

# Briefing Partners

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**NHC-WMO RA-IV Course**

**Miami, FL USA**

**10 April 2024**

# What is your experience level in preparing and giving weather briefings to decision makers?



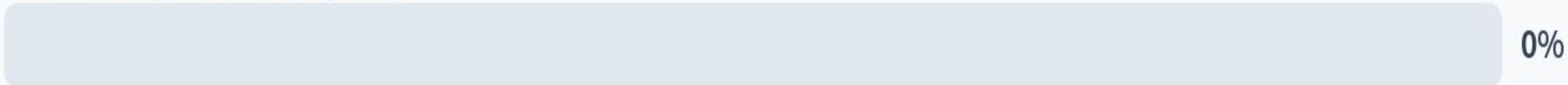
Very Experienced - more than 5 years



Somewhat Experienced - 3-5 years



Limited Experience 1-2 years



Little to No Experience



# What is the most difficult aspect of giving briefings to partners?



Concisely providing the necessary information



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Speaking to high-ranking government officials



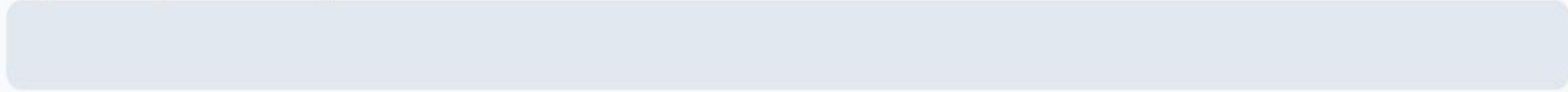
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Pressure involved with a potential high-impact weather event (i.e., major hurricane)



0%

Expressing uncertainty



0%



# Briefing Partners

## The Basics

### **WHAT IS A BRIEFING?**

- Type of meeting or presentation where information basically flows in one direction
- General purpose is to give information or instructions to someone (individual or group)
- Not a debate, discussion, or show, not an exchange of ideas

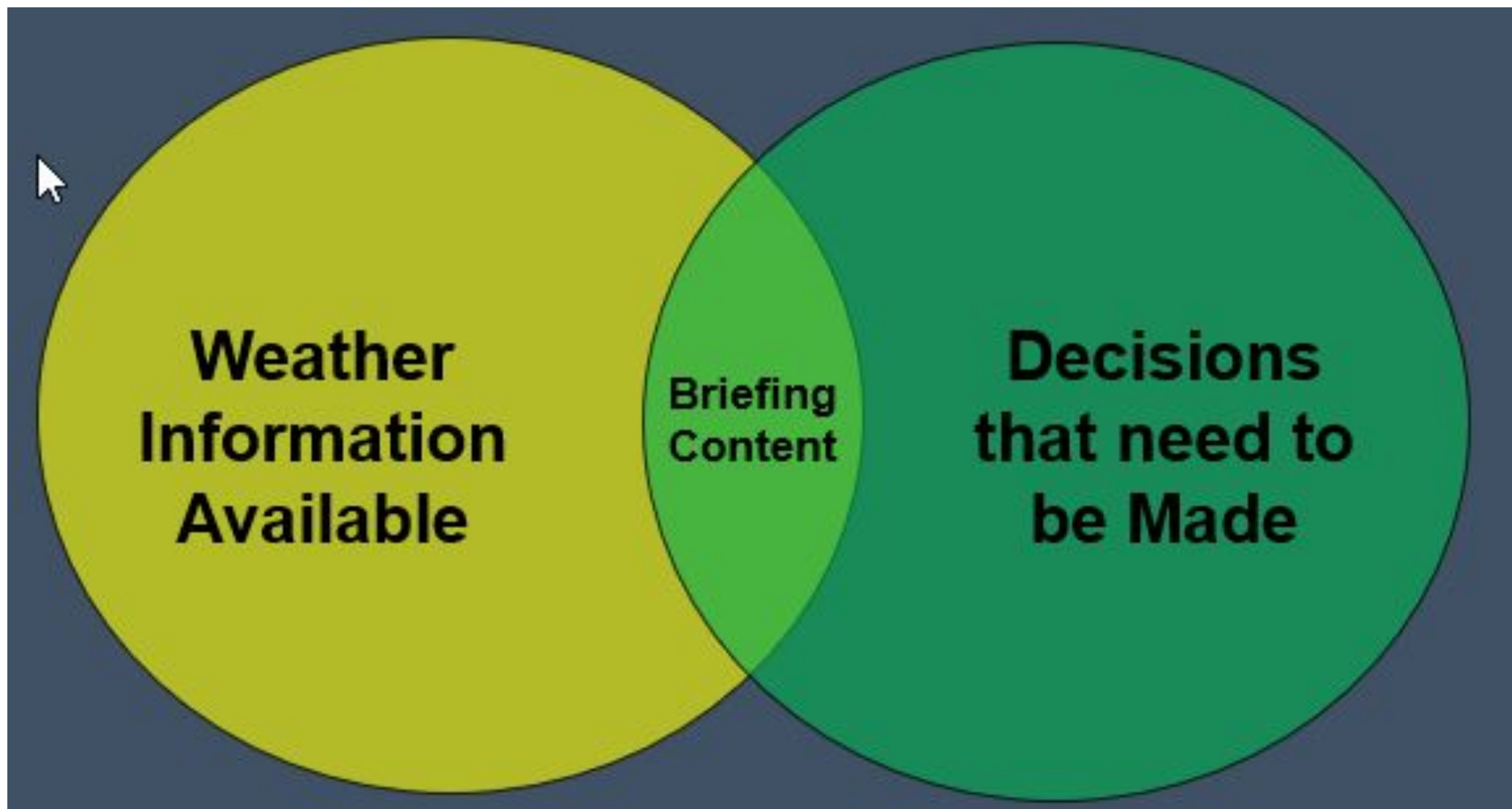


# Briefing Partners

## The Basics

**So Much Weather Information, So Little Time During a Briefing...**

**So what do we talk about?**





# Briefing Partners

## The Basics

### UNDERSTANDING PERSPECTIVES

#### A Good Place to Start

<b>Meteorologist</b> <i>Focus on</i> <b>Conditions</b>	<b>General Public</b> <i>Focus on</i> <b>Personal Protection</b>	<b>Decision Makers</b> <i>Focus on</i> <b>Impacts</b>
<b>What is expected storm surge, flooding, wind, etc?</b>	<b>Am I safe? What is going to happen to me?</b>	<b>What protective actions need be taken? (what's going to break)</b>
<b>What is timing and duration of event?</b>	<b>Do I leave or Stay?</b>	<b>Where will we need to respond?</b>
<b>How to communicate weather hazards?</b>	<b>What do I do? (needs instruction)</b>	<b>What type of recovery will be needed?</b>



# Briefing Partners

## Questions to Address

- What are Thresholds?
- How are thresholds determined/found?
- Use of Operational Significance?
- Use of Operational/Planning Cycles?



# Briefing Partners

## What are Thresholds?

- Thresholds are critical values ( time, space, impact-condition) which represent decision points where customers will take action
  - Threshold values represent coordinated information
  - They do not come from meteorologists
- 
- Some thresholds are hard wired, some are not

### **Examples:**

- Hard: Protective actions end with onset of TS winds
- Soft: Rainfall amounts





# Briefing Partners

## Determining Thresholds

- Ask
  - Participate
  - Anticipate
  - Coordinate
- 
- Know your decision makers – meet with them frequently and get to know them... **BEFORE AN EVENT**
  - Build trust
  - Train staff and develop an “impacts catalog” for locations and situations



# Briefing Partners

## Operational/Planning Cycles

- **What are the customer planning cycles?**
  - When (how often) is Incident Action Plan written/updated
- **What determines planning cycles?**
  - Stay in phase with planning cycles
- **Briefings, emails, conference calls**
  - Flash updates (briefings) outside of planning cycle should **ONLY** be for significant changes
    - Their planning cycles = their decision cycle



# Briefing Partners

## Operational/Planning Cycles

- How do our customers' planning/decision cycles affect meteorologists' operational cycles?
- How do meteorologists' planning/decision cycles affect our customers' operational cycles?



# Briefing Partners

## Decision Points

### When building a briefing – it's all about decision points

- **What is the customer role?**
  - What is the difference between different levels of government
- **What is the customer's planning cycle?**
  - What are temporal and spatial needs?
- **What is operationally significant? (thresholds)**
  - What matters, and what doesn't?



# Briefing Partners

## Customer Needs

### What are customer needs, and how do they differ?

- **Emergency Manager**
  - Increased level of spatial and temporal detail
  - Increased level of uncertainty communicated
- **Media (Radio vs. Television vs. Newspaper)**
  - Less spatial and temporal detail
  - More protective action discussion/recommendation (general)
  - Less uncertainty communicated
  - Likely your briefing (interview) will be edited before release



# Briefing Partners

## Briefing Blueprint

- **Briefing Structure**
  - Start and finish with important points
- **Briefing Content**
  - Focus on the ***what***, NOT the ***why***
  - Prioritize information
  - Tailor to customer (emergency manager/civil defense vs. water manager)
- **Briefing Clarity**
  - Speak customer's language



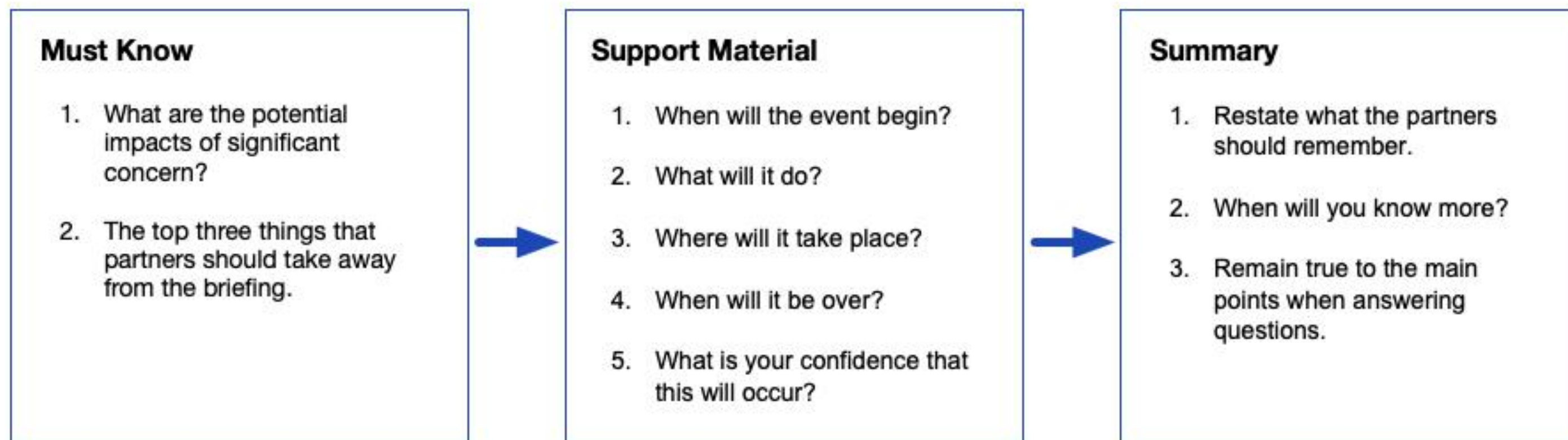
# Briefing Partners

## Briefing Structure

### All briefings should be designed to answer these questions:

- What is it...
- When is it going to get here...
- What is it going to do...
- When is it going to be over...
- What is your confidence this will occur...

### Briefing Structure



# Briefing Examples

## Example #1

Go to Folder 3.6 – Briefing Partners and open Briefing\_Partners Exercise file

The first example briefing is for a webinar to a large group of emergency managers 2 days prior to landfall. Work with your partner on these two questions for the next 10 minutes:

What elements in this briefing are inappropriate?

How will you improve the briefing?



The first example briefing is for a webinar to a large group of emergency managers 2 days prior to landfall. What elements in this briefing are inappropriate? Select all that apply.

0

Starting with the main threats and hazards

0%

Including the forecast confidence in the briefing

0%

Graphics did not match the key points on the slides

0%

The graphics were too complex to be interpreted by emergency managers

0%

Finishing the briefing with a summary of the threats and impacts

0%

The briefing is likely to take longer than 5 minutes

0%

The first example briefing is for a webinar to a large group of emergency managers 2 days prior to landfall. How will you improve the briefing? Select all that apply.



Adjust the length of the briefing to fit within 5 minutes

0%

Tailor the information included to the needs of the emergency managers

0%

Shorten the briefing by consolidating the surge information on one slide

0%

Add spaghetti plots from probability guidance to indicate different possibilities

0%

Discuss how this storm compares to past storms

0%

There is no need for improvements

0%

# Briefing Examples

## Example #2

Go to Folder 3.6 – Briefing Partners and open Briefing\_Partners Exercise file

The first example briefing is for a webinar to a large group of emergency managers 2 days prior to landfall. Work with your partner on these two questions for the next 10 minutes:

What elements in this briefing are inappropriate?

How will you improve the briefing?



# The second example briefing is for a webinar to a large group of emergency managers 4 days prior to landfall. How will you improve the briefing? Select all that apply.

0





# Briefing Partners

## Do's and Don't's

### Audience: Emergency Managers

#### Do

- Storm location
- Storm size and intensity
- Storm motion
- Express confidence
- Forecast model performance (uncertainty)
- Anticipated watches and warnings
- Expected arrival
- Expected impacts
- Storm Duration
- Reasonable worst case scenario

#### Don't

- Latitude and Longitude
- Fluctuations in intensity
- Storm history
- Watches and Warnings outside of area of interest
- A forecast model performance
- Historical analogs
- Specific impacts (rainfall, surge)
- Don't regurgitate information in the NHC package



# Briefing Partners

## Do's and Don't's

### Audience: Media

#### Do

- Storm location
- Storm size and intensity
- Storm motion
- Forecast model performance (uncertainty)
- Anticipated watches and warnings (only in general terms)
- Expected arrival (general)
- Expected impacts (general)
- Storm Duration (general)
- General preparedness and protective actions statements

#### Don't

- Latitude and Longitude
- Fluctuations in intensity
- Storm history
- A forecast model performance
- Historical analogs
- Specific impacts (flooding)
- Deviate from official
- NEVER mention worst case
- NEVER speculate
- NEVER – NEVER speak “off the record”.



# Briefing Partners

## Basics

Which briefing setting looks more intimidating?





# Briefing Partners

## Briefing Audience/Setting

Which briefing setting looks more intimidating?

A. ----->





# Briefing Partners

## Briefing Audience/Setting

Which briefing setting looks more intimidating?

B. ----->





# Briefing Partners

## Ice Breaker Question #1

1. What is your experience level in preparing and giving weather briefings to decision makers?
  - A. Very Experienced - more than 5 years
  - B. Somewhat Experienced – 3-5 years
  - C. Limited Experience 1-2 years
  - D. Little to No Experience



# Briefing Partners

## Ice Breaker Question #2

2. What is the most difficult aspect of giving briefings to partners?
  - A. Concisely providing the necessary information
  - B. Speaking to high-ranking government officials
  - C. Pressure involved with a potential high-impact weather event (i.e., major hurricane)
  - D. Expressing uncertainty



# HURRICANE IRMA

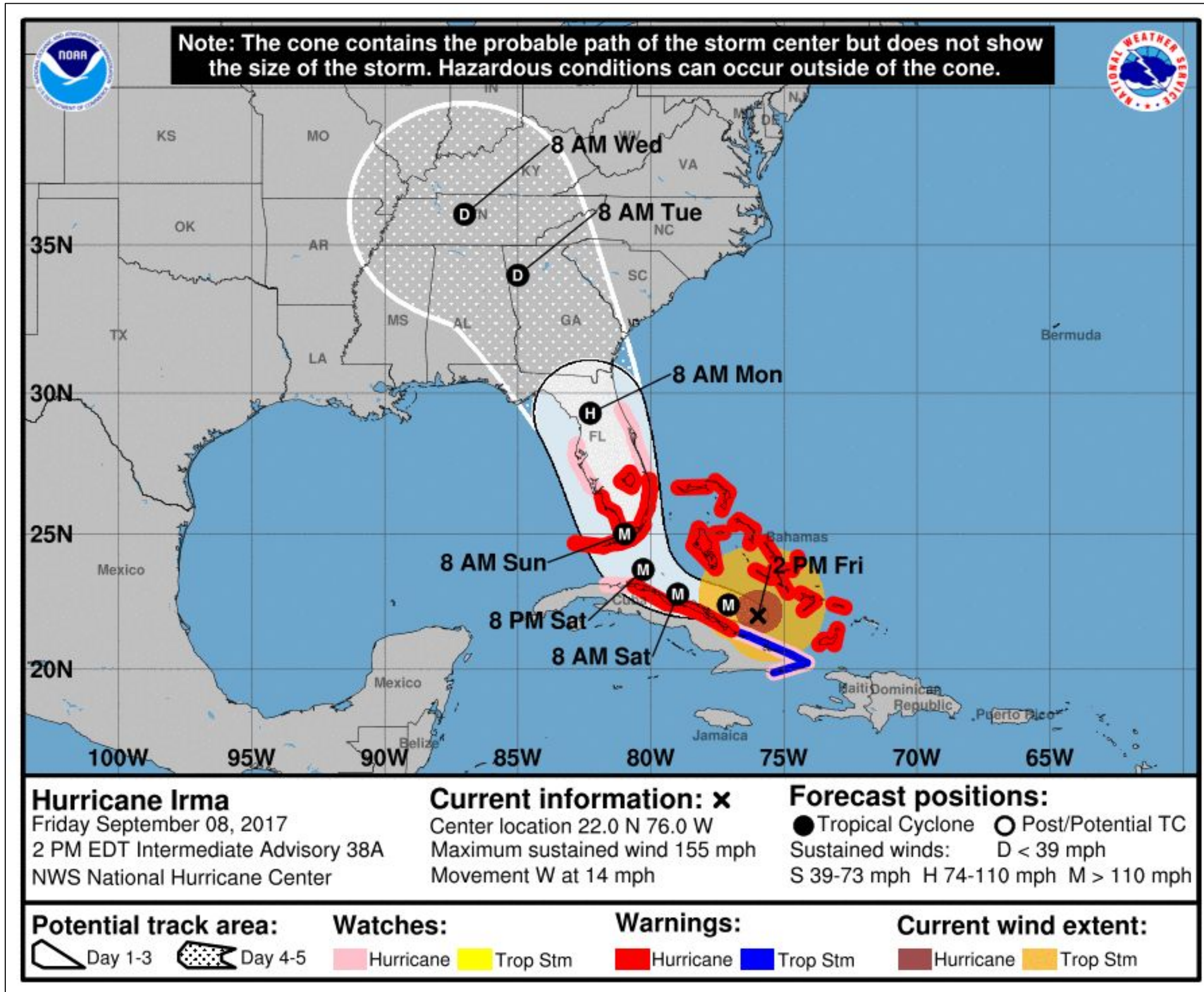
## BRIEFING

National Weather Service Miami/South Florida



# Situation Overview

## Hurricane Irma



- Irma continues to be a severe and extremely dangerous threat to South Florida
- Direct major hurricane landfall likely somewhere across South Florida this weekend
- Preparations to protect life and property should be completed by tonight!
- Take final shelter by early Saturday morning!

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

# Current Watches and Warnings

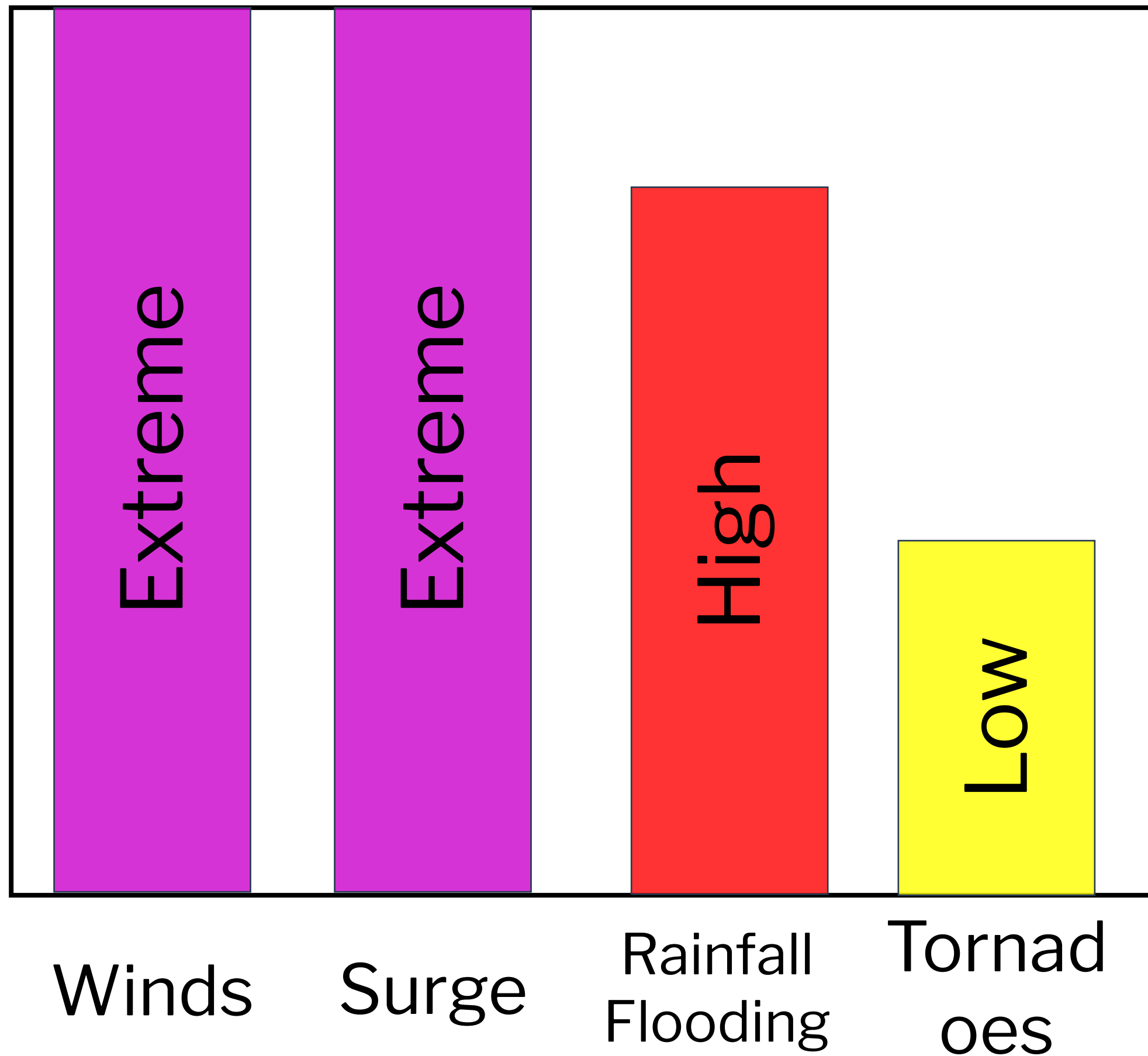
## Hurricane Irma

Hurricane Warning	Storm Surge Warning
<ul style="list-style-type: none"><li>▪ Miami-Dade</li><li>▪ Broward</li><li>▪ Palm Beach</li><li>▪ Collier</li><li>▪ Hendry</li><li>▪ Glades</li><li>▪ Mainland Monroe</li></ul>	<ul style="list-style-type: none"><li>▪ Coastal Portions of:<ul style="list-style-type: none"><li>▪ Miami-Dade</li><li>▪ Broward</li><li>▪ Palm Beach</li><li>▪ Collier</li><li>▪ Mainland Monroe</li></ul></li></ul>

# South Florida Tropical Cyclone Hazards

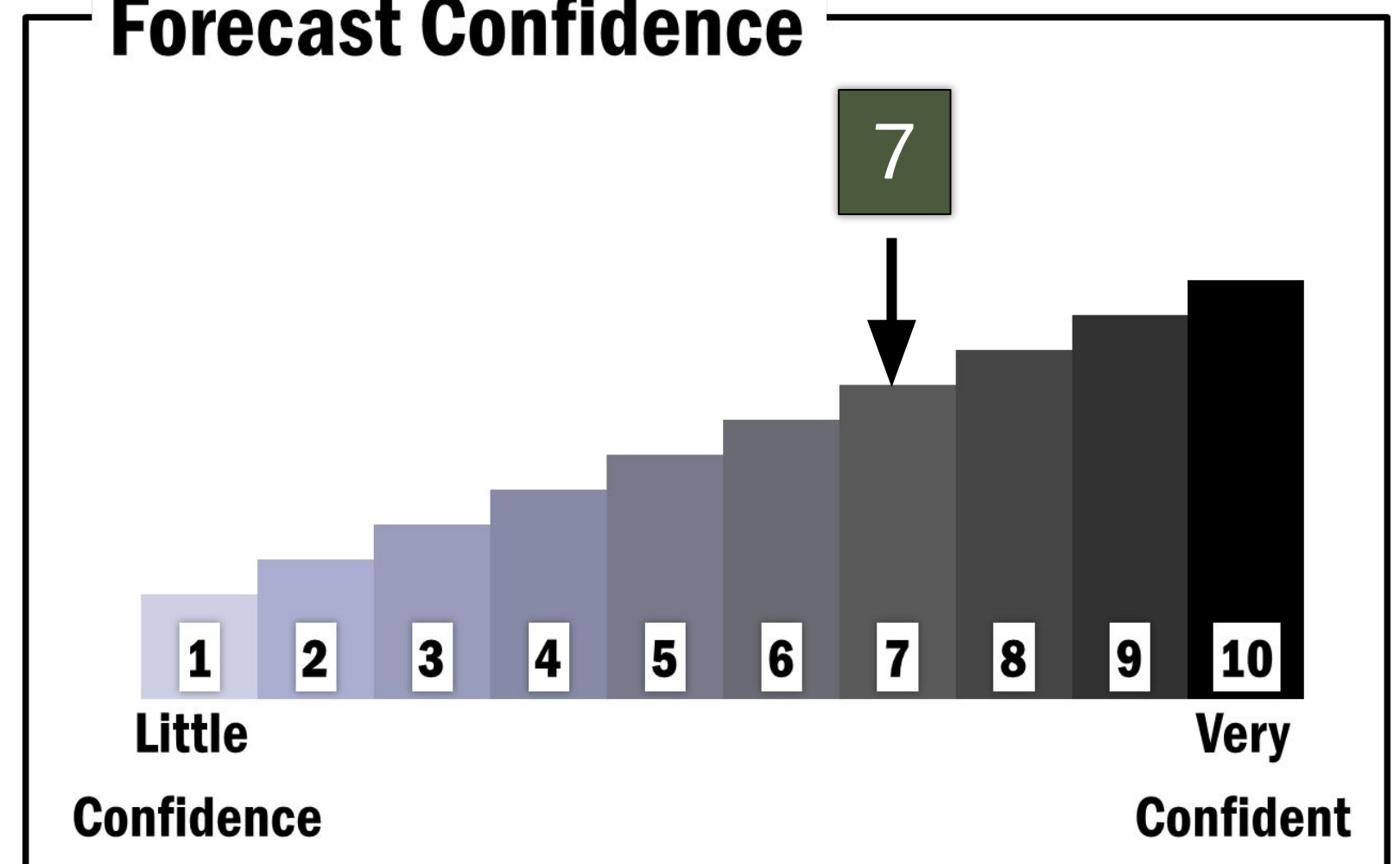
## Hurricane Irma

### Hurricane Irma



- Irma has the potential to bring devastating to catastrophic impacts to South Florida
- Potential for catastrophic major hurricane-force winds and likely life-threatening storm surge
- Flooding rainfall and tornadoes also threats
- This is a potentially deadly situation for all of South Florida!

### Forecast Confidence

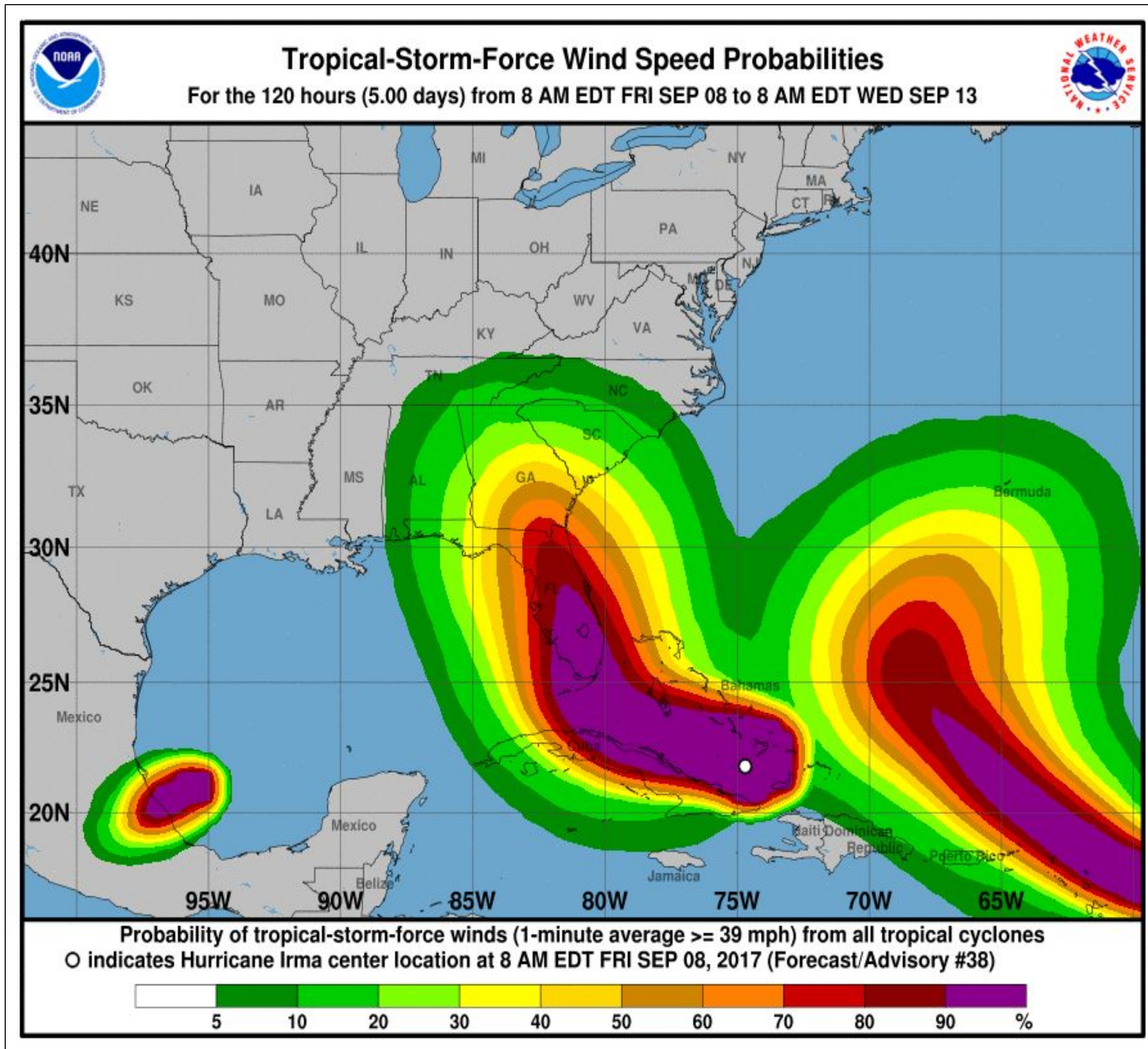


Threat level represents highest potential impact across all of South Florida and may not be representative of all locations



# Wind Speed Probabilities

## Tropical Storm Force Winds



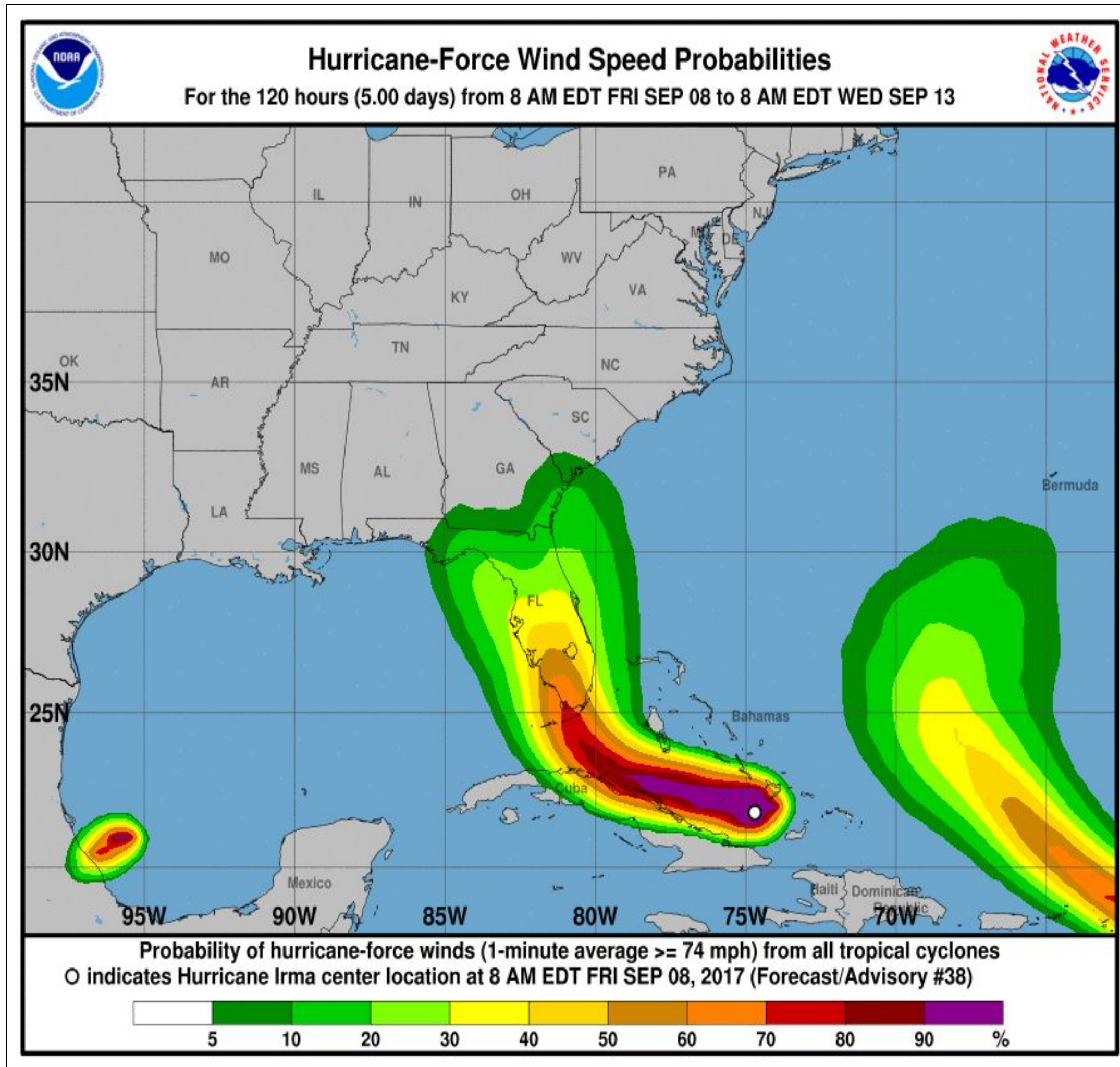
- Tropical Storm winds will happen for all of South Florida
- Breezy conditions today and into tonight

### Timing

- Tropical Storm conditions could begin as early as Saturday morning
- Tropical Storm conditions could linger through Monday afternoon

# Wind Speed Probabilities

## Hurricane Force Winds



## Trends

- There is an increasing trend in the probabilities

## Locations of Concern

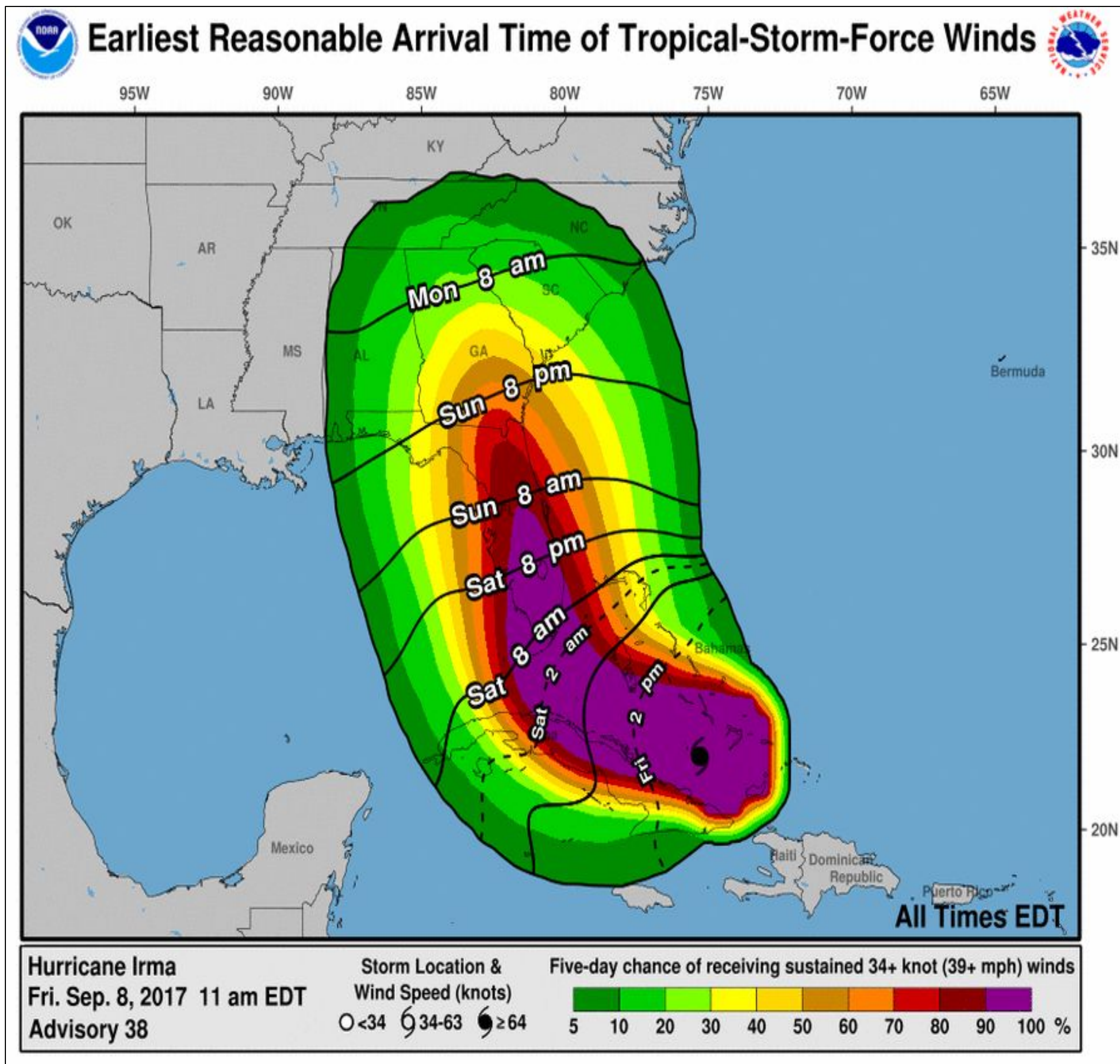
- All of South Florida
- 50-70% chance of hurricane conditions occurring across most of South Florida
  - These values are extremely high given the current location of Irma

## Timing

- Hurricane conditions could begin as early as midnight Sunday
- Hurricane conditions could linger through Monday

# Earliest Time of Arrival

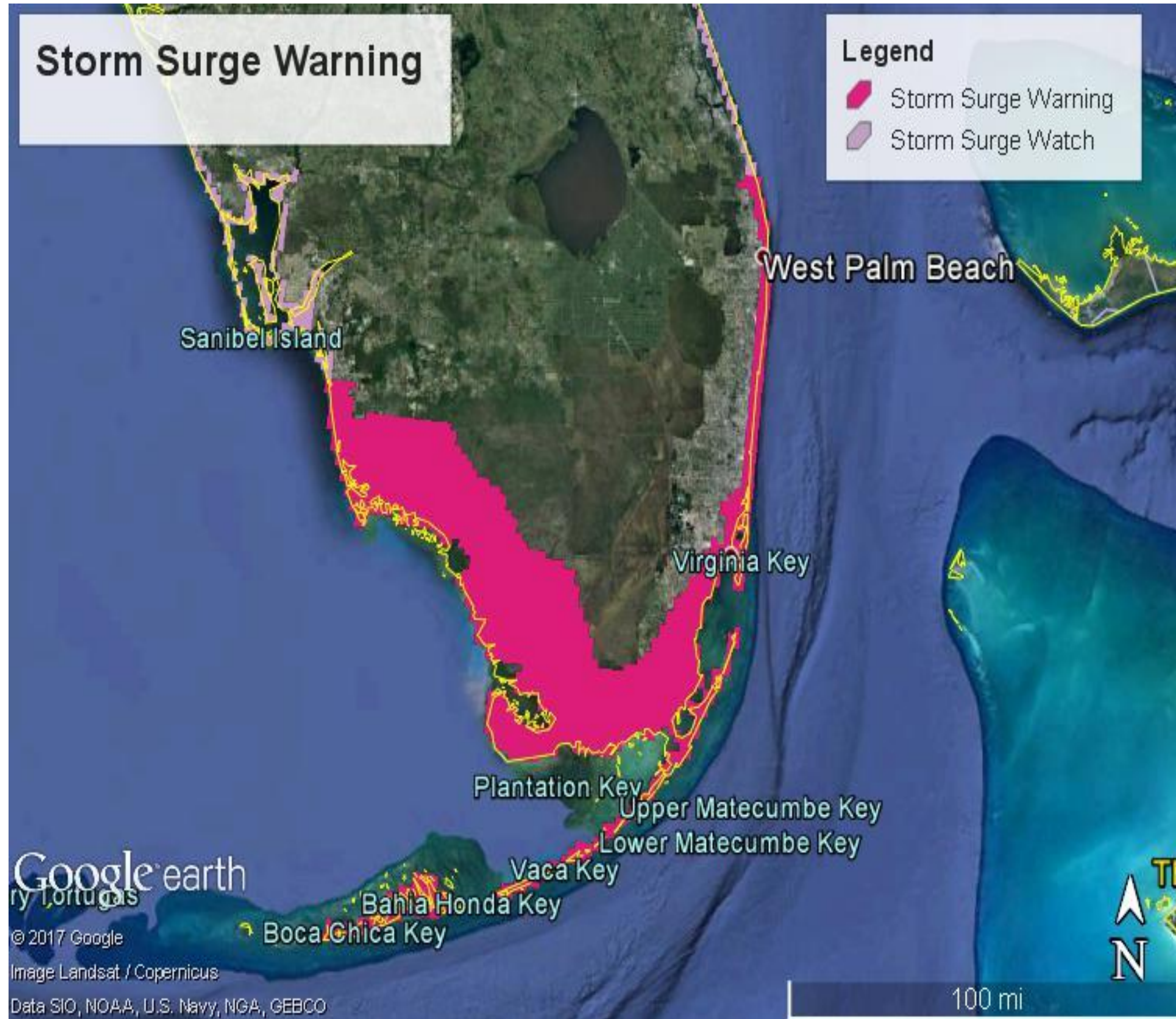
## Hurricane Irma



- The earliest reasonable time of arrival of Tropical Storm Force winds for South Florida is Saturday morning
- However, the most likely time South Florida could see Tropical Storm Force winds will be by Saturday evening

# Storm Surge Warning

## Hurricane Irma

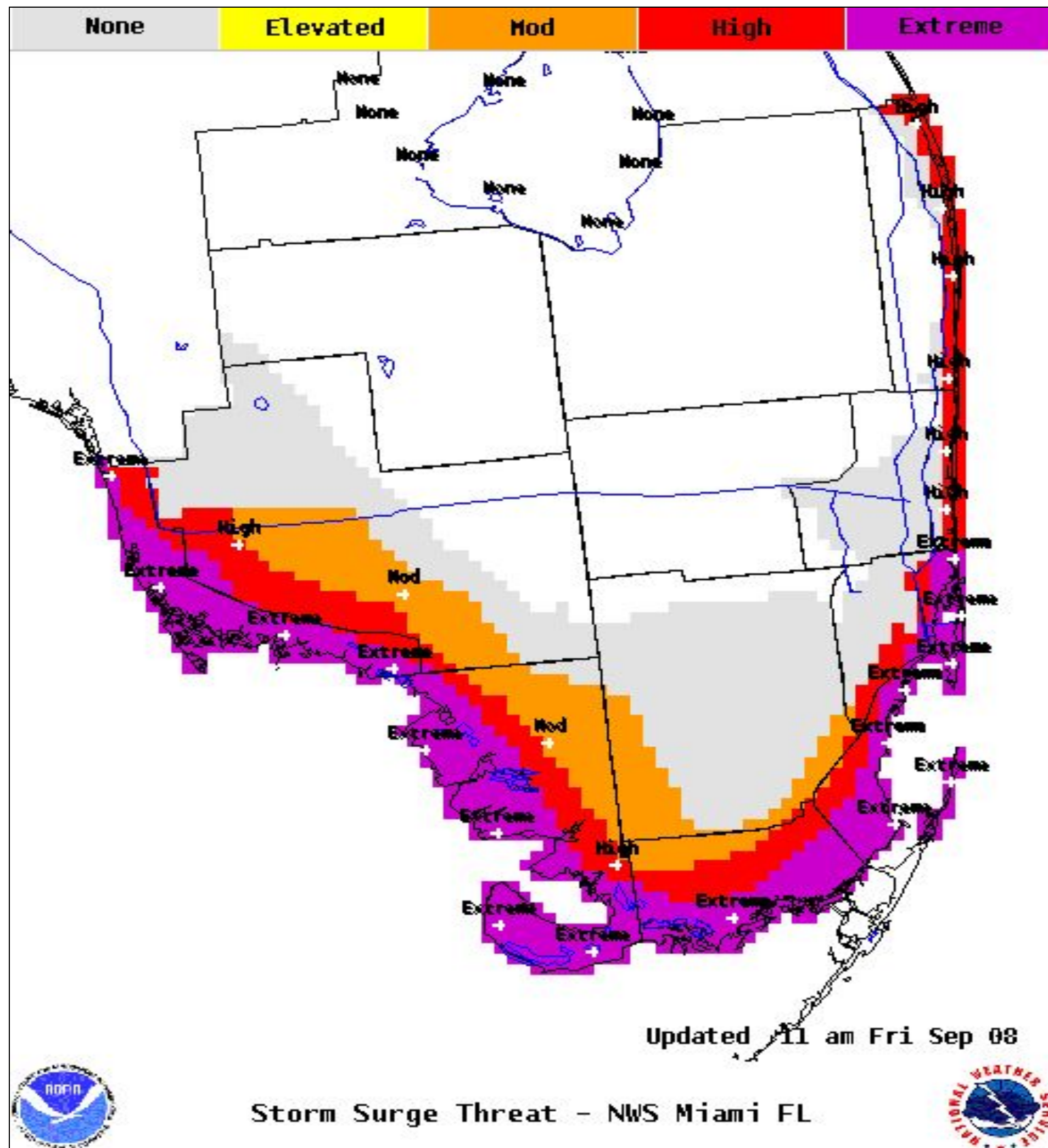


**Storm Surge Warning  
in effect for all coastal  
and storm surge  
prone areas of South  
Florida**

**Life-threatening  
inundation from storm  
surge likely  
somewhere within the  
warning within the  
next 36 hours**

# Potential Storm Surge

## Hurricane Irma Impacts



### Locations of Concern

- All coastal and storm surge prone areas of South Florida

### Timing

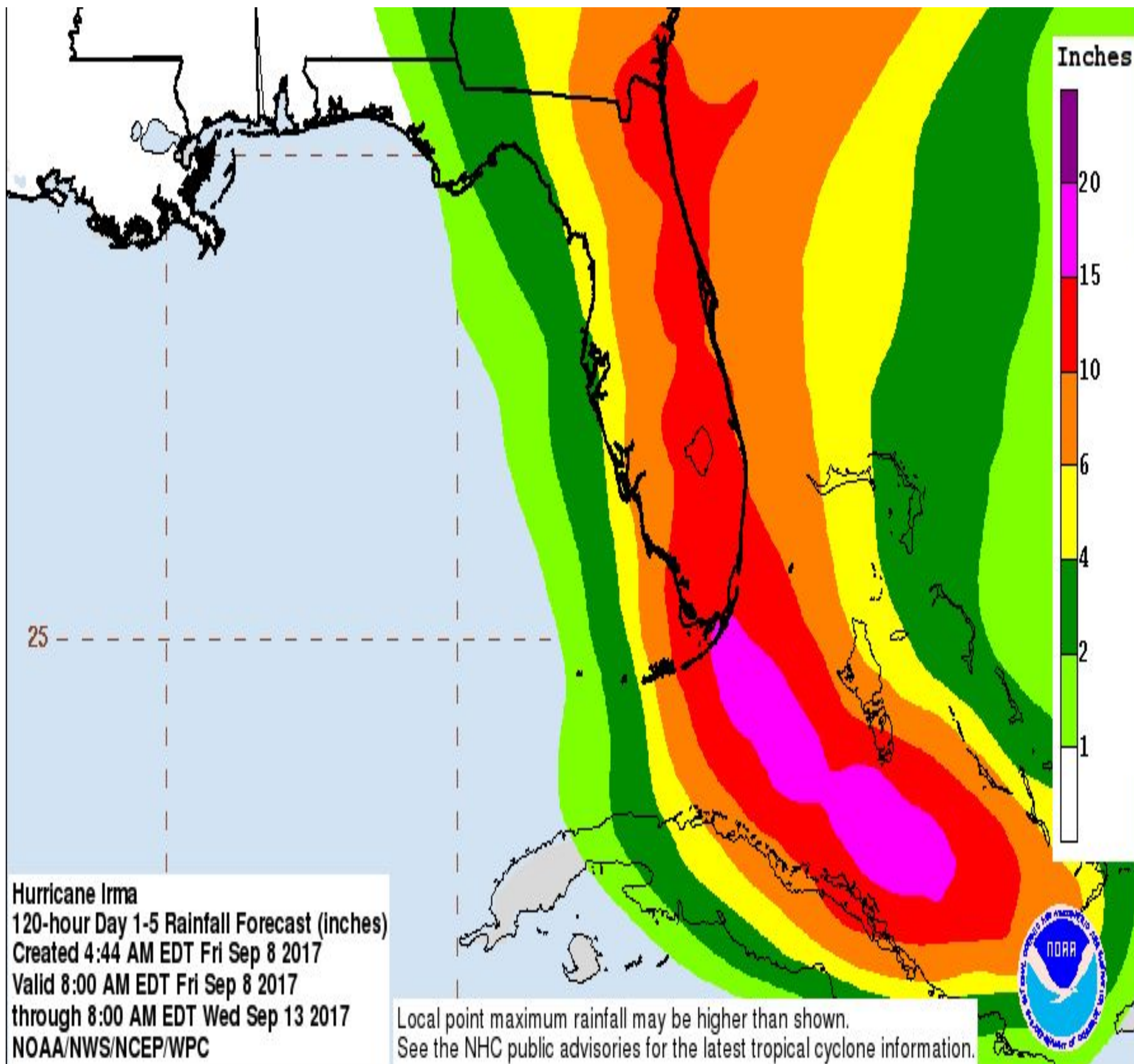
- Beginning Saturday evening

### Potential Impacts

- Widespread deep inundation, with storm surge flooding greatly accentuated by powerful battering waves
- Structural damage to buildings, with many washing away
- Near-shore escape routes & secondary roads washed out or severely flooded
- Flood control systems and barriers may become stressed

# Expected Storm Total

Forecast Valid Through Wednesday, September 13  
Rainfall



## Locations of Concern

- All of South Florida

## Timing

- Beginning Saturday

## Amounts

- 10 to 15 inches, with isolated amounts up to 20 inches
- Highest totals currently expected across eastern areas

Note: Locally Higher Amounts Possible

# Summary

## Hurricane Irma

- Severe to catastrophic impacts from Hurricane Irma likely across South Florida:
  - Destructive to catastrophic winds
  - Life-threatening storm surge
  - Flooding rains
  - Tornadoes
  - Dangerous surf and life-threatening rip currents
- Direct major hurricane landfall likely somewhere across South Florida
- Lake Okeechobee system will need to be monitored for potential flooding
- The time window of worst hurricane conditions expected to be late Saturday night through Monday morning
  - More accurate times will be provided for the next briefing
- Preparations to protect life and property should be completed by tonight!

Thoughts?



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**GOOD AFTERNOON!**

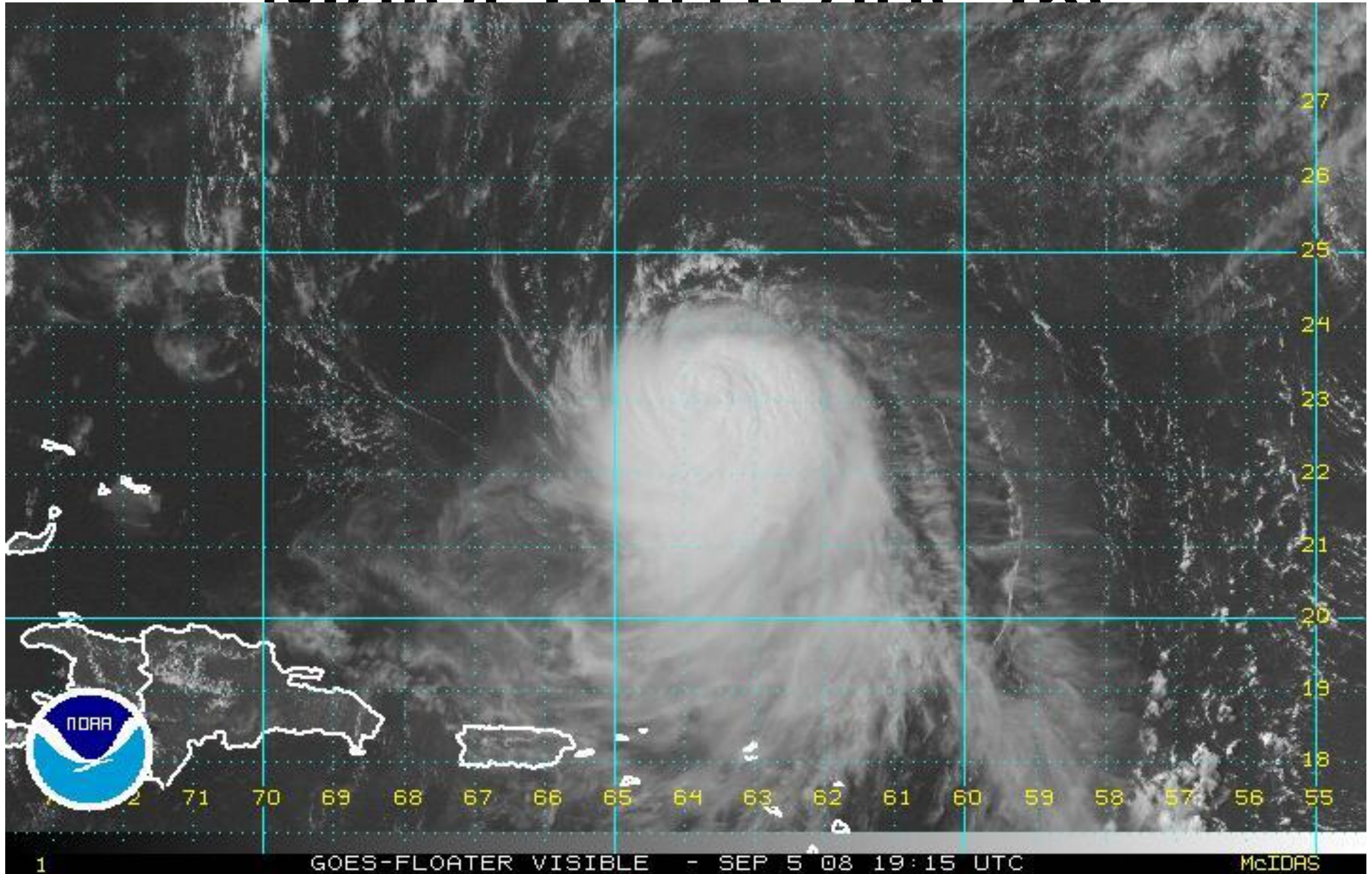
**NWS Miami  
Hurricane Ike Webinar/Conference Call**

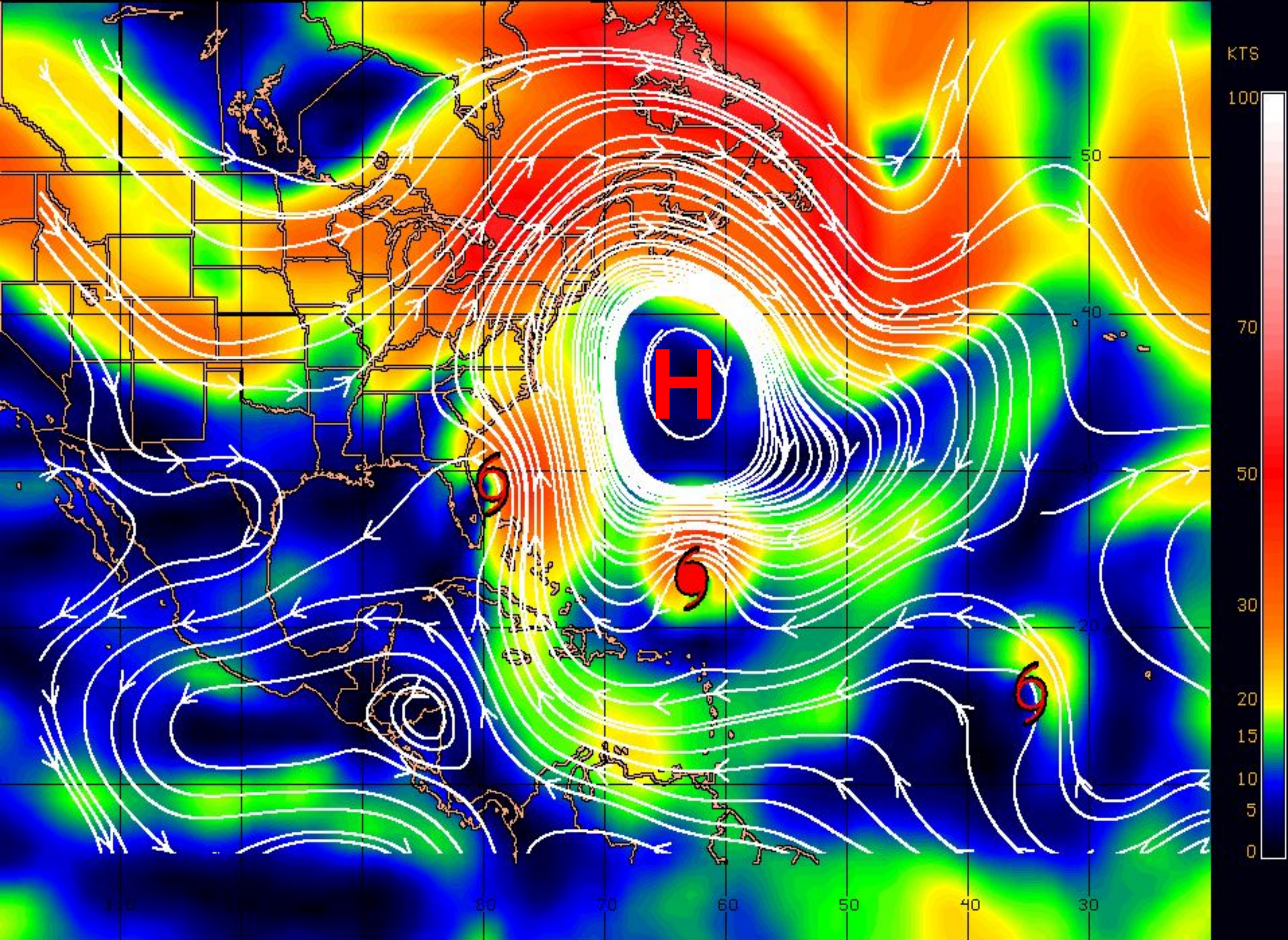
Hanna: Max Wind 70 mph  
Moving N 20 mph

Ike: Max Wind 115 mph  
Moving WSW 15 mph



# Major Hurricane Ike





CIMSS ENV STEERING PRODUCT: 300-850 HPA LAYER (FOR TC MSLP RANGE: 950-969 HPA) 1500 UTC 05SEP08

IKE # 18 - Assuming AVERAGE FORECAST ERROR - the EYE should track in white cone next 3 days / grey 4-5 days

**LATEST Advisory**  
**IKE # 18**  
Fri 09/05/08 11E  
(15Z)-Initial Posit.  
23.20 N 62.70 W  
105kt (120mph)  
Saf Sim Category 3  
Movg 14kt (16mph)

TIME- TIME+ AUTO

Change -  
STORM PREV NEXT  
ADVY ADVY

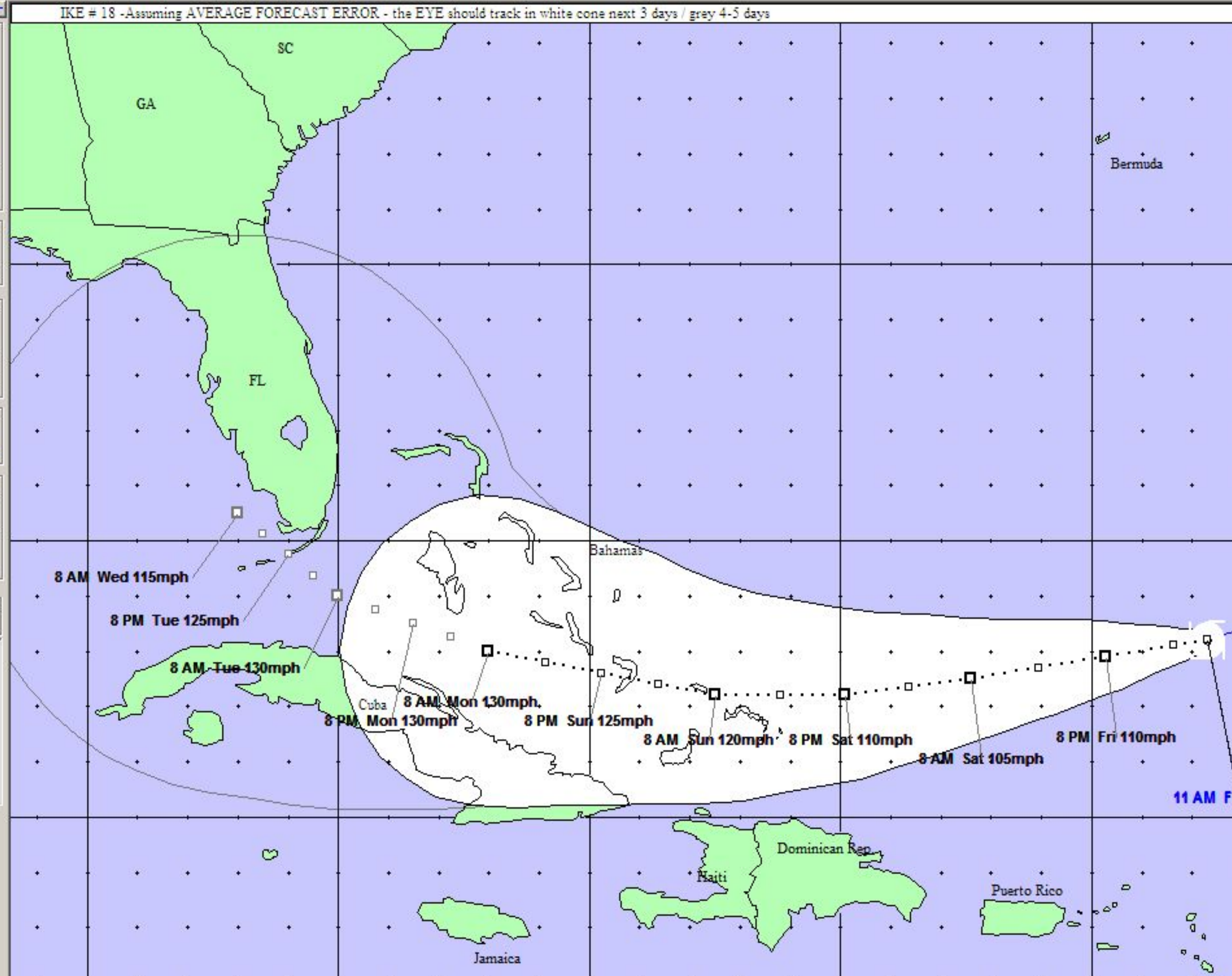
Map -

Mode - Error Swath

Other..

Overlay List...OFF  
Storm Advy

- Floyd 1999
- Ike 2008
- Hanna 2008
- Gustav 2008
- Fay 2008
- Herb 2008
- Katrina 2005
- Gert 2005

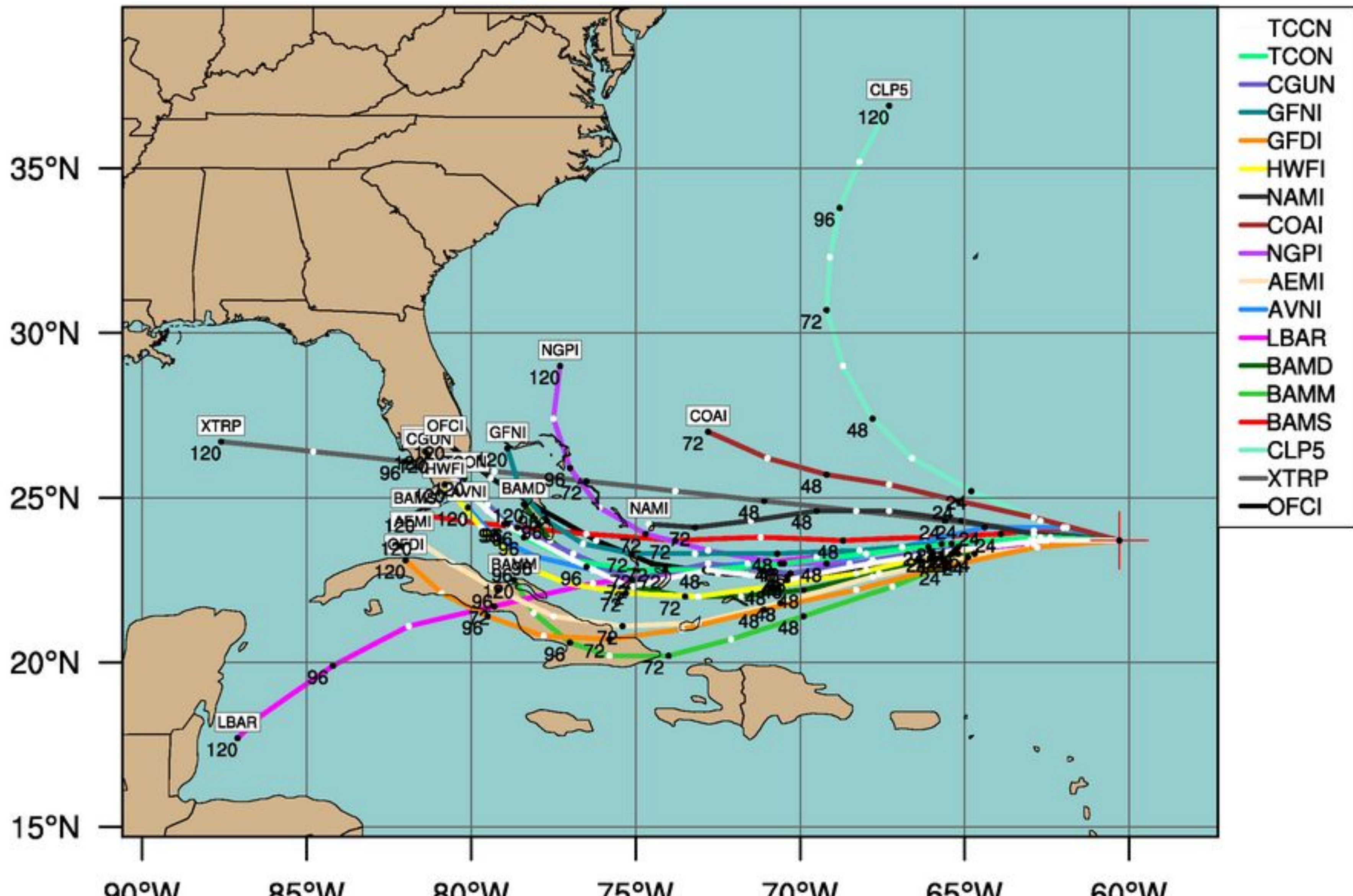


# MAJOR HURRICANE IKE (AL09)

Early-cycle track guidance valid 0600 UTC, 05 September 2008

Current Intensity: 115 kt

Current Basin: North Atlantic

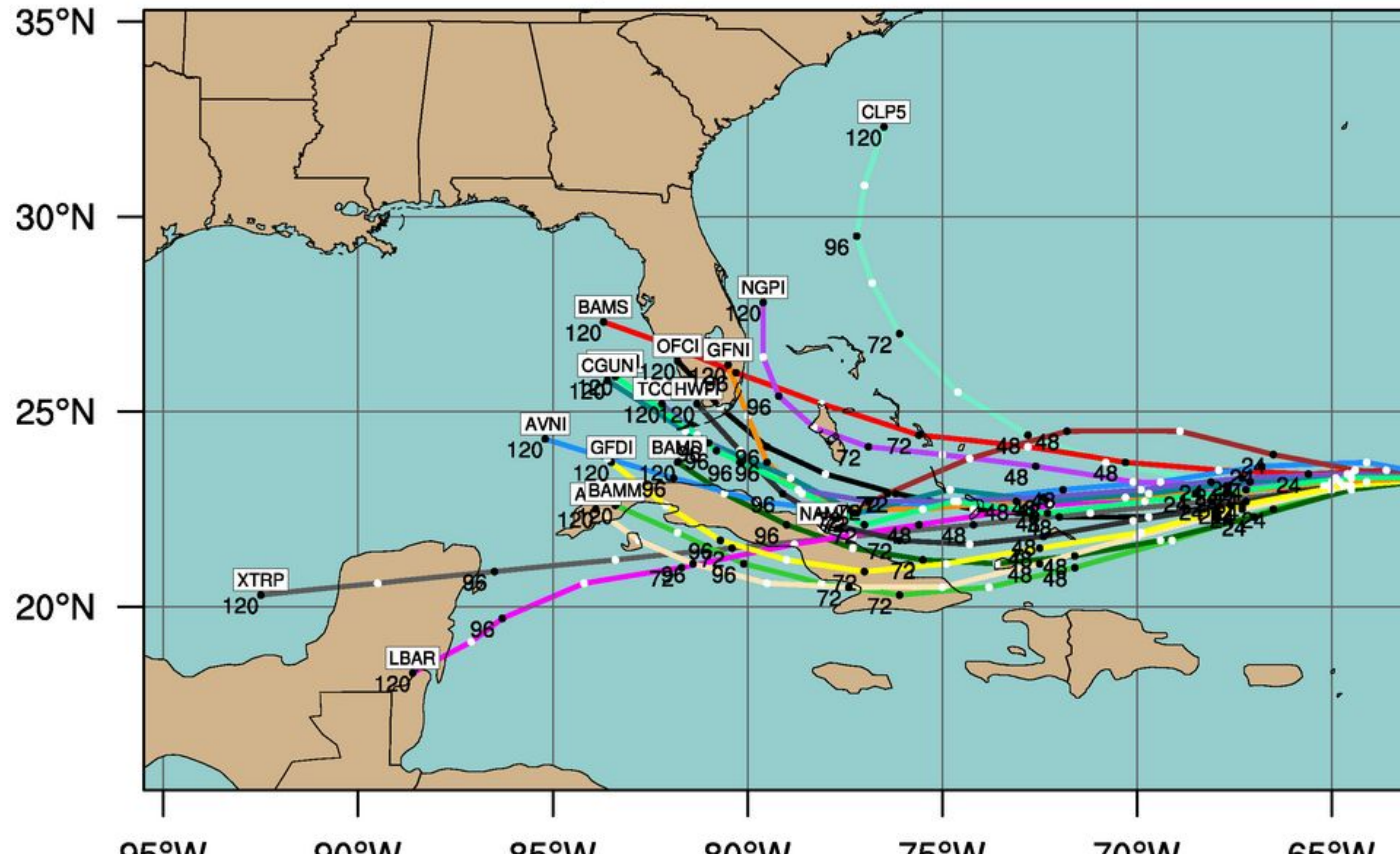


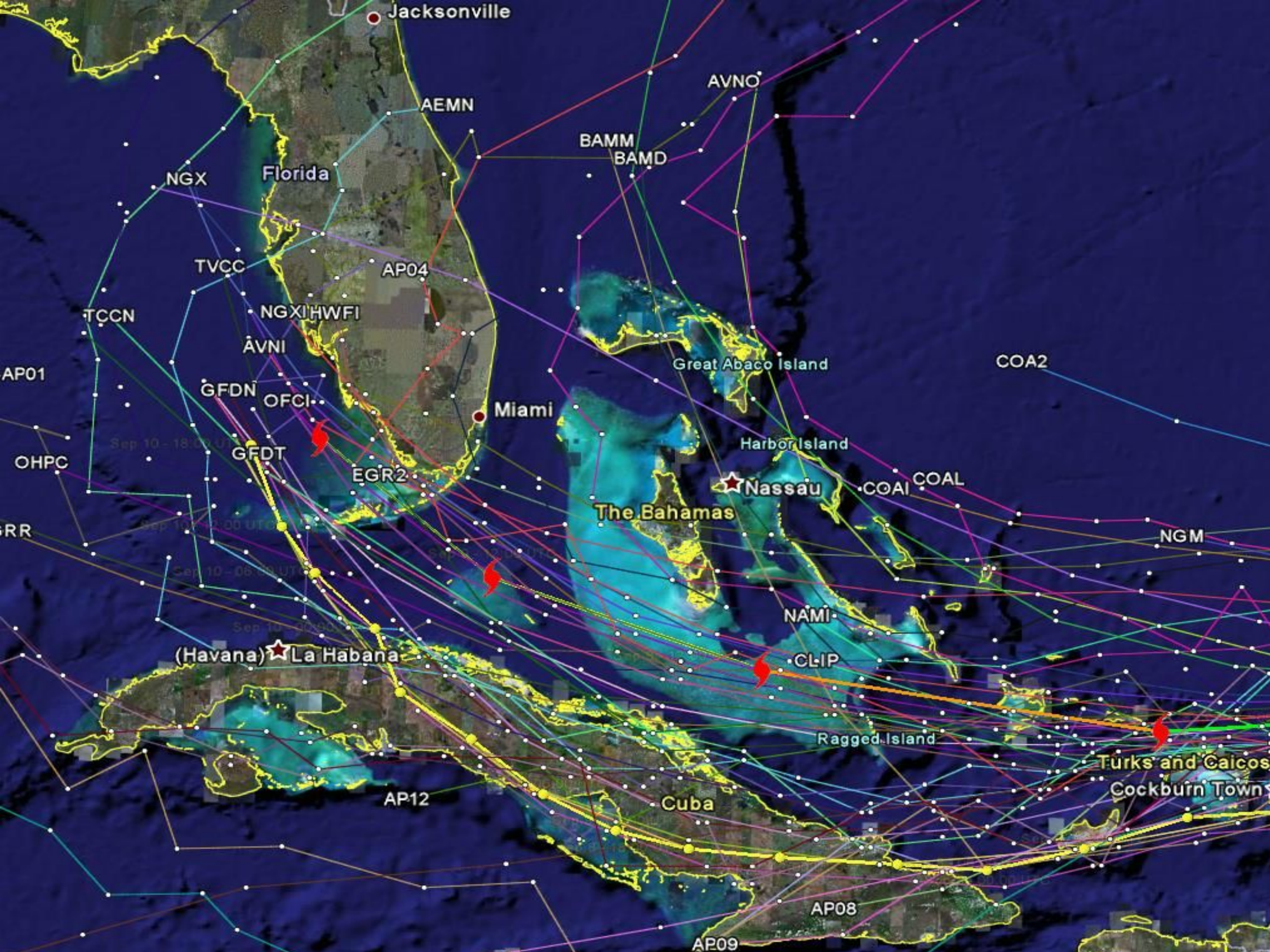
# MAJOR HURRICANE IKE (AL09)

Early-cycle track guidance valid 1200 UTC, 05 September 2005

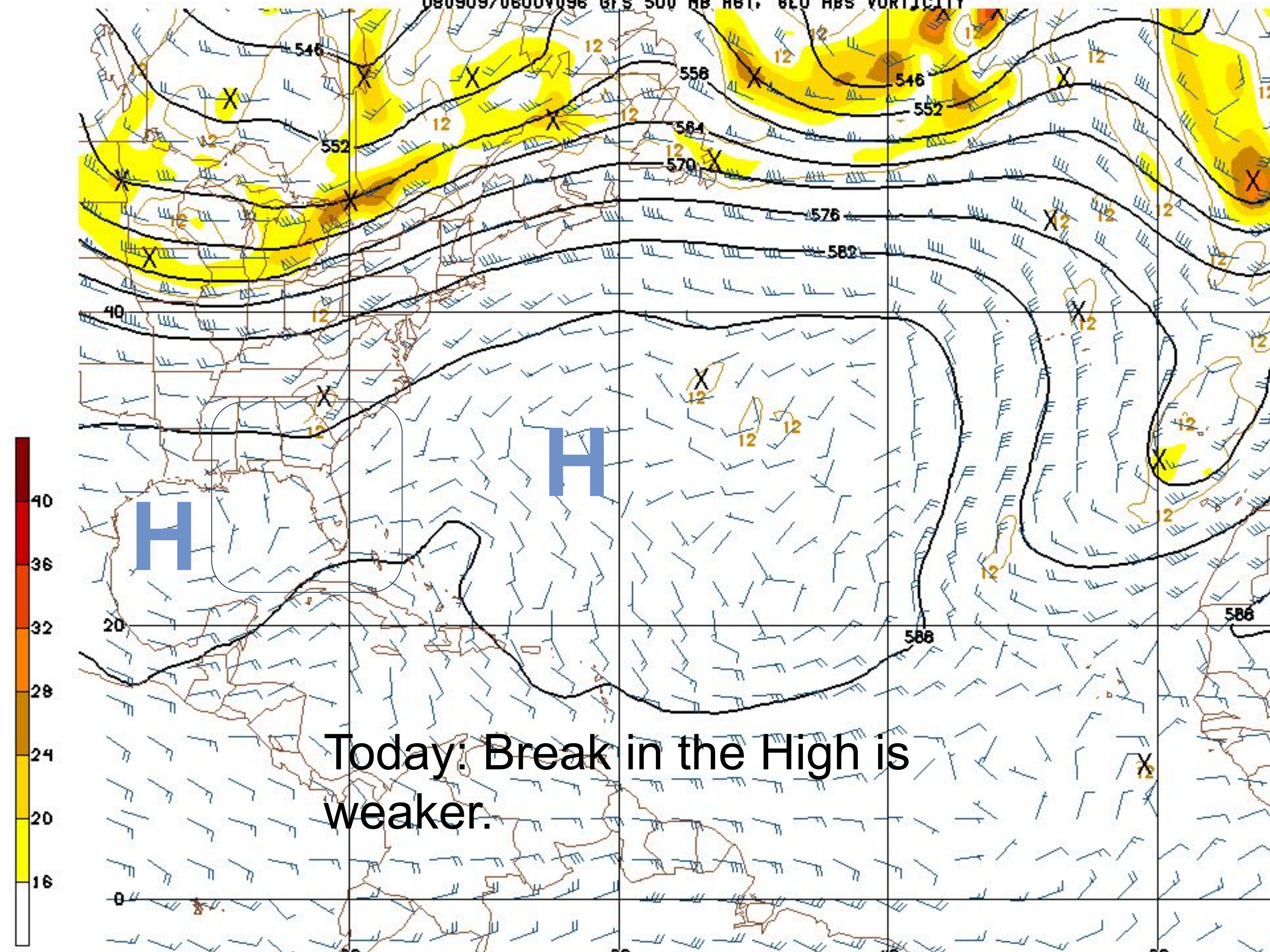
Current Intensity: 105 kt

Current Basin: North Atlantic









Today: Break in the High is weaker.

# Notes/Potential Timing

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# Note on Forecast Points

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Thoughts?

# Tropical Storm Danny

## Weather Briefing

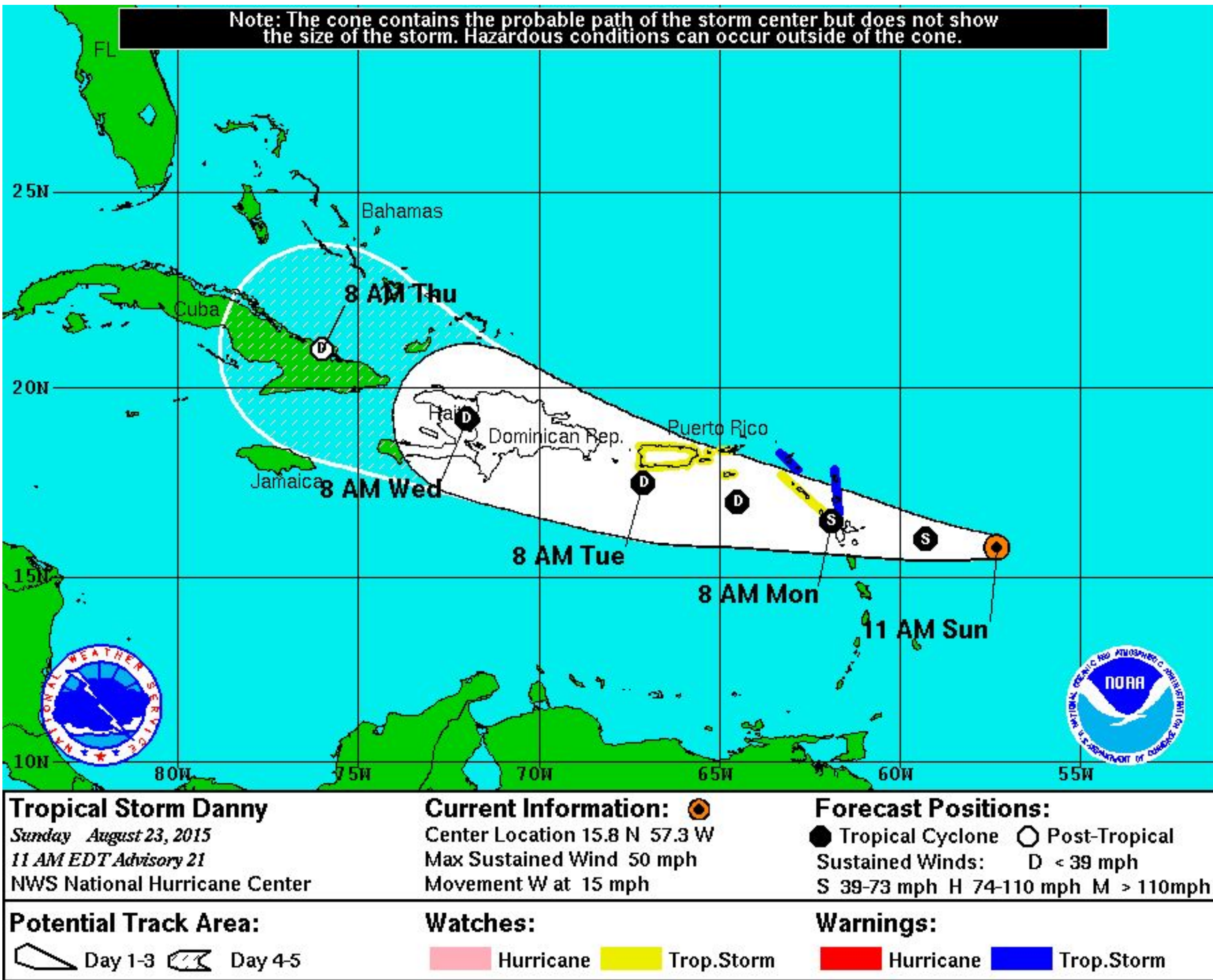
National Weather Service  
Miami/South Florida  
Forecast Office

# Tropical Storm Danny

## Weather Briefing

### Highlights

- Forecast to dissipate by mid week as it moves into the Caribbean and Bahamas region
- At this time there are no concerns for South Florida.
- However, remnants could be somewhere across region by late week so will continue to monitor.



# Tropical Storm Danny

## Weather Briefing

- *Danny encountering shear and dry air ahead of it causing it to continue weakening trend.*
- *Its weakening has resulted in a bit of a more southward track than previously anticipated.*
- *Main global and high resolution models completely dissipate it as it moves across Caribbean and towards Bahamas region.*
- *Only models suggesting system remains a tropical cyclone as it approaches the Bahamas are those that have not handled this system well at all so far.*
- *The official forecast has it dissipating as it approaches the region.*
- *Some models do bring its remnants somewhere across the region by late in the week.*
- *Therefore, although no threat from Danny is anticipated at this time for South Florida, we will continue to monitor its progress over the coming days.*

# Summary

- Forecast to dissipate by mid week as it moves across Caribbean and into the Bahamas region.
- At this time there are no concerns for South Florida.
- However, remnants could be somewhere across region by late week so will continue to monitor.
- We will provide a webinar briefing Monday August 24<sup>th</sup> at 11:30 AM. Given the outlook, the only other briefing scheduled for the week will be our weekly one on Thursday unless forecast trend changes or new concerns arise.



# Keep Up to Date

## Monitor Information

- **NWS Miami web site:** [weather.gov/miami](http://weather.gov/miami). Enter city/state or zip code to get point-specific forecast for your community.
- **Social Media:**
  - Facebook: [www.facebook.com/NWSMiami](http://www.facebook.com/NWSMiami)
  - Twitter: <https://twitter.com/NWSMiami> or @NWSMiami
- **Questions:**
  - Call or email us at 305-229-4523 or [sr-mfl.ops@noaa.gov](mailto:sr-mfl.ops@noaa.gov)

Thoughts?

# Briefing Examples

## Example #2

# Weather Briefing

**National Weather Service  
Miami, Florida**

# Situation Overview

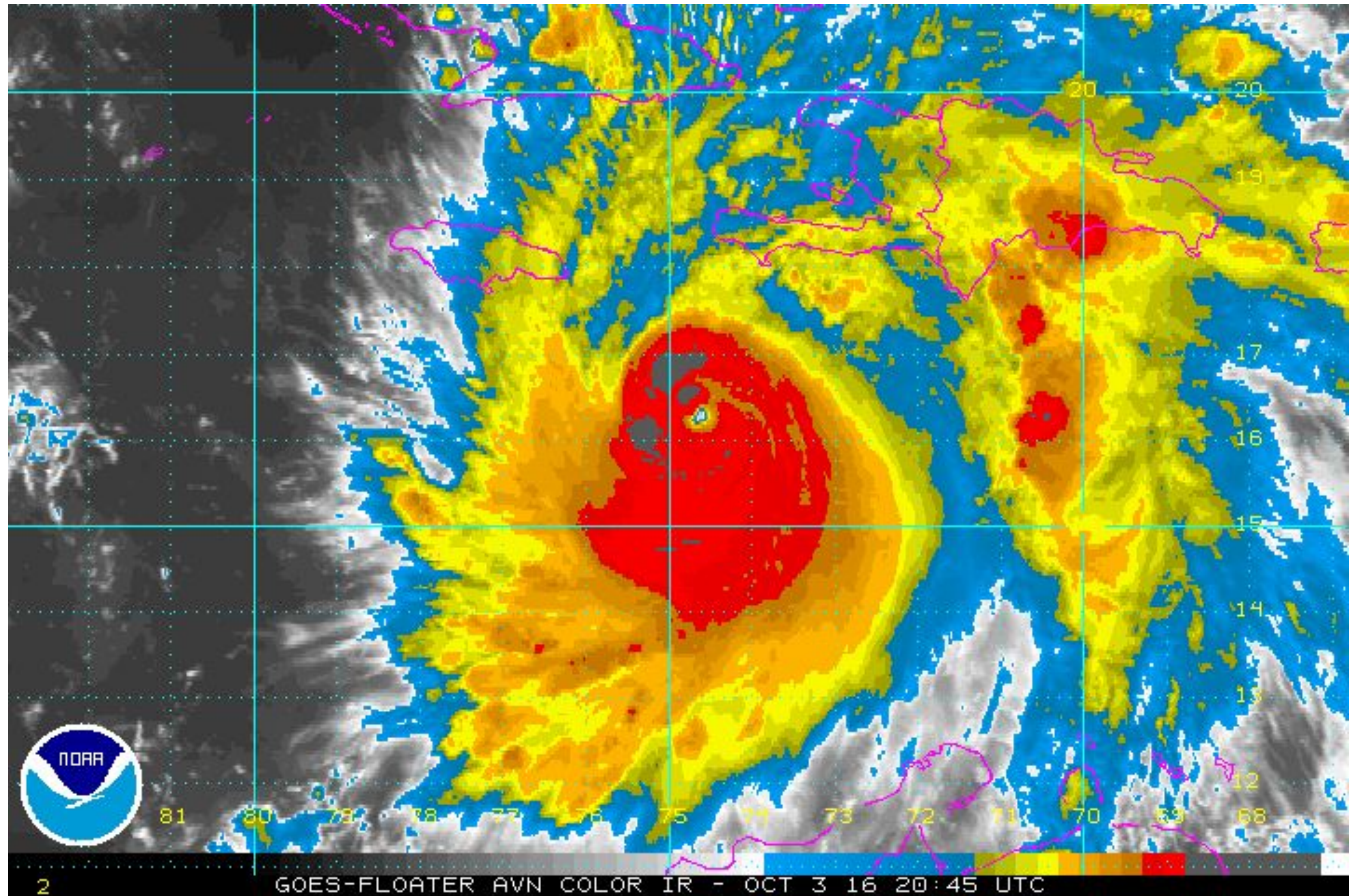
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# Latest Advisory

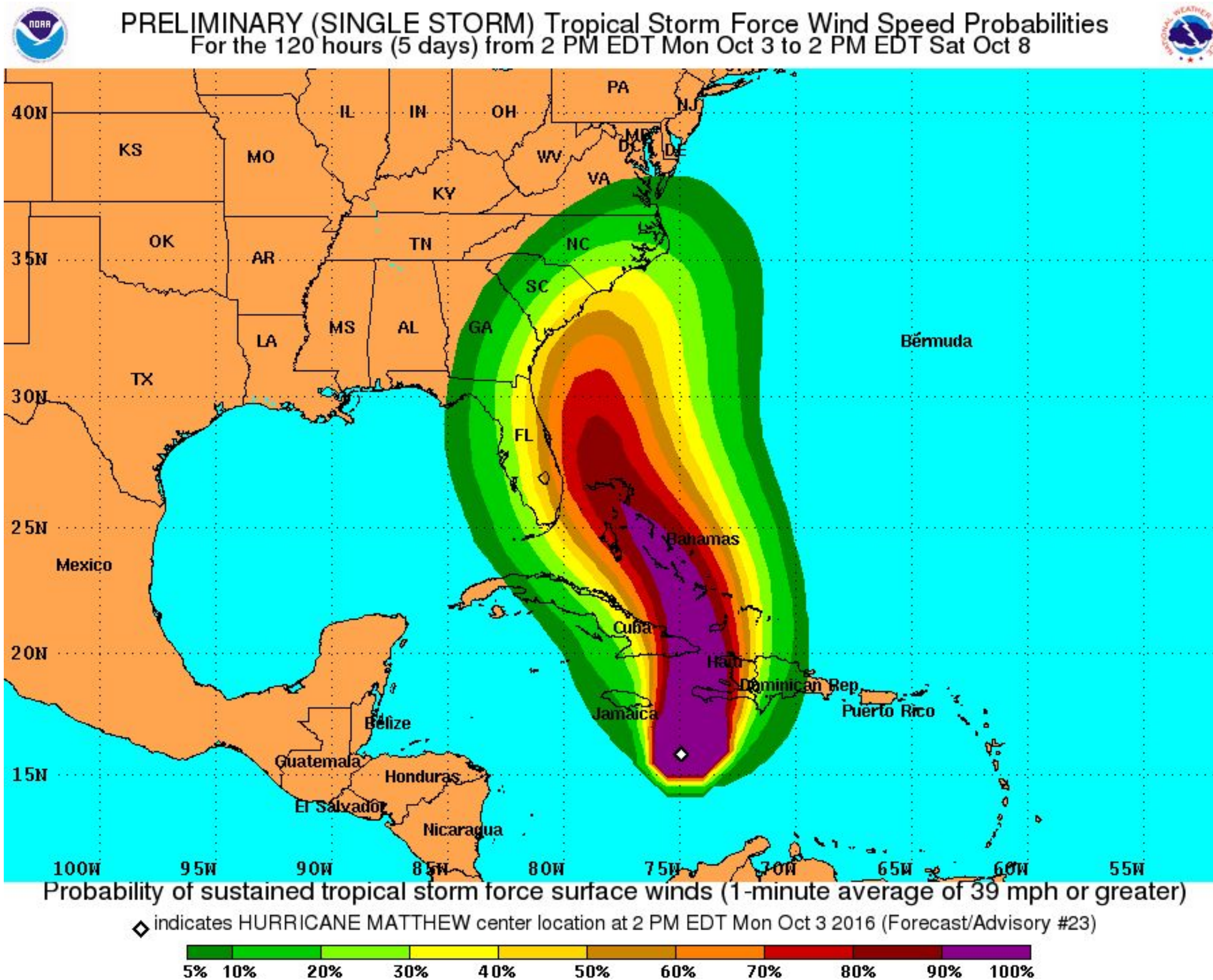


<p><b>Hurricane Matthew</b>  <i>Monday October 3, 2016</i>  <i>5 PM EDT Advisory 23</i>                  NWS National Hurricane Center</p>	<p><b>Current Information:</b> ●                  Center Location 16.3 N 74.7 W                  Max Sustained Wind 140 mph                  Movement N at 7 mph</p>	<p><b>Forecast Positions:</b>                  ● Tropical Cyclone ○ Post-Tropical                  Sustained Winds: D &lt; 39 mph                  S 39-73 mph H 74-110 mph M &gt; 110mph</p>
<p><b>Potential Track Area:</b>                  ▽ Day 1-3 ▽ Day 4-5</p>	<p><b>Watches:</b>                  ■ Hurricane ■ Trop.Storm</p>	<p><b>Warnings:</b>                  ■ Hurricane ■ Trop.Storm</p>

# Latest Satellite Image



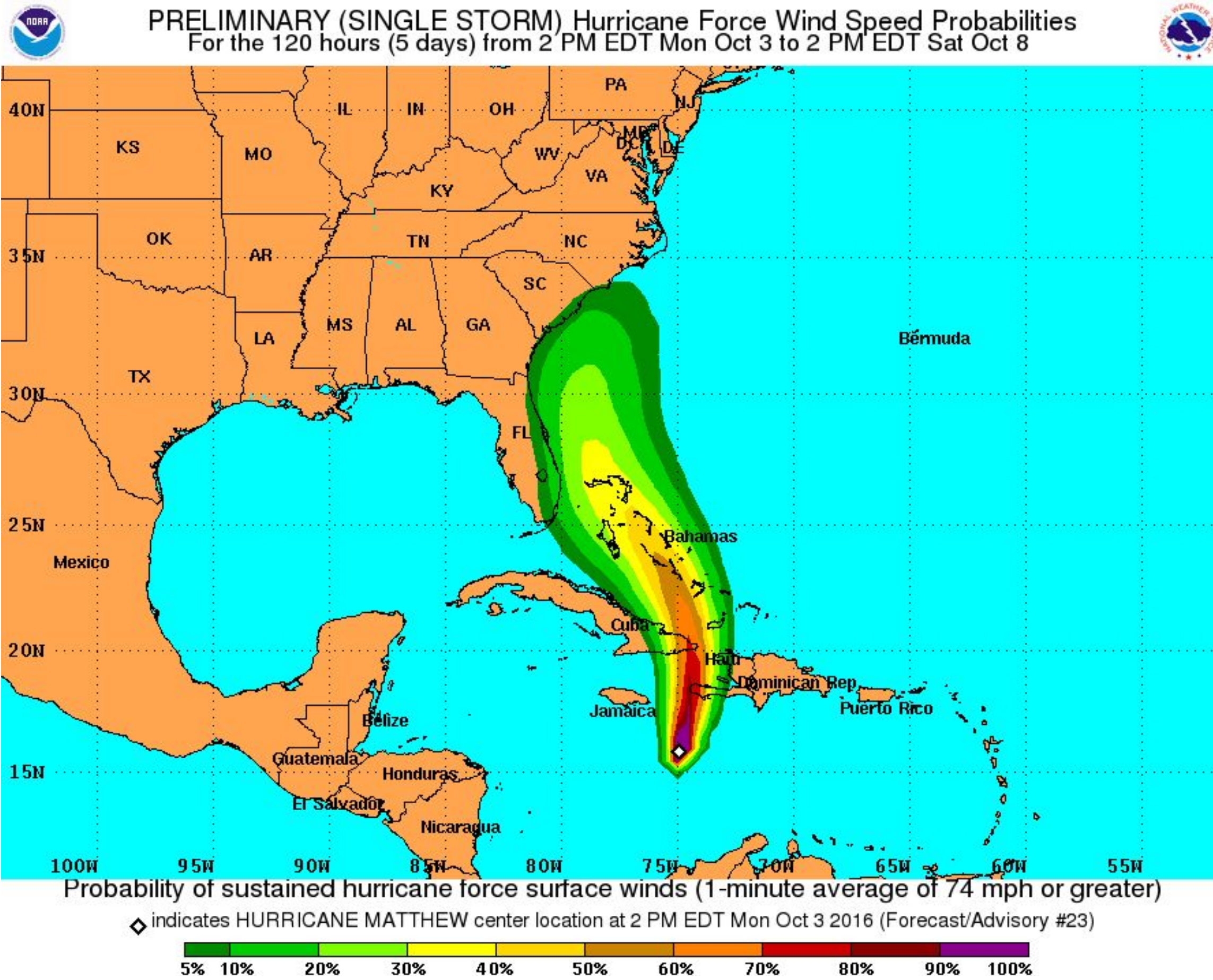
# Tropical Storm Wind Potential



- Tropical storm conditions could begin as early as late Wednesday
- Tropical storm conditions could linger through Friday



# Hurricane Wind Potential



# Marine and Coastal Flooding Threats

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# Rain/Flooding Potential

## Forecast Precipitation



Valid Ending Monday October 10th, 2016 at 8 PM EDT

- Up to 0.1 inch
- 0.1 to 0.25 inches
- 0.25 to 0.5 inches
- 0.5 to 1.0 inches
- 1.0 to 2.0 inches
- 2.0 to 3.0 inches
- 3.0 to 4.0 inches
- 4.0 to 6.0 inches
- 6.0 to 8.0 inches
- 8.0 to 10.0 inches
- 10.0 to 15.0 inches
- Greater than 15 inches



Graphic Created  
October 3rd, 2016  
5:21 PM EDT

## Rainfall/Flooding

- As of the latest forecast, widespread heavy rainfall is not anticipated
- Minor track changes could lead to much heavier rainfall amounts
- Localized bands could still cause heavy rainfall, even if Matthew remains well offshore
- Could be a narrow edge of precipitation on the west side of Matthew, meaning a short distance between very heavy rainfall and little rainfall

## Timing

- Squally weather may arrive late Wednesday and continue into Friday

## Potential Impacts

- Street flooding is possible if any rain bands set up over South Florida

# Summary

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- Increasing threat of impacts from Hurricane Matthew
- Based on latest forecast, impacts from tropical storm force winds could start as early as late Wednesday with greatest chance in Southeast Florida
- Potential impacts include:
  - Tree damage
  - Downed power lines and power outages
  - Loose outdoor items blown around
  - Beach erosion along the Atlantic coast
  - Rip currents and rough surf
- Watches could go up for portions of South Florida as soon as late tonight or early Tuesday

Thoughts?

# WFO Miami Tropical DSS Briefings

## **Standard Policy and Procedures**

## Standard Policy and Procedures

- Slides are emailed to all partners (EMs and Media) following the webinars. Should get these emailed as soon as possible after the webinars as partners are waiting for the slides to use and disseminate
- Always assume that the slides will be shared beyond our core partner group (believe me...they are). That's OK, it's expected and encouraged
- No "inside" information should be contained in slides. All information is publicly available

- **Templates cover different stages of the event**
  - Pre WWA
  - Watch/Warning (12-48 hours)
  - Imminent/Occurring (within 12 hours)
  - Exiting



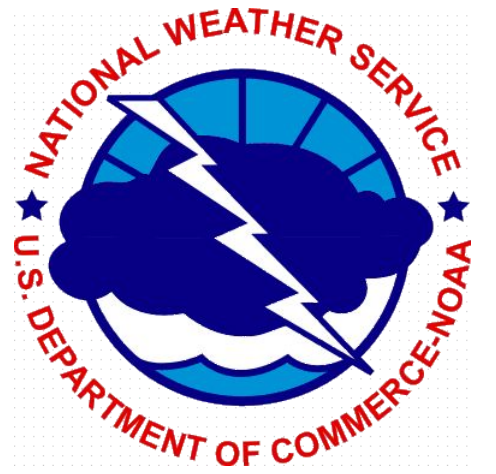


- **Choosing the appropriate template for the stage of the event is critical.** Macros and GUIs are designed to fill in a lot of the information in a logical and efficient manner (coordinate with lead forecaster and/or coordinator)
- **Allow the graphics to speak for themselves,** that's what they're designed for. Accompanying wording should be brief and to the point (generally no more than 3 bullet points)
- **It's OK to express uncertainty.** Express uncertainty with confidence. State what we know, and what we don't *yet* know with a high level of confidence
- **Overview and Summary** slides should be very similar, if not exactly the same. These serve as bookends and "take-away" messages. *HLS Situation Overview serves as a good example*

- Webinars can last anywhere from 10 to 20 minutes in length
- For EM webinars, Q & A time after the slide presentation is very important (start with county EMs first, then entire group)

- Same slide set used for EM briefings is sent to USCG, but with two extra slides for port wind arrival/departure timing
- EM agencies will request phone briefings (no slides). For example: Miami-Dade, Broward, and Hendry counties (planning and municipal staff), Seminole Tribe
- Phone briefings typically shorter, about 5 minutes. Many of those on these calls have viewed the webinar slides or attended the live webinar, so they're mainly looking for a general overview and update from previous forecast

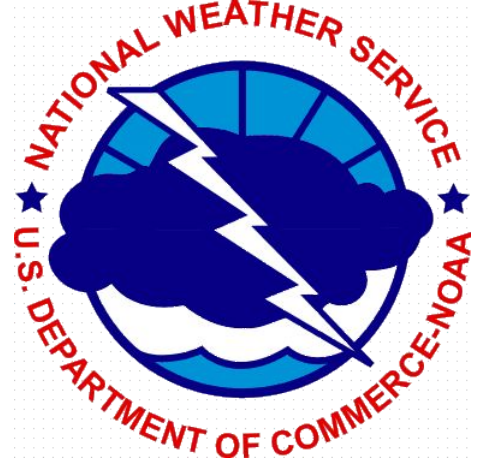
# Messaging/Briefing Essentials



- Consistency
- Collaboration (internal & external)
- Comprehension

# Messaging/Briefing Essentials:

## Consistency



- **Consistency IS:**
  - Similar color scales
  - Similar delivery methods and times
  - Sound forecast and message without discontinuities from one forecast area to the next
- **Consistency ISN'T:**
  - Same briefing provided to everyone, regardless of audience, method or scenario

# Messaging/Briefing Essentials:

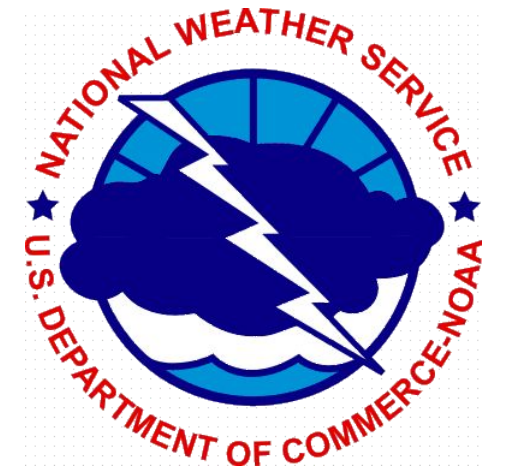
## Collaboration



- **Collaboration includes:**
  - Briefing times as to not overlap with other offices/agencies. Also includes when to start briefings on a particular system
  - Involving local, county, state and federal partners

# Messaging/Briefing Essentials:

## Comprehension

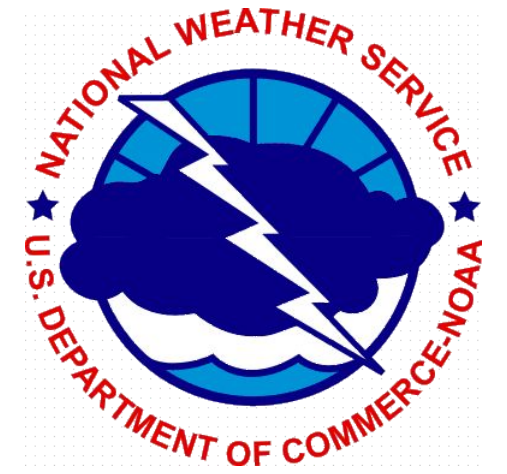


- Success of a briefing starts and ends with a **clear and concise message** that can be understood and applied without great difficulty
- Length of briefings important...stand-up briefings may only be a couple of minutes, while webinar could take 10-20 minutes
- For NWS meteorologists, this means focusing on the **What, Where, When, and How Bad**, **NOT** on meteorological jargon or detailed explanation of the “Why”





# Comprehension



NWS meteorologists deployed at county EOCs during Irma were able to “speak the same language” as EMs and public safety personnel

**Understanding critical thresholds and applying them in our decision support:**

- Onset of tropical storm force wind**
- Critical decision points**

# Messaging/Briefing Essentials:

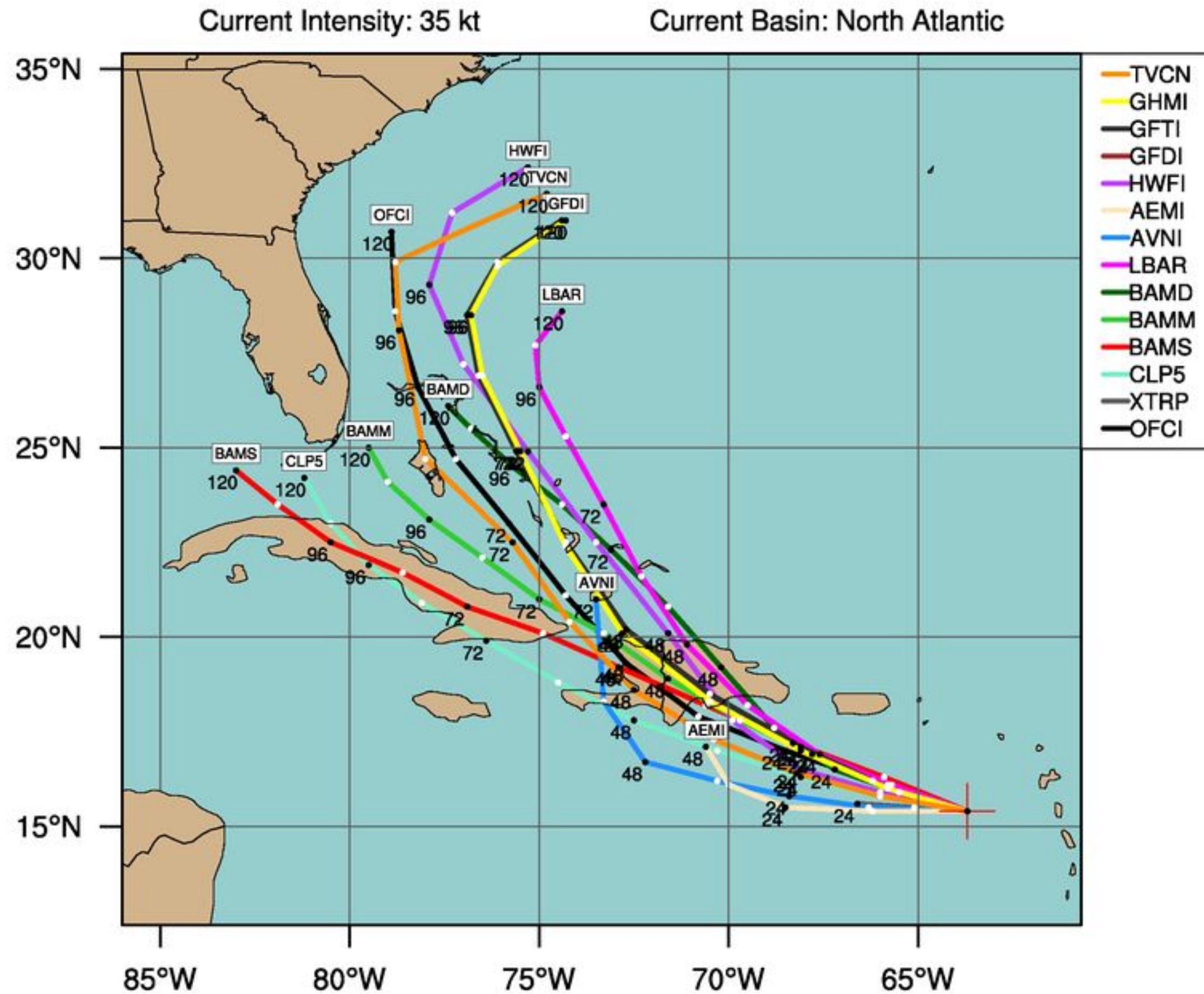
## Comprehension



- State what we know and what we don't. **Trends are our friends**
- Limit or do not mention “uncertainty”. Instead, “probability”, “odds” or “range of possible scenarios” can be better terms that convey lack of certainty
- Specifics are added as confidence increases closer to the event (timelines, threat levels, wind speeds, rainfall/surge amounts)
- **Don't forget about impacts**

# TROPICAL STORM EMILY (AL05)

Early-cycle track guidance valid 1200 UTC, 02 August 2011



What about spaghetti plots or a range of potential scenarios?

Expressing certainty (or uncertainty) is good...BUT

This plot does not display official storm information. Use for information purposes only.  
DO NOT USE FOR LIFE AND DEATH DECISIONS!

# Live Audience Partner Briefings

## Best Practices

- **Use graphics**
  - **Web, slides, draw on blank map, etc.**
- **Tailor length – ask!**
- **Know relevant weather**
  - **What, When, Where and Impacts**
- **May not have time for questions**
  - **Crew briefing vs planning briefing**
  - **How and where to contact you**

# Final Notes on Presentations

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- **Concise**
- **Visual – Use Graphics but ones that convey message without causing confusion**
- **Focus on main hazards**
- **Don't be afraid to express uncertainty – in our business it's a must**
- **“Express uncertainty with confidence”**

Comments/Questions?