

2023 HURREVAC Training Webinar Series

Day 1 – Introduction and General Overview

June 12, 2023



FEMA



NATIONAL HURRICANE PROGRAM



HURREVAC

HURRICANE DECISION SUPPORT TOOL

Administrative Details



Audio

- All attendees are muted

Live Transcription

- English and Español
- Links in the chat window

Downloadable handouts

- Today's slides
- New HURREVAC Workspace Guide

Questions

- Submit in the question box

Registration

- If you are here, you're signed in!
- Registration still open for Days 2-5

Feedback

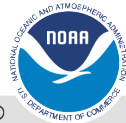
- Let us know via the daily survey

Certificate

- One for each day attended
- Emailed about one hour after conclusion

Recording

- Posted to the HURREVAC YouTube channel later today
- Will remain available as a resource





THIS WEEK'S AGENDA

JUNE 12: Introduction to HURREVAC and General Overview of the Program

JUNE 13: Wind Forecast Features

JUNE 14: Evacuation Timing Features

JUNE 15: Storm Surge and Other Water Hazards

JUNE 16: Exercise Tools and Applying HURREVAC

Registration is still open for Days 2, 3, 4 & 5!



Today's Presenters

Christina Finch

National Hurricane Program Manager, FEMA

Christina.Finch@fema.dhs.gov

Thomas Laczo

National Hurricane Program Manager, USACE

Thomas.D.Laczo@usace.army.mil

Karen Townsend

Sea Island Software

karentownsend@seaislandsoftware.biz



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

HEADQUARTERS Christina Finch | Zane Heather

LIAISONS TO NHC Matthew Green | Michael Spagnolo

LIAISON TO NWC Whitney Flynn

NATIONAL HURRICANE CENTER Michael Brennan | Dan Brown | Cody Fritz

USACE Marco Ciarla | Tom Laczo



FEMA REGION 1

Paul Morey

USACE DISTRICT

New England



FEMA REGION 2

Chris Moore

USACE DISTRICT

New York



FEMA REGION 3

Mike Bilder

USACE DISTRICT

Philadelphia
Norfolk



FEMA REGION 4

Brandon Bolinski
Rebecca Moulton

USACE DISTRICT

Wilmington
Charleston
Savannah
Jacksonville
Mobile



FEMA REGION 6

Arienne Thomas

USACE DISTRICT

New Orleans
Galveston



FEMA REGION 9

Vic DeJesus

USACE DISTRICT

Honolulu

National Hurricane Program



products

services

FORECAST PRODUCTS

STORM SURGE MODELING

HURRICANE EVACUATION STUDIES

HURREVAC
HURRICANE DECISION SUPPORT TOOL

The products section is a grey rounded rectangle containing three icons and the HURREVAC logo. The icons represent forecast products, storm surge modeling, and hurricane evacuation studies.

OPERATIONAL SUPPORT

PLANNING SUPPORT

TRAINING

The services section is a blue rounded rectangle containing three icons representing operational support, planning support, and training.

INFORMED DECISIONS

The informed decisions graphic is a green rounded square containing an icon of a person with a thought bubble and the text "INFORMED DECISIONS".

2022 Snapshot – Annual Accomplishments



HURREVAC

HURREVAC TRAINING



451

Participants

14

Sessions



HURREVAC WEBINAR SERIES

5

Days

2,090+

Participants



24,800+

Registered Users



4,000+

New Users



YOUTUBE ACTIVITY

9

New Videos

84+

Subscribers



4,900+

Concurrent Users during Hurricane Ian



890+

Simulated Storms

2,000+

Video Views



HURREVAC UPDATES & NEW FUNCTIONALITY



Logo & Button Icon Replacements



SLOSH Explorer Revised



Track And Swath Options Updated



Reports Enhancements



Self-Guided Training Modules

390+ Completed



In-App User Guide

TRAINING

HURRICANE READINESS COURSES

416

Participants

LO311: HURRICANE READINESS FOR COASTAL COMMUNITIES

158

Participants

LO310: HURRICANE READINESS FOR INLAND COMMUNITIES PILOT DELIVERY

36

Participants



HURRICANE SEASON OPERATIONAL SUPPORT

ATLANTIC BASIN



72 days

HLT AT LEVEL 3 OR HIGHER



26 weekly TAG-UPS

14 NAMED STORMS

Average 14

8 HURRICANES

Average 7

2 MAJOR HURRICANES

Average 3

CENTRAL PACIFIC

1

Named Storms

0

Hurricanes

0

Major Hurricanes

0

HLT Activations

WEST PACIFIC

25

Tropical Cyclones

3

Tropical Storm Threats

0

Typhoon Threats

20 days

HLT Support

SOUTH PACIFIC

Ongoing

No Direct Tropical Storm Threats to American Samoa

HURRICANE EVACUATION STUDIES

NEW JERSEY Transportation Analysis



GEORGIA Hazard Analysis

HES MODERNIZATION

PILOT STUDY Using Cell Phone Data To Understand Population Movement



ALABAMA MISSISSIPPI Behavioral and Shelter Analyses

HAWAII Hazard Analysis



STAKEHOLDER AUDIT 20 Participants

2022 NHP ANNUAL SNAPSHOT 2

STORM SURGE RISK PRODUCTS

CHARLESTON Superbasin



NATIONAL MAXIMUM OF MAXIMUMS

Version 3

New regions: S. California, Guam, American Samoa



STORM SURGE HINDCAST

Hurricane Ian: Florida and Southeast landfalls

Hurricane Nicole



STAKEHOLDER ENGAGEMENT

INTERAGENCY COORDINATING COMMITTEE ON HURRICANES (ICCOH) ANNUAL MEETING

MARCH



168

Virtual Participants

22

States and Territories Represented



VIRTUAL-360 MEETING ROOM

937

Views



FEDERAL PROGRAM PARTNER MEETINGS

IN-PERSON

PRE-SEASON MEETING

35

Participants

END OF YEAR MEETING

33

Participants



RESOURCES

4

FEMA Weekly Articles

1,219 Views

3

FEMA Bulletin Articles

1,833 Views

NEW

4

NHP Newsletters 1,150 Views

NEW

2

FEMA Before During and After Podcast Episodes

NATIONAL HURRICANE CONFERENCE

APRIL

PROVIDED 4 TRAININGS

HOSTED 2 WORKSHOP SESSIONS

RECEIVED OUTSTANDING ACHIEVEMENT AWARD

DISPLAYED NHP BOOTH IN EXHIBIT HALL



FLORIDA GOVERNOR'S HURRICANE CONFERENCE

MAY

PROVIDED 3 TRAININGS

HOSTED 1 WORKSHOP SESSION



HURRICANE AWARENESS TOUR

MAY

DISPLAYED NHP BOOTH IN EXHIBIT HALL

AT 2 LOCATIONS: REGION 2 JFK AIRPORT, REGION 3 DCA AIRPORT

6 NEW INTERNAL FEMA ENGAGEMENTS

PLANNER'S WORKSHOP
NATIONAL INTEGRATION CENTER (NIC)
MCVCS ANNUAL MEETING
FEMA EXERCISE AND EVALUATION PROGRAM
PLANNING CADRE MONTHLY CALL
INTERNATIONAL AFFAIRS ADVISOR CADRE



Additional Resources

Available Now

- <https://fema.gov/nhp>
- <http://hurrevac.com/>
- [Fact Sheets](#)
- [Subscribe](#) to Quarterly Newsletter
- Episode 95 on [FEMA Podcast](#)
- USACE [Inside the Castle Podcast](#)

FEMA **NATIONAL HURRICANE PROGRAM**

- [The NHP Supports Emergency Managers During Hurricane Ian](#)
- [Now Live: National Water Center Operational Products](#)
- [HURREVAC Tip and Trick: New Training and Storm Tracking Capabilities](#)
- [Hurricane Evacuation Study Modernization Project Update](#)
- [Hurricane Training at the NHC in 2023](#)
- [FEMA Podcast Before, During and After Features the NHP](#)
- [USACE Community Water Resource Technical Assistance Program](#)
- [Team Spotlight: Dr. Cody Fritz, NHC](#)
- [Important Upcoming Dates](#)

NHP Mid-Season Updates

Through the statistical peak of the Atlantic hurricane season, the National Hurricane Program (NHP) and the Hurricane Liaison Team (HLT) remains positioned to support state and local emergency managers when tropical cyclones threaten. The program spent the pre-season engaging with stakeholders at

STAKEHOLDER ENGAGEMENTS	
35	150



HURREVAC Background



HURREVAC (short for **Hurricane Evacuation**) is a storm tracking and decision support tool.

The software combines:



Live feeds of tropical cyclone forecast information



Storm Surge Modeling



Data from various state Hurricane Evacuation Studies (HES)

The main goal of HURREVAC is to assist the emergency managers in making evacuation & response decisions based on the *timing* and *potential severity of storm effects* such as wind and storm surge.



NATIONAL HURRICANE PROGRAM

How many people are using HURREVAC?



- More than **25,000** registered users
- More than **1,000** simulated storms
- During Hurricane Ian, nearly **5,000** users tracked the storm simultaneously



HURREVAC Use Cases



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

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 response.**

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

Continued Development



2019

- ✓ **Transition to web-based HURREVAC**
- ✓ High-resolution storm surge mapping
- ✓ Operational storm surge data
- ✓ Wind time of arrival graphics

2020

- ✓ Probabilistic timing data upgrade
- ✓ Improved HES integration
- ✓ **Added timeline actions and timing arcs**
- ✓ Updated support site
- ✓ YouTube channel launched

2021

- ✓ **Storm Simulator launched**
- ✓ New GIS and Excel export capabilities
- ✓ SLOSH Hindcasts added

2022

- ✓ **User Guide created**
- ✓ Training modules reintroduced
- ✓ Updated SLOSH Explorer
- ✓ Report improvements
- ✓ New track display options

What's new in HURREVAC in 2023?

◆ 100 Kilometers

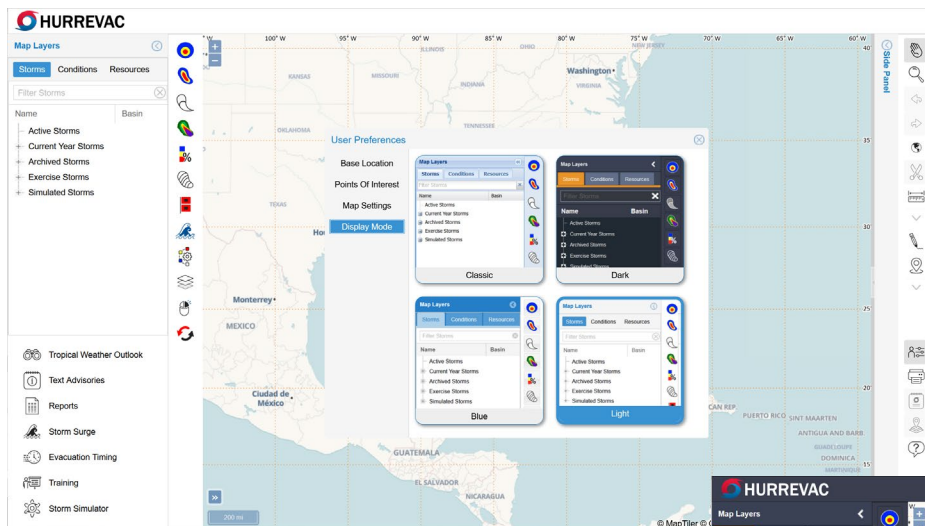
986

992

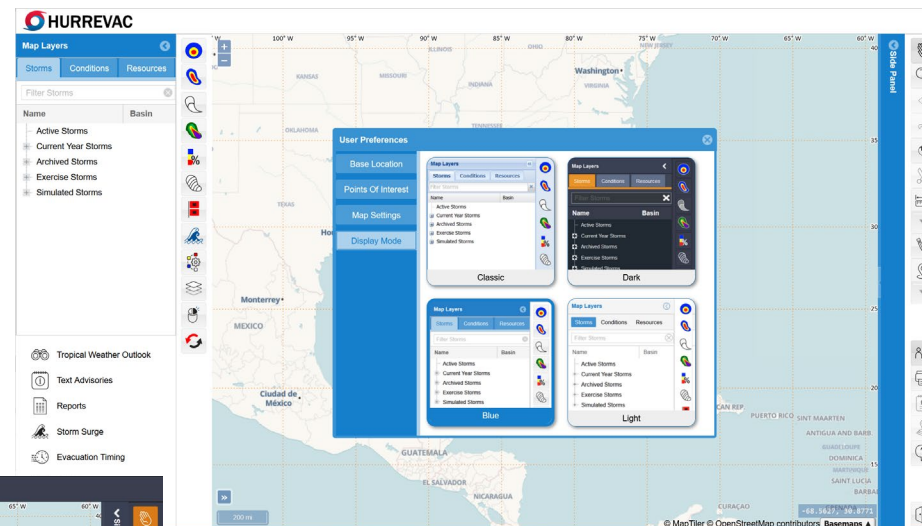




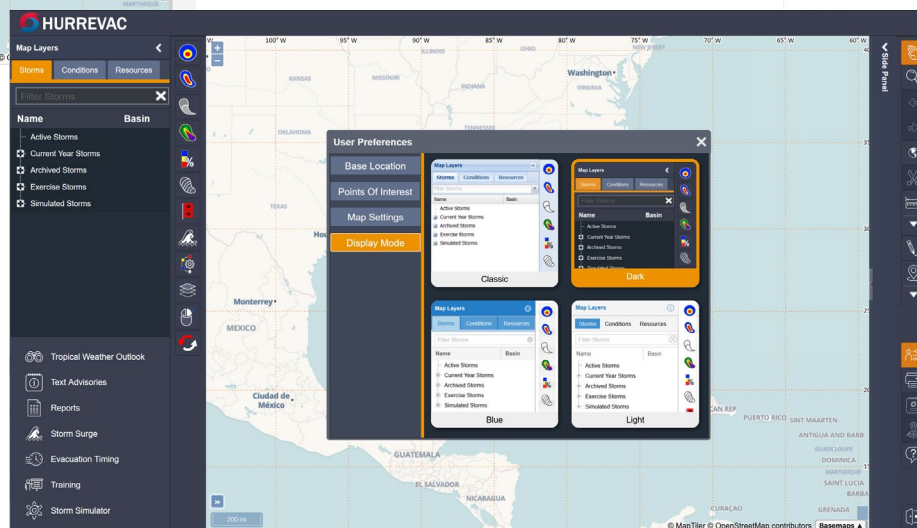
Display Mode



Light (new default)

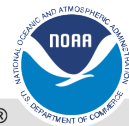


Blue

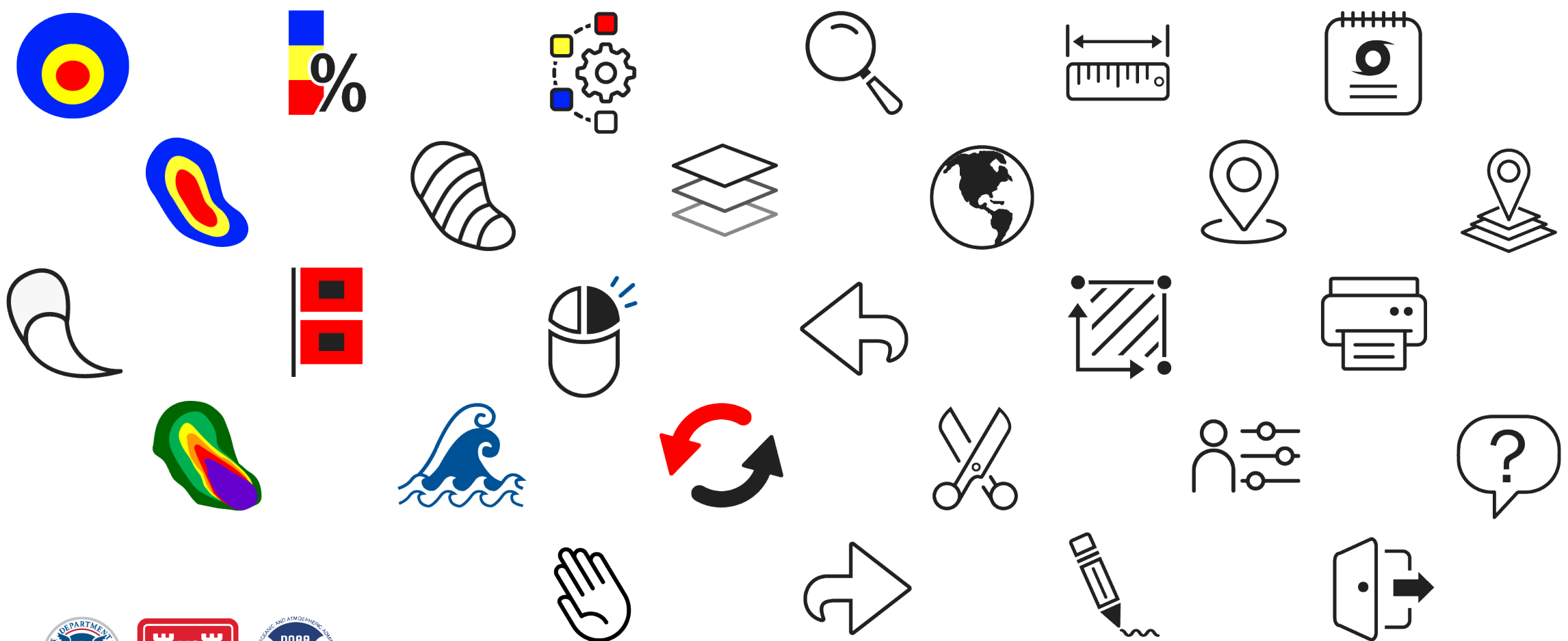


Dark

*Classic still available



New Icons





Improved Reports



- Header reformatted; new options added
- Improved logic for times near advisory issuance (“TBD”)
- Bug fixes and performance enhancements

Side Panel

Storm Surge (SLOSH) Explorer **Reports**

Create Report Scope Include Export to Excel Export Update

Reports Overview Probabilistic Wind Timing NICOLE #6

11/08/2022, 10am EST

The probabilistic wind timing report shows the expected onset of a storm's sustained winds. The **Earliest** and **Most Likely** times are from probabilistic products that take uncertainty into account. Click the name of a county or point of interest to generate a detailed wind timing report for that location.

- **n/a** means probabilities of strong tropical-storm-force winds are too low to have valid timing data.
- **TBD** means the value is to be determined. This appears when the latest advisory products are coming out, but not yet completely available. Rerun the report in approximately 10 minutes.

Displaying data in FL for: Counties

Type	Location	State	Tropical Storm (34kt/39mph)			Strong TS (50kt/58mph)		
			5 day WSP	Earliest(hrs)	Most Likely(hrs)	5 day WSP	Earliest(hrs)	Most Likely(hrs)
County	Alachua	FL	69%	11/10 12AM(38)	11/10 6AM(44)	24%	11/10 5AM(43)	11/10 11AM(49)
County	Baker	FL	66%	11/10 1AM(39)	11/10 7AM(45)	20%	11/10 6AM(44)	11/10 12PM(50)
County	Bay	FL	16%	11/10 6AM(44)	11/10 3PM(53)	2%	n/a	n/a
County	Bradford	FL	69%	11/10 12AM(38)	11/10 6AM(44)	24%	11/10 5AM(43)	11/10 11AM(49)
County	Brevard	FL	89%	11/09 2PM(28)	11/09 10PM(36)	54%	11/09 11PM(37)	11/10 3AM(41)
County	Broward	FL	66%	11/09 4AM(18)	11/09 5PM(31)	20%	11/09 3PM(29)	11/09 9PM(35)
County	Calhoun	FL	26%	11/10 6AM(44)	11/10 4PM(54)	4%	n/a	n/a

Collapse description

User guide link



NATIONAL HURRICANE PROGRAM


May-June Developments



Points of Interest Updates

- Improved management and display of user-defined locations
- New integration with flags for wind timing and surge

New NOAA Products Incorporated

- Peak Storm Surge graphic added 
- Extended Tropical Weather Outlook, Excessive Rainfall Outlook

In-app Notifications

- Keeps users better informed of changes to HURREVAC functionality, new forecast product availability, time-sensitive storm updates, and more.



Points of Interest (POI) Enhancements



Better control of:

- Managing POI types
- Filtering and sorting
- Custom look for each type
- Map display level
- Marker size & color
- Label font, size & color

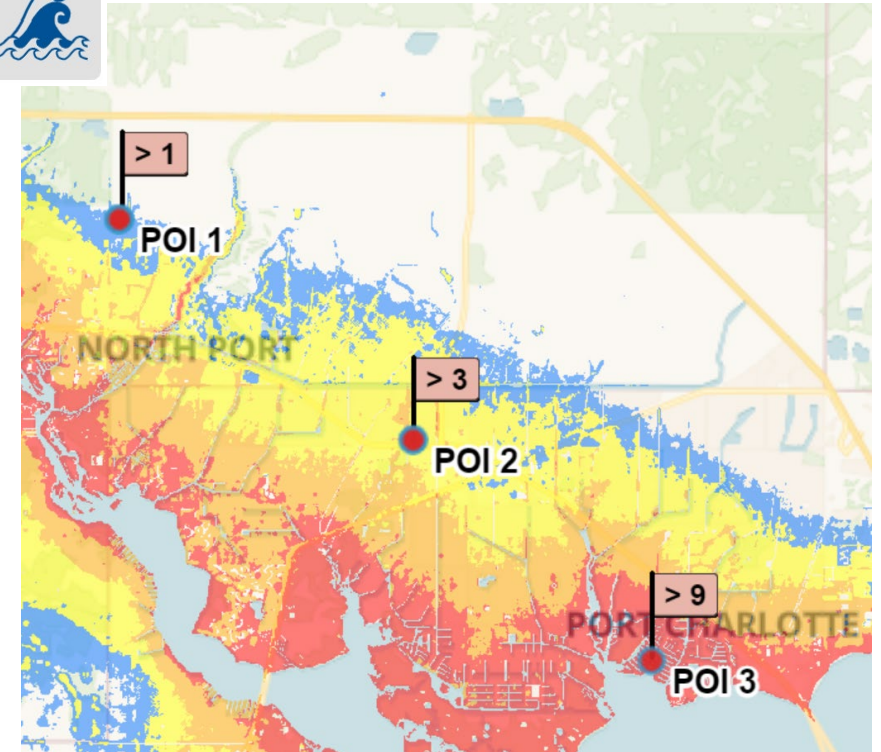
The screenshot displays a web application interface for managing Points of Interest (POI). On the left, a satellite map shows several bridges labeled in red text: "Dare Memorial Bridge" and "Marc Basnight Bridge". A red dot is visible on the map. The top navigation bar includes "Geocode Search", "POI Styles", "Import", and "Export All". A "User Preferences" dialog box is open, showing settings for "NC bridge". The dialog has a sidebar with "Base Location", "POI Style Settings" (selected), "Map Settings", and "Display Mode". The main area of the dialog includes a "Select Type:" dropdown menu set to "NC bridge", with "Delete Type", "Reset Type", and "Create New Type" buttons. Below this is a preview window showing a red dot on a map with the label "Arial" in red. There are "Font Type" and "Symbology" buttons for the preview. At the bottom of the dialog is a slider for "Initial Map Display Level:" ranging from 5 to 11, with a value of 8 selected. A note below the slider says "Select value between 5 (zoomed out) and 11 (zoomed in)". The dialog also has "Points of Interest List", "Save", and "Cancel" buttons.

Points of Interest (POI) Enhancements



Flag integration:

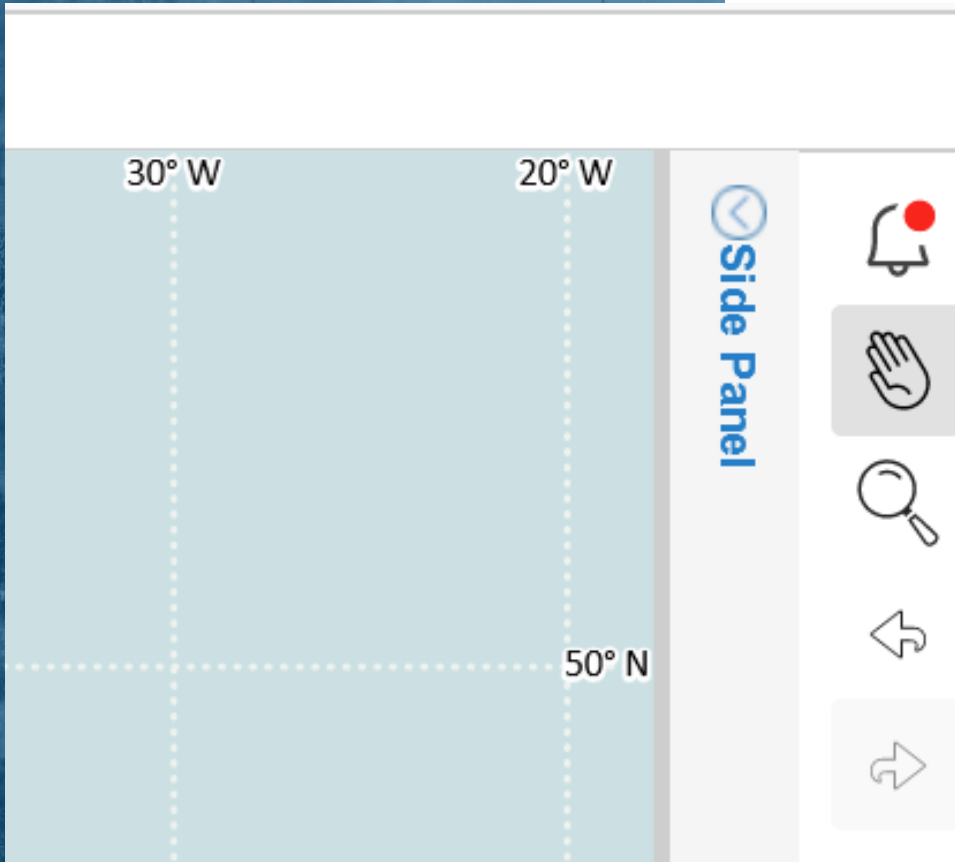
- For wind timing and storm surge layers
- Save flags as POIs
- Load saved POI flags onto valid layers
- Convert POI to flag types



What to know about Notifications



- **All** notifications go to **all** users. No signup necessary.
- Only appears inside HURREVAC, not outside the program.
- Users do not have to manage their own inbox or settings. It is one-way only.
- Notifications are set to expire when no longer relevant.
- Notification will appear as it is sent, or when you first log in (unless info has expired).
- Not a replacement for receiving watch & warning info from NWS or other official communication.



Notifications from the HURREVAC Team



Important, time-sensitive information shows up actively when you are logged in

Storm-related

- Examples: significant developments like system initiation, landfall, special advisories, corrections, etc.

Program-related

- Issues with data or layers – and resolution

A screenshot of a web-based weather application interface. The background is a map of Florida with a notification box overlaid. The notification box has a red exclamation mark icon and contains the following text:

TD Two strengthens to TS Arlene
6/2/2023, 1:50:00 PM EDT Author: Sea Island Software
From the NHC: "Data from the Air Force Hurricane Hunters indicate that the depression has strengthened into a tropical storm."
The NHC has issued a special advisory (#5) reflecting this change.
Although the storm has strengthened slightly,...

The map shows the coastline of Florida with labels for Ocala, Daytona Beach, and West Palm. A vertical dashed line indicates 85° W and 80° W. At the bottom left of the map, it says "- Fri 2PM 40mph". On the right side of the map, there is a "Side Panel" with various icons for navigation and interaction.

Notifications from the HURREVAC Team



Routine information shows up passively in the Notification Center

Storm-related

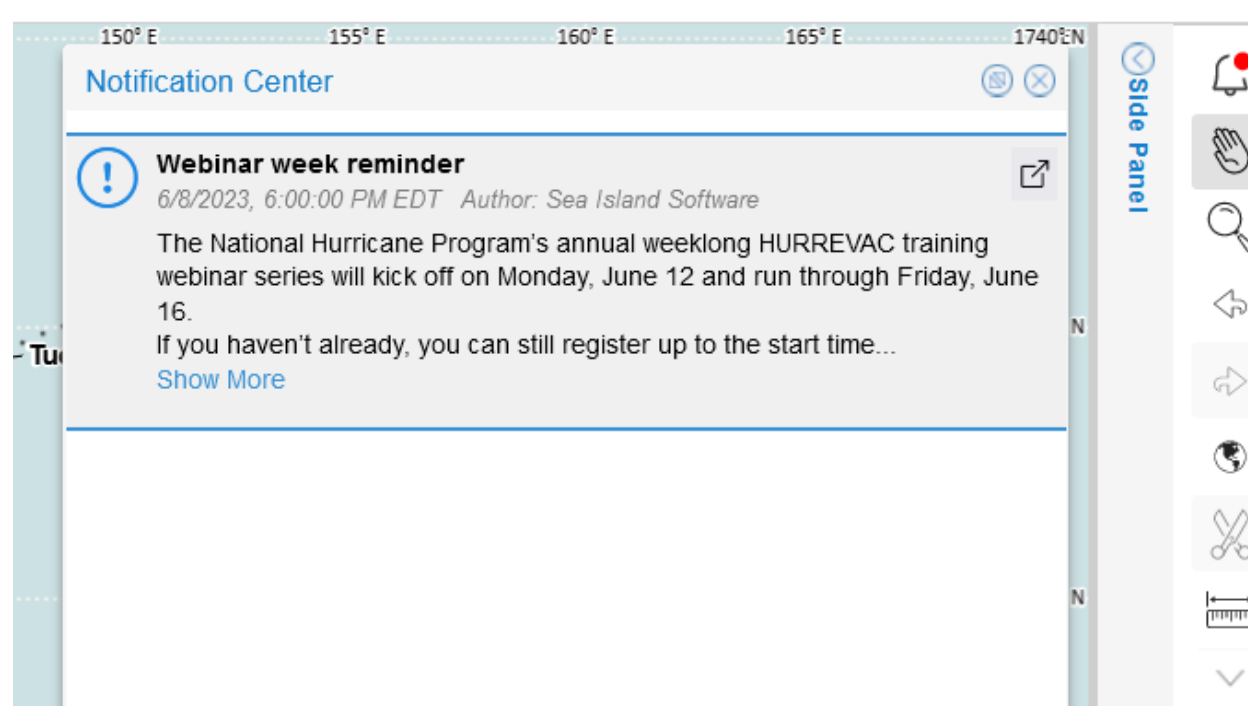
- Position updates, basin change, etc.

Program-related

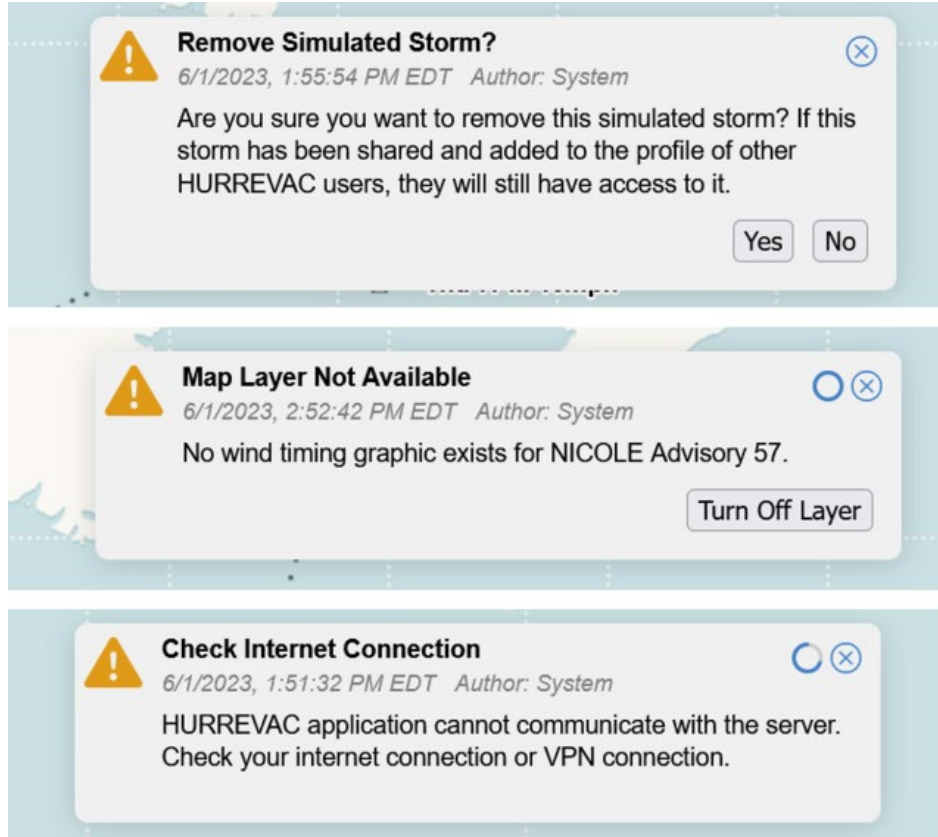
- Announcing new features

Other engagement

- Webinars and new training resources



Changes to system notifications



- Many existing pop-ups have a new look.
- Replaces the ‘flashing yellow triangle’
- Usually triggered by actions in the program. Some have additional actions.
- Not stored in Notification Center.
- Some expire after a short time but can be pinned by clicking the animated countdown icon.

HURREVAC Demo

◆ 100 Kilometers

986

992



Thank you!

HURREVAC Support Team
support@hurrevac.com



FEMA



NATIONAL HURRICANE PROGRAM



HURREVAC

HURRICANE DECISION SUPPORT TOOL