broad wind, rainfall, and tornado information



Local scale

Location of interest is the local area of responsibility

Specific local wind, surge, rainfall, and tornado information

Local threats and potential impacts









# Situation Overview

**Hurricane Dorian** 













- What has changed, biggest impact
- Brief discussion of any watches or warnings in effect.
- Biggest Threats & Impacts
- Other caveats/conditions that may affect preparation or long term concerns (heavy rainfall that begins prior, etc).

**NOTE**: Do not focus on the exact track.

Impacts can occur well outside the area enclosed by the cone.

# **Hurricane Local Statement - HLS**



Land only product



Broadcasts on NOAA Weather Radio



Overview of tropical impacts across the WFO's Area of Responsibility



This product covers EASTERN FLORIDA PANHANDLE...FLORIDA BIG BEND...SOUTHEASTERN ALABAMA AND SOUTHWESTERN GEORGIA

\*\*UNPRECEDENTED EVENT EXPECTED FOR THE FLORIDA PANHANDLE AND BIG BEND\*\*

### NEW INFORMATION

- \* CHANGES TO WATCHES AND WARNINGS
- \* CURRENT WATCHES AND WARNINGS:
  - A Tropical Storm Warning and Hurricane Watch are in effect for Clay, Coffee, Dale, Henry, Lee, Quitman, Randolph, and Terrell
  - A Storm Surge Warning and Hurricane Warning are in effect for
- Coastal Bay, Coastal Dixie, Coastal Franklin, Coastal Gulf A Hurricane Warning is in effect for Baker, Brooks, Calhoun,
- Calhoun, Central Walton, Colquitt, Decatur, Dougherty, Early
- A Tropical Storm Warning is in effect for Ben Hill, Berrien, Cook, Inland Dixie, Inland Taylor, Irwin, Lafavette, Lanier.
- \* STORM INFORMATION:
  - About 210 miles south-southwest of PANAMA CITY or about 200 miles south-southwest of APALACHICOLA
  - 27.1N 86.5W
  - Storm Intensity 125 mph
  - Movement North or 355 degrees at 12 mph

### SITUATION OVERVIEW

Catastrophic storm surge and winds are expected from Michael. Hurricane Michael continues to strengthen and is currently a strong category 3. Michael is expected to intensify to category 4 before landfall. Michael will make landfall tomorrow along the Florida Panhandle Coast. This is an unprecedented event as there are no Category 4 storms on record to have made landfall along the Florida Panhandle coast. Michael is expected to bring life-threatening storm surge, widespread power outages that will last days to even more than a week in some areas, downed trees that will block access to roads and endanger individuals, structural damage to homes and businesses.









# **Hurricane Local Statement - HLS**



Affected Area



New Information since last storm update

Overview of Situation

**Generalized Threat** Assessment

Generalized impacts for area

Hurricane Michael Local Statement Advisory Number 14 National Weather Service Tallahassee FL AL142018 1257 AM EDT Wed Oct 10 2018 /1157 PM CDT Tue Oct 9 2018/

This product covers EASTERN FLORIDA PANHANDLE...FLORIDA BIG BEND...SOUTHEASTERN ALABAMA AND SOUTHWESTERN GEORGIA

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# **Hurricane Local Statement - HLS**











- Potential Impact Sections:
  - Wind
  - Surge
  - Flooding Rain
  - Tornadoes

### POTENTIAL IMPACTS

### \* WIND:

Prepare for life-threatening wind having possible devastating impacts across West Central and Southwest Florida. Potential impacts include:

 Structural damage to sturdy buildings, some with complete roof and wall failures. Complete destruction of mobile homes. Damage greatly accentuated by large airborne projectiles. Locations may be uninhabitable for weeks or months.

### SURGE:

Prepare for life-threatening surge having possible devastating impacts across the Tampa Bay region and all of southwest Florida. Potential impacts in this area include:

 Widespread deep inundation, with storm surge flooding greatly accentuated by powerful battering waves. Structural damage to buildings, with many washing away. Damage greatly compounded from considerable floating debris. Locations may be uninhabitable for an extended period.

Prepare for life-threatening rainfall flooding having possible extensive impacts across west central and southwest Florida.

Potential impacts include:

- Major rainfall flooding may prompt many evacuations and rescues

### \* TORMADOES

Prepare for a dangerous tornado event having possible significant impacts across West Central and Southwest Florida. Potential impacts include:

 The occurrence of scattered tornadoes can hinder the execution of emergency plans during tropical events.





# Tropical Cyclone Watch/Warning Product – TCV



- Info by County Zone
- Contains Watch/Warning coding
- Forecast information by Hazard
  - Where, What, When, How Long
- NOT made to READ in entirety parsed for web display and other apps
- Triggers Emergency Alert System (EAS) & TV Crawls

URGENT - IMMEDIATE BROADCAST REQUESTED
Irma Local Watch/Warning Statement/Advisory Number 40
National Weather Service Key West FL AL112017
1133 PM EDT Fri Sep 8 2017

### FLZ078-091145-

/O.CON.KKEY.SS.W.1011.000000T0000Z-000000T0000Z/ /O.CON.KKEY.HU.W.1011.000000T0000Z-000000T0000Z/ Monroe Lower Keys-

1133 PM EDT Fri Sep 8 2017

- ...HURRICANE WARNING REMAINS IN EFFECT ...
- ...STORM SURGE WARNING REMAINS IN EFFECT ...

### \* LOCATIONS AFFECTED

- Key West
- Bia Pine

### \* WIND

- LATEST LOCAL FORECAST: Equivalent Cat 2 Hurricane force wind
  - Peak Wind Forecast: 80-100 mph with gusts to 110 mph
  - Window for Tropical Storm force winds; this evening until early Monday morning
  - Window for Hurricane force winds: this evening until Sunday afternoon

### - CURRENT THREAT TO LIFE AND PROPERTY: Extreme

- The wind threat has remained nearly steady from the previous assessment.
- Emergency plans should include a reasonable threat for major hurricane force wind greater than 110 mph of equivalent Category 3 intensity or higher.

### POTENTIAL IMPACTS: Devastating to Catastrophic

Structural damage to sturdy buildings, some with complete roof and wall failures.
 Complete destruction of mobile homes. Damage greatly accentuated by large airborne projectiles. Locations may be uninhabitable for weeks or months.







# **Marine Weather Warning - MWW**







Hurricane Hermine (2016)
No Significant Land Impacts
for Florida East Coast



URGENT - MARINE WEATHER MESSAGE NATIONAL WEATHER SERVICE MELBOURNE FL 428 PM EDT THU SEP 1 2016

### AMZ550-570-022000-

/O.NEW.KMLB.TR.W.1009.160901T2028Z-00000T0000Z/ /O.CAN.KMLB.SI.Y.0002.160902T0200Z-160902T2000Z/ FLAGLER BEACH TO VOLUSIA-BREVARD COUNTY LINE 0-20 NM-FLAGLER BEACH TO VOLUSIA-BREVARD COUNTY LINE 20-60 NM-428 PM EDT THU SEP 1 2016

...TROPICAL STORM WARNING IN EFFECT ...

THE NATIONAL WEATHER SERVICE IN MELBOURNE HAS ISSUED A TROPICAL STORM WARNING.

- \* WINDS...HURRICANE HERMINE IS FORECAST TO MOVE ONSHORE THE FLORIDA BIG BEND LATE TONIGHT...THEN CROSS THE NORTH PENINSULA FRIDAY MORNING. AS THE STORM CONTINUES TO MOVES NORTH AND EAST ...SUSTAINED WINDS ARE EXPECTED TO INCREASE TO 25 TO 35 KNOTS WITH FREQUENT GUSTS TO TROPICAL STORM FORCE THROUGH EARLY FRIDAY AFTERNOON. STRONGER WINDS MAY OCCUR IN RAINBAND SQUALLS AS THEY MOVE OFFSHORE AND OVER THE ATLANTIC WATERS.
- \* WAVES/SEAS...SEAS BUILDING TO 6 TO 8 FEET BEYOND THE IMMEDIATE COAST BY EARLY FRIDAY MORNING.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

A TROPICAL STORM WARNING MEANS SUSTAINED WINDS OF 34 TO 63 KT OR ARE EXPECTED DUE TO A TROPICAL SYSTEM WITHIN 36 HOURS. SMALL CRAFT SHOULD REMAIN IN PORT.



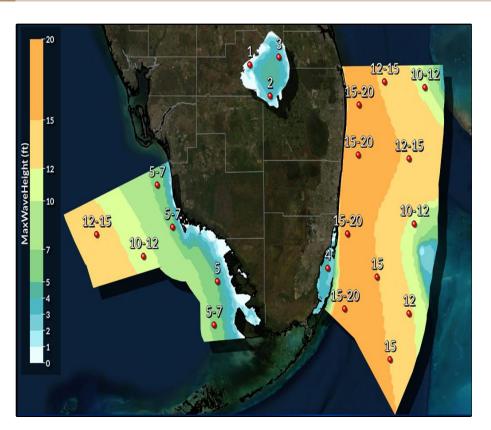




# Marine Outlook

# **Tropical Storm Eta**



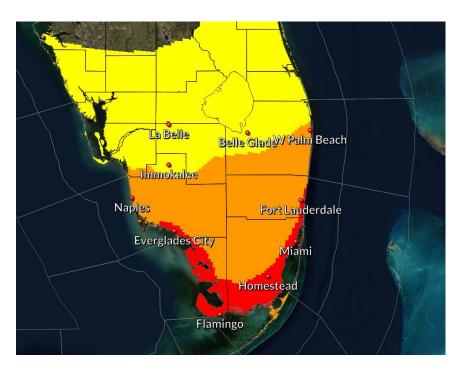


- Atlantic: Lingering into Tuesday
  - Max values expected Sunday Night into Monday
- Gulf: Lingering into at least Wednesday
  - Max values expected Sunday Night through at least Tuesday

# Wind Threat/Potential Impacts

# **Tropical Storm Eta**





WIND THREAT
Be Safe and Prepare For These Potential Conditions

### **Potential Wind Impacts**

Reasonable Worst Case Scenario

Potential for Winds Greater Than 110 mph

### Potential for Winds 74 to 110 mph

- Considerable roof damage to sturdy buildings, with some having window, door, and garage door failures leading to structural damage
- Mobile homes severely damaged, with some destroyed
- Damage accentuated by airborne projectiles
- Locations may be uninhabitable for weeks
- Many large trees snapped or uprooted along with fences and roadway signs blown over
- · Several bridges, causeways, and access routes impassable
- · Large areas with power and communications outages

Potential for Winds 58 to 73 mph

Potential for Winds 39 to 57 mph

Potential for Winds Less Than 39 mph

### Locations of Concern

- Portions of Miami-Dade County, coastal Broward County (east of I-95), portions of coastal Collier County and Mainland Monroe County: reasonable worst case scenario of hurricane force wind, mainly in gusts, as depicted in the table above
- South of a Fort Myers West Palm Beach line: High-end Tropical storm force wind which would lead to downed trees and branches, power outages, and blowing around of unsecured lightweight objects

### Timing

Sunday afternoon through Monday afternoon (latest www.weather.gov/miami

# Potential Tornado Impacts

# **Tropical Storm Eta**





**TORNADO THREAT**Be Safe and Prepare For These Potential Conditions

## **Potential Tornado Impacts**

Reasonable Worst Case Scenario

Potential for an Outbreak of Tornadoes

**Potential for Many Tornadoes** 

Potential for Several Tornadoes

### Potential for a Few Tornadoes

- The occurrence of isolated tornadoes can hinder the execution of emergency plans during tropical events
- A few places may experience tornado damage, along with power and communications disruptions
- A few locations could see roofs peeled off buildings, mobile homes pushed off foundations or overturned, large tree tops and branches snapped off, shallowrooted trees knocked over, moving vehicles blown off roads, and small boats pulled from moorings

Tornadoes Not Expected

# **Locations of Concern**

All of southern FL

# **Timing**

Sunday night and Monday

# Rainfall Flooding Impacts

# **Tropical Storm Eta**





**FLOODING RAIN THREAT**Be Safe and Prepare For These Potential Conditions

# **Potential Flooding Rain Impacts**

Reasonable Worst Case Scenario

Potential for Extreme Flooding Rain

**Potential for Major Flooding Rain** 

### Potential for Moderate Flooding Rain

- Ditches and canals may quickly become swollen with swift currents and overspill their banks, especially in usually vulnerable spots
- Flood waters can enter some structures
- Rapid inundation at underpasses, low-lying spots, and poor drainage areas possible
- Some streets and parking lots take on moving water as storm drains and retention ponds overflow
- Some road and bridge closures

Potential for Localized Flooding Rain

Little to No Potential For Flooding Rain

# **Locations of Concern**

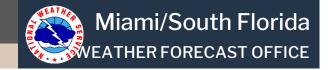
- Greatest threat: SE Florida metro areas
- Localized to moderate threat: interior and SW Florida

# **Timing**

Through Tuesday

# Potential Storm Surge

# Tropical Storm Eta





SURGE THREAT
Be Safe and Prepare For These Potential Conditions

# **Potential Storm Surge Impacts**

Reasonable Worst Case Scenario

Potential for Storm Surge Flooding Greater Than 9 Foot Above Ground

Potential for Storm Surge Flooding Greater Than 6 Foot Above Ground

### Potential for Storm Surge Flooding Greater Than 3 Foot Above Ground

- Areas of inundation with storm surge flooding accentuated by waves
- Damage to several buildings, mainly near the coast
- Sections of near-shore escape routes and secondary roads become weakened or washed out, especially in usually vulnerable low spots
- Major beach erosion with heavy surf breaching dunes
- · Moderate damage to marinas, docks, boardwalks, and piers
- Several small craft broken away from moorings, especially in unprotected anchorages

Potential for Storm Surge Flooding Greater Than 1 Foot Above Ground

Little to No Storm Surge Flooding

# **Locations of Concern**

 Highest threat as depicted above from Biscayne Bay to Coastal Collier County

# <u>Timing</u>

- East Coast: Late Sunday night and Monday
- Gulf Coast: Monday through Tuesday

# WFO Tropical Product Summary

Be Aware of the Dissemination Caveats for Products

# 2-7 Days Out

Hazardous Weather Outlook

Point N Click Forecast Probability Information

**Partner Briefings** 

# Watch/Warning Phase

**Hurricane Local Statement (HLS)** 

**Tropical Cyclone VTEC Product (TCV)** 

Hurricane Threats & Impacts Graphics (HTI)

Marine Weather Warning (MWW)

**Onset & Impact Phase** 

Short Fuse Watches and Warnings

Observational Reports During and After







# Port Specific Wind Speed Probability & Timing

Valid 15Z Advisory June 1, 2020

# Wind Speed Probability & Timing

will a special republic & filling							
Location	Probability of Tropical Storm Force Winds	Tropical Storm Force Winds Arrival Timing	Probability of Hurricane Force Winds	Hurricane Force Winds Arrival Timing			
Port of Miami							
Port Everglades							
Port West Palm Beach							
Port of Fort Pierce							

# Port Specific Wind Speed Probability & Timing

Miami/South Florida
WEATHER FORECAST OFFICE

Tropical Storm Eta

Wind Speed Probability & Timing					
Location	Probability of Tropical Storm Force Winds	Tropical Storm Force Winds Arrival Timing	Probability of Hurricane Force Winds	Hurricane Force Winds Arrival Timing	IMPORTANT: times on the left is the time frame in which sustained tropical storm force wind is likely to occur for PART of the time, not that it will be continuous for that ENTIRE time.  Gusts/squalls (periodic, short-duration) gusts of tropical storm force are much more likely to occur for most of the depicted time frame.
Port of Miami	50	Sunday Mid- Afternoon to Monday Mid- Afternoon	1	N/A	
Port Everglade s	40	Sunday Late Afternoon to Monday Early Afternoon	X	N/A	
Port West Palm Beach	30	Sunday Late Afternoon/Early Evening to Monday Midday	X	N/A	
Port of Fort Pierce	13	Sunday Early Evening to Monday Midday	X	N/A	



# **Key Take-Aways**

Hurricane

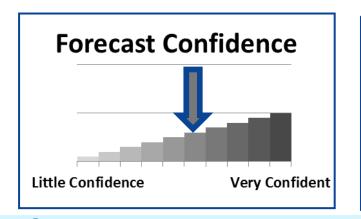












Discussion on Confidence



# Social Media @NWSMiami















 Criteria remains the same 20-33kt sustained winds























**National** 

Weather

Service

# **Questions?**

