

## National Hurricane Center Products and Services Update for 2024 Hurricane Season

### 1) Spanish language advisory text products:

NHC will expand its offering of Spanish language text products to include all Public Advisories, the Tropical Cyclone Discussion, the Tropical Cyclone Update, and Key Messages in the Atlantic basin, and the Public Advisory, the Tropical Cyclone Discussion, the Tropical Cyclone Update, Key Messages, and the Tropical Weather Outlook in the eastern Pacific basin. These products will be issued experimentally in 2024 and will use AI techniques tested in 2023. Atlantic basin Public Advisories and Tropical Weather Outlooks which were previously available as Spanish-language text products will now use the new AI translation technique and be issued via new headers that reflect NHC as the issuing office. Links to the Spanish-language advisory products will be available on [hurricanes.gov](https://hurricanes.gov) and these products will also be available from the following headers:

<i>Spanish Product</i>	<i>WMO ID</i>	<i>AWIPS PIL</i>
TWO - Atlantic	ACCA62 KNHC	TWOSAT
TWO - Eastern Pacific	ABPZ21 KNHC	TWOSEP
TCP - Atlantic	WTCA/41-45/KNHC	TASAT/1-5/
TCP - Eastern Pacific (NHC)	WTPZ/11-15/ KNHC	TASEP/1-5/
TCD - Atlantic (NHC)	WTNT/51-55/ KNHC	TDSAT/1-5/
TCD - Eastern Pacific (NHC)	WTPZ/51-55/ KNHC	TDSEP/1-5/
TCU - Atlantic	WTNT/71-75/ KNHC	TUSAT/1-5/
TCU - Eastern Pacific	WTPZ/71-75/ KNHC	TUSEP/1-5/

## **2) Issuance of U.S. watches and warnings on Intermediate advisories:**

In order to allow for additional flexibilities for the issuance of U.S. tropical storm, hurricane, and storm surge watches and warnings, the NHC/NWS will now have the ability to issue those watches and warnings on Intermediate advisories. Previously, tropical storm, hurricane, and storm surge watches and warnings could only be issued for the United States on full or special advisory packages. Full advisory packages are issued at 5 AM, 11 AM, 5 PM, and 11 PM EDT. Beginning in 2024, NHC will be able to issue U.S. tropical cyclone watches and warnings with regular or intermediate Public advisories. Changes to watches and warnings will be reflected in the Tropical Cyclone Public Advisory (TCP) and coastal tropical wind watches and warnings will be reflected on the cone graphics issued with each regular or intermediate Public Advisory (TCP).

An example of the TCP product with tropical watches and warnings issued at the intermediate advisory can be found here:

[https://www.nhc.noaa.gov/productexamples/Intermediate\\_Adivosry\\_w\\_US\\_WW\\_Issuance\\_Example.txt](https://www.nhc.noaa.gov/productexamples/Intermediate_Adivosry_w_US_WW_Issuance_Example.txt)

## **3) Extension of tropical storm (39 mph, 34 kt) and 58 mph, 50 kt) wind radii forecasts to days 4 and 5:**

NHC is extending its tropical storm 39 mph (34 kt) and 58 mph (50 kt) wind radii forecasts to days 4 (96 hours) and 5 (120 hours) in the NHC Forecast/Advisory (TCM) in 2024. Previously, NHC has provided these forecasts out to 3 days (72 hours). Hurricane-force (64-kt) wind radii will continue to be provided out to 2 days (48 hours). NHC forecasts the size of tropical cyclone wind fields via radii forecasts in each of the four quadrants (northeast, southeast, southwest, and northwest) of the tropical cyclone. These radii forecasts are available within the NHC Forecast/Advisory (TCM) and represent the maximum extent (in nautical miles) of those winds within that quadrant of cyclone. An example of the Forecast/Advisory TCM with 4- and 5-day 34- and 50-kt wind radii forecasts can be found here:

[https://www.nhc.noaa.gov/productexamples/tcm2024\\_example.php](https://www.nhc.noaa.gov/productexamples/tcm2024_example.php)

#### **4) Weblinks in the Public Advisory:**

The Tropical Cyclone Public Advisory (TCP) product will include, as needed, a reference to websites that provide pertinent graphical hazard information beginning with the 2024 hurricane season. The weblinks are intended to help reduce the length of the TCP product and to direct the focus to the most significant and impactful storm surge and rainfall hazards and areas. When numerous locations are affected by storm surge or rainfall, these weblinks will reduce or eliminate the need to list peak storm surge values and rainfall amounts except for higher-impact areas.

An example of the TCP product with links referencing the Peak Storm Surge graphic and the Weather Prediction Center rainfall graphic can be found here:

[https://www.nhc.noaa.gov/productexamples/TCP\\_Example\\_with\\_SS\\_and\\_Rainfall\\_Web\\_Link.txt](https://www.nhc.noaa.gov/productexamples/TCP_Example_with_SS_and_Rainfall_Web_Link.txt)

#### **5) Change to the time zone reference in the eastern Pacific:**

Beginning on or about May 15, 2024, the time zone of reference for most eastern Pacific tropical cyclone forecast products will change. Most of Mexico no longer observes Daylight Saving Time, therefore Central Standard and Mountain Standard time will be used in lieu of Daylight Saving Time within those two time zones. Since Daylight Time is used within portions of Baja California and the southwestern United States, Pacific Daylight Time will continue to be used within that time zone when Daylight Saving Time is observed. The time zone of reference in NHC tropical cyclone products is based on the initial position of the tropical cyclone at the advisory issuance time, except for the caveat noted below. The time zone that appears in eastern Pacific tropical cyclone products will be determined by the initial longitude of the tropical cyclone as follows:

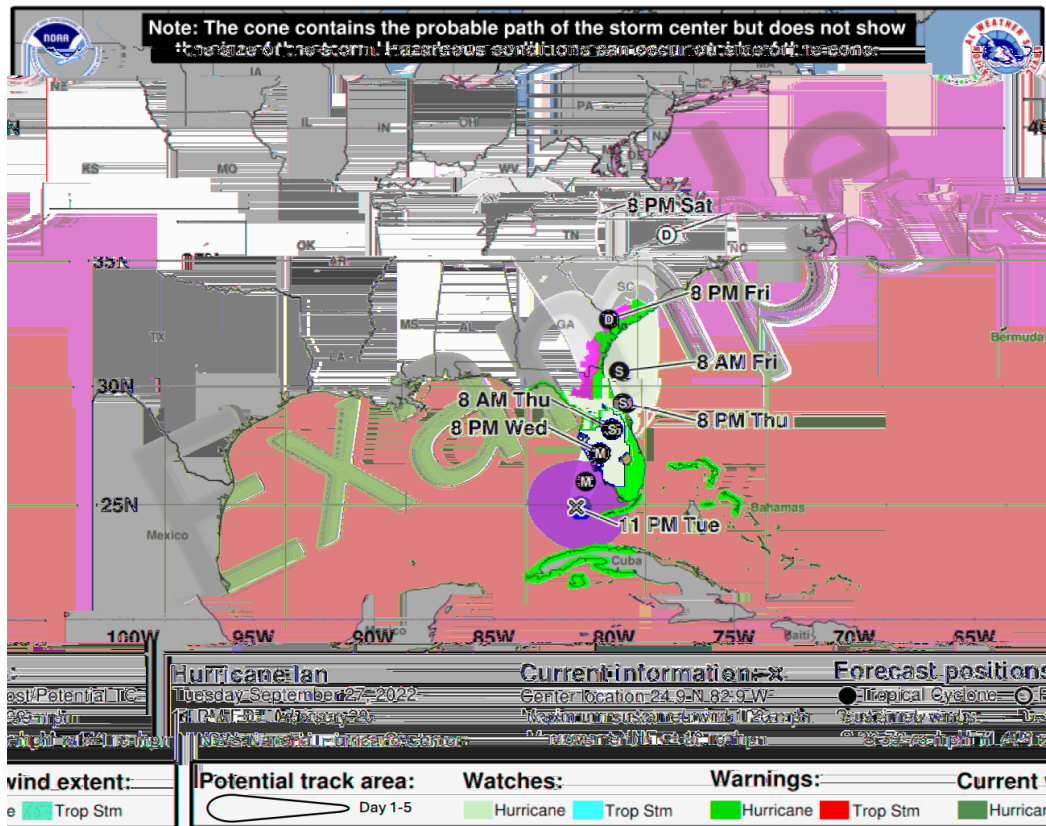
- Central Standard Time: longitude at advisory time is east of 106.0W.
- Mountain Standard Time: longitude at advisory time is between 106.0W to 114.9W.
- During Daylight Saving Time, Pacific Daylight Time: when the longitude at advisory time is west of 115.0W. Otherwise, Pacific Standard Time will be used. Please note that this guidance applies to tropical cyclones that may affect Southern California.
- CAVEAT: If the final forecast point for a tropical cyclone in the Tropical Cyclone Forecast/Advisory (TCM) is west of 140W, the advisory will use Hawaii Standard Time.

## 6) Experimental Cone Graphic with a depiction of inland watches and warnings for the United States:

Beginning on or around August 15, 2024, NHC will begin issuing an experimental version of the cone graphic that includes a depiction of inland tropical storm and hurricane watches and warnings in effect for the continental United States. The experimental cone graphic will be available on hurricanes.gov for both full and intermediate advisories. The current operational cone graphic will continue to be available, and there will be no changes with respect to how watches and warnings are displayed on that graphic (i.e., only coastal watches/warnings will be depicted). Recommendations from social science research suggest that the addition of inland watches and warnings to the cone graphic will help communicate wind risk during tropical cyclone events while not overcomplicating the current version of the graphic with too many data layers.

The experimental graphic may not be available as soon as the current cone graphic due to the time needed to compile complete inland watch and warning information, but it should generally be available within 30 minutes of the advisory release. During the experimental phase, technical issues could affect the timeliness or availability of the graphic. There will be opportunity to provide comments and feedback during the product's experimental phase.

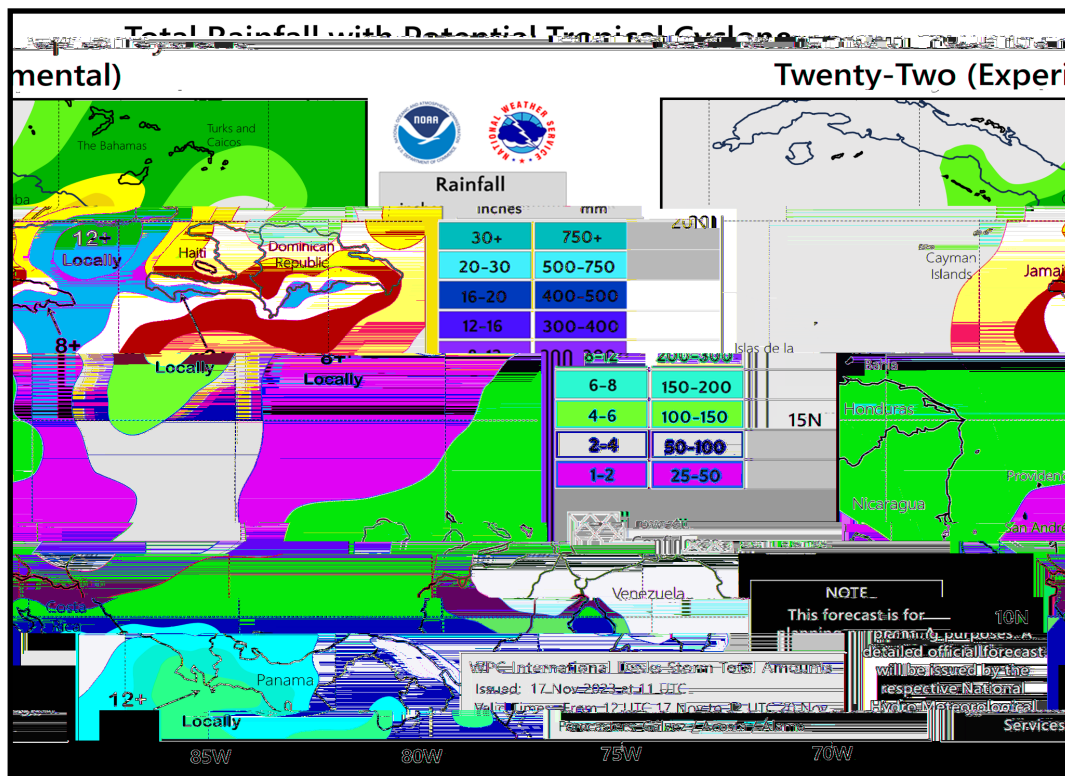
An early prototype of the cone graphic with inland watches and warnings is shown on the next page:



## 7) Experimental international tropical cyclone rainfall graphics:

The Weather Prediction Center (WPC) in partnership with the NHC will issue an experimental rainfall graphic for the Caribbean and Central America during the 2024 hurricane season. This graphic provides a display of forecast rainfall totals associated with a tropical cyclone or disturbance for a specified time period, based on forecaster discretion. The graphic will allow for enhanced communication of the expected rainfall to external partners, media, and the general public. The product will be publicly available via hurricanes.gov whenever there is an active tropical cyclone or potential tropical cyclone in the region with a rainfall statement in the Public Advisory.

An example of the graphic is shown below:



## 8) Annual update to the track forecast error cone

The size of the tropical cyclone track forecast error cone for the Atlantic basin will be about that same through 48 h but slightly larger from 60 h through day 5 as compared to 2023. For the eastern North Pacific basin, it will also be similar in size to the 2023 cone through 60 h, and slightly larger at days 3 through 5. The cone represents the probable track of the center of a tropical cyclone, and is formed by enclosing the area swept out by a set of imaginary circles

placed along the forecast track (at 12, 24, 36 hours, etc.). The size of each circle is set so that two-thirds of historical official forecast errors over the previous five years (2019-2023) fall within the circle. The circle radii defining the cones in 2024 for the Atlantic and eastern North Pacific basins are given in the table below. The changes from 2023 values (in parentheses) are expressed in both nautical miles (n mi) and percent.

A video showing how to properly interpret and use the cone graphic can be found at:

[www.nhc.noaa.gov/cone\\_usage.php](http://www.nhc.noaa.gov/cone_usage.php)

2024 Track Forecast Cone Two-Thirds Probability Circles (n mi)		
Forecast Period (h)	Atlantic Basin	Eastern North Pacific Basin
3	16 (0: 0%)	16 (0: 0%)
12	26 (0: 0%)	26 (1: 4%)
24	41 (2: 5%)	39 (1: 3%)
36	55 (2: 4%)	53 (2: 4%)
48	70 (3: 4%)	65 (2: 3%)
60	88 (7: 8%)	76 (-2: -3%)
72	102 (3: 3%)	92 (6: 7%)
96	151 (6: 4%)	119 (9: 8%)
120	220 (15: 7%)	152 (15: 11%)

## 8) New Marine Forecast Product “Offshore Waters Forecast for the southwestern North Atlantic Ocean”:

The current Offshore Waters Forecast for the Southwest and Tropical North Atlantic and Caribbean Sea issued by the Tropical Analysis and Forecast Branch (TAFB) of the National Hurricane Center will be divided into two new products beginning Tuesday, March 26, 2024 by 1030 AM EDT (1430 UTC). The new Offshore Waters Forecast product will consist of all the Atlantic zones currently north of 19N and be named “Offshore Waters Forecast for SW N Atlantic Ocean” (WMO ID/AWIPS ID FZNT25/MIAOFFNT5). The remaining zones in the Caribbean Sea and Atlantic waters south of 19N will comprise the newly re-configured “Offshore Waters Forecast for the Caribbean Sea and Tropical N Atlantic” (WMO ID/AWIPS ID FZNT23/MIAOFFNT3).

These forecast products are available at <https://www.nhc.noaa.gov/marine/>.



Below depicts the geographic domain of the new OFFNT3 and OFFNT5 Offshore Zones:



## Pronunciation of storm names

Pronunciation guides for storm names including the phonetic pronunciations of all Atlantic and eastern North Pacific storm names is found on the NHC website at:

Atlantic: [www.nhc.noaa.gov/pdf/aboutnames\\_pronounce\\_atlc.pdf](http://www.nhc.noaa.gov/pdf/aboutnames_pronounce_atlc.pdf)

Eastern North Pacific: [www.nhc.noaa.gov/pdf/aboutnames\\_pronounce\\_epac.pdf](http://www.nhc.noaa.gov/pdf/aboutnames_pronounce_epac.pdf)

Alternate name lists (used when the 6-year list is exhausted):

Atlantic: [https://www.nhc.noaa.gov/pdf/aboutnames\\_pronounce\\_atlc\\_alt.pdf](https://www.nhc.noaa.gov/pdf/aboutnames_pronounce_atlc_alt.pdf)

Eastern North Pacific:

[https://www.nhc.noaa.gov/pdf/aboutnames\\_pronounce\\_epac\\_alt.pdf](https://www.nhc.noaa.gov/pdf/aboutnames_pronounce_epac_alt.pdf)

## Social Media

The National Hurricane Center is providing simultaneous live stream broadcasts via its **YouTube** and **Facebook** accounts where there is an area of interest in the tropics that may pose a threat to land. Live streams will be provided more frequently when the media pool is activated. The media pool is typically activated when a hurricane watch is issued for any portion of the U.S. contiguous coastline. NHC will generally provide these live stream broadcasts around 11:30 am EDT.

- The National Hurricane Center has a **Facebook** page. The “[NOAA NWS National Hurricane Center](#)” page provides updates about the NHC outreach and education campaign and other items that might be of interest to the public throughout the year.
- The National Hurricane Center is on **X** (previously known as **Twitter**) – and has five accounts:

Interactive Outreach (**@NWSNHC**) - The broadest in scope of NHC's X accounts, **@NWSNHC** is our primary mechanism for engaging the public and our partners in two way conversations. This account will cover general topics such as education and outreach, NWS products and policies concerning tropical cyclones, significant events, or just fun facts – from across all the branches that comprise NHC.

There are two operational X feeds, one for the Atlantic basin - **@NHC\_Atlantic** (which includes the Gulf of Mexico and Caribbean Sea) and one for the eastern North Pacific basin - **@NHC\_Pacific**. Automated posts are sent via these accounts whenever NHC issues a public advisory regarding a tropical cyclone (TCP).

Each post contains a link to access the corresponding product on the NHC website. These two operational accounts will also be used to supplement and augment the formal tropical cyclone product suite, with occasional notices on such topics as reconnaissance aircraft status, announcements on NHC's intention to initiate advisories on a new tropical cyclone, highlights of key messages during active cyclones, etc. These accounts are also used to send notifications when NHC Tropical Cyclone Reports are posted on the NHC website.

The NHC storm surge group can be followed on X at **@NHC\_Surge**.

This account enhances storm surge forecasts by providing real-time reports and observations during an event (resources permitting). The feed will enhance preparedness and outreach efforts throughout the year, and provide news and announcements on updates to the SLOSH modeling system and storm surge decision support tools.

The Tropical Analysis and Forecast Branch (TAFB) is on X at **@NHC\_TAFB**. TAFB, an operational arm of the NHC, is responsible for issuing more than 100 marine products daily covering millions of square miles of the Atlantic and eastern Pacific Ocean. This account highlights significant weather events over the marine area as well as its outreach programs.

## Find us on the Web:

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

Tropical Weather Outlook: [www.nhc.noaa.gov/aboutnhcgraphics.shtml#GTWO](http://www.nhc.noaa.gov/aboutnhcgraphics.shtml#GTWO)

Definition of NHC Track Forecast Cone: [www.nhc.noaa.gov/aboutcone.shtml](http://www.nhc.noaa.gov/aboutcone.shtml)



National Hurricane Preparedness [www.nhc.noaa.gov/cone\\_usage.php](http://www.nhc.noaa.gov/cone_usage.php)

National Hurricane Preparedness Week: [www.hurricanes.gov/prepare](http://www.hurricanes.gov/prepare)

National Hurricane Center Facebook page: [www.facebook.com/NWSNHC](https://www.facebook.com/NWSNHC)

National Hurricane Center X page: [www.nhc.noaa.gov/twitter.shtml](https://www.nhc.noaa.gov/twitter.shtml)

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*Updated: April 4, 2024*