

# Florida Tropical Training Week 2025

PRESENTED BY NATIONAL WEATHER SERVICE FLORIDA  
OFFICES





# TRAINING GOALS

1. Understand & Apply Forecast Tools
2. Personal Threat & Impact Assessment
3. Evacuation & Impact Readiness

Answer the question...

**“What should I be doing *now*?”**



# TRAINING TIMELINE

**TODAY**

DAY 1

Monitoring the  
Tropics  
Seasonal Readiness

DAY 2

**Gearing Up for  
Potential  
Impacts**

DAY 3

Sheltering &  
Hunker-Down  
Mode

DAY 4

Post-Storm  
Safety  
Lessons Learned

<https://www.weather.gov/jax/FloridaTropicalTrainingWeek2025>



# TODAY'S TEAM

**Kelly Godsey**, Presenter  
NWS TAE  
Senior Service Hydrologist



**Brendan Schaper**, Presenter  
NWS MLB  
Lead Meteorologist



**Angie Enyedi**, Chat  
NWS JAX  
Lead Meteorologist



**Robert Garcia**, Chat  
NWS MFL  
Warning Coordination  
Meteorologist



**Morgan Barry**, Chat  
NWS MOB  
Lead Meteorologist





# THIS AFTERNOON'S TEAM

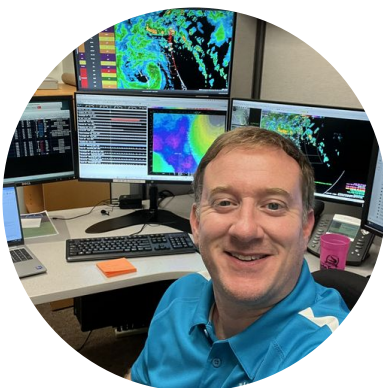
**Kelly Godsey**, Presenter  
NWS TAE  
Senior Service Hydrologist



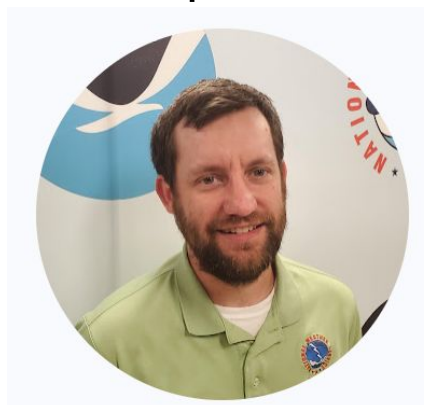
**Angie Enyedi**, Presenter  
NWS JAX  
Lead Meteorologist



**Ben Nelson**, Chat  
NWS JAX  
Lead Meteorologist



**Matt Anderson**, Chat  
NWS TBW  
Science & Operations Officer



**Keily Delerme**, Chat  
NWS TBW  
Meteorologist



# THIS EVENING'S TEAM

**Cameron Young**, Presenter  
NWS TAE  
Lead Meteorologist



**Will Ulrich**, Presenter  
NWS MLB  
Warning Coordination Meteorologist



**Paige Klingler**, Chat  
NWS JAX  
Meteorologist



**Morgan Barry**, Chat  
NWS MOB  
Lead Meteorologist



**Cassie Leahy**, Chat  
NWS MLB  
Lead Meteorologist





Note: The cone contains the probable path of the storm center but does not show the size of the storm. Hazardous conditions can occur outside of the cone.



# Get Ready

## When & to what extent do you prepare?

**Seasonal  
Preparedness**

**Monitor**  
Days 6-7

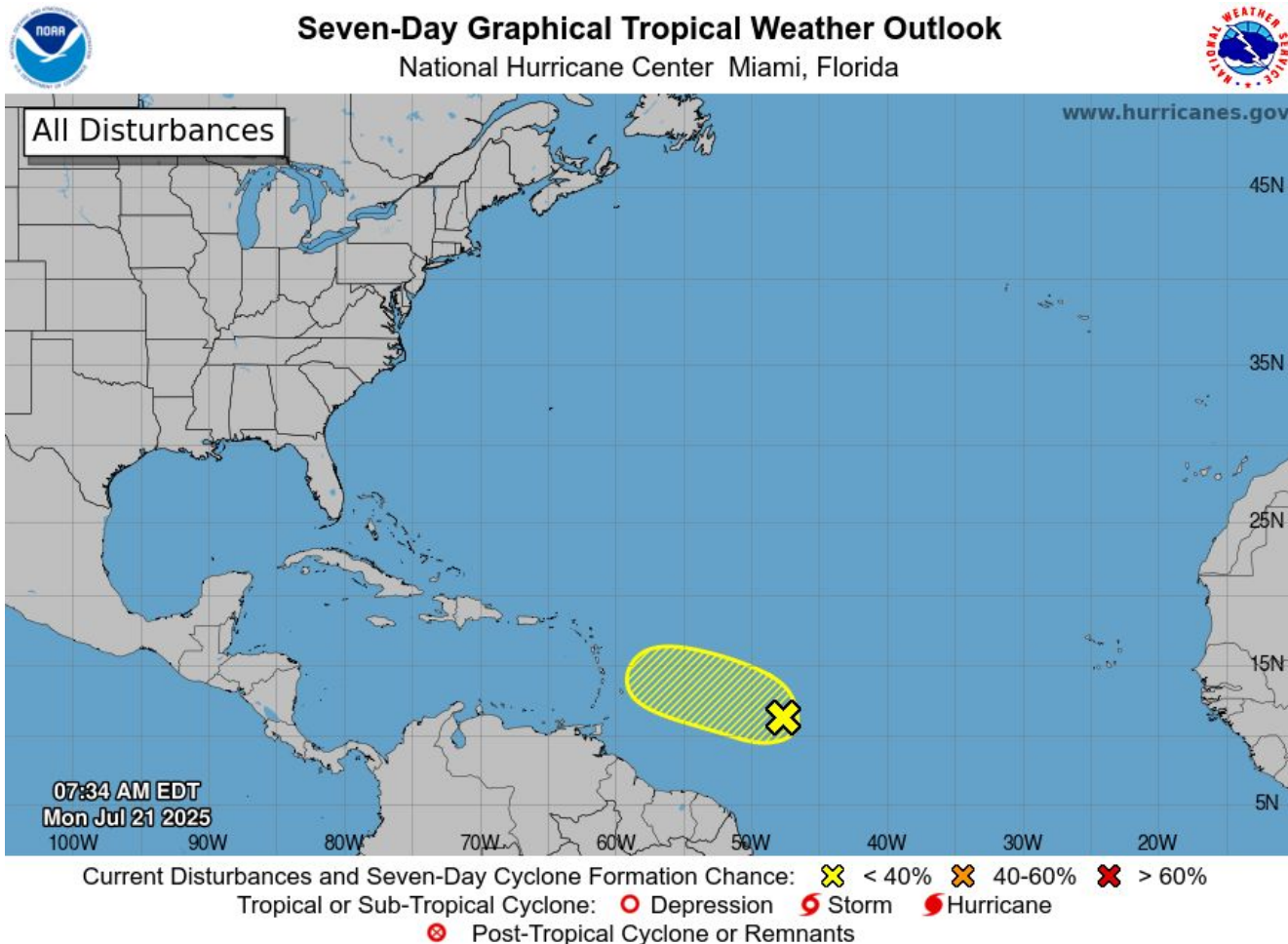
**Gearing Up  
for Impacts**  
Days 3-5

**Hunker Down**  
< 48 hrs to Impact

**Post-Storm  
Safety**

- Understand & Apply Forecast Tools
- Personal Threat & Impact Assessment
- Evacuation & Impact Readiness

# TROPICAL WEATHER OUTLOOK



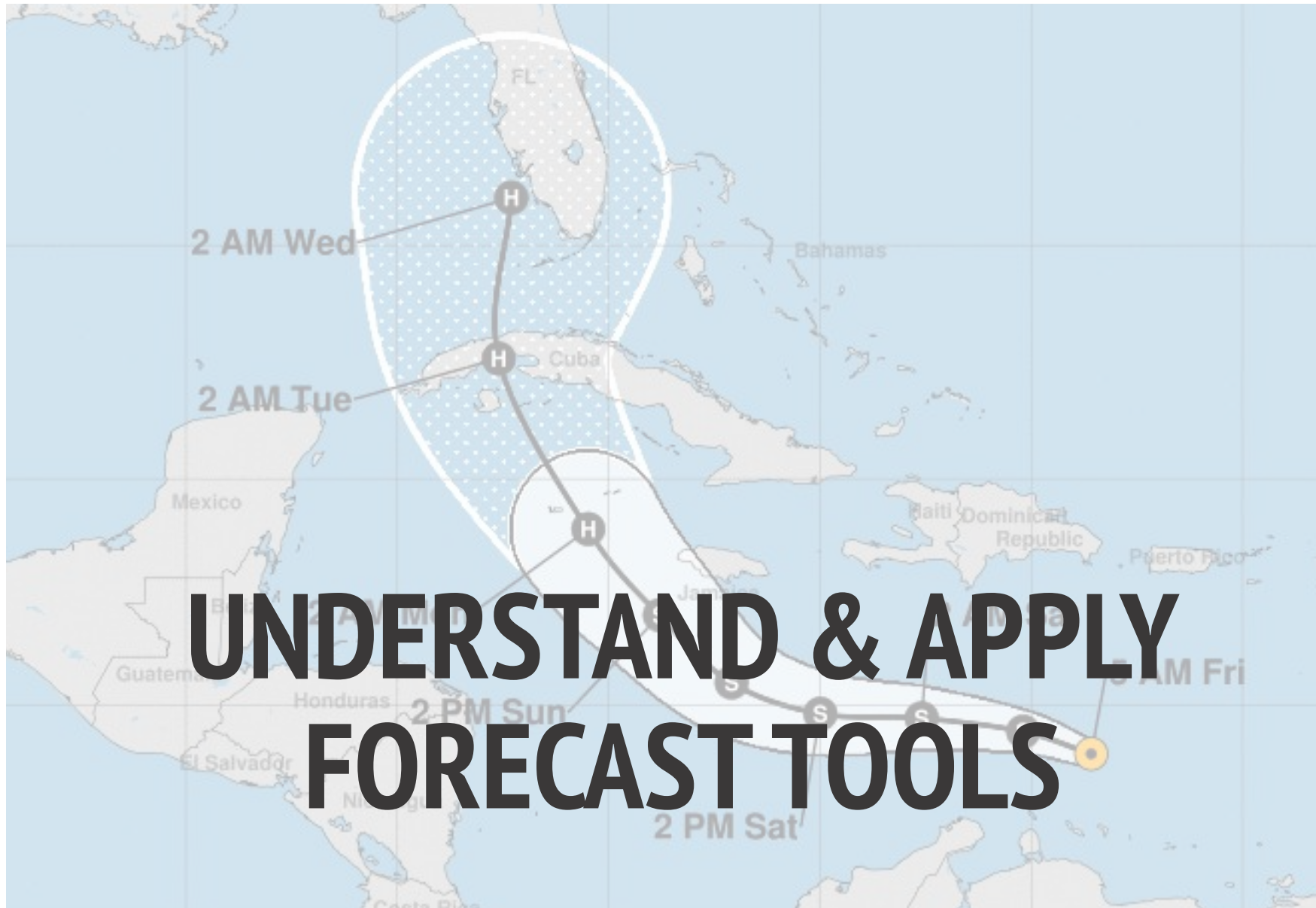
There is a 10% chance of tropical cyclone formation somewhere in the yellow shaded area in the next 7 days.

## What to do now:

- Stock Supply Kits
- Review Hurricane Plans
- Know your Evacuation Zone
- Monitor here: [www.hurricanes.gov](http://www.hurricanes.gov)







# NATIONAL WEATHER SERVICE

## *Tropical Cyclone Products & Messaging Strategy*



> 5 Days

3-5 Days

< 48 hrs

Impacts

# UNDERSTAND & APPLY FORECAST TOOLS

## POTENTIAL CENTER TRACK

White shaded area (aka cone) displays the most likely track of storm **CENTER**

The cone **DOES NOT** show impact areas

Available from National Hurricane Center:



[www.hurricanes.gov](http://www.hurricanes.gov)





## GETTING READY

# POLL QUESTION

**About how often does the center of a tropical cyclone track outside of the forecast cone?**

- A. Never
- B. Half (50%) of the time
- C. One-third (33%) of the time
- D. 10% of the time





> 5 Days

3-5 Days

< 48 hrs

Impacts

# UNDERSTAND & APPLY FORECAST TOOLS

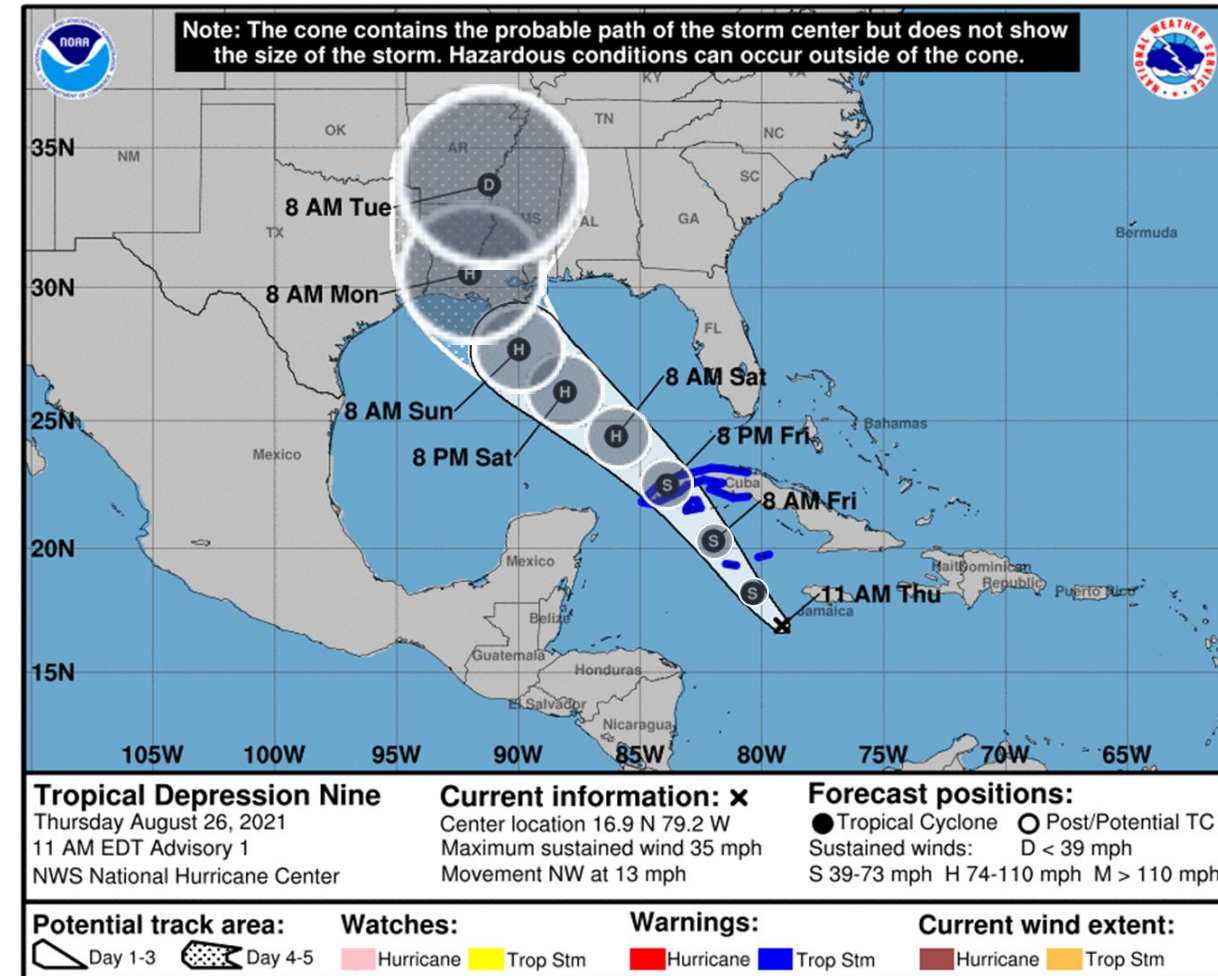
## POTENTIAL CENTER TRACK

### How is the cone made?

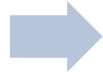
Circles “drawn” around each forecast point (12, 24, 36 hours, etc.) based on the 67th percentile of the 5 year NHC track forecast error at that forecast lead time

A forecast cone is created based on circumference of those circles

The cone size (width) depends on the speed of the storm



> 5 Days



3-5 Days



< 48 hrs



Impacts



## UNDERSTAND & APPLY FORECAST TOOLS

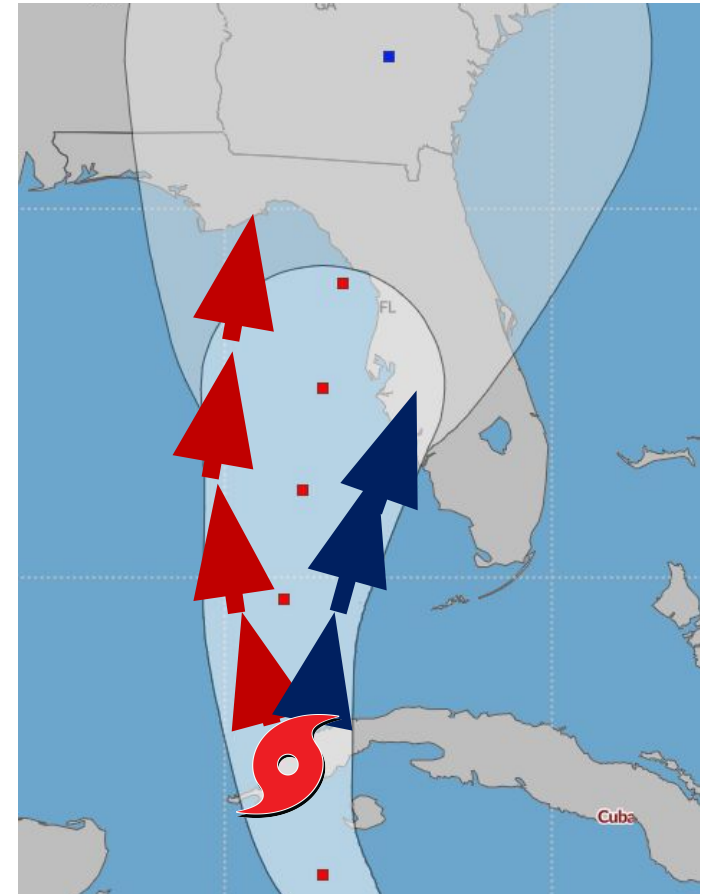
# TRACK ADJUSTMENTS

Storm track adjustments by just a few degrees ultimately influences landfall location & time, as well as the severity of impacts for specific locations

**Constantly monitor the forecast!**

Example:

	Track adjustment from north ( $360^\circ$ ) to north-northwest ( $350^\circ$ )	Potential landfall somewhere FL panhandle – in a few days
	Track adjustment from north ( $360^\circ$ ) to north-northeast ( $10^\circ$ )	Potential landfall somewhere along the SW FL peninsula – in a shorter amount of time



> 5 Days

3-5 Days

< 48 hrs

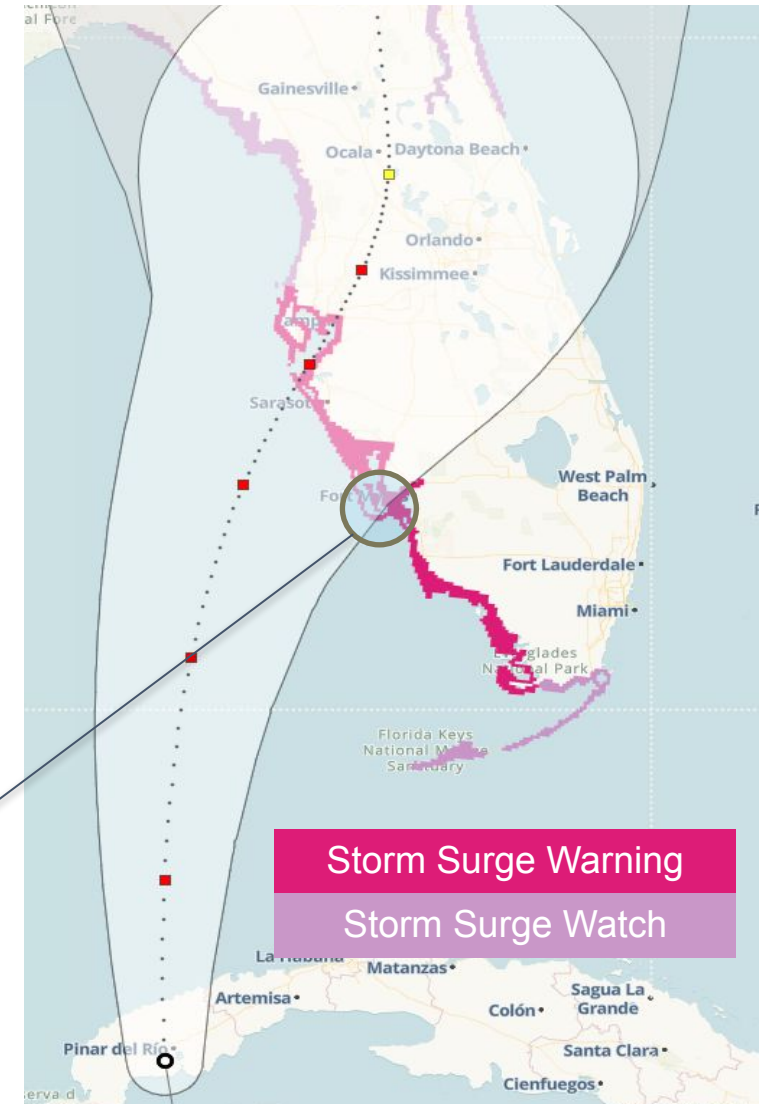
Impacts

## UNDERSTAND & APPLY FORECAST TOOLS

# RISKS OUTSIDE OF CONE

Deadly tropical cyclone hazards occur outside of the forecast cone - **DO NOT** assume you are safe if your location is not within the cone

**Note that the entire west coast of FL is under threat of deadly storm surge**





> 5 Days

3-5 Days

< 48 hrs

Impacts

# UNDERSTAND & APPLY FORECAST TOOLS

## KEY MESSAGES

Give a general overview & head's up

Too early for details on wind, surge, rain amounts/values at this time

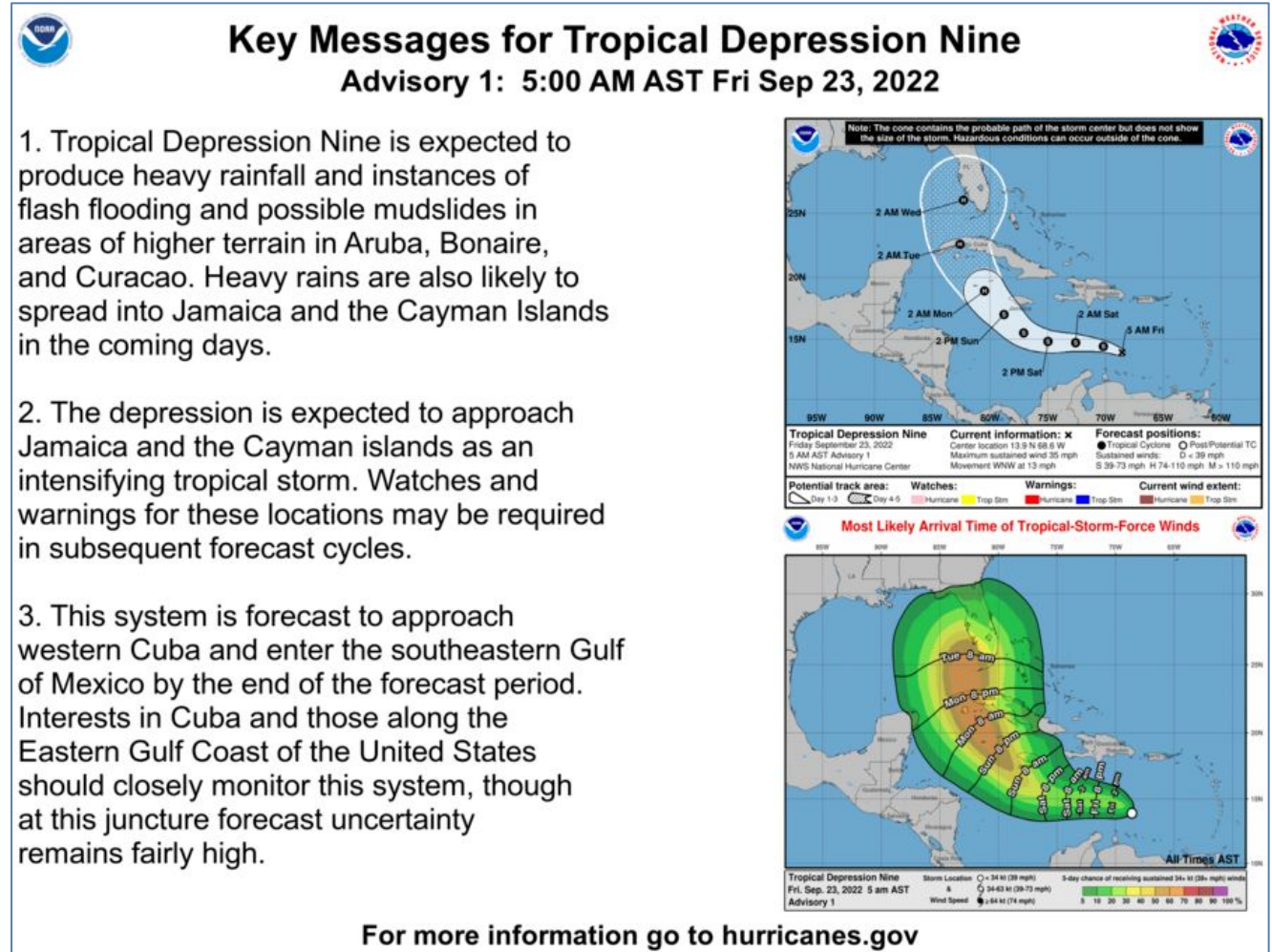
Focus on

**PREPARATION & MONITORING**

Available from the National Hurricane Center



[www.hurricanes.gov](http://www.hurricanes.gov)





# **THREAT & IMPACT ASSESSMENT**

**WHAT SHOULD I BE PREPARING FOR?**

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# THREAT & IMPACT ASSESSMENT

## APPROPRIATE FORECAST INTERPRETATION & RESPONSE

GET READY

### Does Not:

Motivate under-preparation

Motivate exhaustive  
over-preparation

Create forecast desensitization

### Does:

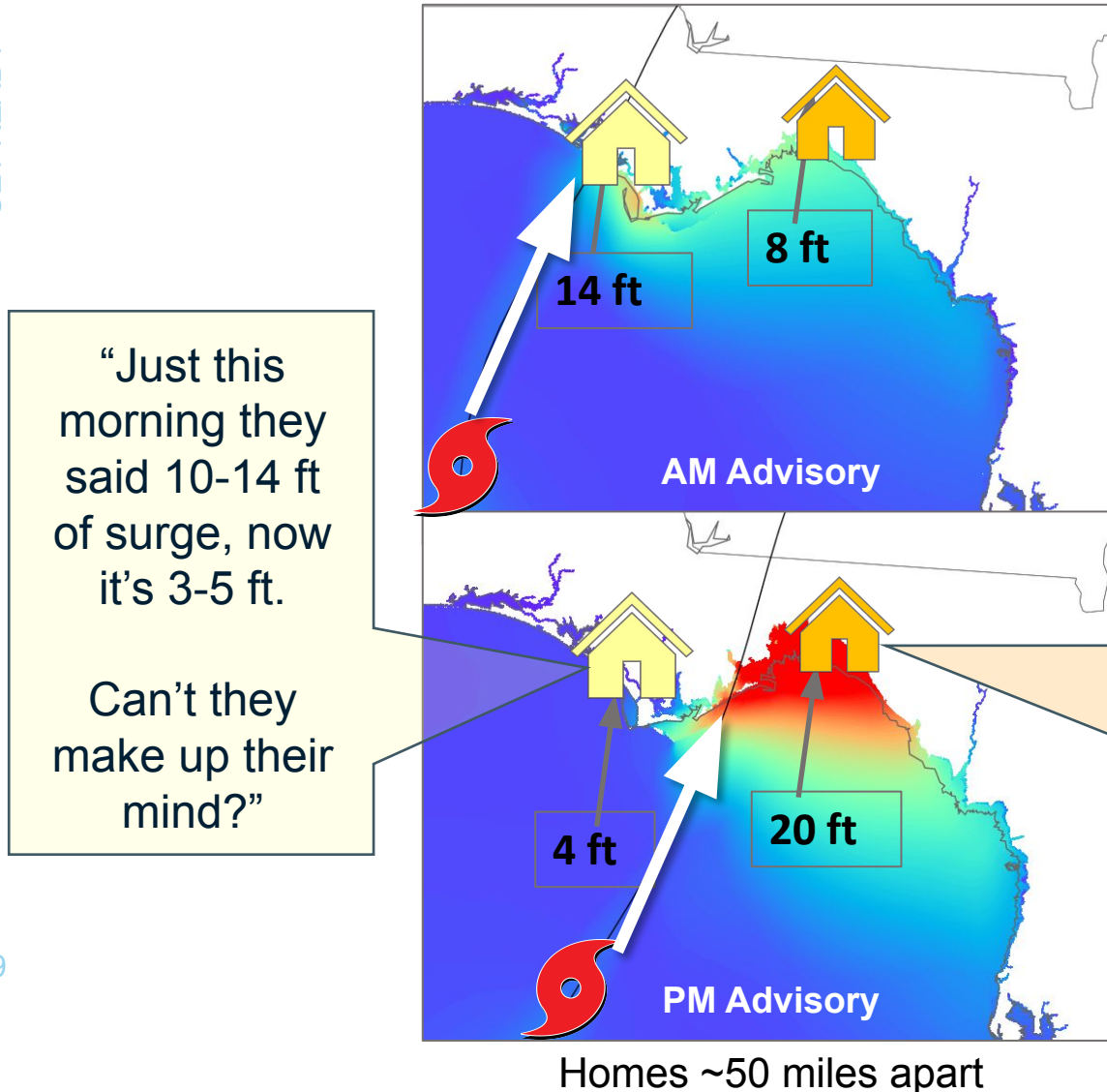
Motivate reasonable preparation

Encourage forecast monitoring &  
appropriate interpretation

# THREAT & IMPACT ASSESSMENT

## APPROPRIATE FORECAST INTERPRETATION & RESPONSE

GET READY



Coastline shape & tropical cyclone track strongly influence storm surge values at specific locations

Do not focus preparedness on specific “numbers” days in advance  
(ex: storm surge of X ft, rain of X inches, winds of X mph)

“They don’t know what this storm’s going to do.

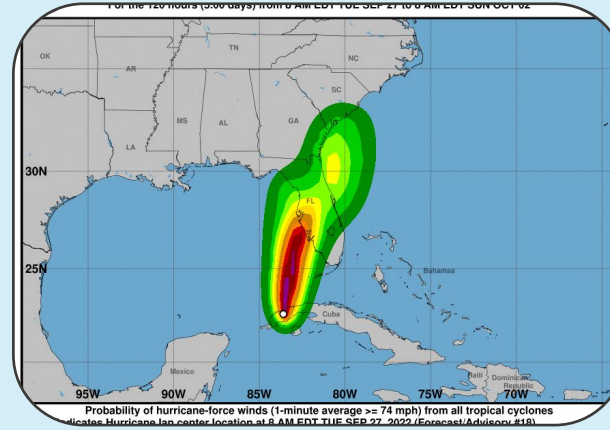
We were fine last time...”

Prepare for  
**THREAT & IMPACT  
POTENTIAL**

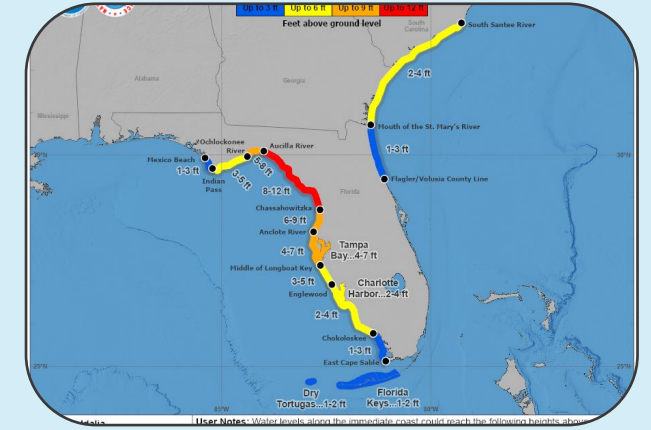
# TROPICAL CYCLONE THREATS



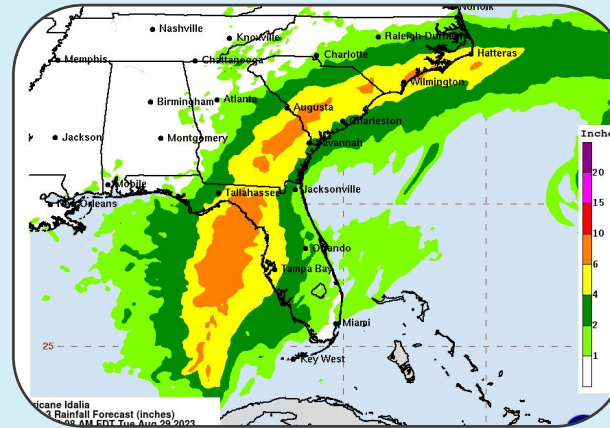
[www.hurricanes.gov](http://www.hurricanes.gov)



Wind



Surge



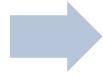
Flooding Rain



Tornado



> 5 Days



3-5 Days



< 48 hrs



Impacts

# THREAT & IMPACT ASSESSMENT

## WIND RISK

GET READY

### What is it?

The chance of tropical cyclone force winds (in this case) at a specific location over the next 5 days

### How do you use it?

Watch the trends – increasing probabilities mean your location is at greater wind damage risk.

### How can it help you?

Helps monitor & evaluate your tropical cyclone wind risk & motivate preparedness.

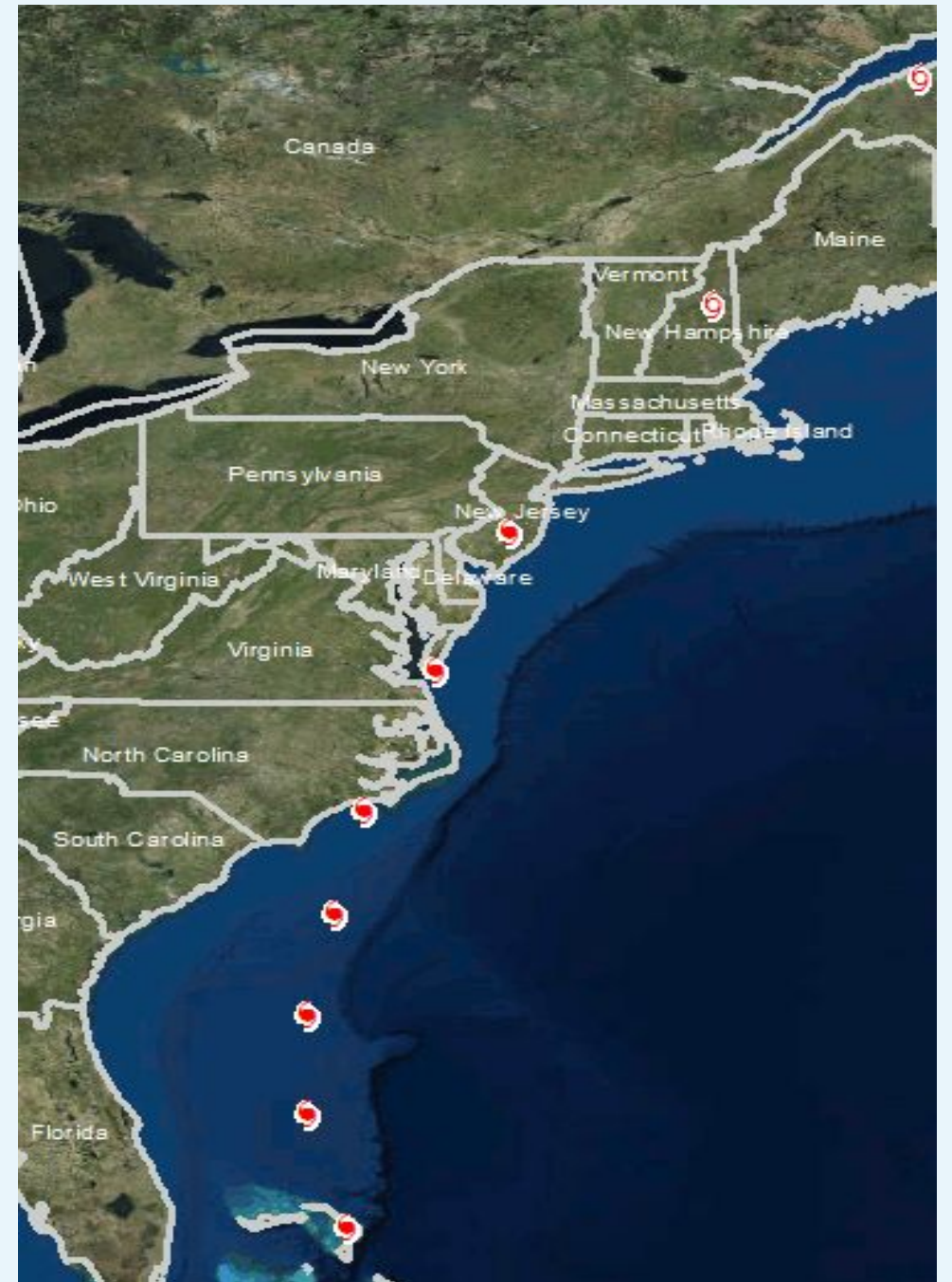


# WIND RISK

Based on 1,000 realistic alternative scenarios created using:

- ✓ Official NHC track & intensity forecast
- ✓ Historical NHC track & intensity forecast errors
- ✓ Climatology and persistence wind radii model

Uses model spread to account for track uncertainty



> 5 Days

3-5 Days

< 48 hrs

Impacts

GET READY

# THREAT & IMPACT ASSESSMENT WIND RISK

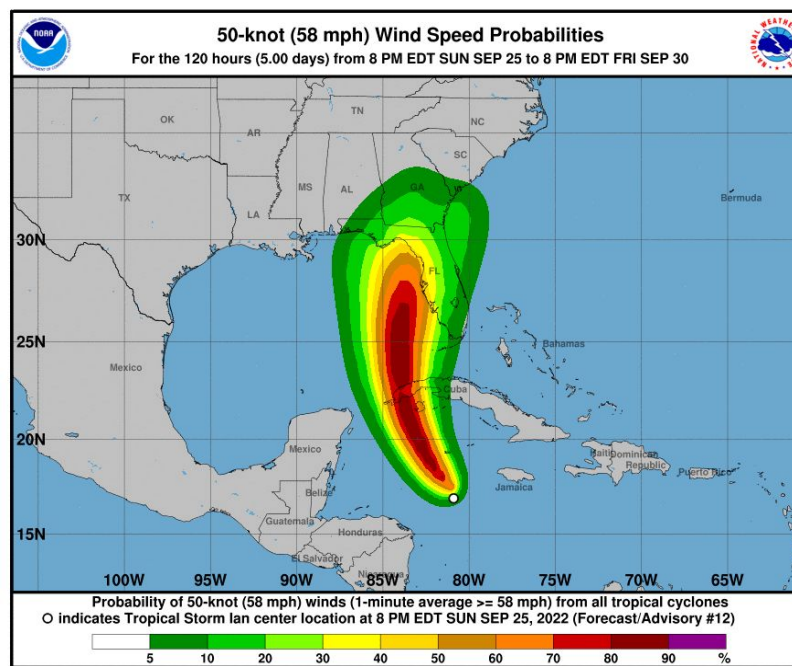


Available through the  
National Hurricane  
Center

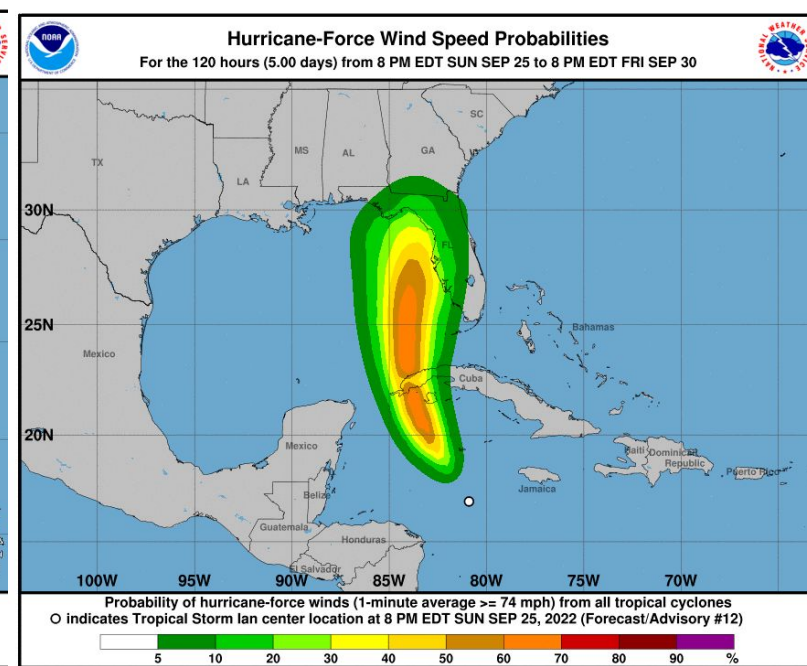
[www.hurricanes.gov](http://www.hurricanes.gov)



**Tropical Storm Wind  
Potential  
(Sustained  $\geq 39$  mph)**



**Strong Tropical Storm Wind  
Potential  
(Sustained  $\geq 58$  mph)**



**Hurricane Wind Potential  
(Sustained  $\geq 74$  mph)**



# THREAT & IMPACT ASSESSMENT

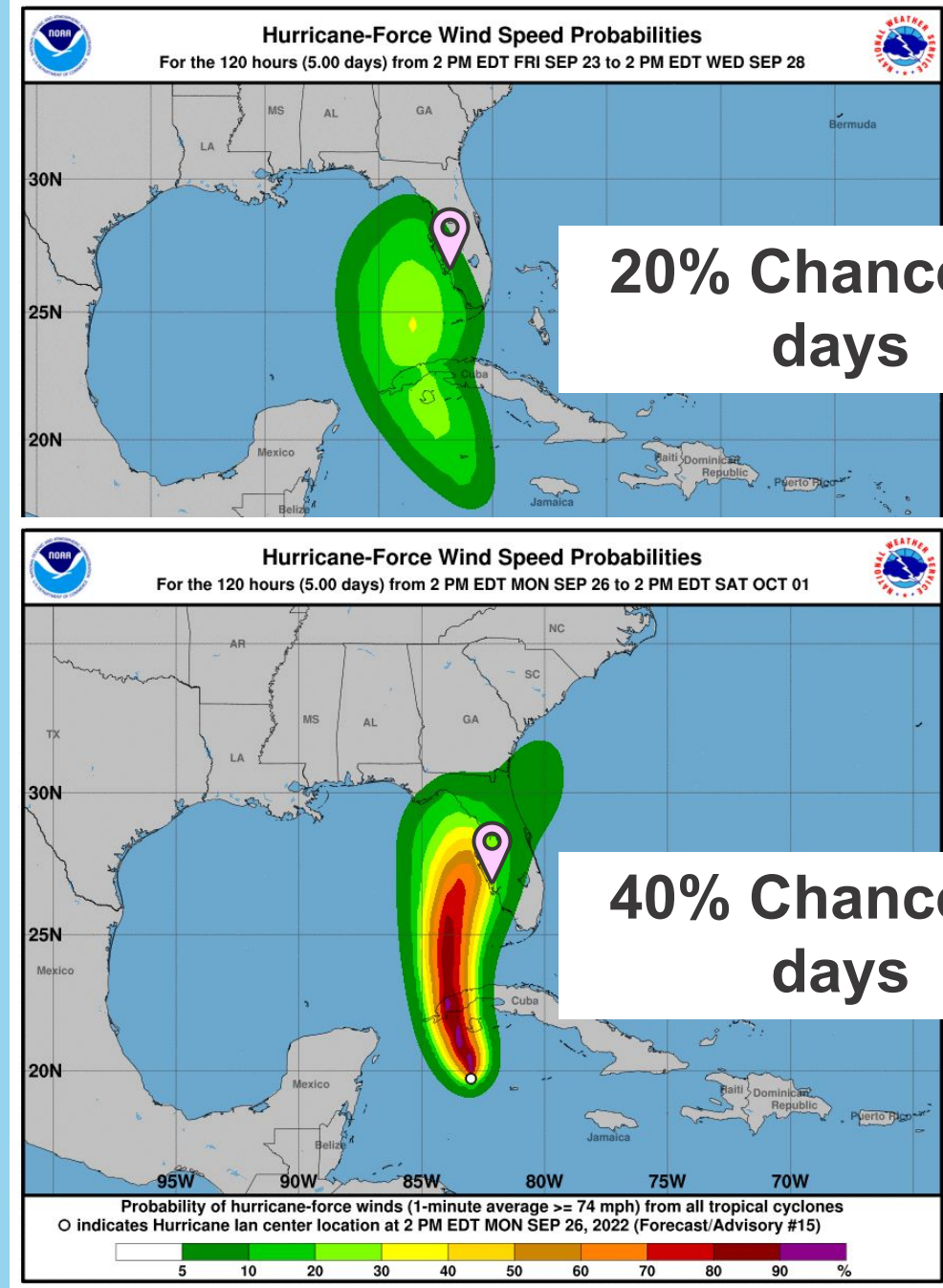
## INTERPRET WIND RISK

Event	Probability of Event	Potential Impact
Rain	20%	Wet
Traffic Delay	20%	Late to Event

Low probabilities for a HIGH Impact Event are MEANINGFUL



**Risk vs  
Reward**



# THREAT & IMPACT ASSESSMENT

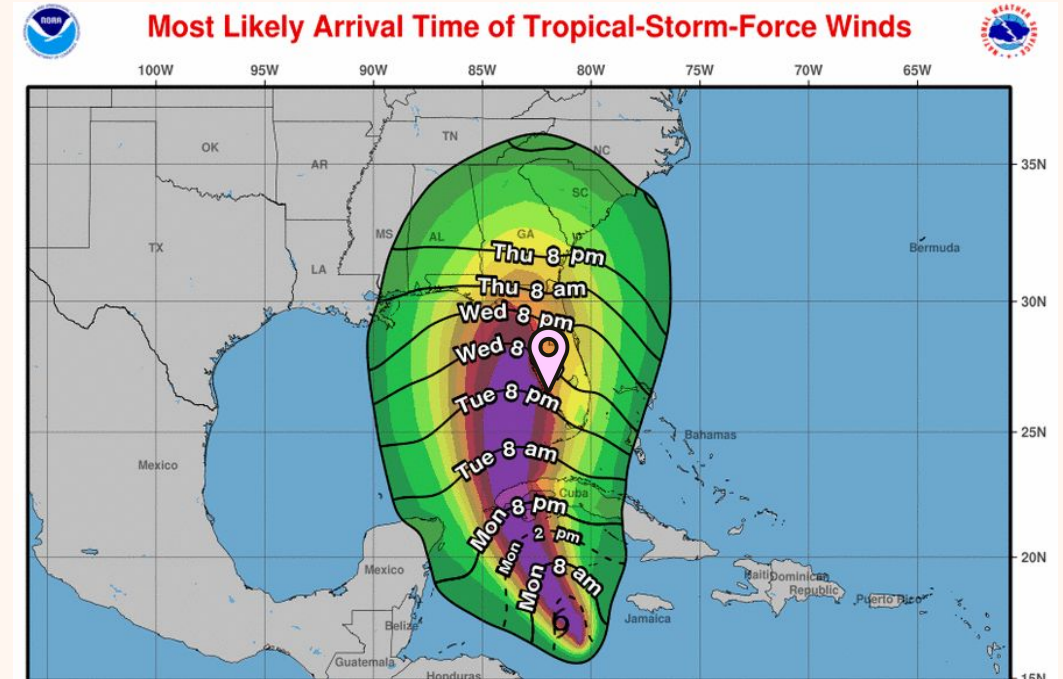
## WIND RISK TIMING

Available through the National Hurricane Center  
[www.hurricanes.gov](http://www.hurricanes.gov)



- Only 1 in 10 chance of tropical storm force winds arriving earlier than noted time
- Best for users with low risk tolerance (i.e. those that need more time to prepare)

*“Tropical storm force winds could arrive as early as Tuesday...”*



- Equal chances of tropical storm force winds arriving before or after the time listed
- Preparations should be completed by this time at the latest

*“Tropical storm force winds will likely arrive Tuesday night...”*

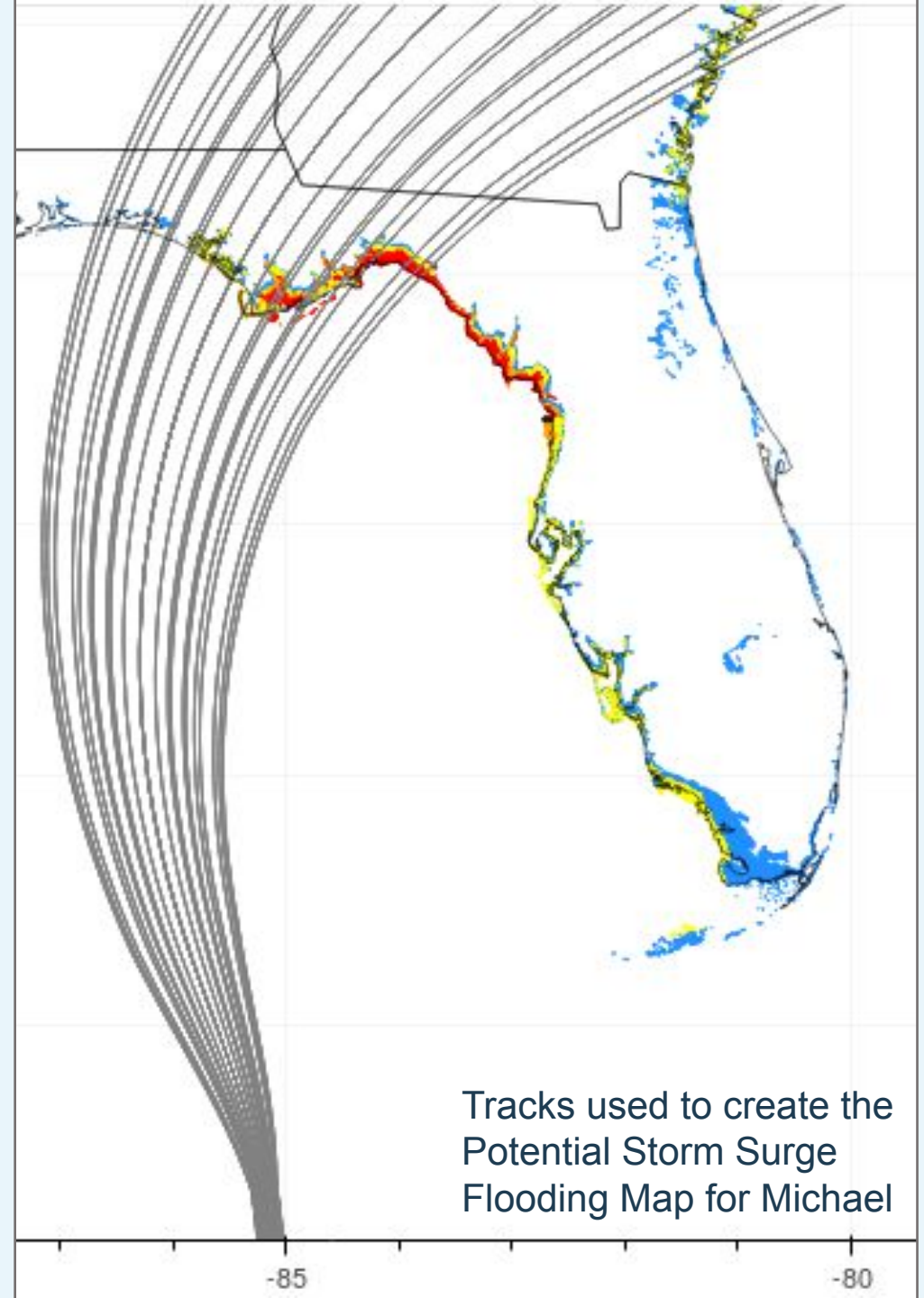


# STORM SURGE RISK

The National Hurricane Center models 100s of storm scenarios for a specific tropical cyclone.

Modeling adjusts the size, intensity & forward speed of a specific cyclone – accounts for storm track wobbles

Uses model spread to account for track uncertainty



# THREAT & IMPACT ASSESSMENT

## INTERPRET STORM SURGE RISK



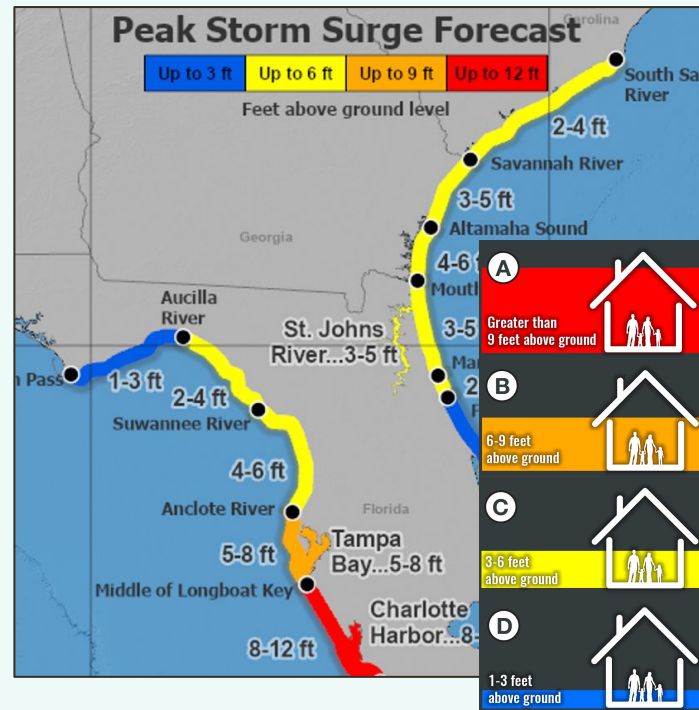
Available National  
Hurricane Center  
[www.hurricanes.gov](http://www.hurricanes.gov)

### NHC Peak Surge

*Expected (Forecast)*

Peak values water  
could reach above  
normally dry ground

Only valid along the  
immediate coast -  
**does not depict  
inland extent**



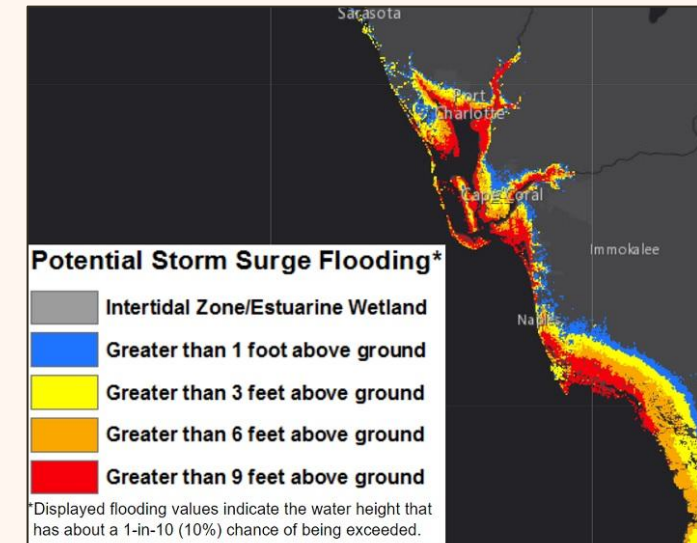
### NHC Potential Storm Surge

*Potential (Reasonable Worst-Case Scenario)*

How high the water  
*could* rise above  
normally dry ground

Only a 1 in 10  
chance storm surge  
will be greater than  
shown

Doesn't represent a  
flooding footprint





<https://youtu.be/br2n-K11W9Y>



> 5 Days

3-5 Days

< 48 hrs

Impacts

# THREAT & IMPACT ASSESSMENT FLOODING RAIN RISK



Available National  
Hurricane Center  
[www.hurricanes.gov](http://www.hurricanes.gov)

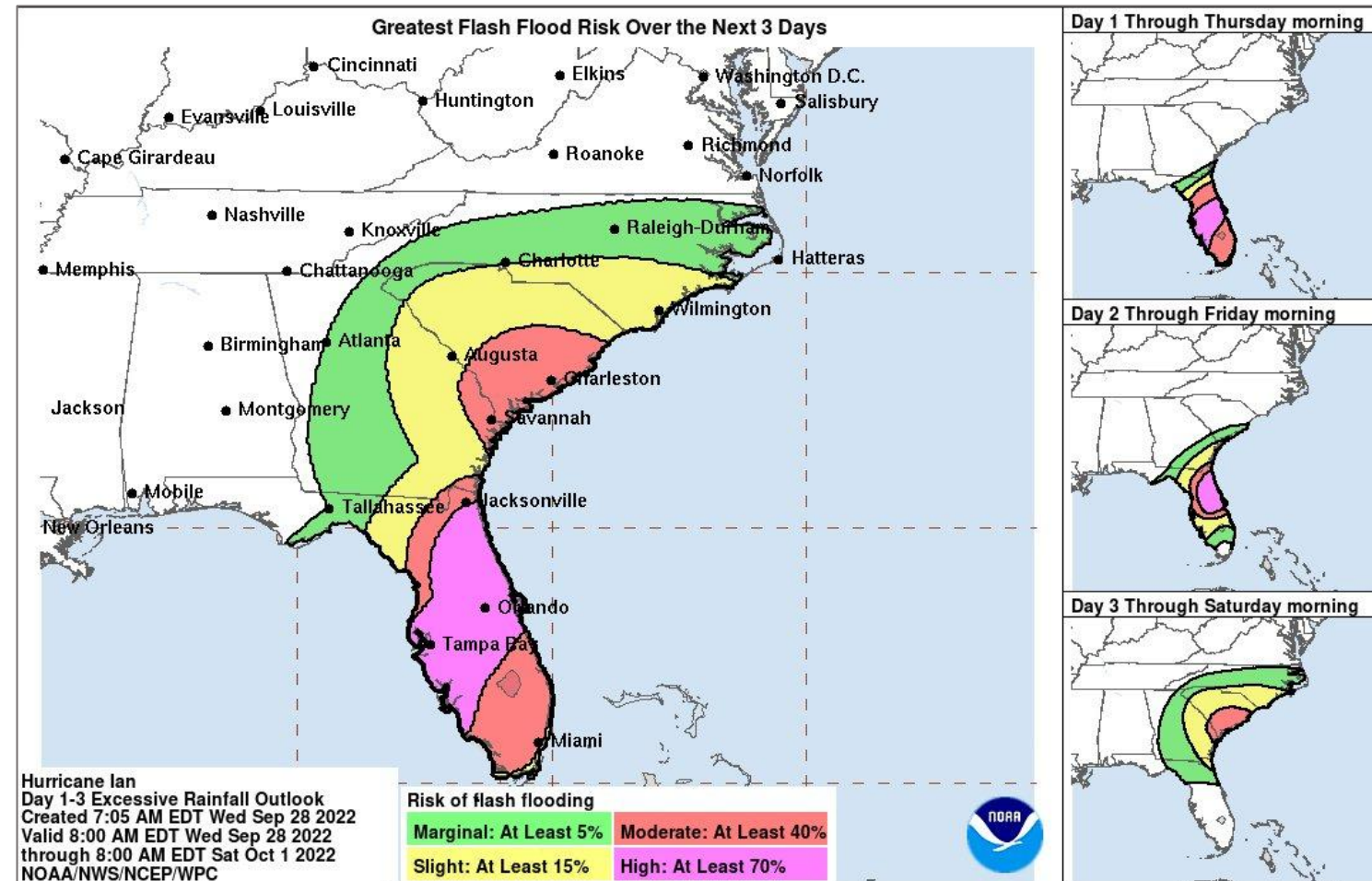
## What is it?

Excessive Rainfall Outlooks (EROs) identify where & when the threat of flash flooding is greatest.

## How do you use it?

Watch the trends & timing – increasing probabilities mean your location is at greater flood risk.

**Threat regardless of category of storm** □ Slower storm, high flooding rainfall threat





> 5 Days

3-5 Days

< 48 hrs

Impacts

# THREAT & IMPACT ASSESSMENT

## TORNADO RISK

Available Storm Prediction  
Center

[www.spc.noaa.gov](http://www.spc.noaa.gov)

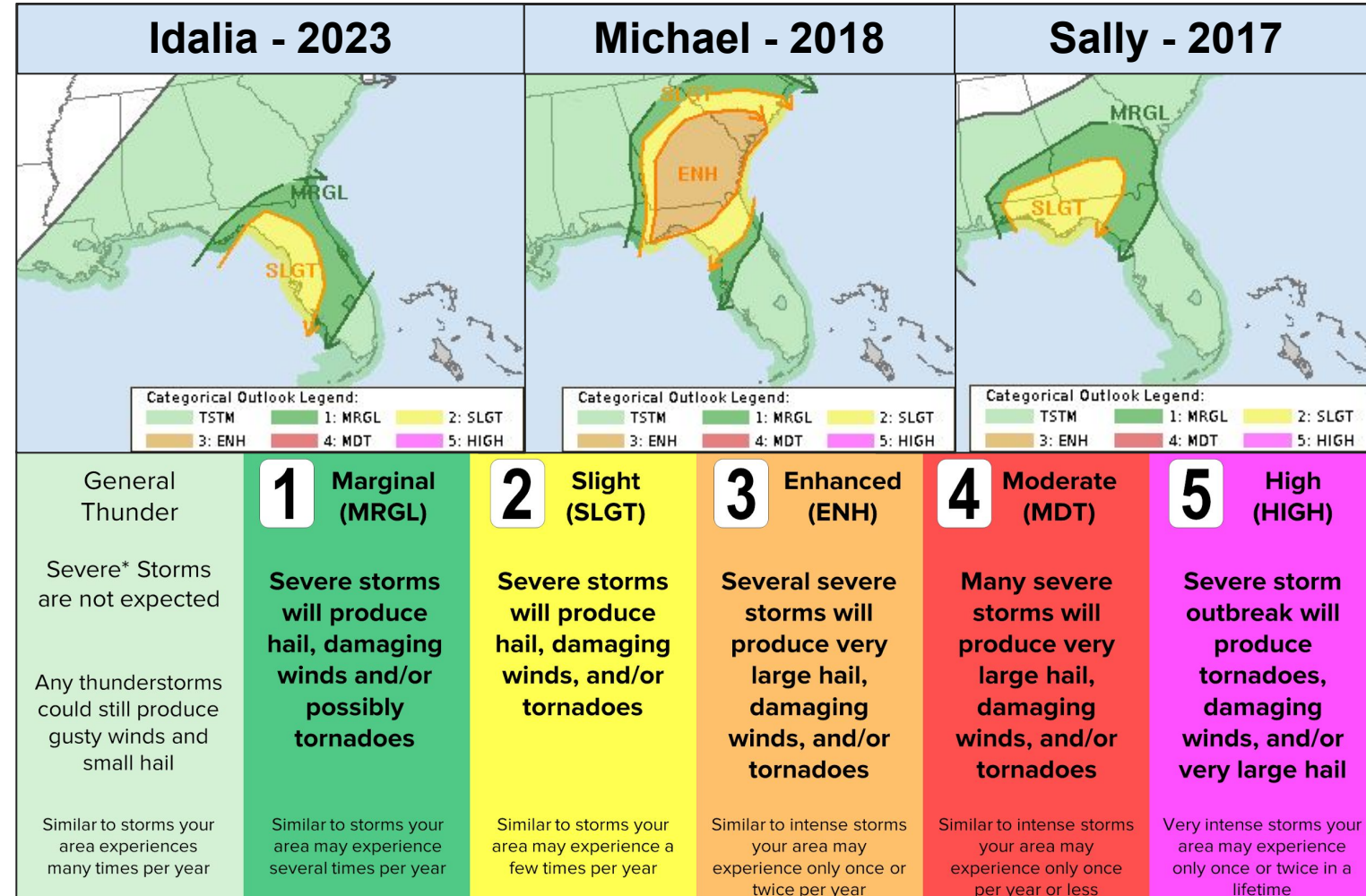
### What is it?

Convective Outlooks identify where & when the threat of severe storms capable of producing tornadoes are located.

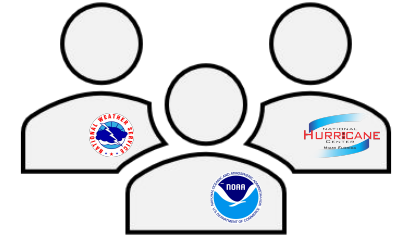
### How do you use it?

Watch the trends & timing – increasing probabilities mean your location is at greater tornado risk.

**Threat regardless of category or location of storm** □ Can extend 100s of miles away from storm center, days in advance of landfall.

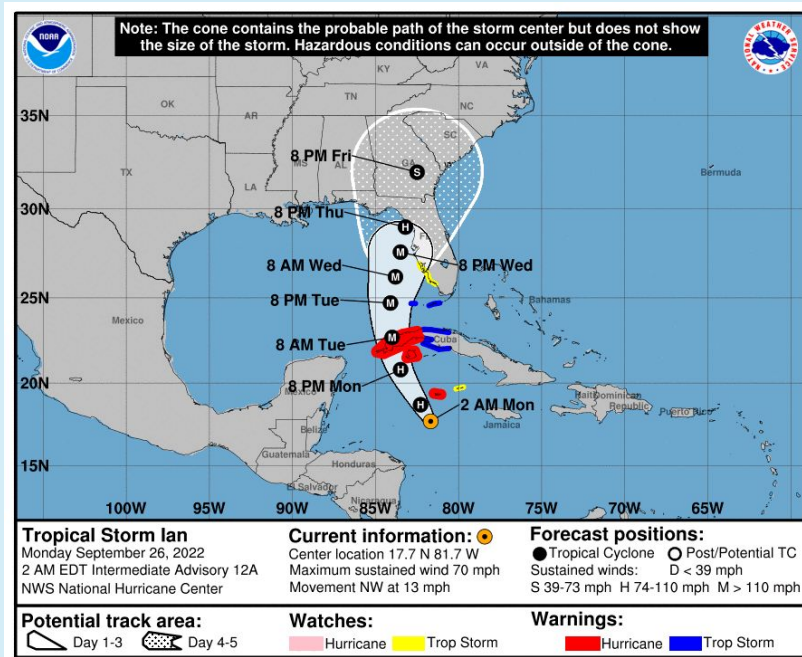


# THREAT & IMPACT ASSESSMENT FORECAST INTERFACE

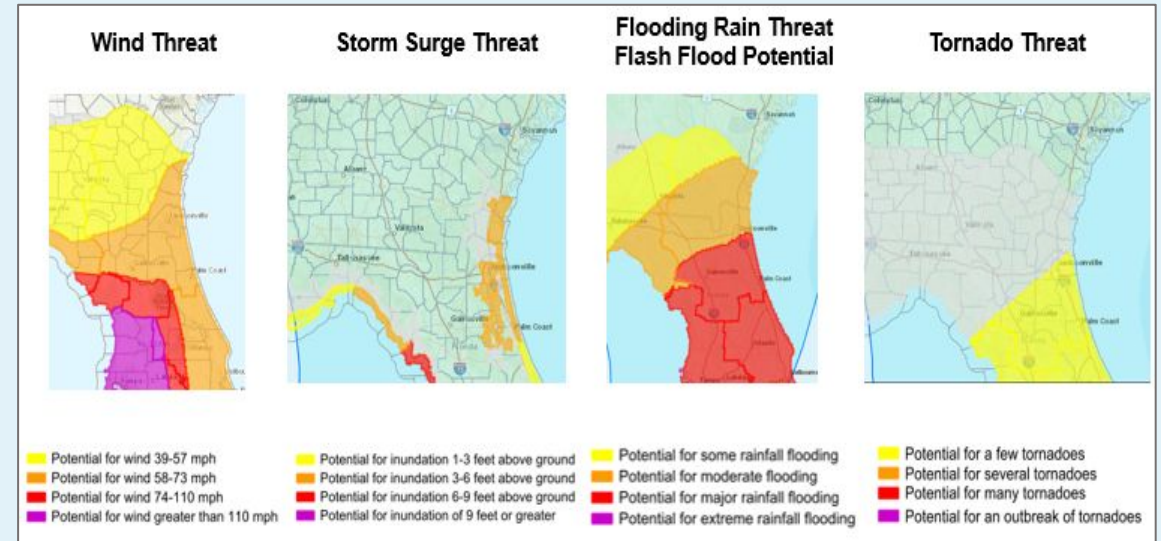


GET READY

## National Hurricane Center Storm Scale & Regional Forecasts – Size, Intensity & Track [www.hurricanes.gov](http://www.hurricanes.gov)



## Local National Weather Service Offices Downscale NHC Forecasts to Local Area – What to prepare for, where, & when [www.weather.gov](http://www.weather.gov)



**GETTING READY**

## **POLL QUESTION**

**What forecast information do the Hurricane Threats & Impacts graphics depict?**

- A. What is EXPECTED at specific locations
- B. What locations should PREPARE for





# THREAT & IMPACT ASSESSMENT

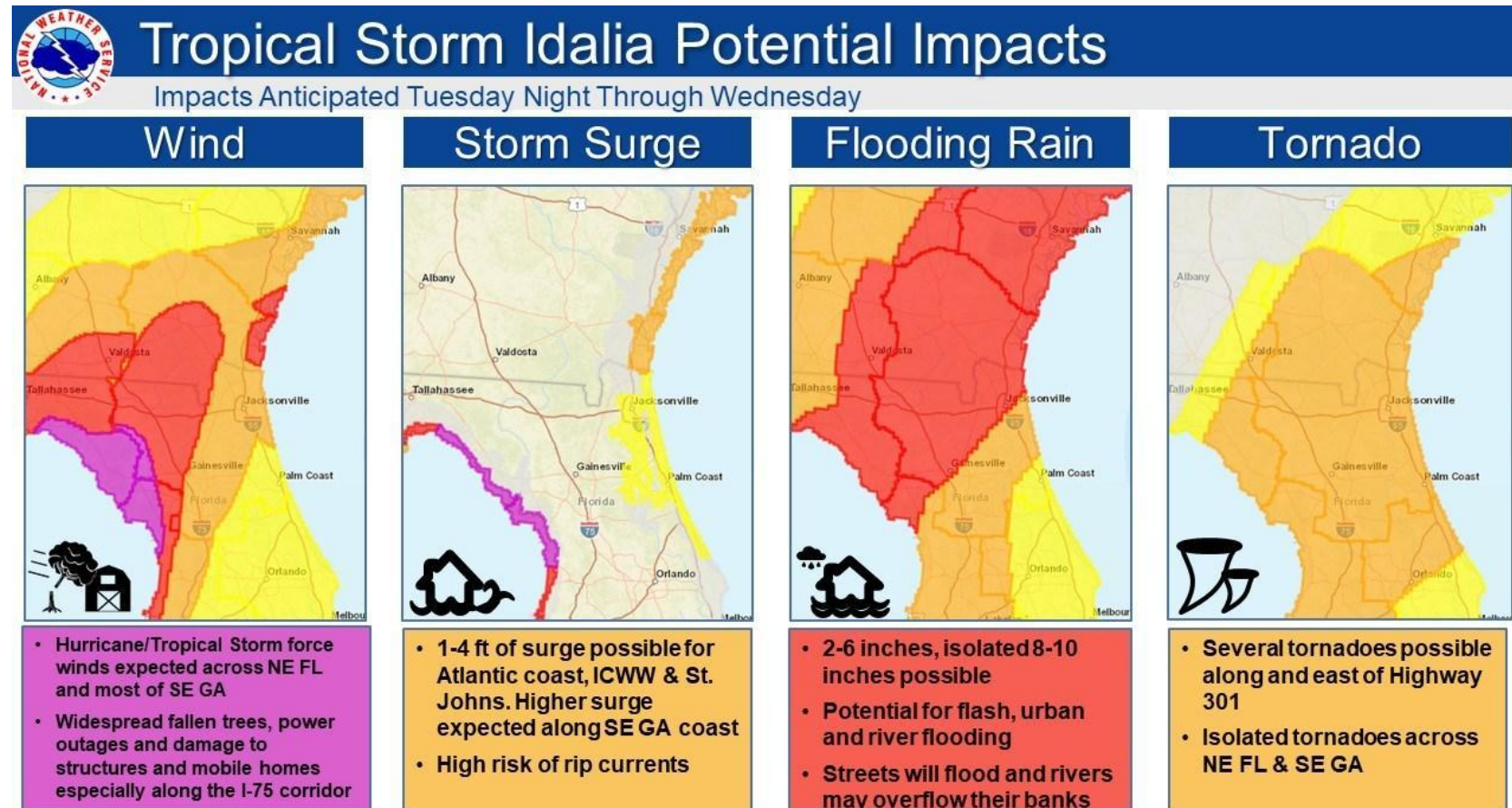
## LOCAL NATIONAL WEATHER SERVICE

GEARING UP

Downscale NHC Impacts for local area

Help answer what, where, when & how bad

**What should you be preparing for?**



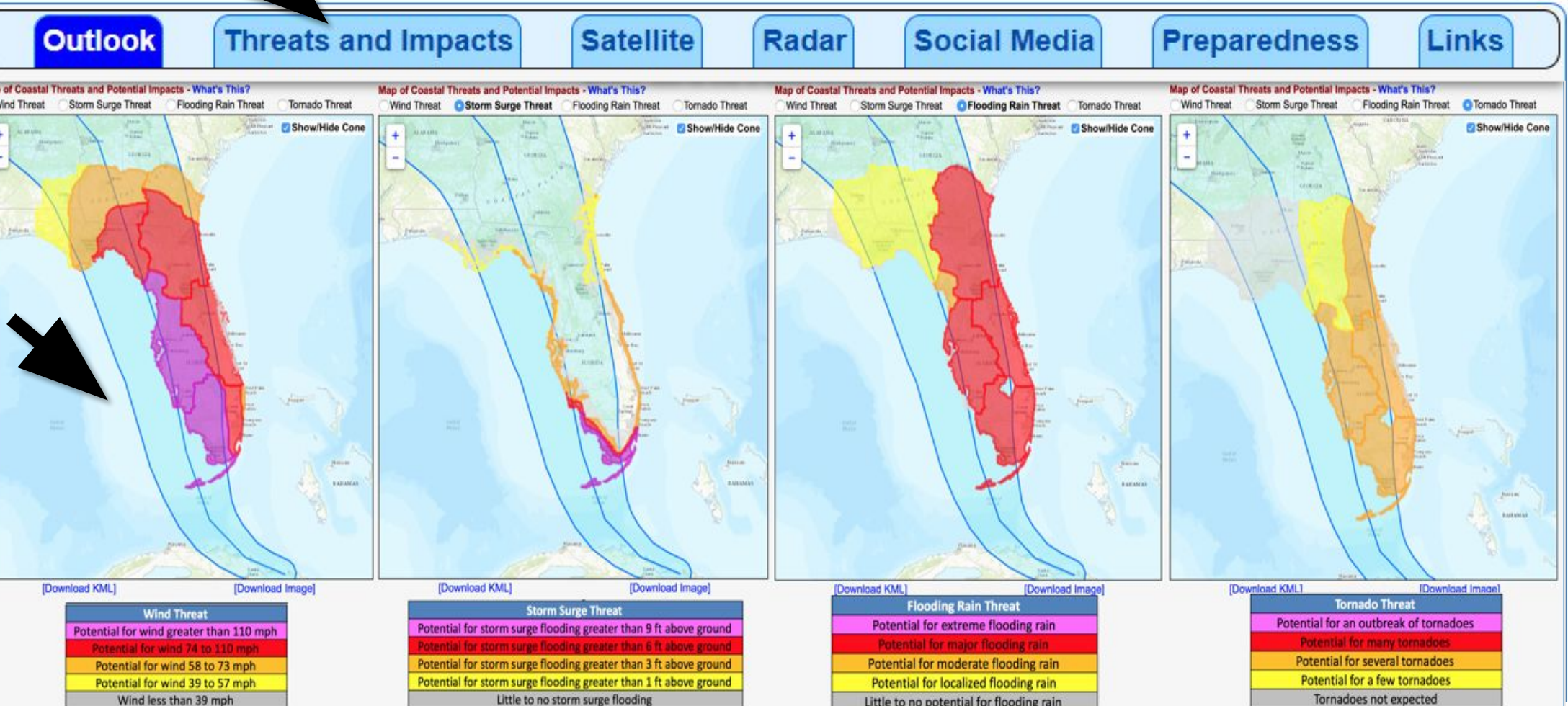


# THREAT & IMPACT ASSESSMENT FORECAST INTERFACE

Available at  
[www.weather.gov](http://www.weather.gov)

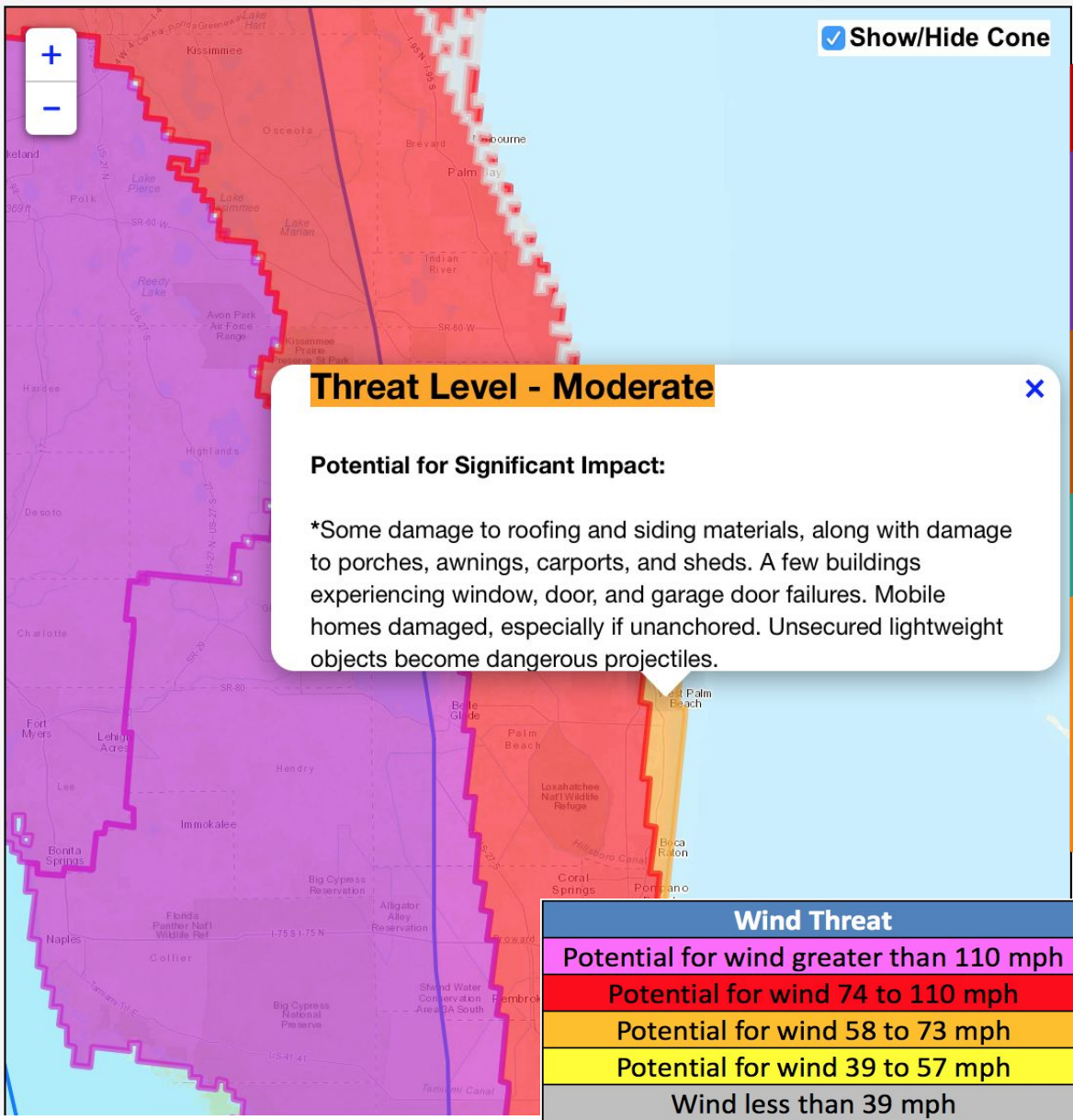


GET READY



Map of Coastal Threats and Potential Impacts - What's This?

☒ Wind Threat ☐ Storm Surge Threat ☐ Flooding Rain Threat ☐ Tornado Threat



Latest Forecast - What's This?

For: Coastal Palm Beach County

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

What is the hazard?

\* LOCATIONS AFFECTED

- West Palm Beach
- Boca Raton
- Juno Beach
- Jupiter

Where will it happen?

\* WIND

- LATEST LOCAL FORECAST: Equivalent Tropical Storm force wind
- Peak Wind Forecast: 45-55 mph with gusts to 75 mph
- Window for Tropical Storm force winds: early Sunday morning until Monday afternoon

How much is expected?

When is it expected?

- EMERGENCY PLANS SHOULD INCLUDE A REASONABLE THREAT AS DEPICTED ON THE LEFT.

What should I prepare for?  
Localized Impact Statement

\* FOR MORE INFORMATION:

- <http://www.weather.gov/mfl>
- [www.co-palm-beach.fl.us](http://www.co-palm-beach.fl.us)
- For storm information call 2-1-1

Hazard-Based Threat Scale  
w/safety-margin relative to  
uncertainty in forecast



# EVACUATION & IMPACT READINESS

WHAT SHOULD I BE DOING NOW?



# ***Get Moving When a Storm Threatens***



Protect your home: cover windows, secure doors & loose items



Determine sheltering options and consider your pets



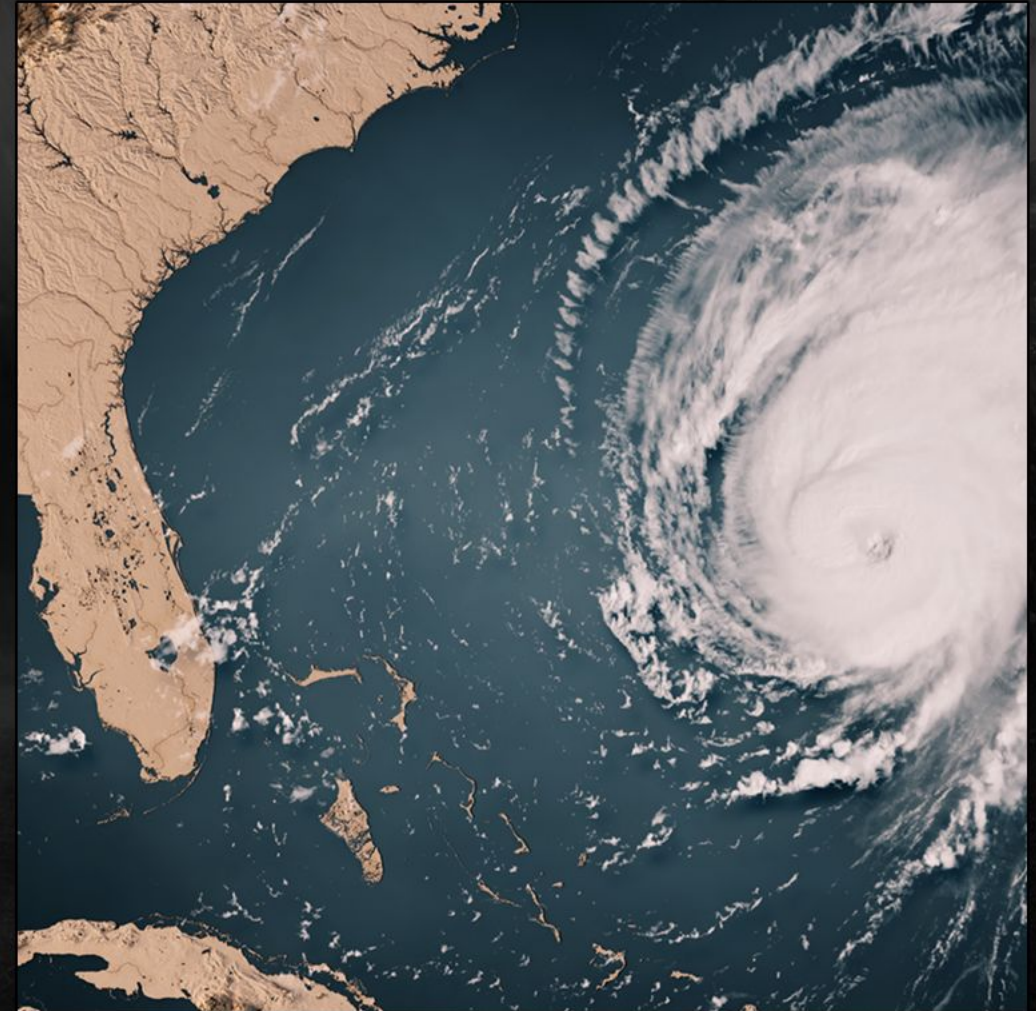
Ready your go-bag, meds & supplies, charge phone, fill up/charge vehicle



Help your neighbors, especially the elderly & other vulnerable people



Follow evacuation orders if given





# SECURE YOUR BOAT BEFORE THE STORM



*Don't wait for a storm warning to secure your boat.*



*Storm surge & wind can carry your boat onshore or out to sea!*

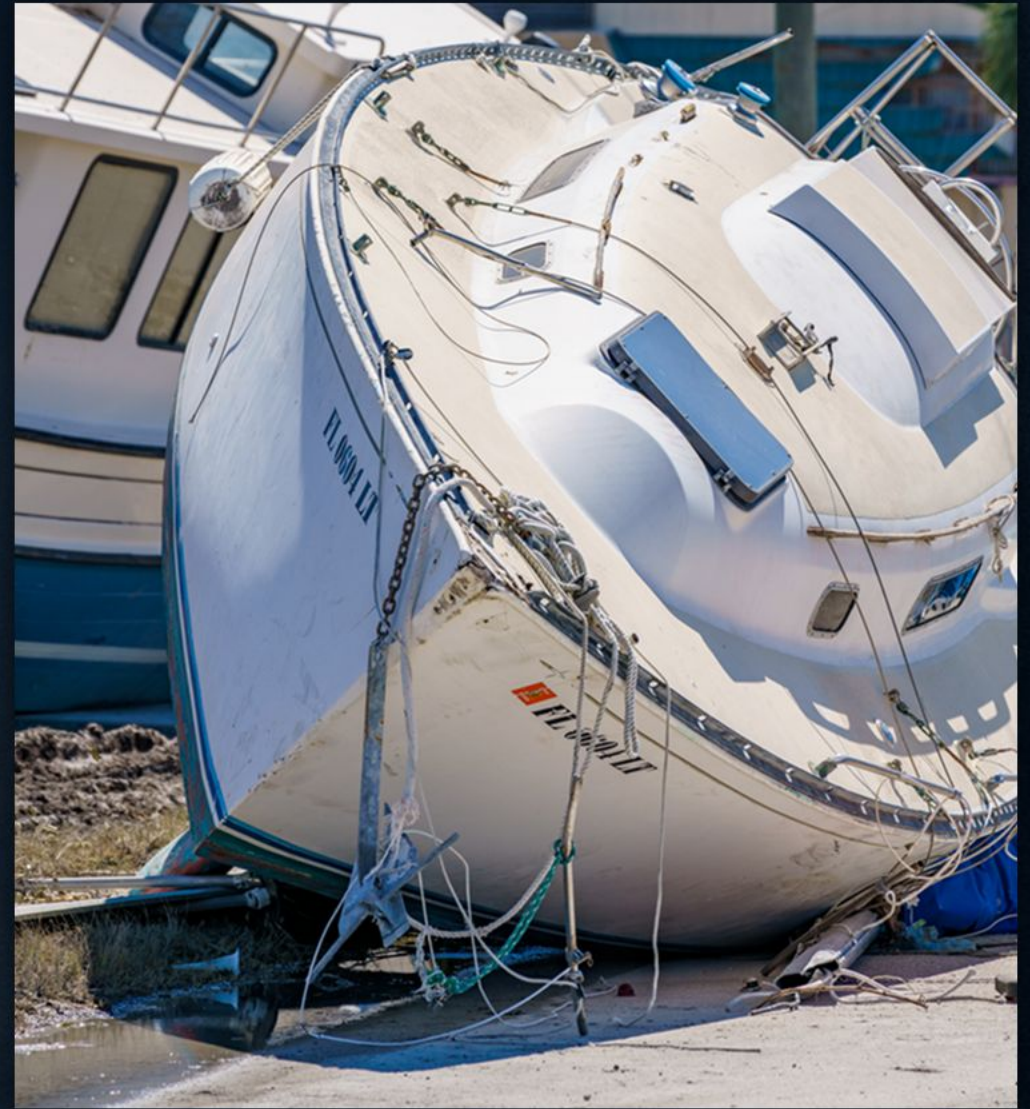


**Stay informed** by listening to the weather forecast and plan ahead.



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**Add additional lines to your boat** as soon as a Hurricane Watch or Tropical Storm Watch is issued.



weather.gov





# Hurricane Preparedness

## STRENGTHEN YOUR HOME



There's a lot you can do around your home to help protect it from hurricane winds. Before hurricane season, trim trees on your property and get approved window coverings. Ahead of storms, collect loose outdoor items, secure all doors on your property, and find a safe location for your vehicle.



Cover  
windows



Secure loose  
outdoor items



Trim trees



Move vehicle to  
a safe location



Secure  
all doors

[weather.gov/hurricane](https://weather.gov/hurricane)





# EVACUATION & IMPACT READINESS

## EVACUATION READINESS

### Evacuation is Needed When...

- ✓ Your Evacuation Zone is requested to evacuate
- ✓ Your location and/or routes to access your location are expected to be inundated with Storm Surge
- ✓ A household member is Special Needs  
Example: A household member relies on power for life-safety.



Photo Getty Images

## EVACUATION & IMPACT READINESS

# EVACUATION READINESS



Have supplies packed in vehicle



Have route to shelter



Be ready to leave when told to do so



Monitor Official Sources for Evacuation Orders –  
Local News, State & County Emergency Management



The longer you wait, traffic & lodging issues will arise



**GETTING READY**

## **POLL QUESTION**

**If you were told to evacuate  
do you know where you'd  
go?**



## Understand Forecast Information



Rely on forecasts from the National Hurricane Center & your local NWS office



Know your alerts & the difference between a Watch and Warning



Focus on potential impacts, regardless of storm size or category



Know that deadly hazards occur well outside of the Forecast Cone





**You have completed “Day 2”...well done!**  
**Thank you for participating**

*Session certificates will be emailed to each attendee*





**TOMORROW**

DAY 1

Monitoring the  
Tropics  
Seasonal Readiness

DAY 2

Gearing Up for  
Potential Impacts

DAY 3

**Sheltering &  
Hunker-Down  
Mode**

DAY 4

Post-Storm  
Safety  
Lessons Learned

**TRAINING TIMELINE**

Go to this form  
to submit



SEND QUESTIONS





Program Website



Submit questions



**BE PREPARED.  
STAY AWARE.**

<https://www.weather.gov/jax/FloridaTropicalTrainingWeek2025>

[WWW.WEATHER.GOV](http://WWW.WEATHER.GOV)



[WWW.HURRICANES.GOV](http://WWW.HURRICANES.GOV)

# TOPICS

