

# 2025 HURREVAC Training Webinar Series

## Day 1 – Introduction to HURREVAC

July 28, 2025



**FEMA**



NATIONAL HURRICANE PROGRAM



# Attendee information



## Registration

- You are automatically signed in when you join
- Registration is still open for Days 2-4

## Audio

- All attendees are muted
- If having audio issues, restart webinar or try watching link on a different device (laptop/desktop strongly recommended)

## Live Transcription

- Available in English and Spanish
- Opens in a separate browser window
- Links are in the chat window and reminder email from 1 hour ago

## Downloadable handouts

- Today's slides
- HURREVAC Workspace Guide
- Also available from [hurrevac.com](http://hurrevac.com) in the **Learning Resources** section

# Attendee information



## Questions

- Submit in the question box

## Feedback

- Daily survey launches after webinar
- Link also in follow-up email

## Recording

- Will be posted by tomorrow morning on our YouTube channel and the **Learning Resources** tab of hurrevac.com
- Available if you miss a session, or as a year-round resource

## Certificate

- One for each day attended
- Emailed from GoToWebinar about one hour after conclusion
- If missing, check junk/spam first
- Certificates cannot be generated for groups, or makeup viewing on YouTube



# THIS WEEK'S AGENDA

**MON. JULY 28: Introduction to HURREVAC**

**TUES. JULY 29: Wind Forecast Features**

**WED. JULY 30: Storm Surge and Flooding Hazards**

**THURS. JULY 31: Evacuation Timing Features**

Registration is still open for Days 2, 3 & 4 at [webinars.hurrevac.com](https://webinars.hurrevac.com)



## Today's Presenters



### **Michael Brennan, Ph.D.**

Director of the National Hurricane Center

### **Frannie Bui**

National Hurricane Program Co-Manager  
U.S. Army Corps of Engineers, Baltimore District

### **Karen Townsend**

President, Sea Island Software





**NOAA**

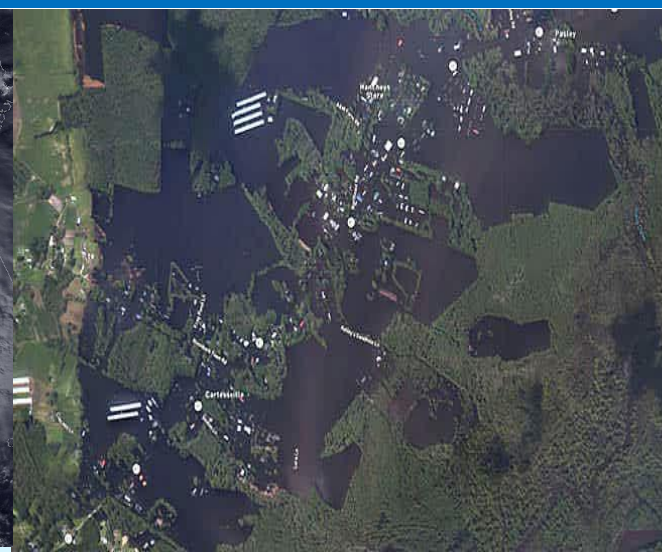
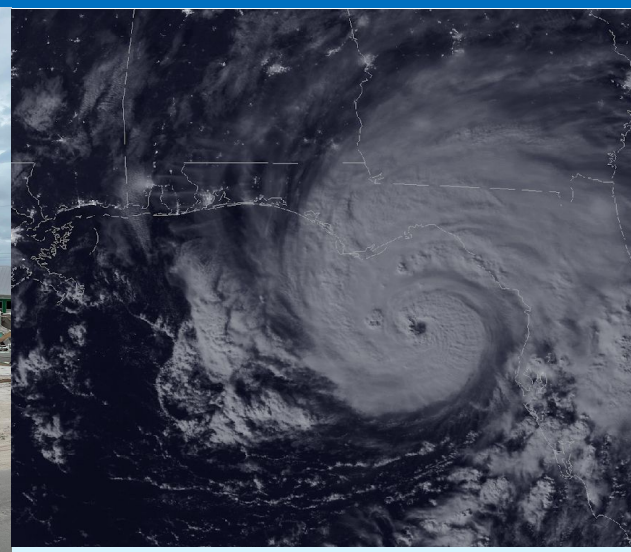
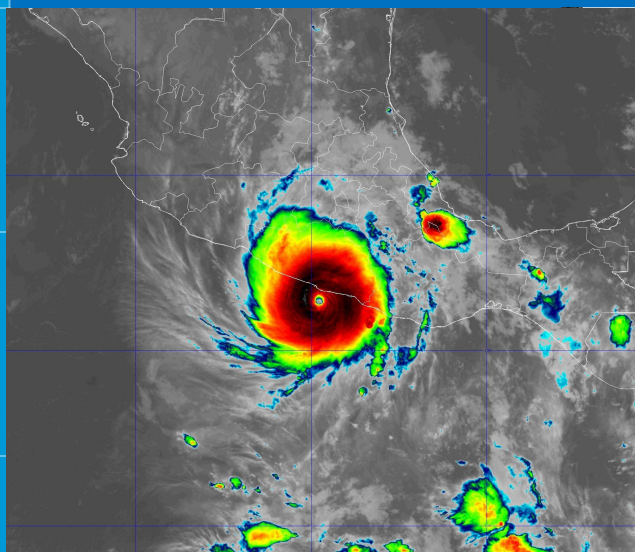
**National  
Weather  
Service**

# 2025 Hurricane Seasonal Outlook and NHC Product Updates

Michael Brennan  
Director, NWS National Hurricane Center

HURREVAC Webinar

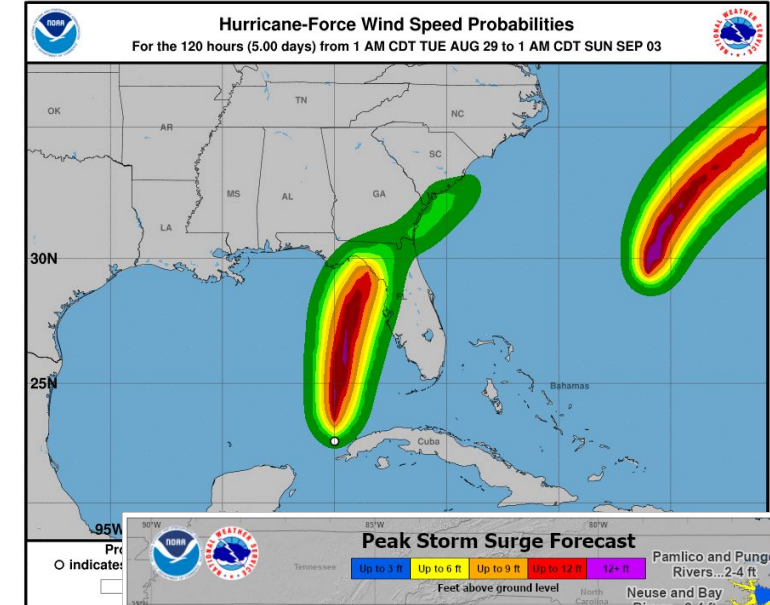
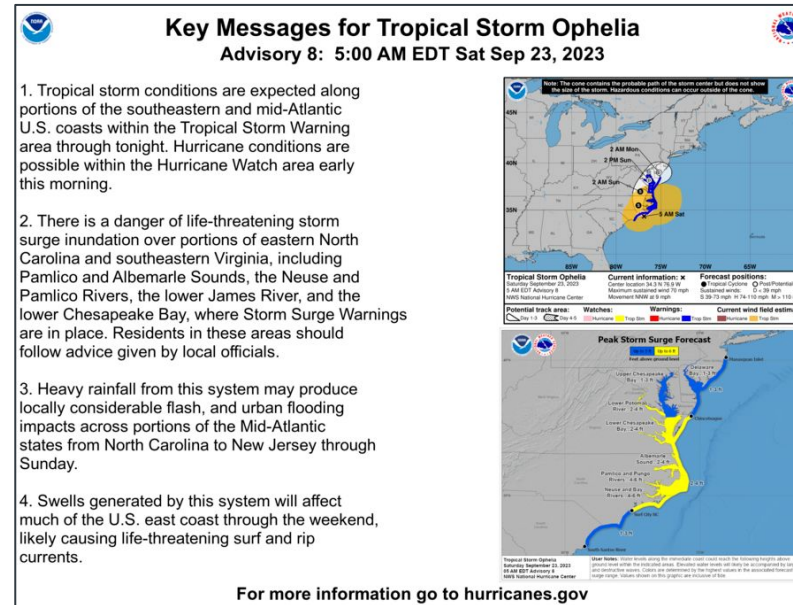
July 28, 2025



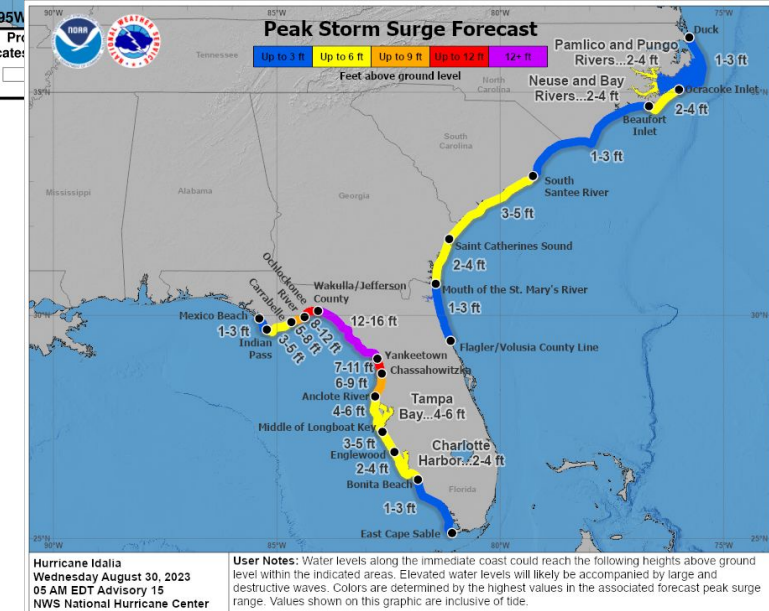


# Challenge: Communicate the Hazards

- Emphasize watches, warnings and hazard products
- Focus on risk communication, not category, storm status, or track of the storm center



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
	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.
<a href="https://www.wpc.ncep.noaa.gov">@NWSWPC</a>				
Flash flooding near me?	Flash Flooding	Flash Flooding	Flash Flooding	Flash Flooding
NO Flash Flooding				
WEATHER PREDICTION CENTER				

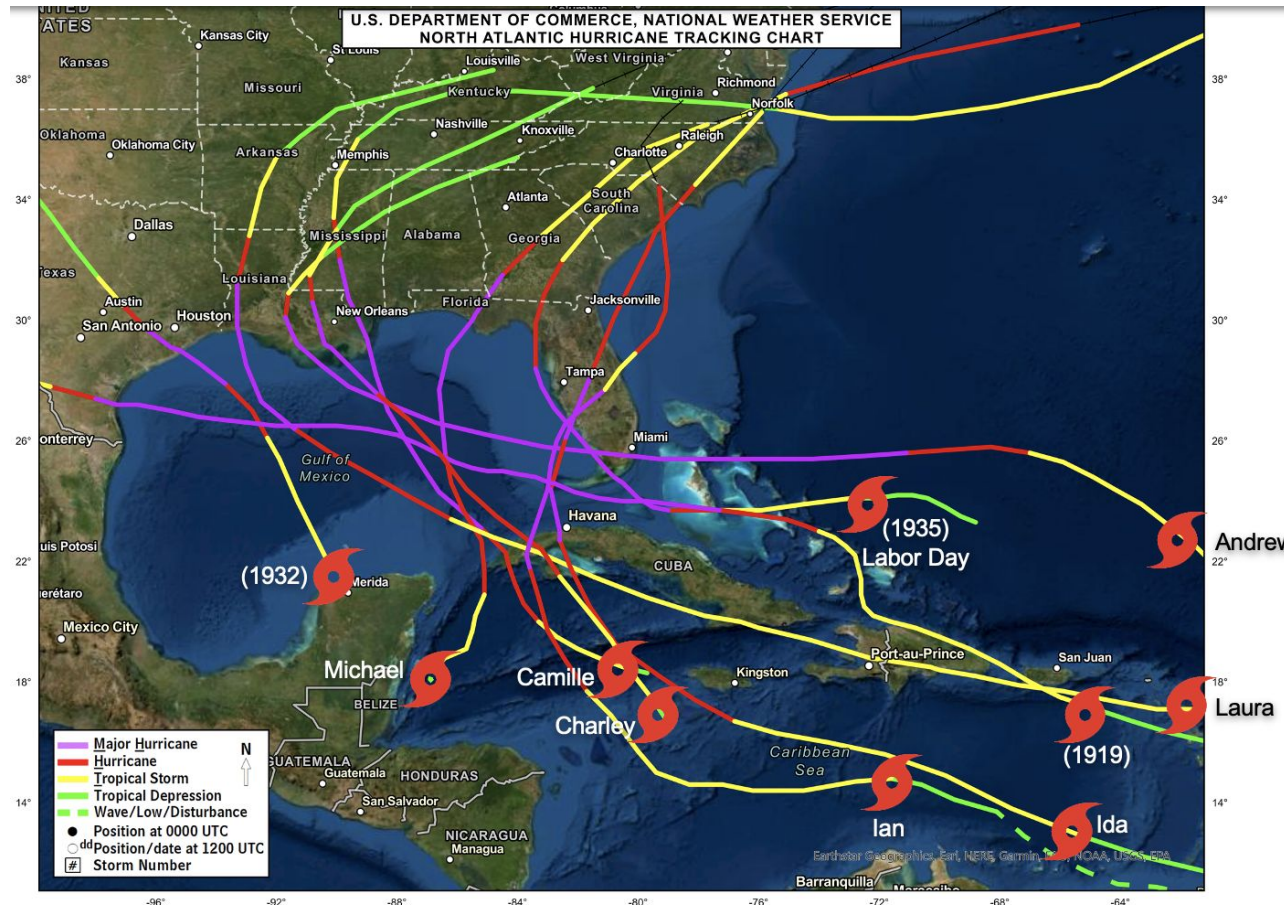


# Challenge: Short Lead Times

The Nation's Strongest Hurricanes (150+ MPH) in the last 100 years were **all Tropical Storms 3 days before landfall**

## U.S. 150 mph+

1919 – Storm 2  
1932 – Storm 2  
1935 – Labor Day  
1969 – Camille  
1992 – Andrew  
2004 – Charley  
2018 – Michael  
2020 – Laura  
2021 – Ida  
2022 – Ian

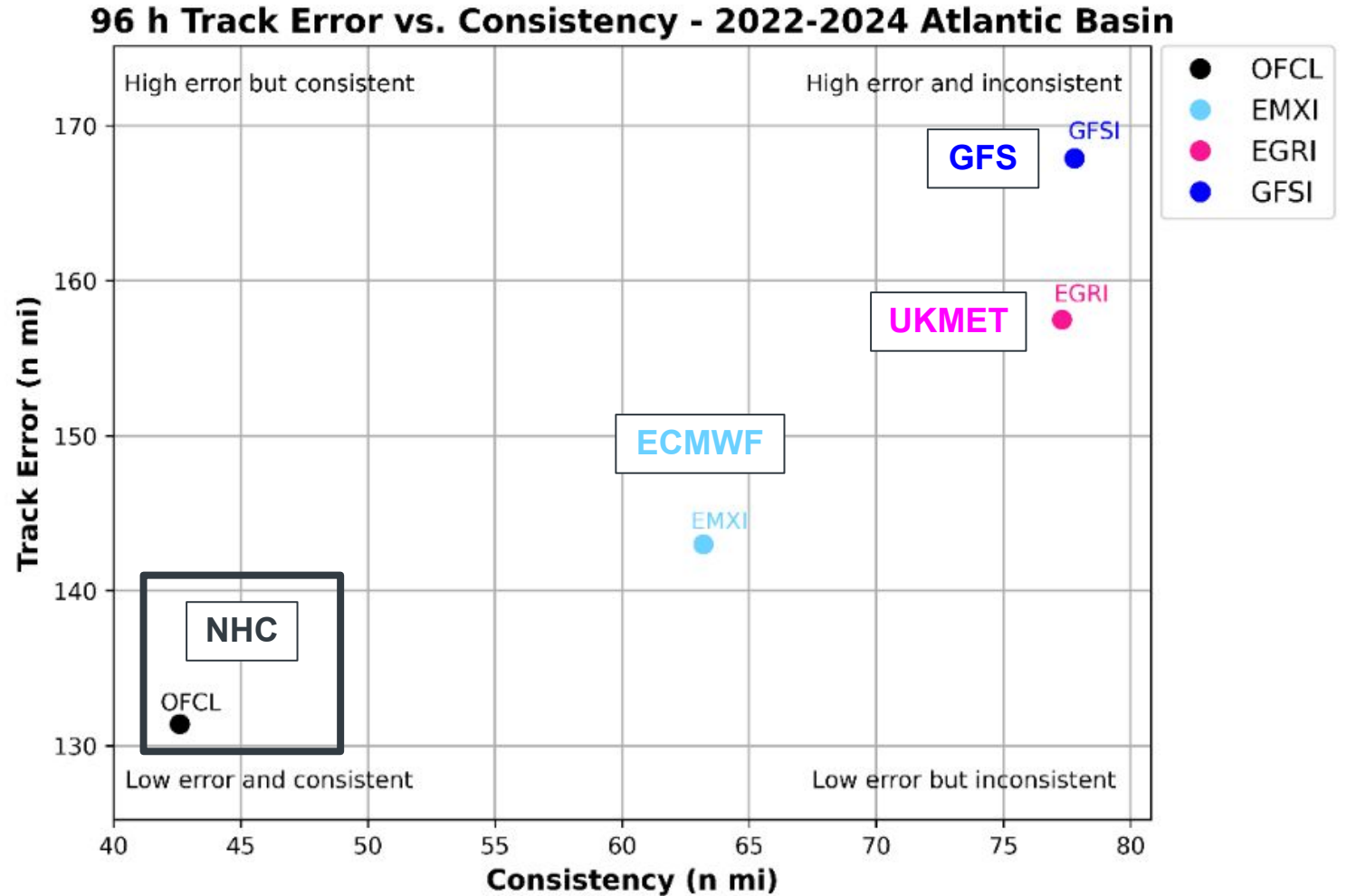


Average time to become a hurricane is 50 h before landfall



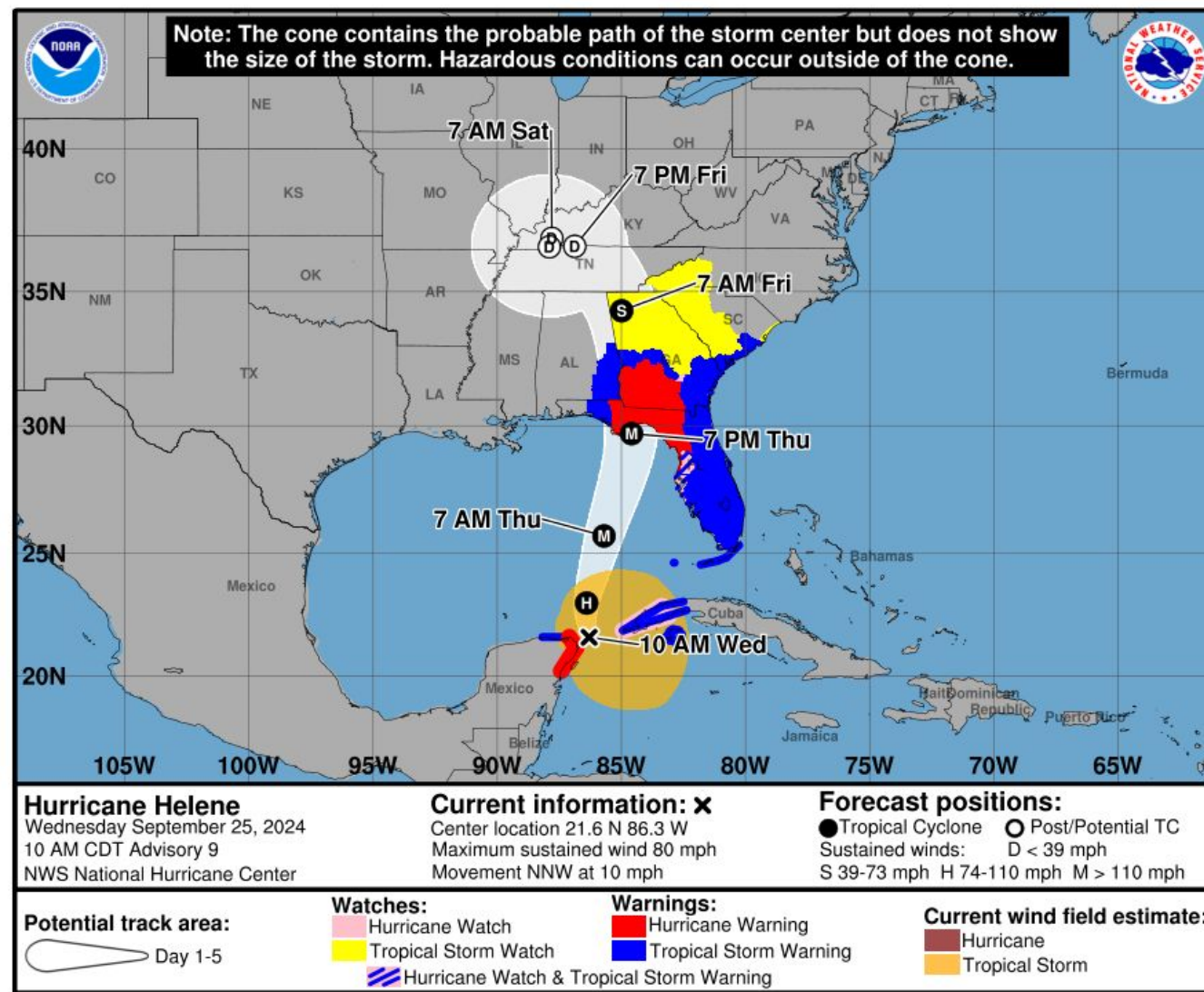
# Challenge: Stop Focusing on Models

NHC's track forecasts have a lower average error and are more consistent than any individual model

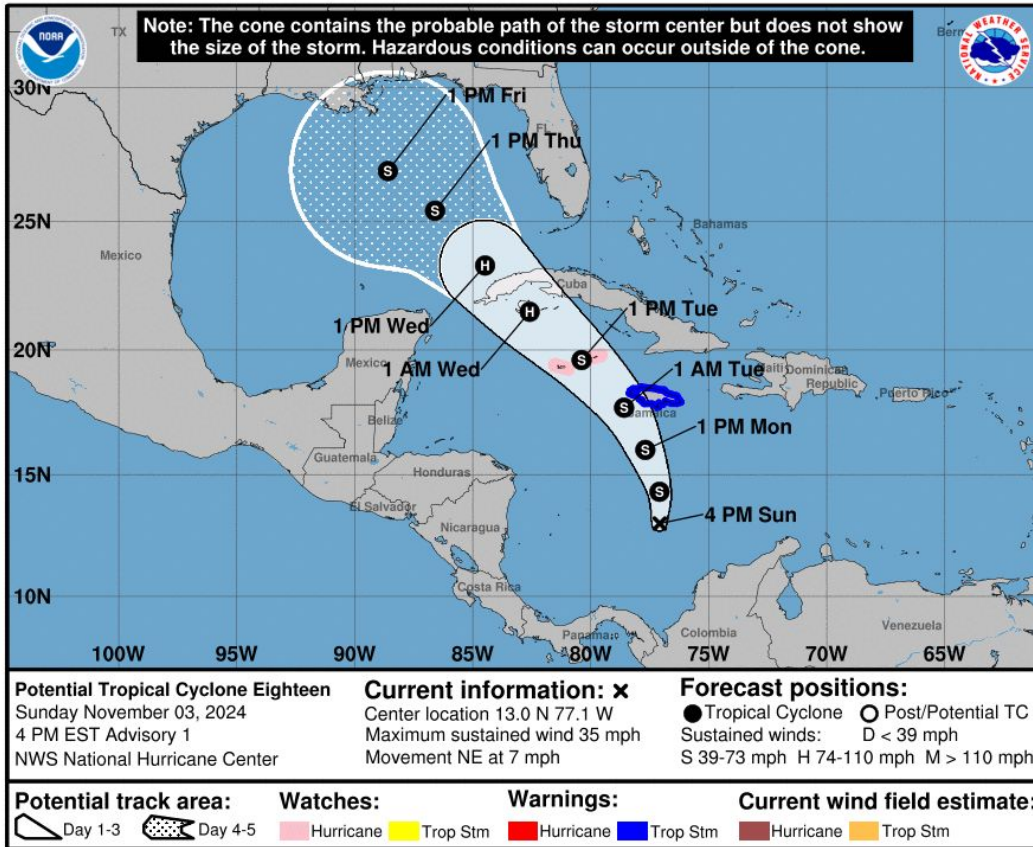


# Depiction of Inland Warnings and Watches on the Cone

- In 2024, NHC began issuing an experimental cone graphic that shows inland U.S. hurricane and tropical storm watches and warnings
  - Better highlights risk of coastal and inland wind impacts
- The experimental cone will be available again during the 2025 hurricane season
  - Only change from 2024: legend will show simultaneous Hurricane Watch and Tropical Storm Warning (pink/blue stripes)



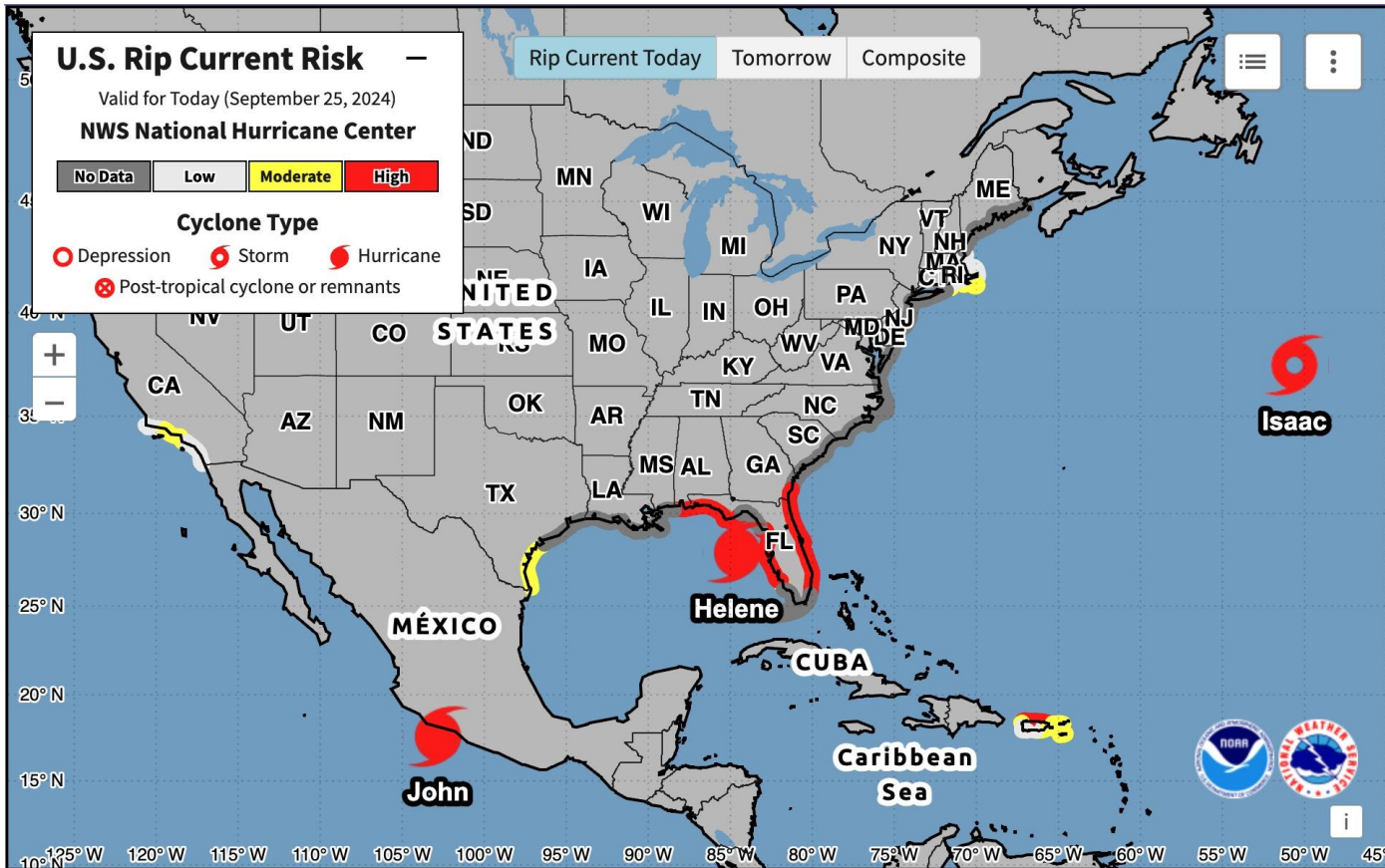
# Potential Tropical Cyclone Advisories



- Since 2017, NHC has had the ability to issue forecasts, watches and warnings for systems that could bring hazards to land areas within 48 h
- Used numerous times (9 times in 2024), giving an average of 21 h of additional lead time on watch/warnings for those systems
- In 2025, NHC will be able to issue PTC advisories when there is high confidence in significant wind and surge impacts within 72 h

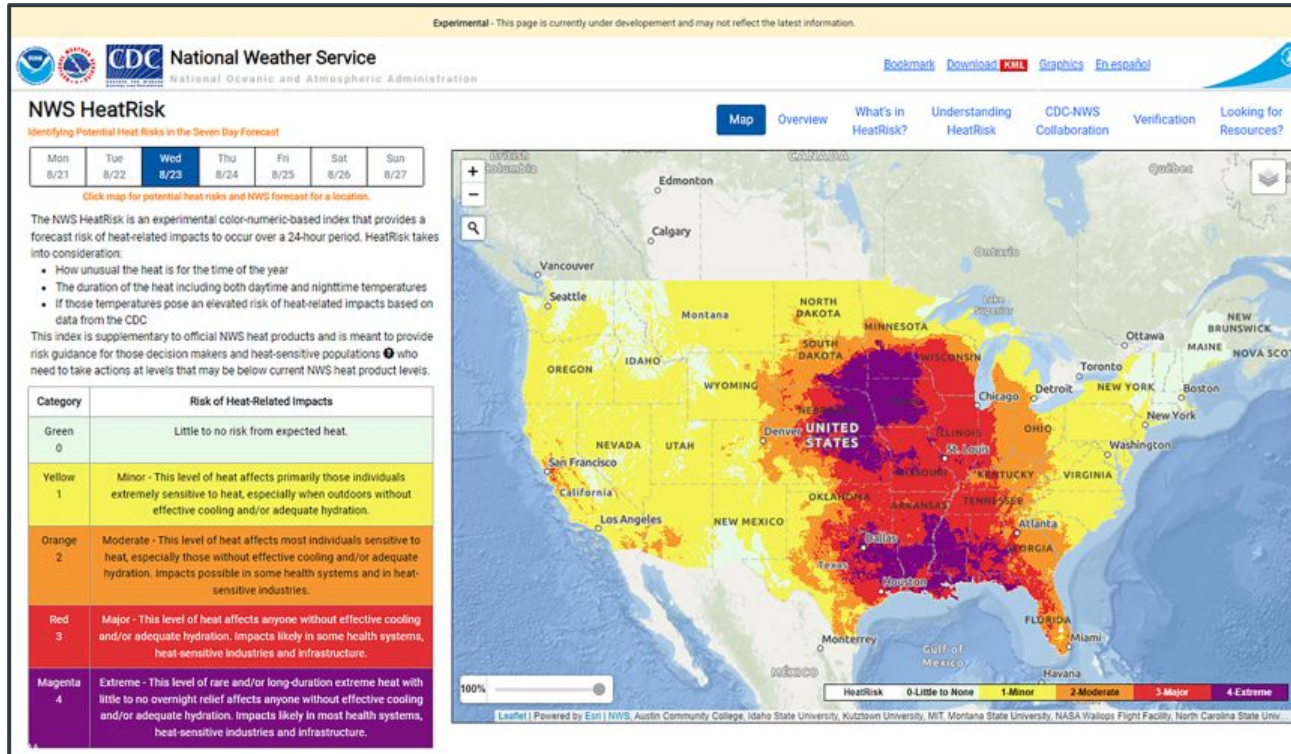


# U.S. Rip Current Risk Viewer



- Rip currents and surf are the **3<sup>rd</sup>-highest** cause (11%) of direct U.S. fatalities from tropical cyclones
- Many rip current deaths occur from hurricanes that are well offshore
- In 2025, NHC will provide a rip current risk viewer during active tropical cyclones that mirrors rip current information provided by local NWS offices

# Post-Storm Heat Risk



- NHC and the Weather Prediction Center (WPC) are planning to highlight areas that are at risk of heat impacts after a storm due to power loss in NHC's Tropical Cyclone Public Advisory and Key Messages, when appropriate
- Considerations include:
  - Chance of strong, damaging winds (as a proxy for potential power loss)
  - Risk of heat-related impacts over the ensuing days (including use of NWS HeatRisk)



# Introducing the National Hurricane Program





# National Hurricane Program Partners



U.S. ARMY CORPS  
OF ENGINEERS (USACE)

- National Program Managers
- District Office Study Managers



FEMA

- National Program Managers
- Regional Program Managers
- Hurricane Liaison Team



NATIONAL HURRICANE  
CENTER (NHC)

- Hurricane Specialist Unit
- Technology and Science Branch

## SERVICES



Operational Decision Support



Planning Support and Technical Assistance



Hurricane Preparedness Training

# National Hurricane Program Partners



## FEMA

HQ James Rogers (Acting NHP Manager) | Laura Evans  
LIASIONS TO NHC Michael Spagnolo | Vacant  
LIASION TO NWC Whitney Flynn  
LIASION TO WPC Kevin Kalbaugh

## NATIONAL HURRICANE CENTER

Michael Brennan | Dan Brown | Cody Fritz | Robbie Berg

## USACE

Frannie Bui | Tom Laczko



FEMA REGION 1  
Colleen Bailey (Acting)  
USACE DISTRICT  
New England



FEMA REGION 2  
Chris Moore | Josh Rapp  
USACE DISTRICT  
New York | Caribbean



FEMA REGION 3  
Mike Bilder | Renee Hupp  
USACE DISTRICT  
Philadelphia | Norfolk



FEMA REGION 4  
Brandon Bolinski  
Rebecca Moulton  
USACE DISTRICT  
Wilmington | Charleston  
Savannah | Jacksonville | Mobile



FEMA REGION 6  
Arianne Thomas  
USACE DISTRICT  
New Orleans | Galveston



FEMA REGION 9  
Vacant  
USACE DISTRICT  
Honolulu

# National Hurricane Program



*products*

*services*



FORECAST  
PRODUCTS



STORM SURGE  
MODELING



HURRICANE  
EVACUATION  
STUDIES



**HURREVAC**  
HURRICANE DECISION  
SUPPORT TOOL



OPERATIONAL  
SUPPORT



PLANNING  
SUPPORT



TRAINING



INFORMED  
DECISIONS



# What is HURREVAC?



**HURREVAC** (short for **Hurricane Evacuation**) is the NHP's free storm tracking and decision support tool for government emergency managers.

*The software combines:*



Real-time official forecast information from NOAA/NHC



Storm surge modeling



Data from Hurricane Evacuation Studies (HES)

The main goal is to help emergency managers make **informed evacuation and response decisions** based on the *timing* and *potential severity* of storm hazards.



NATIONAL HURRICANE PROGRAM

# Who uses HURREVAC?



- ❑ Restricted to government emergency management use
- ❑ Thousands of registered users in federal, state, tribal, territorial and local governments
- ❑ During major hurricanes, HURREVAC scales up to let thousands of users track the storm simultaneously



# HURREVAC Use Cases



A resource for emergency managers during **planning and operations.**

## Planning Support:

- ❑ Develop simulated storms
- ❑ Understand storm surge risk
- ❑ Evaluate decision timelines
- ❑ Access Hurricane Evacuation Studies
- ❑ Consider scenarios to support planning, training, and exercises





# HURREVAC Use Cases



A resource for emergency managers during **planning and operations.**

## Operational Support:

- ❑ View Tropical Weather Outlook
- ❑ Monitor storms and track forecasts
- ❑ Assess wind speed probabilities
- ❑ Estimate arrival and departure of tropical storm force winds
- ❑ Understand storm surge risk
- ❑ Support evacuation decision making
- ❑ Develop decision timelines



# HURREVAC Demo







## Goals for Today

1. Access and navigate the workspace
2. Find essential storm information
3. Customize the map and other settings
4. Set up points of interest (POI)
5. Create a situation report with annotated tracking map and text-based information



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## COMING UP THIS WEEK

**MON. JULY 28:** Introduction to HURREVAC

**NEXT - TUES. JULY 29: Wind Forecast Features**

**WED. JULY 30:** Storm Surge and Flooding Hazards

**THURS. JULY 31:** Evacuation Timing Features

Registration is still open for Days 2, 3 & 4 at [webinars.hurrevac.com](https://webinars.hurrevac.com)

# Thank you!

HURREVAC Support Team  
[support@hurrevac.com](mailto:support@hurrevac.com)



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**HURREVAC**

HURRICANE DECISION SUPPORT TOOL