

***NATIONAL WEATHER SERVICE INSTRUCTION 10-607
APRIL 15, 2024***

***Operations and Services
Tropical Cyclone Weather Services Program, NWSPD 10-6
TROPICAL CYCLONE FORECAST CENTER PRODUCTS***

NOTICE: This publication is available at: <https://www.weather.gov/directives/>.

OPR: W/AFS26 (J. Schauer)

Certified by: W/AFS26 (G. Schoor)

Type of Issuance: Emergency – Admin Update

SUMMARY OF REVISIONS: This directive supersedes NWS Instructions 10-607 “Tropical Cyclone Forecast Center Products”, dated April 15, 2024. This is an administrative update made only to fix broken links on the cover sheet and pages 24, 28, 38, 39, 46, A-34, and A-44. No content changes were made with this update, and the effective date was not affected.

April 1, 2024

Allison Allen

Date

Director,

Analyze, Forecast and Support Office

Tropical Cyclone Forecast Center Products

Table of Contents	Page
1 Tropical Cyclone Forecast and Advisory Products	3
1.1 Tropical Cyclone Public Advisory (TCP).....	3
1.2 Tropical Cyclone Forecast/Advisory (TCM).....	13
1.3 Tropical Cyclone Discussion (TCD)	14
1.4 Tropical Cyclone Update (TCU)	16
1.5 Graphical Tropical Cyclone Surface Wind Speed Probabilities.....	18
1.6 Tropical Cyclone Surface Wind Speed Probabilities Text (PWS)	20
1.7 National Tropical Cyclone Watch/Warning Product (TCV)	22
1.8 Aviation Tropical Cyclone Advisory (TCA)	24
1.9 Tropical Cyclone Track and Watch/Warning Graphic	27
1.10 Cumulative Wind Distribution Graphic.....	28
1.11 Tropical Cyclone Surface Wind Field Graphic	30
1.12 Tropical Cyclone Storm Surge Watch/Warning Graphic	31
1.13 Potential Storm Surge Flooding Map	32
1.14 Tropical-Storm-Force-Winds Arrival Timing Graphics	35
1.15 Peak Storm Surge Forecast Graphic	36
2 Special Advisories	38
3 Numbering and Naming Conventions	38
3.1 Depressions and Potential Tropical Cyclones.....	38
3.2 Tropical Storms, Subtropical Storms, and Hurricanes/Typhoons	39
3.3 Post-Tropical Cyclones.....	39
3.4 Systems Passing between Basins and Regenerations	39
4 Numbering Advisories.....	40
5 Other Tropical Cyclone Forecast Center and National Centers for Environmental Prediction (NCEP) Products.....	40
5.1 Tropical Weather Discussion (TWD).....	40
5.2 Tropical Weather Outlook (TWO).....	42
5.3 Tropical Cyclone Summary - Fixes (TCS).....	44
5.4 Tropical Cyclone Danger Area Graphic	45
5.5 WPC Public Advisory (TCP).....	46
5.6 Tropical Weather Summary (TWS).....	48
5.7 Tropical Cyclone Report (TCR)	50
6 Correction Procedures.....	51
7 Procedures for Populating NHC-Generated Hazard Grids for Tropical Cyclone Events.....	52
7.1 Storm Surge Watch/Warning Collaboration Process.....	52
7.2 National TCV Compilation.....	52
APPENDIX A: Examples of Tropical Cyclone Forecast Center Products.....	A-1
APPENDIX B: Tropical Cyclone Assessment and Warning Product Identifiers.....	B-1

1 Tropical Cyclone Forecast and Advisory Products

The NWS tropical cyclone program has taken on additional responsibilities and now covers certain weather systems that are not tropical cyclones. In 2013, the program was extended to cover certain post-tropical cyclones and, in 2017, certain disturbances that pose the threat of becoming tropical cyclones. Every attempt has been made to be careful about the use of the term *tropical cyclone* whenever policy dictates a different treatment among the various system types covered by this directive. However, it should be understood that in some contexts, such as in the title of this section (Tropical Cyclone Forecast and Advisory Products), the expression is meant to refer to *all* the system types covered by this directive, that is, systems that could become, actually are, or used to be, tropical cyclones.

Weather Service Office (WSO) Pago Pago, American Samoa, is provided guidelines via this directive, but is ultimately exempt from the policies of this directive. This is due to international agreements with the country of Samoa. These agreements allow for the exchange of forecasts, watches and warnings in format and language suitable to both countries. While WSO Pago Pago uses the Thin Client version of the Advanced Weather Interactive Processing System (AWIPS), the office does not have an Automated Tropical Cyclone Forecast (ATCF) system.

Refer to Appendix A for tropical cyclone product examples.

1.1 Tropical Cyclone Public Advisory (TCP)

The TCP is the primary tropical cyclone information product issued to the public. The National Hurricane Center (NHC), the Central Pacific Hurricane Center (CPHC), the Weather Prediction Center (WPC), and Weather Forecast Office (WFO) Tiyan, Guam issue TCPs. The TCP product is issued in mixed case.

1.1.1 Mission Connection

The TCP provides critical tropical cyclone watch, warning, and forecast information for the protection of life and property.

1.1.2 Issuance Guidelines

1.1.2.1 Creation Software. ATCF system or AWIPS text editor.

1.1.2.2 Issuance Criteria

In the Atlantic and east Pacific, NHC will issue TCPs for all tropical cyclones (except for certain tropical depressions over land, for which WPC issues a similar product under the TCP header; see Section 6.6). In the central Pacific, CPHC will issue TCPs for all tropical cyclones. In addition, TCPs will be issued by NHC and CPHC for certain post-tropical cyclones and for certain disturbances that could become tropical cyclones (i.e., potential tropical cyclones), as described below. In the western North Pacific, WFO Guam will issue public advisories using Joint Typhoon Warning Center (JTWC) forecast products as guidance for all tropical cyclones within their Area of Responsibility (AOR) from 130°E to 180° between the Equator and 25°N. TCP products are prepared in mixed-case text.

NHC will issue TCPs for subtropical cyclones. However, due to the lack of well-defined criteria for distinguishing subtropical from non-tropical lows, marginally subtropical systems may be handled as non-tropical gale or storm events in NWS High Seas forecast products. CPHC will not issue TCPs for systems determined to be subtropical cyclones, including “kona lows,” but WFO Honolulu may issue non-tropical gale or storm warnings for such systems in their High Seas forecast product.

The initial advisory will be issued either when data confirm a tropical or subtropical cyclone has developed, or, for potential tropical cyclones, is threatening the United States (U.S.), upon the first issuance of U.S. coastal tropical cyclone wind or storm surge watches/warnings. When potential tropical cyclones threaten land areas outside of the U.S., the initial advisory will be issued when NHC or CPHC judges that a tropical storm or hurricane watch/warning for any international land areas would be appropriate. The actual existence or non-existence of watches or warnings issued by other countries is not a determining factor for the issuance of potential tropical cyclone advisories by NHC or CPHC. Advisories on potential tropical cyclones will not be issued for systems that pose a threat of tropical storm or hurricane conditions only to marine areas.

The final Public Advisory from NHC, CPHC, or WFO Guam will be issued when any of the following criteria are met:

- a. System ceases to be a tropical (or subtropical) cyclone through dissipation (i.e., no longer has a closed circulation).
- b. The system becomes a post-tropical cyclone. However, NHC, WPC, and CPHC advisory products will continue if a post-tropical cyclone continues to pose a significant threat to life and property, and if the transfer of responsibility to another office would result in messaging or service discontinuity (e.g., the need to maintain tropical watches/warnings, etc.). For any system that is no longer warned on by JTWC, WFO Guam may elect to issue Special Weather Statements if the situation warrants it for safety reasons. Actions taken for post-tropical cyclone advisories include:
 - i. NHC will coordinate closely with the Ocean Prediction Center (OPC), WPC, Regional Headquarters, and affected WFOs.
 - ii. NHC will make the final decision on the transfer of responsibility after coordinating with the aforementioned offices.
 - iii. NHC and CPHC advisory products will continue to be issued under the Post-Tropical Cyclone XXXX header and will be accompanied by the full suite of standard tropical cyclone graphical products.
 - iv. Local WFOs will continue to issue Hurricane Local Statements (HLSs) and Tropical Cyclone Local Watch/Warning products (TCVs) under the Post-Tropical Cyclone XXXX header, as appropriate, until NHC or CPHC advisories are discontinued.

See Section 5.6 for information on TCPs issued by the WPC.

See NWSI 10-601 – *Weather Forecast Office Tropical Cyclone Products* for

information on HLSs issued by WFOs.

- c. The system is centered over land, is below tropical storm strength, is not forecast to move back over water as a tropical cyclone, and no coastal tropical cyclone wind or surge watches or warnings are in effect. For Guam, when the tropical cyclone moves out of the WFO AOR.
- d. For potential tropical cyclones, when the last coastal tropical cyclone wind or surge watch/warning is discontinued (U.S.), or NHC or CPHC judges that tropical cyclone wind watches/warnings for international land areas are no longer appropriate. However, to foster continuity of service, NHC or CPHC may continue to issue advisories on potential tropical cyclones if new tropical cyclone watches/warnings would likely be required within 24 hours of the cessation of advisories.

1.1.2.3 Issuance Time

- a. Public Advisories. NHC and CPHC will issue Public Advisories at 0300, 0900, 1500, and 2100 Coordinated Universal Time (UTC) with valid position times corresponding to the advisory time. WFO Guam issuance times are 0400, 1000, 1600 and 2200 UTC for regular advisories.
- b. Intermediate Public Advisories will be issued on a three-hourly interval between scheduled advisories (see times of issuance below). Three-hourly intermediate advisories are issued whenever: 1) a coastal tropical cyclone wind or storm surge watch or warning is in effect, or 2) a tropical cyclone is centered over land at tropical storm strength or greater.

Intermediate advisories can be used to clear all or parts of a watch or warning area. Content should be similar to the regularly scheduled advisory content. Intermediate advisories can also be used to issue U.S. tropical cyclone watches or warnings. Intermediate advisory issuances from WFO Guam are at 0100, 0700, 1300, and 1900 UTC. NHC/CPHC intermediate advisories are issued at 0000, 0600, 1200, and 1800 UTC. An example of the product issuance sequence at NHC/CPHC follows in Table 1:

Table 1 NHC and CPHC Product Issuance Schedule

Time (UTC)	Watches/Warnings not in effect	Watches/Warnings in effect	Watches/Warnings in effect and center can be easily located on coastal radar
0900	Public Advisory	Public Advisory	Public Advisory
1000			Tropical Cyclone Update
1100			Tropical Cyclone Update
1200		Intermediate Public Advisory	Intermediate Public Advisory
1300			Tropical Cyclone Update
1400			Tropical Cyclone Update
1500	Public Advisory	Public Advisory	Public Advisory

1.1.2.4 Valid Time

TCPs are valid from the time of issuance until the next scheduled issuance or update.

1.1.2.5 Product Expiration Time

Generally, 6 hours after the issuance time and should coincide with the next expected update or when the event is forecast to end.

1.1.3 Technical Description

TCPs will follow the format and content described in this section.

1.1.3.1 Universal Geographic Code (UGC) Type

Not applicable.

1.1.3.2 Mass News Disseminator (MND) Header

The TCP MND header block product type line is: “(System Type) (Name or Number) Advisory Number XX”.

The system types are:

Potential Tropical Cyclone

Tropical Depression

Tropical Storm

Hurricane

Typhoon

Subtropical Depression

Subtropical Storm

Post-Tropical Cyclone

Remnants of

1.1.3.3 Content

The TCP is comprised of five sections: Summary, Watches and Warnings, Discussion and Outlook, Hazards, and Next Advisory. (For WFO Guam, the sections are: Watches and Warnings, Summary, Discussion and Outlook, and Next Advisory). Each section of the TCP begins with a specific header text string (see Appendix A examples). An optional lead statement or headline may precede the Summary section to emphasize significant aspects of the tropical cyclone. The forecaster’s name should appear at the end of the advisory.

a. Summary. This section follows a fixed format, containing lines for the location, geographical reference(s), maximum winds, direction of movement, and minimum pressure (WFO Guam does not indicate minimum pressure). The section will always contain at least one geographical reference, but not more than two. Geographical reference lines begin with the keyword ABOUT. In the summary section, all directions are abbreviated (e.g., N, NNE, NE, ENE, E, etc.). If the forward speed is zero, the motion will be given as STATIONARY. In the summary section header, UTC time will always be given with four characters (e.g., 0300 UTC). No other numerical values in this section will appear with leading zeros.

b. *Watches and Warnings (NHC, CPHC and WFO Guam).* This section lists coastal tropical cyclone wind and surge watches and warnings. This section may also include watch/warning definitions and call to action statements as described below. Whenever watches or warnings are issued, continue in effect, or are discontinued, the Watches and Warnings section will contain the following two subsections:

CHANGES WITH THIS ADVISORY...

SUMMARY OF WATCHES AND WARNINGS IN EFFECT...

List changes to watches and warnings since the last TCP or Tropical Cyclone Update (TCU) in paragraph form.

Summarize active watches and warnings as a bulleted list, grouped by warning type. Each grouping will begin with a statement similar to “A Hurricane Warning is in effect for...” Each watch or warning segment that follows will appear on a separate line beginning with an asterisk. However, watches or warnings that encompass entire islands or jurisdictions may be grouped together as a single segment, for example,

A Tropical Storm Warning is in effect for...

* Antigua, Barbuda, Anguilla, and St. Martin

A Tropical Storm Warning is in effect for...

* The Cuban Provinces of Guantanamo and Holguin

NHC issues tropical storm and hurricane watches/warnings for the Atlantic, Pacific, and Gulf of Mexico coasts of the conterminous United States (U.S.), the U.S. Virgin Islands, and Puerto Rico. NHC also issues storm surge watches/warnings for the Gulf of Mexico and Atlantic coasts of the conterminous U.S., Puerto Rico, and the U.S. Virgin Islands.

CPHC issues tropical storm and hurricane watches/warnings for the islands of Hawaii, the northwest Hawaiian Islands, and selected populated islands elsewhere in the central North Pacific. WFO Guam issues tropical storm and typhoon watches/warnings for the Northern Mariana Islands, and selected points in the Micronesian countries.

The definitions of hurricane/typhoon and tropical storm watches/warnings allow these watches and warnings to be issued or remain in effect both before a system with significant potential to become a tropical cyclone is categorized as such or after a tropical cyclone becomes post-tropical in those cases where the system poses a significant threat to life and property. The transfer of responsibility to another office should not occur if it would result in messaging or service discontinuity.

Watches and warnings for hurricane/typhoon, tropical storm, and storm surge hazards are collectively referred to as tropical cyclone watches and warnings. Tropical cyclone watch/warning definitions are provided in NWS Instruction 10-604: Tropical Cyclone Names and Definitions found online at:

<https://www.weather.gov/directives/sym/pd01006004curr.pdf>

Whenever possible, a watch should precede a warning. Once a watch is in effect, it should either be replaced by a warning or remain in effect until the threat of the relevant hazard has passed. For wind, a hurricane/typhoon watch and a tropical storm warning can be in effect for the same section of coast at the same time. Tropical storm warnings may be issued on either side of a hurricane/typhoon warning area.

If tropical-storm-force winds directly associated with a tropical cyclone are expected to affect an area for which a gale/high wind watch/warning or wind advisory is already in place, a tropical storm warning may be issued, replacing the watch, warning, or advisory, at the discretion of NHC/CPHC after coordinating with the affected forecast offices.

It will occasionally be advantageous to step down warnings for tropical cyclones, e.g., replacing a hurricane warning with a tropical storm warning as conditions subside, or replacing a hurricane warning with a hurricane watch as the likelihood of the threat diminishes. However, such actions should only be taken when a high degree of certainty exists that the warnings will not need to be reissued.

When a watch or warning is introduced for a new major geographical area, the watch/warning section should contain a definition of the watch or warning. These definitions may also be included at other times. The definitions will appear after the list of active watches and warnings in effect. Other statements (e.g., “Interests in the Leeward Islands should monitor the progress of Bill.”) may also appear after the list of active watches and warnings.

Include the following language whenever a storm surge warning is in effect: “A storm surge warning means there is a danger of life-threatening inundation from rising water moving inland from the coastline, during the next 36 hours in the indicated locations. For a depiction of areas at risk, please see the National Weather Service Storm Surge Watch/Warning Graphic, available at hurricanes.gov. This is a life-threatening situation. Persons located within these areas should take all necessary actions to protect life and property from rising water and the potential for other dangerous conditions. Promptly follow evacuation and other instructions from local officials.”

When watches or warnings are in effect for the U.S., include the following statement: “For storm information specific to your area, including possible inland watches and warnings, please monitor products issued by your local NWS Weather Forecast Office.”

When watches or warnings are in effect for areas outside the U.S., include the following statement: “For storm information specific to your area outside of the United States, please monitor products issued by your national meteorological service.”

c. Discussion and Outlook. This is a free-text section that describes the current location and motion, maximum winds, extent of hurricane/typhoon- and tropical-storm-force winds, and minimum pressure. It will provide a general outlook for the track and intensity of the cyclone or potential cyclone over the next 72 hours.

Include the location of the center of the tropical cyclone by its latitude and longitude. For potential tropical cyclones, the indicated center should generally correspond to the low-level

vorticity maximum or cloud system center of the disturbance. When the center of the cyclone or disturbance is over land, give its position referencing the island, state or country in which it is located and in respect to some well-known city, if appropriate.

Movement forecasts apply to the center of the tropical cyclone or disturbance. Give the present movement to 16 points of the compass. Include a generalized 72-hour forecast of movement using wording that appropriately conveys the uncertainties in the track forecast (e.g., “could move near or over...”). Make landfall forecasts of the center with caution to avoid giving the public any false sense of security. Broad statements for areas that could be affected beyond 72 hours may also be included (e.g., “It is too soon to determine if Jeanne will eventually affect any land areas.”).

Give the estimated maximum 1-minute sustained surface wind speed rounded to the nearest 5 mph. Provide a generalized intensity forecast out to 72 hours, using wording that appropriately conveys the uncertainties in the intensity forecast. The forecast can be conveyed in terms of the expected change compared to the initial intensity (e.g., weakening, strengthening, little change), and / or a general categorical description (e.g., depression, storm, hurricane, major hurricane) of the forecast intensity, with appropriate qualifiers (e.g., “could become”). Broad statements for areas that could be affected beyond 72 hours may also be included (e.g., “Katrina could become a dangerous hurricane in the Gulf of Mexico in 4 to 5 days.”). The area (or radius) of both tropical storm and hurricane/typhoon force winds will be provided, as well as central pressure values in millibars (mb) and inches (excludes WFO Guam).

For potential tropical cyclones, include the latest genesis probability forecasts.

d. Hazards (excludes WFO Guam). This section of the TCP describes the threats of a tropical cyclone. The information in this section will be given in descending order of importance or urgency. Most paragraphs will begin with one of the following keywords: STORM SURGE, WIND, RAINFALL, TORNADOES, SURF, or OTHER. Storm hazards will be discussed whenever warnings are in effect or otherwise when appropriate.

Storm Surge: Storm surge forecasts will highlight areas along the coast and within bays that are likely to experience dangerous flooding from storm surge. When possible, timing should be estimated or should be referenced to storm position, e.g., “as the hurricane is making landfall,” or “as strong winds turn to the southwest”. Wave information should be included for the outer coastline (all coastlines for Pacific Region locations) when possible.

For storm surges affecting Atlantic basin WFOs and WFO Honolulu, TCP estimates of surge-related flooding will be expressed in terms of inundation (height above ground) using the following or similar wording:

STORM SURGE: The combination of a dangerous storm surge and the tide will cause normally dry areas near the coast to be flooded by rising waters moving inland from the shoreline. The water could reach the following heights above ground somewhere within the following areas if the peak surge occurs at the time of high tide...

Area 1...x to y ft

Area 2...x to y ft

Area 3...x to y ft

Alternatively, a web link to the Peak Storm Surge Forecast Graphic may be provided.

The deepest water will occur along the immediate coast near and to the [direction] of the landfall location, where the surge will be accompanied by large and destructive waves. Surge-related flooding depends on the relative timing of the surge and the tidal cycle, and can vary greatly over short distances. For information specific to your area, please see products issued by your local National Weather Service forecast office.

For areas outside of the United States, surge-related statements will be expressed in terms of storm surge (not storm tide), and any quantitative estimates will be referenced to normal tide levels (e.g., "...will raise water levels by as much as 5 to 9 feet above normal tide levels...").

Surf: Tropical cyclone forecast centers will include rip current and / or dangerous surf statements as appropriate in the Tropical Cyclone Public Advisory. On a case-by-case basis, NHC will discuss with the affected WFOs whether rip currents and / or dangerous surf will be referenced. If agreement is reached to reference rip currents and / or dangerous surf, NHC will generally use wording such as:

"Swell generated by [storm] are affecting portions of the coast of [locations]. These swells are likely to cause life-threatening surf and rip current conditions. Please consult products from your local Weather Forecast Offices for more information."

Wind: When watches or warnings are in effect, give the expected times of onset of tropical storm and hurricane/typhoon force winds along the coast in general terms, such as "this afternoon" or "tonight." Such statements should be general in nature and appropriately reflect forecast uncertainties.

Rainfall: NHC and CPHC will provide quantitative rainfall forecasts when tropical cyclone wind warnings are in effect and may be included at other times when appropriate. The geographical area(s) at greatest risk, including inland areas where significant flooding is expected will be identified. An estimate of the range of area-average amounts expected within the specified area(s) should be included, as well as an upper bound on the maximum spot values expected. Storm-total values will be most commonly used. Alternatively, a web link to a rainfall graphic may be provided.

Tornadoes: When appropriate, information on the threat of tornadoes will be provided, including identification of the geographic area(s) at greatest risk.

Other: When appropriate, highlight the inland hazards of tropical cyclones. This includes the threat of strong winds, heavy rainfall, flooding, and tornadoes. Mention actual occurrences of tornadoes, floods, and high winds and reference supporting warnings and statements from WFOs.

e. Next Advisory. This section identifies the scheduled issuance time and office responsible for the next regular advisory and any intervening intermediate advisories. With the last advisory,

the issuing office and product where subsequent information on the system remnants can be found will be identified.

When WPC is going to issue the next TCP on a system for which NHC has been providing TCPs, the last TCP from the NHC will carry a statement similar to: “This is the last public advisory issued by the National Hurricane Center on this system. Future information on this system can be found in Public Advisories issued by the Weather Prediction Center under AWIPS header TCPAT4 and WMO header WTNT3N KWNH, beginning at (Time).” See Section 6.6 for details on TCPs issued by the WPC.

When OPC is going to provide information on a tropical system that has been declared post-tropical by NHC, NHC’s last TCP should carry a statement similar to: “This is the last Public Advisory issued by the National Hurricane Center on (System Name or Number). For additional information on this system please see High Seas Forecasts issued by the National Weather Service under AWIPS header NFDHSFAT1 and WMO header FZNT01 KWBC beginning at (Time).”

When OPC is going to provide information on a tropical system that has been declared post-tropical by CPHC, CPHC’s last TCP should carry a statement similar to: “This is the last Public Advisory issued by the Central Pacific Hurricane Center on (System Name or Number). For additional information on this system please see High Seas Forecasts issued by the National Weather Service under AWIPS header NFDHSFEP1 and WMO header FZPN01 KWBC beginning at (Time).”

When the Tropical Analysis Forecast Branch (TAFB) is going to provide information on a tropical system that has been declared post-tropical by NHC, NHC’s last TCP should carry a statement similar to: “This is the last Public Advisory issued by the National Hurricane Center on (System Name or Number). For additional information on this system please see High Seas Forecasts issued by the National Weather Service under AWIPS header NFDHSFAT1 and WMO header FZNT01 KWBC beginning at (Time).”

For a tropical cyclone moving east to west across 140W from the NHC to the CPHC area of responsibility, NHC will insert at the end of their last advisory/forecast: “This is the last public advisory issued by the National Hurricane Center for (System Name). Future information on (System Name) can be found in Public Advisories issued by the Central Pacific Hurricane Center beginning at (Time) under AWIPS header HFOTCPCP1, WMO header WTPA31 PHFO, and on the web at <https://hurricanes.gov/cphc>.

For a tropical cyclone moving east to west across the International Dateline, CPHC will insert at the end of their last advisory/forecast: “This is the last bulletin issued by the Central Pacific Hurricane Center. The next bulletin will be issued by the RSMC Tokyo. For additional information, see the public advisories issued by the U.S. NWS Weather Forecast Office Guam and DOD warnings issued by the Joint Typhoon Warning Center.”

For a tropical cyclone moving out of the WFO Guam AOR, WFO Guam will insert at the end of their last advisory/forecast: “This is the last bulletin issued by the NWS Weather Forecast Office

Guam on (storm name). For continued information on (System Name or Number), see JTWC bulletins under WMO header WTPN3N PGTW or RSMC Tokyo bulletins under WMO header WTJP3N RJTD.”

f. General. Times in advisories should be local time of the affected area; however, local time and UTC should be used when noting the storm’s location. For WFO Guam, use Chamorro Standard Time for all local times. All advisories will use statute miles and statute miles per hour. NHC, CPHC and WFO Guam, at their discretion, may include this information in nautical miles and knots as well. NHC and CPHC advisories should include the metric units of kilometers and kilometers per hour following the equivalent English units.

1.1.3.4 Format

This product is available in industry standard encoding and languages, and may include, but not limited to, American Standard Code for Information Interchange (ASCII), Extensible Markup Language (XML), Wireless Markup Language (WML) and HyperText Markup Language (HTML). The NHC-issued TCP for the Atlantic and eastern Pacific basins and the CPHC-issued TCP for the central north Pacific basin are prepared in mixed-case text.

```

WTaaii cccc ddhhmm
TCPxxx

BULLETIN
System_Type Name_or_Number Advisory Number XX
Issuing_Office City STATE BBCCYYYY
Time AM/PM TIME_ZONE Day_of_week Mon DD YYYY ...HEADLINE...
Text

DISCUSSION AND OUTLOOK
-----

Text

NEXT ADVISORY
-----

Text

$$

Forecaster Name
    
```

Figure 1 Tropical Cyclone Public Advisory Format

See complete example in Appendix A.

NOTE: As part of the header, a coded string will be appended at the end of the “Issuing Office City State” line (Example: NWS National Hurricane Center Miami FL BBCCYYYY).

Format:

Where: (BB) is the basin (AL - North Atlantic; EP - East Pacific; CP - Central Pacific).
WP – western North Pacific.
Where: (CC) is the cyclone number (01, 02, 03...49). WFO Guam uses the JTWC
cyclone number.
Where: (YYYY) is the 4-digit year.

Note: WFO Guam includes the JTWC cyclone number in parentheses along with the name, once it is provided by the Regional Specialized Meteorological Center (RSMC) Tokyo.

1.2 Tropical Cyclone Forecast/Advisory (TCM)

NHC, CPHC and WPC will prepare TCMs for the system types listed in Section 1.1.3.2 within their areas of responsibility, under the criteria outlined in Section 1.1.2.2.

1.2.1 Mission Connection

The TCM provides critical tropical cyclone forecast information for the protection of life and property.

1.2.2 Issuance Guidelines

1.2.2.1 Creation Software.

ATCF system or AWIPS text editor.

1.2.2.2 Issuance Criteria

The TCM is issued any time a Public Advisory or Special Public Advisory product is issued.

1.2.2.3 Issuance Times

Issue TCMs at 0300, 0900, 1500 and 2100 UTC, and with all Special Public Advisories.

1.2.2.4 Valid Time

TCMs are valid from the time of issuance until the next scheduled issuance or update.

1.2.2.5 Product Expiration Time

Generally, 6 hours after the issuance time and should coincide with the next expected update or when the event is forecast to end.

1.2.3 Technical Description

TCMs will follow the format and content described in this section.

1.2.3.1 UGC Type

Not applicable.

1.2.3.2 MND Header

The TCM MND header block product type line is: “(SYSTEM TYPE) (NAME or NUMBER) FORECAST/ADVISORY NUMBER XX”.

1.2.3.3 Content

TCMs will contain appropriate information as shown in Appendix A in a standard format. All forecast advisories will contain 12-, 24-, 36-, 48-, 60-, 72-, 96- and 120 hour forecast positions and 1-minute surface wind speeds (intensity) rounded to the nearest 5 knots. Also, they will include 34- and 50-knot (four-quadrant) wind speed radii in nm through 120 hours and 64-knot wind speed radii at 12, 24, 36, and 48 hours. No position or wind speed will accompany the forecast of “dissipated.” A standard statement indicating the uncertainty associated with the 96- and 120-hour forecast positions and forecast wind speeds will precede those two forecasts.

1.2.3.4 Format

This product is available in industry standard encoding and languages, and may include, but not limited to, ASCII, XML, WML and HTML.

```
WTaa2i cccc ddhhmm
TCMxxx

SYSTEM_TYPE NAME_or_NUMBER FORECAST/ADVISORY NUMBER XX
ISSUING_OFFICE CITY STATE BCCYYYYY
TIME UTC DAY_OF_WEEK MON DD YYYY

TEXT
$$

FORECASTER NAME
```

Figure 2 Tropical Cyclone Forecast/Advisory Format.

See complete example in Appendix A.

NOTE: As part of the header, a coded string will be appended at the end of the “ISSUING OFFICE CITY STATE” line. (Example: NWS NATIONAL HURRICANE CENTER MIAMI FL BCCYYYYY).

Format:

Where: (BB) is the basin (AL - North Atlantic; EP - East Pacific; CP - Central Pacific).
 Where: (CC) is the cyclone number (01, 02, 03...49).
 Where: (YYYY) is the 4-digit year.

1.3 Tropical Cyclone Discussion (TCD)

NHC and CPHC issue TCDs to explain the forecaster’s reasoning behind the analysis and forecast of cyclones designated by the system types defined in Section 1.1.3.2, as required by Section 1.1.2.2. WPC also issues TCDs, but their primary purpose is to provide key messages.

1.3.1 Mission Connection

The TCD is the primary product explaining the forecaster’s reasoning behind the analysis and forecast for the system types listed in Section 1.1.3.2, issued under the criteria outlined in Section 1.1.2.2. The TCD also provides 12-, 24-, 36-, 48-, 60-, 72-, 96-, and 120-hour forecast positions and maximum sustained wind speed forecasts, other meteorological decisions, and plans for watches and warnings. The TCD is prepared in mixed-case text.

1.3.2 Issuance Guidelines

1.3.2.1 Creation Software

ATCF system or AWIPS text editor.

1.3.2.2 Issuance Criteria

TCD is issued any time a Public Advisory or Special Public Advisory product is issued.

1.3.2.3 Issuance Times

Issue TCDs at 0300, 0900, 1500, and 2100 UTC, and with all Special Public Advisories.

1.3.2.4 Valid Time

TCDs are valid from the time of issuance until the next scheduled issuance or update.

1.3.2.5 Product Expiration Time

Generally 6 hours after the issuance time and should coincide with the next expected update or when the event is forecast to end.

1.3.3 Technical Description

TCDs will follow the format and content described in this section.

1.3.3.1 UGC Type

Not applicable.

1.3.3.2 MND Header

The TCD MND header block product type line is: “(System Type) (Name or Number) Discussion Number XX”.

1.3.3.3 Content

Discussions from NHC and CPHC include prognostic reasoning; objective techniques employed; 12-, 24-, 36-, 48-, 60-, 72-, 96- and 120-hour tropical cyclone forecast points. No position or wind speed will accompany the forecast of “dissipated”. Maximum sustained wind speed forecasts for each forecast point, other meteorological decisions, plans for watches and warnings, and when appropriate, key messages to users are also provided. WPC TCDs include key messages and tropical cyclone forecast positions and intensities only.

1.3.3.4 Format

This product is available in industry standard encoding and languages, and may include, but is not limited to, ASCII, XML, WML and HTML. The TCD is issued in mixed case. The TCD may revert back to using all uppercase letters at any time to meet operational requirements.

```

Wtaa4i cccc ddhhmm
TCDxxx

System_Type Name_or_Number Discussion Number XX
Issuing_Office City STATE BCCYYYY
Time AM/PM TIME_ZONE Day_of_week Mon DD YYYY

Text
$$

Forecaster Name
    
```

Figure 3 Tropical Cyclone Discussion Format

See complete example in Appendix A.

NOTE: As part of the header, a coded string will be appended at the end of the "Issuing Office City STATE" line (Example: NWS National Hurricane Center Miami FL BBCCYYYY).

Format:

- Where: (BB) is the basin (AL - North Atlantic; EP - East Pacific; CP - Central Pacific).
- Where: (CC) is the cyclone number (01, 02, 03...49).
- Where: (YYYY) is the 4-digit year.

1.4 Tropical Cyclone Update (TCU)

1.4.1 Mission Connection

The TCU is issued by NHC, CPHC and WFO Guam and provides users with timely, succinct information on significant changes for the system types listed in Section 1.1.3.2, during the period advisories are being issued under the criteria outlined in Section 1.1.2.2.

1.4.2 Issuance Guidelines

1.4.2.1 Creation Software

ATCF system or AWIPS text editor.

1.4.2.2 Issuance Criteria

TCUs are issued to inform users of significant changes in a system in between regularly scheduled public advisories. Such uses include, but are not limited to the following:

- To provide timely information of an unusual nature, such as the time and location of landfall, or to announce an expected change in intensity that results in an upgrade or downgrade of status (e.g., from a tropical storm to a hurricane).
- To provide a continuous flow of information regarding the center location of a tropical cyclone when watches or warnings are in effect and the center can be easily tracked with land-based radar.
- To provide advance notice that significant changes to storm information will be conveyed shortly, either through a subsequent TCU or through a Special Advisory.
- To announce changes to international watches or warnings made by other countries, or to cancel U.S. watches or warnings.
- To issue a U.S. watch or warning, but only if the TCU precedes a public advisory that will contain the same watch / warning information, and indicates the public advisory will be issued shortly.

1.4.2.3 Issuance Times

TCUs that provide updated center position information, when watches/warnings are in effect and when the center is easily tracked with land-based radar, are issued in between scheduled three-hourly TCPs near the beginning of each hour. All other TCUs are issued on an event-driven basis.

1.4.2.4 Valid Time

TCUs are valid at the time of issuance until a subsequent TCU is issued or until the next scheduled or special TCP.

1.4.2.5 Product Expiration Time

Not applicable.

1.4.3 Technical Description

TCUs will follow the format and content described in this section.

1.4.3.1 UGC Type

Not applicable.

1.4.3.2 MND Header

The TCU MND header block product type line is: “(System Type) (Name or Number) Tropical Cyclone Update”.

1.4.3.3 Content

The TCU is a brief alphanumeric text product containing block paragraph text, a formatted storm summary section, or both.

The storm summary section is identical in format to the storm summary section found in the TCP. The storm summary section is required whenever the TCU is issued to update storm

intensity, location, or motion information. The storm summary section is not required for TCUs issued to provide advance notice that significant changes to storm information will be conveyed shortly, or for those issued to convey changes to watches or warnings.

TCUs issued to provide hourly storm location information will contain a headline indicating the purpose of the TCU (e.g., "...11 AM HST POSITION UPDATE...").

CPHC and NHC base the information contained within the TCU on the latest available data from all sources with special reliance on aircraft reconnaissance, radar, and satellite data. Local Weather Offices will use this information in all official statements. WFO Guam bases the information on all sources of data, including that available from the Weather Service Radar 1988 Doppler (WSR-88D) Dual-Polarization radar.

1.4.3.4 Format

This product is available in industry standard encoding and languages, and may include, but not limited to, ASCII, XML, WML and HTML. The TCU is prepared in mixed case.

```
WTaa6i cccc ddhhmm
TCUxxx

System_Type Name_or_Number Tropical Cyclone Update
Issuing_Office City STATE BBCCYYYY
Time AM/PM TIME_ZONE Day_of_week Mon DD YYYY

Text
```

Figure 4 Tropical Cyclone Update Format

See complete example in Appendix A.

NOTE: As part of the header, a coded string will be appended at the end of the “ISSUING OFFICE CITY STATE” line. (Example: NWS National Hurricane Center Miami FL BBCCYYYY).

Format:

Where: (BB) is the basin (AL - North Atlantic; EP - East Pacific; CP - Central Pacific; WP - western North Pacific).

Where: (CC) is the cyclone number (01, 02, 03...49). WFO Guam uses the JTWC cyclone number.

Where: (YYYY) is the 4-digit year.

1.5 Graphical Tropical Cyclone Surface Wind Speed Probabilities

1.5.1 Mission Connection

This product is a graphical representation of the probabilistic surface wind speed information based on the official forecast issued by NHC, CPHC, and JTWC for the Atlantic and central North Pacific basins, as well as specified areas in the western North Pacific and South Pacific

basins, which will help users prepare for potential tropical storm or hurricane/typhoon conditions.

1.5.2 Issuance Guidelines

1.5.2.1 Creation Software

tc_graphics/NCL.

1.5.2.2 Issuance Criteria

In the Atlantic and eastern and central North Pacific basins, this product will be issued for the system types listed in Section 1.1.3.2, under the criteria outlined in Section 1.1.2.2. Graphics for the South Pacific are issued when JTWC provides tropical cyclone warnings in the area from 10°S to 20°S between 164.5°W and 178.5°W. Graphics for the western North Pacific are issued when JTWC provides tropical cyclone warnings in the area from 0° to 25°N between 180°E and 130°E.

1.5.2.3 Issuance Times

The static graphic will be issued at approximately 0300, 0900, 1500, and 2100 UTC and for special advisories. The animated display will be available no earlier than 15 minutes following the issuance deadlines for routine advisories (0300, 0900, 1500, and 2100 UTC) and after special advisories.

1.5.2.4 Valid Time

Product is valid at the time of issuance or until the next scheduled issuance or update.

1.5.2.5 Product Expiration Time

Generally 6 hours after the issuance time and should coincide with the next expected update or when the event is forecast to end.

1.5.3 Technical Description

Graphical product.

1.5.3.1 UGC Type

Not applicable.

1.5.3.2 MND Header

Not applicable.

1.5.3.3 Content

This product shows probabilities for three wind speed thresholds: 34, 50 and 64 knots. It provides cumulative probabilities through each 12-hour interval (e.g., 0 to 12 hours, 0 to 24 hours, etc.) from 0 through 120 hours. They are available in graphical forms in static and

animated displays. These wind speed probabilities are based on the track, intensity, and wind structure uncertainties in the official forecasts from the tropical cyclone forecast centers.

The probabilities in this product are statistically based on the errors in the official track and intensity forecasts issued during the past five years by NHC and CPHC. Variability in tropical cyclone wind structure is also incorporated. The product is also generated for the western North Pacific and South Pacific using 5-year error distributions from JTWC. New probability values are computed for each new official forecast issued.

1.5.3.4 Format

An example of a graphic can be found on the Internet at:

<https://www.nhc.noaa.gov/aboutnhcgraphics.shtml>.

1.6 Tropical Cyclone Surface Wind Speed Probabilities Text (PWS)

1.6.1 Mission Connection

This product from NHC and CPHC portrays probabilistic wind speed information helping users prepare for the potential of tropical storm or hurricane/typhoon conditions.

1.6.2 Issuance Guidelines

1.6.2.1 Creation Software

ATCF system or AWIPS text editor.

1.6.2.2 Issuance Criteria

The product will be issued for all named or numbered systems in the Atlantic, East Pacific, and Central Pacific basins for the system types defined in Section 1.1.3.2, under the criteria outlined in Section 1.1.2.2.

1.6.2.3 Issuance Time

These products will be issued at 0300, 0900, 1500, and 2100 UTC and with all special advisories.

1.6.2.4 Valid Time

Product is valid at the time of issuance or until the next scheduled issuance or update.

1.6.2.5 Product Expiration Time

Generally 6 hours after the issuance time and should coincide with the next expected update or when the event is forecast to end.

1.6.3 Technical Description

The text probabilities will follow the format and content described in this section.

1.6.3.1 UGC Type

Not applicable.

1.6.3.2 MND Header

The PWS MND header product type line is: “(TROPICAL CYCLONE TYPE) (NAME or NUMBER) WIND SPEED PROBABILITIES NUMBER XX”.

1.6.3.3 Content

The probabilities in this product are statistically based on the errors in the official track and intensity forecasts issued during the past five years by NHC and CPHC. Variability in tropical cyclone wind structure is also incorporated. New probability values are computed for each new official forecast issued by NHC or CPHC.

Probabilities for specific locations are provided for sustained wind speeds equal to or exceeding three wind speed thresholds: 34, 50 and 64 knots. Two types of probability values are provided in this table: onset and cumulative. Onset probabilities are provided for each of the following time intervals: 0 to 12 hours, 12 to 24 hours, 24 to 36 hours, 36 to 48 hours, 48 to 72 hours, 72 to 96 hours, and 96 to 120 hours. These onset probabilities indicate the chance that the particular wind speed will start during each individual period at each location. Cumulative probabilities are produced for the following time periods: 0 to 12 hours, 0 to 24 hours, 0 to 36 hours, 0 to 48 hours, 0 to 72 hours, 0 to 96 hours, and 0 to 120 hours. These cumulative probabilities indicate the overall chance the particular wind speed will occur at each location during the period between hour 0 and the forecast hour.

1.6.3.4 Format

```
FOaa5i cccc ddhhmm
PWSxxx

SYSTEM_TYPE NAME_or_NUMBER WIND SPEED PROBABILITIES NUMBER XX
ISSUING_OFFICE CITY STATE BCCYYYYY
TIME AM/PM TIME_ZONE DAY_OF_WEEK MON DD YYYY

TEXT
$$
```

Figure 5 Text Surface Wind Speed Probabilities

See complete example in Appendix A.

NOTE: As part of the header, a coded string will be appended at the end of the “ISSUING OFFICE CITY STATE” line. (Example: NWS NATIONAL HURRICANE CENTER MIAMI FL BCCYYYYY).

Format:

Where: (BB) is the basin (AL - North Atlantic; EP - East Pacific; CP - Central Pacific; WP – western North Pacific).

Where: (CC) is the cyclone number (01, 02, 03...49). WFO Guam uses the JTWC cyclone number.

Where: (YYYY) is the 4-digit year.

1.7 National Tropical Cyclone Watch/Warning Product (TCV)

The National TCV, issued by NHC for the Atlantic and East Pacific basins, provides Valid Time Event Code (VTEC) data for tropical cyclone watches and warnings. This product is distinct from the local Tropical Cyclone Local Watch/Warning Product, or WFO TCV, described in NWSI 10-601 section 1.1.

The National TCV issued by NHC summarizes all inland and coastal U.S. tropical cyclone wind and storm surge (Atlantic basin only) watches and warnings for the contiguous U.S., Puerto Rico, and the U.S. Virgin Islands associated with the system types defined in Section 1.1.3.2. The National TCV represents a compilation of the land-based tropical cyclone watch/warning VTEC information provided in the applicable WFO TCV products. The National TCV is prepared in AWIPS GFE, as described in section 1.7.2., with the storm surge watches/warnings collaborated between NHC and the WFOs using procedures described in Section 7.1. The representation of tropical wind watches/warnings in the TCV is provided only in terms of zones; as a result, the National TCV can only convey an approximate description of the watch/warning areas. The precise lateral extent of tropical cyclone wind watches and warnings along the coastline is specified by breakpoints in the Tropical Cyclone Public Advisory. The precise extent of storm surge watches/warnings is specified in gridded form through the NDFD. The National TCV will contain a disclaimer indicating where the precise extent of tropical cyclone watches and warnings can be found.

CPHC does not issue a national TCV product. All VTEC for land-based tropical cyclone watches and warnings in their area of responsibility within the U.S. can be found in the local TCV product from WFO Honolulu (TCVHFO).

VTEC is only issued for U.S. watches and warnings. It is not issued for international watches and warnings.

1.7.1 Mission Connection

The National TCV provides users with a listing of all land-based tropical cyclone watches and warnings associated with an Atlantic or East Pacific tropical cyclone described by the system types defined in Section 1.1.3.2.

1.7.2 Issuance Guidelines

1.7.2.1 Creation Software

AWIPS GFE.

1.7.2.2 Issuance Criteria

The product is issued each time a U.S. tropical cyclone watch and / or warning is issued, continued, or discontinued for all Atlantic and eastern North Pacific Ocean basin cyclones for the system types defined in Section 1.1.3.2, under the criteria given in Section 1.1.2.2.

1.7.2.3 Issuance Times

These products will be issued with all routine, intermediate, and special advisories if U.S. watches or warnings are continued, posted, changed or canceled.

1.7.2.4 Valid Time

Product is valid at time of issuance or until the next scheduled issuance or update.

1.7.2.5 Product Expiration Time

Not more than 6 hours, or when superseded by the next update (generally 3 hours later).

1.7.3 Technical Description

This text product will follow the format and content described in this section.

1.7.3.1 UGC Type

TCVs will use the segmented zone (Z) form of the UGC.

1.7.3.2 MND Header

The National TCV MND header product type line is: “(Name or Number) Watch/Warning Advisory Number XX”.

1.7.3.3 Content

The National TCV will contain the full complement of VTEC actions as described in NWSI 10-1703.

The product will use official NWS zones to identify the approximate areas under a tropical cyclone watch/warning.

The VTEC event tracking number (ETN) will take the form of XNNN where X is the basin of origin:

1 – Atlantic

2 – East Pacific

NNN corresponds to the tropical cyclone identifier number. In tropical cyclone products, the tropical cyclone identifier number is found at the end of the product type line in the MND header. Not all identifier numbers will appear in a TCV since a TCV is issued only for those storms for which watches and / or warnings are issued by WFOs. Thus, the TCV ETNs may not be sequential.

1.7.3.4 Format

```

WTNT8i KNHC ddhhmm
TCVATi

Name_or_Number Watch/Warning Advisory Number XX
NWS National Hurricane Center Miami FL BCCYYYY
Time AM/PM TIME_ZONE Day_of_Week Mon DD YYYY

.System_Type Name_or_Number

Caution...This product only approximately conveys the extent of
tropical cyclone wind and surge watches and warnings. Please see the
latest public advisory from the National Hurricane Center for the
precise lateral extent of wind watches and warnings along the
coast...as well as the approximate lateral extent of surge watches and
warnings. The precise extent of surge watches and warnings can be
found in the NWS National Digital Forecast Database hazard grids.

STZxxx-xxx-xxx-...-DDHHMM-
/O.AAA.KNHC.PP.S.####.YYMMDDTHHNNZb-000000T0000Z/
TIME AM/PM TIME_ZONE DAY MMM DD YYYY

$$

ATTN...WFO... (AFFECTED WFO(S) )

```

Figure 6 National Tropical Cyclone Watch/Warning (TCV) Product

See complete examples in Appendix A. For VTEC details, see <https://www.weather.gov/vtec/>.

NOTE: As part of the header, a coded string will be appended at the end of the “ISSUING OFFICE CITY STATE” line. (Example: NWS NATIONAL HURRICANE CENTER MIAMI FL BCCYYYYY).

Format:

Where: (BB) is the basin (AL - North Atlantic; EP - East Pacific).

Where: (CC) is the cyclone number (01, 02, 03...49).

Where: (YYYY) is the 4-digit year.

1.8 Aviation Tropical Cyclone Advisory (TCA)

1.8.1 Mission Connection

The TCA is intended to provide short-term tropical cyclone forecast guidance for international aviation safety and routing purposes.

1.8.2 Issuance Guidelines

1.8.2.1 Creation Software

ATCF system or AWIPS text editor.

1.8.2.2 Issuance Criteria

Prepared by NHC and CPHC for all ongoing tropical, subtropical, and post-tropical cyclone activity in their respective AORs. This requirement is stated in the World Meteorological Organization (WMO) Region IV and Region V hurricane plans.

1.8.2.3 Issuance Times

0300, 0900, 1500, and 2100 UTC, and with all special advisories.

1.8.2.4 Valid Times

TCAs are valid from the time of issuance until the next scheduled issuance or update.

1.8.2.5 Product Expiration Time

Generally 6 hours after the issuance time and should coincide with the next expected update.

1.8.3 Technical Description

TCAs will follow the format and content described in this section.

1.8.3.1 UGC Type

Not applicable.

1.8.3.2 MND Header

The TCA header block product type line is: “(SYSTEM TYPE) (NAME or NUMBER) ICAO ADVISORY #”.

1.8.3.3 Content

TCAs list the current tropical cyclone position, motion and intensity, and 3-, 6-, 9-, 15-, 21-, and 27-hour forecast positions and intensities. It is an alphanumeric text product produced by hurricane forecasters and consists of information extracted and interpolated from the official forecasts. This forecast is produced from subjective evaluation of current meteorological and oceanographic data as well as output from numerical weather prediction models, and is coordinated with affected WFOs, the National Centers, and the Department of Defense (DoD).

1.8.3.4 Format

```

FKaa2i cccc ddhhmm
TCxxxx

SYSTEM_TYPE NAME_or_NUMBER ICAO ADVISORY NUMBER ##
ISSUING_OFFICE CITY STATE BCCYYYY
TIME UTC DAY_OF_WEEK MON DD YYYY

TC ADVISORY
DTG:
TCAC:
TC:
ADVISORY NR:
OBS PSN:
MOV:
INTST CHANGE:
C:
MAX WIND:
FCST PSN +3 HR:
FCST MAX WIND +3 HR:
FCST PSN +6 HR:
FCST MAX WIND +6 HR:
FCST PSN +9 HR:
FCST MAX WIND +9 HR:
FCST PSN +15 HR:
FCST MAX WIND +15 HR:
FCST PSN +21 HR:
FCST MAX WIND +21 HR:
FCST PSN +27 HR:
FCST MAX WIND +27 HR:
RMK:

NXT MSG:

$$

```

Figure 7 Aviation Tropical Cyclone Advisory Format.

See complete example in Appendix A.

NOTE: As part of the header, a coded string will be appended at the end of the “ISSUING OFFICE CITY STATE” line. (Example: NWS NATIONAL HURRICANE CENTER MIAMI FL BCCYYYY).

Format:

- Where: (BB) is the basin (AL - North Atlantic; EP - East Pacific; CP - Central Pacific).
- Where: (CC) is the cyclone number (01, 02, 03...49).
- Where: (YYYY) is the 4 digit year.

1.9 Tropical Cyclone Track and Watch/Warning Graphic

1.9.1 Mission Connection

The Tropical Cyclone Track and Watch/Warning Graphic provides critical information on the forecast path of the tropical cyclone types defined in Section 1.1.3.2. This product is a graphical representation of information available in tropical cyclone text products.

1.9.2 Issuance Guidelines

1.9.2.1 Creation Software

tc_graphics/NCL.

1.9.2.2 Issuance Criteria

Created for the Atlantic and eastern and central North Pacific when routine, intermediate and special TCPs are issued. Graphics for the South Pacific are issued when JTWC provides tropical cyclone warnings in the area from 10°S to 20°S between 164.5°W and 178.5°W. Graphics for the western North Pacific are issued when JTWC provides tropical cyclone warnings in the area from 0° to 25°N between 180°E and 130°E.

1.9.2.3 Issuance Times

The product is available on the Internet at approximately 0300, 0900, 1500, and 2100 UTC for the routine advisories. For Atlantic and east and central North Pacific tropical cyclones, the graphic is also produced for intermediate and special advisories.

1.9.2.4 Valid Times

Valid from the time of issuance until the next routine issuance or by an intermediate or special advisory.

1.9.2.5 Product Expiration Time

Generally 6 hours after the issuance time and should coincide with the next expected update or when the event is forecast to end.

1.9.3 Technical Description

The graphic will follow the format and content described in this section.

1.9.3.1 UGC Type

Not applicable.

1.9.3.2 MND Header

Not applicable. Internet product.

1.9.3.3 Content

In the Atlantic and eastern and central North Pacific basins, the graphic displays coastal tropical wind watch/warning information from the TCP and track information from the TCM. In the South and western North Pacific basins, the forecast information is provided by Tropical Cyclone Warning products from JTWC, and there are no watches or warnings depicted on the graphic.

The current location of the system is denoted by a black circle. Forecast positions are indicated by small circles surrounding a character that indicates the system's forecast intensity at that position. The following characters correspond to the listed intensity on the graphic:

D = Depression
 S = Tropical Storm
 H = Hurricane
 M = Major Hurricane
 T = Typhoon
 ! = Super Typhoon

The cone, displayed in solid white (for the first three days of the forecast) and hatched white (for days four and five), represents the probable track of the center of the system. The cone is formed by enclosing the area swept out by a set of circles along the forecast track (at 12, 24, 36 hours, etc.), with the size of each circle set so that two-thirds of historical official forecast errors fall within the circle. A 5-year sample of track errors is used to determine the size of error circles in the Atlantic and eastern North Pacific. Because of the limited number of cases for central North Pacific tropical cyclones, the size of the circles in the central North Pacific is based on a longer historical record that includes systems originating in the eastern North Pacific. The circle radii defining the cones are updated in the spring prior to each season and posted at the following website:

<https://www.nhc.noaa.gov/verification/verify4.shtml>

For graphics created for Atlantic and eastern and central North Pacific tropical cyclones, coastal tropical storm and hurricane wind watches and warnings are displayed as colored strips along the appropriate coastlines. This graphic does not display either the inland (WFO) tropical cyclone wind watches/warnings or the storm/surge watches/warnings (only issued in the Atlantic basin). The web interface for the graphic allows a user some control over the elements of the graphic. For example, the forecast track line can be toggled on or off (the default is off), and the current wind field can also be toggled (the default is on).

1.9.3.4 Format

The graphic is provided in Portable Network Graphic (PNG), shapefile, and Keyhole Markup Language zip (kmz) formats. Links to example graphics can be found in Appendix A.

1.10 Cumulative Wind Distribution Graphic

1.10.1 Mission Connection

This product is a graphical representation of the past track and size of the storm. This information can be used to provide areas affected by the past track of the storm.

1.10.2 Issuance Guidelines

1.10.2.1 Creation Software

tc_graphics/NCL.

1.10.2.2 Issuance Criteria

Created for the Atlantic and eastern and central North Pacific when routine TCPs and TCMs are issued and for special advisories. Graphics for the South Pacific are issued when JTWC provides tropical cyclone warnings in the area from 10°S to 20°S between 164.5°W and 178.5°W. Graphics for the western North Pacific are issued when JTWC provides tropical cyclone warnings in the area from 0° to 25°N between 180°E and 130°E.

1.10.2.3 Issuance Times

The product is available on the Internet at 0300, 0900, 1500, and 2100 UTC. For the Atlantic and eastern and central North Pacific, the graphic is also produced for special advisories. For the South and western North Pacific, the graphic is created any time JTWC updates a warning within the areas designated in Section 1.10.2.2 above.

1.10.2.4 Valid Times

Valid from the time of issuance until the next routine issuance or by a special advisory.

1.10.2.5 Product Expiration Time

Generally 6 hours after the issuance time and should coincide with the next expected update or when the event is forecast to end.

1.10.3 Technical Description

The graphic will follow the format and content described in this section.

1.10.3.1 UGC Type

Not applicable.

1.10.3.2 MND Header

Not applicable. Internet product.

1.10.3.3 Content

This graphic shows how the size of the storm has changed, and the areas potentially affected so far by sustained winds of tropical storm force (in orange) and hurricane/typhoon force (in red). The display is based on the wind radii contained in the set of forecast/advisories indicated at the top of the figure. Users are reminded the forecast/advisory wind radii represent the maximum possible extent of a given wind speed within particular quadrants around the tropical cyclone. As a result, not all locations falling within the orange or red swaths will have experienced sustained tropical-storm- or hurricane-force winds, respectively.

1.10.3.4 Format

An example of a graphic can be found on the Internet at:

<https://www.nhc.noaa.gov/aboutnhcgraphics.shtml>.

1.11 Tropical Cyclone Surface Wind Field Graphic**1.11.1 Mission Connection**

These NHC and CPHC graphics supplement text products by illustrating the area potentially affected by the cyclone's sustained tropical storm and hurricane force winds at the initial advisory time. In addition to the wind field, the graphic provides an approximate representation of coastal areas under tropical storm / hurricane / typhoon watches/warnings. This graphic does not display either the inland (WFO) tropical cyclone wind watches/warnings or the storm surge watches/warnings.

1.11.2 Issuance Guidelines**1.11.2.1 Creation Software**

tc_graphics/NCL.

1.11.2.2 Issuance Criteria

Created for each tropical cyclone in the Atlantic and eastern and central North Pacific basins for the system types defined in Section 1.1.3.2, as required by Section 1.1.2.2. Graphics for the South Pacific are issued when JTWC provides tropical cyclone warnings in the area from 10°S to 20°S between 164.5°W and 178.5°W. Graphics for the western North Pacific are issued when JTWC provides tropical cyclone warnings in the area from 0° to 25°N between 180°E and 130°E.

1.11.2.3 Issuance Times

The product is available on the internet at 0300, 0900, 1500, and 2100 UTC. The graphic is also produced for special advisories.

1.11.2.4 Valid Times

Valid from the time of issuance until the next routine issuance or by a special advisory.

1.11.2.5 Product Expiration Time

Generally 6 hours after the issuance time and should coincide with the next expected update or when the event is forecast to end.

1.11.3 Technical Description

The graphic will follow the format and content described in this section.

1.11.3.1 UGC Type

Not applicable.

1.11.3.2 MND Header

Not applicable. Internet product.

1.11.3.3 Content

Tropical-storm-force winds are shown in orange and hurricane-force winds are shown in red. The display is based on the wind radii contained in the latest forecast/advisory (indicated at the top of the figure). Users are reminded that the forecast/advisory wind radii represent the maximum possible extent of a given wind speed within particular quadrants around the tropical cyclone. As a result, not all locations falling within the orange or red shaded areas will be experiencing sustained tropical-storm- or hurricane-force winds, respectively. In addition to the wind field, this graphic shows an approximate representation of coastal areas under a hurricane/typhoon warning (red), hurricane/typhoon watch (pink), tropical storm warning (blue) and tropical storm watch (yellow). This graphic does not display either the inland (WFO) tropical cyclone wind watches/warnings or the storm/surge watches/warnings. The white dot indicates the current estimated position of the system center, and the dashed black line shows the history of the center position.

1.11.3.4 Format

An example of the product can be found on the Internet at:

<https://www.nhc.noaa.gov/aboutnhcgraphics.shtml>.

1.12 Tropical Cyclone Storm Surge Watch/Warning Graphic

1.12.1 Mission Connection

The storm surge watch/warning graphic from NHC highlights areas along the Gulf and Atlantic coasts of the conterminous United States, Puerto Rico, and the U.S. Virgin Islands that have a significant risk of life-threatening storm surge inundation from the system types defined in Section 1.1.3.2.

1.12.2 Issuance Guidelines

1.12.2.1 Creation Software

AWIPS GFE.

1.12.2.2 Issuance Criteria

Created when tropical cyclone storm surge watches/warnings are issued.

1.12.2.3 Issuance Times

The product is available on the internet at 0300, 0900, 1500, and 2100 UTC. The graphic is also produced for special advisories.

1.12.2.4 Valid Times

Valid from the time of issuance until the next routine issuance or by a special advisory.

1.12.2.5 Product Expiration Time

Generally 6 hours after the issuance time and should coincide with the next expected update or when the event is forecast to end.

1.12.3 Technical Description

The graphic will follow the format and content described in this section.

1.12.3.1 UGC Type

Not applicable.

1.12.3.2 MND Header

Not applicable. Internet product.

1.12.3.3 Content

The storm surge watch/warning graphic illustrates areas under a storm surge watch (light purple) or warning (purple-red).

1.12.3.4 Format

An example of the graphic can be found on the Internet at:

<https://www.nhc.noaa.gov/aboutnhcgraphics.shtml>.

1.13 Potential Storm Surge Flooding Map

1.13.1 Mission Connection

The Potential Storm Surge Flooding Map depicts the risk associated with coastal flooding from storm surge associated with cyclones described by any of the tropical cyclone types defined in Section 1.1.3.2. This map shows the geographical areas where there is a reasonable chance that inundation from storm surge could occur and the heights, above ground, that water could reach in those areas.

1.13.2 Issuance Guidelines

1.13.2.1 Creation Software

ArcGIS for Server.

1.13.2.2 Issuance Criteria

NHC will release the initial map with the first issuance of a storm surge watch or warning for any portion of the Gulf or East Coast of the contiguous United States or Puerto Rico and the United States Virgin Islands. The map may be released at other times as appropriate.

1.13.2.3 Issuance Times

Once issued, the map will change every six hours in association with every new NHC full advisory package. The map will be available approximately 25 to 30 minutes following the availability of the P-Surge model (described in Section 1.13.3.3 below), or about 60 to 90 minutes following the release of a full advisory. In general, maps will continue to be issued as long as storm surge watches or warnings are in effect, but may continue at other times as appropriate, including for some tropical storm watches or warnings. The issuance of maps may be discontinued at any time if the storm structure precludes an accurate quantitative description of the hazard.

1.13.2.4 Valid Times

Valid from the time of issuance until replaced by the next issuance.

1.13.2.5 Product Expiration Time

Generally 6 hours after the issuance time and should coincide with the next expected update or when the event is forecast to end.

1.13.3 Technical Description

The map will follow the format and content described in this section.

1.13.3.1 UGC Type

Not applicable.

1.13.3.2 MND Header

Not applicable. Internet product.

1.13.3.3 Content

The Potential Storm Surge Flooding Map is based on the NWS Sea, Lake, and Overland Surges from Hurricanes (SLOSH) model and accounts for forecast uncertainty in the tropical cyclone track, intensity, and wind field. The map is based on probabilistic storm surge guidance, called Probabilistic Hurricane Storm Surge (P-Surge), developed by the NWS Meteorological Development Laboratory (MDL), in cooperation with NHC.

P-Surge derives storm surge probabilities by statistically evaluating a large set of SLOSH model simulations based on the current NHC official forecast and accounts for historical errors in the official NHC track and intensity forecasts. P-Surge combines the results of hundreds of individual SLOSH simulations to calculate the statistical distribution, or probabilities of possible storm surge heights at locations along the coast. All major factors that influence the amount of storm surge generated by a storm at a given location are accounted for, including the hurricane's landfall location, forward speed, and angle of approach to the coast; the storm intensity and wind field; the shape of the coastline; the slope of the ocean bottom; and local features such as barrier islands, bays, and rivers. The Potential Storm Surge Flooding Map is created by processing the

resulting 10 percent exceedance levels from P-Surge, or storm surge values that have a 1-in-10 chance of being exceeded at each location.

The Potential Storm Surge Flooding Map accounts for:

- Flooding due to storm surge from the ocean, including adjoining tidal rivers, sounds, and bays
- Normal astronomical tides
- Land elevation
- Uncertainties in the landfall location, forward speed, angle of approach to the coast, intensity, and wind field of the cyclone

The Potential Storm Surge Flooding Map does not account for:

- Wave action
- Freshwater flooding from rainfall
- Riverine discharge
- Flooding resulting from levee failures
- For mapped leveed areas – flooding inside levees, overtopping of levees

Potential storm surge flooding is not depicted within certain levee areas, such as the Hurricane & Storm Damage Risk Reduction System in Louisiana. These areas are highly complex and water levels resulting from overtopping are difficult to predict. Users are urged to consult local officials for flood risk inside these leveed areas. If applicable to the region displayed by the map, these leveed areas will be depicted with a black and white diagonal hatch pattern.

The intertidal zone (generally speaking, the area that is above water at low tide and under water at high tide) will be displayed with a user selectable mask layer on the Potential Storm Surge Flooding Map. Locations of estuarine wetlands, or lands that are saturated with water, either permanently or seasonally, are also used to help define this mask layer. This mask layer will allow users to differentiate between areas that could experience consequential flooding of normally dry ground and areas that routinely flood during typical high tides. The intertidal mask will be depicted as gray on the Potential Storm Surge Flooding Map.

The Potential Storm Surge Flooding Map represents the storm surge heights that a person may wish to prepare for before a storm, given the uncertainties in the meteorological forecast. The map shows a reasonable worst-case scenario (i.e., a reasonable upper bound) of the flooding of normally dry land at particular locations due to storm surge. There is approximately a 1-in-10 chance that storm surge flooding at any particular location could be higher than the values shown on the map. Roadways are included in the base-map layer for aiding in geographical referencing only. The map will not indicate which roadways may flood from fresh or salt water in a hurricane situation.

1.13.3.4 Format

An example of the graphics can be found on the Internet at:

<https://www.nhc.noaa.gov/aboutnhcgraphics.shtml>.

1.14 Tropical-Storm-Force-Winds Arrival Timing Graphics

1.14.1 Mission Connection

These graphics provide tropical-storm-force wind arrival time information for individual locations to help users understand when preparations should be complete when a tropical storm or hurricane threatens.

1.14.2 Issuance Guidelines

1.14.2.1 Creation Software

tc_graphics/NCL.

1.14.2.2 Issuance Criteria

These graphics are issued for the Atlantic and eastern and central North Pacific when tropical cyclone advisory packages are issued. Graphics for the South Pacific are issued when JTWC provides tropical cyclone warnings in the area from 10°S to 20°S between 164.5°W and 178.5°W. Graphics for the western North Pacific are issued when JTWC provides tropical cyclone warnings in the area from 0° to 25°N between 180°E and 130°E.

1.14.2.3 Issuance Times

These graphics are available on the internet at 0300, 0900, 1500, and 2100 UTC. They are also produced for special advisories.

1.14.2.4 Valid Times

These graphics are valid from the time of issuance until the next routine issuance or by a special advisory.

1.14.2.5 Product Expiration Time

Generally 6 hours after the issuance time and should coincide with the next expected update or when the event is forecast to end.

1.14.3 Technical Description

The graphics will follow the format and content described in this section.

1.14.3.1 UGC Type

Not applicable.

1.14.3.2 MND Header

Not applicable. Internet products.

1.14.3.3 Content

The graphics are created using the same Monte Carlo wind speed probability model that is used to determine the risk of tropical-storm- and hurricane/typhoon-force winds at individual locations – a model in which 1000 plausible scenarios are constructed using the official NHC tropical cyclone forecast and its historical errors.

There are two versions of the graphic and each version is available for both a 3-day and 5-day forecast period:

1. **Earliest Reasonable Arrival Time** – This is the primary arrival timing graphic. It identifies the time window that users at individual locations can safely assume will be free from tropical-storm-force winds. Specifically, this is the time before which there is no more than a 1-in-10 (10 percent) chance of seeing the onset of sustained tropical-storm-force winds. This is the period during which preparations should ideally be completed for those with a low tolerance for risk.
2. **Most Likely Arrival Time** – This graphic identifies the time before or after which the onset of tropical-storm-force winds is equally likely. This graphic is more appropriate for users who are willing to risk not having completed all their preparations before the arrival of tropical-storm-force winds.

Timing information is only available for locations that have at least a 5% chance of experiencing sustained tropical-storm-force winds during the next 3 days and the next 5 days.

Each of these graphics is also available overlaid on top of the cumulative probability of tropical-storm-force winds for either a 3 or 5 day forecast period, providing a single combined depiction of the likelihood of tropical-storm-force winds at individual locations, along with their possible or likely arrival times.

Arrival times are depicted with higher temporal resolution (i.e., in 6-hour intervals) during the first day of the forecast, increasing to lower temporal resolution (i.e., in 12-hour intervals) after the first day of the forecast period. Arrival times are referenced to 8 AM and 8 PM local time, using a constant time zone that corresponds to where the cyclone is located at the time of the advisory. For example, if a cyclone is located in the Eastern Time Zone at the time of an advisory but is forecast to move into the Central Time Zone during the 3 or 5-day forecast period, all times on the graphic will be referenced to the Eastern Time Zone.

1.14.3.4 Format

An example of the graphic can be found on the Internet at:

<https://www.nhc.noaa.gov/aboutnhcgraphics.shtml>.

1.15 Peak Storm Surge Forecast Graphic

1.15.1 Mission Connection

The Peak Storm Surge Forecast Graphic depicts the peak storm surge forecast above ground at the coast provided in the TCP product for U.S. Atlantic basin locations when a storm surge watch or warning is in effect. Storm surge watches and warnings are currently issued only for

locations in the Atlantic basin on the U.S. East and Gulf Coasts and in Puerto Rico and the U.S. Virgin Islands.

1.15.2 Issuance Guidelines

1.15.2.1 Creation Software

ArcGIS Pro

1.15.2.2 Issuance Criteria

NHC will release the graphic with the first issuance of a storm surge watch or warning for any portion of the Gulf or East Coast of the United States or PR/USVI, or at other times as appropriate, including for some tropical storm watches or warnings.

1.15.2.3 Issuance Times

The graphic is updated with every new NHC full advisory package and will continue to be issued as long as hurricane or storm surge watches or warnings are in effect, but may be issued at other times as appropriate, including for some tropical storm watches or warnings or for special advisories. The graphic is generally available within 15 minutes after the advisory time.

1.15.2.4 Valid Times

Valid from the time of issuance until replaced by the next issuance.

1.15.2.5 Product Expiration Time

Generally 6 hours after the issuance time and should coincide with the next expected update or when the event is forecast to end.

1.15.3 Technical Description

The graphic will follow the format and content described in this section.

1.15.3.1 UGC Type

Not applicable.

1.15.3.2 MND Header

Not applicable. Internet product.

1.15.3.3 Content

The Peak Storm Surge Forecast Graphic is a graphical representation of the peak storm surge forecast values in feet above ground along the coast provided in the TCP product for U.S. Atlantic basin locations. The forecast peak storm surge values are found in the STORM SURGE portion of the HAZARDS AFFECTING LAND section of the TCP. The graphic color-codes for peak storm surge forecasts at the coast as follows:

Blue = Up to 3 ft above ground level

Yellow	= Up to 6 ft above ground level
Orange	= Up to 9 ft above ground level
Red	= Up to 12 ft above ground level
Purple	= 12 ft or greater above ground level

1.15.3.4 Format

An example of the graphics can be found on the Internet at:

<https://www.nhc.noaa.gov/aboutnhcgraphics.shtml>

2 Special Advisories

Special advisories are issued whenever an unexpected significant change has occurred such as an upgrade in storm status (e.g., from tropical storm to hurricane) that was not forecast within 12 h or a notable change in the track or intensity of the system. Special advisories may also be issued when watches or warnings are issued between regularly scheduled advisories (watches or warnings may be discontinued on intermediate public advisories). When a special advisory is required, the entire advisory package will be issued, including a public advisory, a forecast/advisory, a tropical cyclone discussion, probabilistic wind products, and an International Civil Aviation Organization (ICAO)/WMO tropical cyclone advisory.

The MND Header block is “(SYSTEM TYPE) (NAME or NUMBER) SPECIAL (Product Type [e.g., Public Advisory, FORECAST ADVISORY, Discussion, WIND SPEED PROBABILITIES, or AVIATION ADVISORY]) Number XX”. For example, TROPICAL STORM GUSTAV SPECIAL FORECAST/ADVISORY NUMBER 14.

When the special advisory is issued only for the issuance of a watch or warning, it will contain the track and intensity forecast from the previous regularly scheduled advisory with only the initial position and intensity updated. When the special advisory is issued for an unexpected change, the previous track and intensity forecast will be updated to reflect the unexpected change.

3 Numbering and Naming Conventions

3.1 Depressions and Potential Tropical Cyclones

All depressions (whether tropical or subtropical) forming within a basin in a given year, as well as any potential tropical cyclones requiring the issuance of advisories, will be numbered in order for that basin. These numerical designations are always fully spelled out in advisory products (e.g., “One”, “Two”, “Three”, ..., “Twenty-Three”, etc.). The numerical designations will be assigned such that they match the total number of systems having formed within that basin during the season. For example, if three systems requiring advisories have already formed within a basin, the next potential tropical cyclone or depression of the season will be designated “Four”.

When advisories are initiated directly on a named tropical or subtropical storm (that is, the system never had advisories issued as a tropical depression or potential tropical cyclone), the

corresponding numerical designation is skipped for that year. For example, if the first system of the season forms directly as Tropical Storm Ana without the issuance of depression or potential tropical cyclone advisories, then the designation “One” is skipped for that season in that basin. When a potential tropical cyclone becomes a tropical depression, its numerical designation remains the same (i.e., Potential Tropical Cyclone Two becomes Tropical Depression Two). For ease in differentiation, tropical depression and potential tropical cyclone designations assigned by NHC or CPHC will include the suffix “-E” for formations in the eastern North Pacific (east of 140°W) and “-C,” for formations in the central North Pacific (180° to 140°W) (e.g., “Tropical Depression Three-E”).

3.2 Tropical Storms, Subtropical Storms, and Hurricanes/Typhoons

Tropical or subtropical cyclones receive a name on the first advisory after intensifying to 34 knots (39 mph) or greater.

In the Atlantic as well as in the eastern and central North Pacific, once a system becomes a tropical storm, NHC/CPHC will replace the numerical designation and give the system a name. The numerical designation will not be used again until the following year. In the western North Pacific, once the depression is named by RSMC Tokyo, use the RSMC name followed by the JTWC number in parentheses. If the JTWC upgrades the depression to tropical storm before the RSMC names it, the term Tropical Storm xxW will be used, where xxW is the JTWC tropical cyclone number.

If NHC uses all of the names for a given year and additional names are required, they will assign names in accordance with WMO procedures. Information about the naming procedure can be found on the WMO website: <https://wmo.int/resources/wmo-fact-sheets/tropical-cyclone-naming>

3.3 Post-Tropical Cyclones

Post-Tropical cyclones will retain the name or number they were designated while a tropical cyclone. A post-tropical cyclone that regains tropical cyclone status also retains its original number or name. A numbered post-tropical cyclone that intensifies to 34 kt or higher as a post-tropical cyclone will not be given a name, but instead will retain its number.

3.4 Systems Passing between Basins and Regenerations

If a tropical cyclone passes from one basin into another basin as a tropical cyclone, i.e., advisories are continuous, then the name of the cyclone is retained. An unnamed tropical depression will also retain its number (e.g., Tropical Depression Six-E remains Tropical Depression Six-E) if it crosses into another area of responsibility. For unnamed tropical depressions moving from west to east across 180°, CPHC will use the associated JTWC number, and indicate JTWC in parentheses following the number. For named systems, CPHC will use the associated RSMC Tokyo name and provide the associated JTWC number in parentheses. A potential tropical cyclone that crosses from one basin to another will be given the appropriate potential tropical cyclone number in the new basin. If a post-tropical cyclone regenerates in a new basin, the regenerated tropical cyclone will be given a new designation in the new basin. Within a basin, if the remnant of a tropical cyclone redevelops into a tropical cyclone, it is

assigned its original number or name. If the remnants of a former tropical cyclone regenerate in a new basin, the regenerated tropical cyclone will be given a new designation.

If the remnants of a tropical cyclone threaten to regenerate and require watches or warnings, the system in advisory products would be referred to as either “Remnants of (System Name/Number)” or “Post-Tropical Cyclone (System Name/Number)”, as appropriate. Such a system would not be designated as a Potential Tropical Cyclone.

4 Numbering Advisories

Number scheduled and special advisories and TCDs consecutively, beginning with the number 1 (not spelled out), for each new tropical, subtropical cyclone, or potential tropical cyclone, and continue through the duration of the cyclone. In both the Atlantic and the Pacific, intermediate advisory products will retain the advisory number of the scheduled or special advisory they update and append an alphabetic designator (i.e., “Hurricane Allison Intermediate Advisory Number 20A”).

5 Other Tropical Cyclone Forecast Center and National Centers for Environmental Prediction (NCEP) Products

5.1 Tropical Weather Discussion (TWD)

NHC’s TAFB and WFO Guam will issue these discussions to describe major synoptic weather features and significant areas of disturbed weather in the tropics.

5.1.1 Mission Connection

This product is intended to provide current weather information for those who need to know the current state of the atmosphere and expected trends to assist them in their decision making. The product provides significant weather features, areas of disturbed weather, expected trends, the meteorological reasoning behind the forecast, model performance, and in some cases a degree of confidence.

5.1.2 Issuance Guidelines

5.1.2.1 Creation Software

AWIPS text editor.

5.1.2.2 Issuance Criteria

The product is issued routinely and updated if necessary, when significant changes occur, e.g., a tropical cyclone’s intensity category is upgraded or downgraded.

5.1.2.3 Issuance Times

One TAFB discussion will cover the Gulf of Mexico, the Caribbean, and the Atlantic between the equator and 31°N latitude and will be transmitted by 0005, 0605, 1205, and 1805 UTC. A second TAFB discussion for the eastern Pacific from 03.4°S to 30°N, east of 120°W including the Gulf of California; and from the Equator to 30°N, between 120°W and 140°W will be

transmitted by 0405, 1005, 1605, and 2205 UTC. The WFO Guam discussion will cover from the equator to 25°N and between the International Date Line (180°) to 130°E. It will be transmitted once per day by 0100 UTC.

5.1.2.4 Valid Time

TWDs are valid from the time of issuance until the next scheduled issuance or update.

5.1.2.5 Product Expiration Time

The product expiration time is generally 6 hours after the issuance time for the TWDs from TAFB and 25 hours after the issuance time for the TWDs from WFO Guam. The expiration time should coincide with the next expected update.

5.1.3 Technical Description

TWDs will follow the format and content described in this section.

5.1.3.1 UGC Type

Not applicable.

5.1.3.2 MND Header

The TWD MND header block product type line is: “TROPICAL WEATHER DISCUSSION”.

5.1.3.3 Content

The TWD is an alphanumeric product which contains sections on tropical cyclones, tropical disturbances, tropical waves, the location of the Intertropical Convergence Zone and associated convection along it, and a discussion on surface / middle / upper level features and significant clouds / convection. The product is written in a plain language format but will contain meteorological terms such as trough, ridge, subsidence, jet stream, etc.

5.1.3.4 Format

This product is available in industry standard encoding and languages, and may include, but not limited to, ASCII, XML, WML and HTML.

```
Ataaii cccc ddhhmm
TWDxx

Tropical Weather Discussion
Issuing Office City STATE
Time AM/PM TIME_ZONE Day_of_week Mon DD YYYY

TEXT

$$
Forecaster Name
```

Figure 8 Tropical Weather Discussion Format

See complete example in Appendix A.

5.2 Tropical Weather Outlook (TWO)

NHC and CPHC will prepare the TWO during their respective tropical cyclone seasons.

5.2.1 Mission Connection

The TWO provides users with a general assessment of activity in the tropics pertaining to tropical cyclone formation by identifying for users possible areas where tropical cyclones could develop.

5.2.2 Issuance Guidelines

5.2.2.1 Creation Software

ATCF system.

5.2.2.2 Issuance Criteria

Routinely issued from 1 June - 30 November for the central North Pacific basin and from 15 May - 30 November in the eastern North Pacific and Atlantic basins. A Special TWO is issued when important changes in areas of disturbed weather over tropical or subtropical waters need to be conveyed before the next scheduled release of the TWO or when outside of the routine issuance dates.

5.2.2.3 Issuance Times

In the Atlantic, eastern North Pacific, and central North Pacific, transmission times are 0000, 0600, 1200, and 1800 UTC.

5.2.2.4 Valid Time

TWOs are valid from the time of issuance until the next scheduled issuance.

5.2.2.5 Product Expiration Time

Generally 6 hours after the issuance time and should coincide with the next expected update.

5.2.3 Technical Description

TWOs will follow the format and content described in this section.

5.2.3.1 UGC Type

Not applicable.

5.2.3.2 MND Header

The TWO MND header block product type line is: “Tropical Weather Outlook” or “Special Tropical Weather Outlook”.

5.2.3.3 Content

The TWO discusses areas of disturbed weather and the potential for tropical cyclone development during the next 7 days. A graphical version of the product is also provided on the hurricanes.gov web page.

The product will include a categorical and numerical probabilistic genesis forecast, to the nearest 10 percent, tropical cyclone formation within the next 48 hours and the next 7 days.

The categorical bins in the Tropical Weather Outlook are defined as follows:

<u>Category Label</u>	<u>Range</u>
Low	0-30%
Medium	40-60%
High	70-100%

In addition to the discussion of areas of disturbed weather, the outlook will mention all systems on which advisories are being issued by the respective tropical cyclone forecast center, including the system’s location (in either general terms or map coordinates), status, and change in status. When advisories are being issued on potential tropical cyclones, also include the probabilistic genesis forecast in the same bulleted format that it’s provided for disturbances:

Active Systems:

The National Hurricane Center is issuing advisories on Tropical Storm Alex, located over the central Gulf of Mexico, and on Tropical Depression Two, located over the far eastern tropical Atlantic.

The National Hurricane Center is issuing advisories on Potential Tropical Cyclone Three, located about 100 miles south of San Juan, Puerto Rico.

* Formation chance through 48 hours...high...70 percent.

* Formation chance through 7 days...high...90 percent.

If advisories are being issued by WPC or NHC on a post-tropical cyclone, and the post-tropical cyclone poses a threat to regenerate into a tropical cyclone, provide genesis probabilities in the same format as shown above for potential tropical cyclones.

For the first 24 hours after advisories are initiated, the outlook will include a statement identifying the NWS product header and WMO headers for the advisory (see Appendix B).

5.2.3.4 Format

This product is available in industry standard encoding and languages, and may include, but not limited to, ASCII, XML, WML and HTML. The TWO will be issued in mixed case.

```
Ataaii cccc ddhhmm
TWOxxx

Tropical Weather Outlook
Issuing Office City STATE
```

```
Time AM/PM TIME_ZONE Day_of_week Mon DD YYYY
Text...
$$
```

Figure 9 Tropical Weather Outlook Message Format

See complete example in Appendix A.

5.3 Tropical Cyclone Summary - Fixes (TCS)

5.3.1 Mission Connection

This provides meteorological information to marine interests, military forecasters and national meteorological services of countries/members in the Pacific Ocean area by CPHC.

5.3.2 Issuance Guidelines

5.3.2.1 Creation Software

AWIPS Graphical Forecast Editor (GFE).

5.3.2.2 Issuance Criteria

When a tropical cyclone is classifiable using the Dvorak technique.

5.3.2.3 Issuance Times

After the initial tropical cyclone fix, succeeding products will be done at approximately 0000, 0600, 1200, and 1800 UTC as long as the system is classifiable.

5.3.2.4 Valid Time

TCSs are valid from the time of issuance until the next scheduled issuance or update.

5.3.2.5 Product Expiration Time

Generally 6 hours after the issuance time and should coincide with the next expected update or when the event is forecast to end.

5.3.3 Technical Description

The TCS will follow the format and content described in this section.

5.3.3.1 UGC Type

Not applicable.

5.3.3.2 MND Header

The TCS header block product type line is: “CENTRAL PACIFIC TROPICAL CYCLONE SUMMARY - FIXES” or “SOUTH PACIFIC TROPICAL CYCLONE SUMMARY - FIXES”.

5.3.3.3 Content

The TCS is an alphanumeric product provided by CPHC when there is classifiable (using the Dvorak technique) tropical cyclone activity in the central North Pacific or central South Pacific. The TCS is a satellite-based estimate of tropical cyclone location, movement, and intensity with a brief remarks section. CPHC prepares the TCS for a portion of their AOR. For the TCS, CPHC’s AOR is the area north of the equator between 140°W and 160°E and from the equator to 25°S between 120°W and 160°E.

5.3.3.4 Format

```
TXPaii cccc ddhhmm
TCSxxx

CENTRAL PACIFIC TROPICAL CYCLONE SUMMARY - FIXES or
SOUTH PACIFIC TROPICAL CYCLONE SUMMARY - FIXES
NWS CENTRAL PACIFIC HURRICANE CENTER HONOLULU HI
TIME UTC DAY_OF_WEEK MON DD YYYY

TEXT

$$
```

Figure 10 Tropical Cyclone Summary - Fixes Format

See Appendix B for more details on the product headers used to distinguish Central Pacific Tropical Cyclone Summary – Fixes products from South Pacific Tropical Cyclone Summary – Fixes products.

5.4 Tropical Cyclone Danger Area Graphic

5.4.1 Mission Connection

The product is used to assist mariners and military agencies in avoiding high seas associated with tropical cyclones.

5.4.2 Issuance Guidelines

5.4.2.1 Creation Software

N-AWIPS.

5.4.2.2 Issuance Criteria

Routinely prepared by NHC/TAFB and CPHC during the tropical cyclone season for all ongoing tropical cyclone activity in their respective AORs.

5.4.2.3 Issuance Times

The product is disseminated four times per day during the hurricane season within one hour after the advisory package issuance. This would be at 0400, 1000, 1600 and 2200 UTC.

5.4.2.4 Valid Time

The Tropical Cyclone Danger Area graphic is valid from the time of issuance until the next scheduled issuance or update.

5.4.2.5 Product Expiration Time

Generally 6 hours after the issuance time and should coincide with the next expected update.

5.4.3 Technical Description

The Tropical Cyclone Danger Area graphic will follow the format and content described in this section.

5.4.3.1 UGC Type

Not applicable.

5.4.3.2 MND Header

Not applicable.

5.4.3.3 Content

The Tropical Cyclone Danger Area graphic is a graphical marine product depicting a tropical cyclone's track (out to 72 hours) and outlines a "possible" avoidance area using the 5% 34-knot wind speed probability contour and a "likely" avoidance area using the 50% 34-knot wind speed probability contour. The probability contours are generated for each tropical cyclone advisory issuance in the Atlantic, the eastern North Pacific, and the central north Pacific basins. The product is prepared by the NHC/TAFB for the entire Atlantic north of the equator and the Pacific north of the equator from the Mexican and Central American coasts west to 140°W while CPHC prepares a separate chart for the Pacific from 140°W to 180° and north of the equator.

5.4.3.4 Format

An example of a Tropical Cyclone Danger Graphic can be found on the Internet at:

<https://www.nhc.noaa.gov/abouttafbprod.shtml#DANGER>.

5.5 WPC Public Advisory (TCP)

5.5.1 Mission Connection

Provides users with meteorological information, primarily the potential of heavy rain and flash flooding, from decaying subtropical or tropical systems that have moved inland.

5.5.2 Issuance Guidelines

5.5.2.1 Creation Software

ATCF system.

5.5.2.2 Issuance Criteria

The WPC will issue public advisories after NHC discontinues its advisories on any system with a persistent surface low pressure area that has moved inland in the conterminous U.S., but still poses a threat of heavy rain and flash floods in the conterminous U.S. The last NHC advisory will normally be issued when winds in an inland system drop below tropical storm strength, and the system is not forecast to regain tropical storm intensity or reemerge over water. Therefore, WPC will only handle former potential tropical cyclones, tropical depressions, remnants, or weak post-tropical cyclones. WPC advisories will terminate when the threat of flash flooding has ended.

5.5.2.3 Issuance Times

Advisories are issued at 0300, 0900, 1500, and 2100 UTC.

5.5.2.4 Valid Times

TCPs are valid from the time of issuance until the next scheduled issuance or update.

5.5.2.5 Product Expiration Time

Generally 6 hours after the issuance time and should coincide with the next expected update or when the event is forecast to end.

5.5.3 Technical Description

TCPs will follow the format and content described in this section.

5.5.3.1 UGC Type

Not applicable.

5.5.3.2 MND Header

The TCP MND header block product type line is: “(System Type) (Name or Number) Advisory Number XX”.

The WPC System Types are:

- Potential Tropical Cyclone
- Tropical Depression
- Subtropical Depression
- Post-Tropical Cyclone
Remnants of

5.5.3.3 Content

The TCP is an alphanumeric product. TCP products issued by WPC will continue to be numbered in sequence following the tropical cyclone advisories issued by NHC. The content will refer to the decaying system’s position, intensity, general forecast trends, highlight impacts

which occurred and are expected to occur (usually in relation to heavy rain / flooding and tornadoes), and indicate when the next summary will be issued. The WPC TCP should refer to Storm Summary products when applicable. Policy and procedures for the issuance of Storm Summary products are found in NWSI 10-502 – *National Statements, Summaries, Tables Products Specification*.

5.5.3.4 Format

This product is available in industry standard encoding and languages, and may include, but not limited to, ASCII, XML, WML and HTML.

```

WTNT3i KWNH ddhhmm
TCPATi

BULLETIN
System Type Name_or_Number Advisory Number XX
NWS Weather Prediction Center College Park MD BBCCYYYY
Time AM/PM Time_Zone Day_of_Week Mon DD YYYY

...HEADLINE...

Text

DISCUSSION AND OUTLOOK
-----

Text

NEXT ADVISORY
-----

Text
  (Forecaster Name)
$$

```

Figure 11 WPC Public Advisory Product Format

See complete example in Appendix A.

NOTE: As part of the header, a coded string will be appended at the end of the “ISSUING OFFICE CITY STATE” line. (Example: NWS WEATHER PREDICTION CENTER COLLEGE PARK MD BBCCYYYY).

Format:

- Where: (BB) is the basin (AL - North Atlantic; EP - East Pacific).
- Where: (CC) is the cyclone number (01, 02, 03...49).
- Where: (YYYY) is the 4-digit year.

5.6 Tropical Weather Summary (TWS)

5.6.1 Mission Connection

These products are used for a variety of users for historical purposes, business (e.g., insurance) and climatological needs. NHC and CPHC will prepare the TWS in mixed case text.

5.6.2 Issuance Guidelines

5.6.2.1 Creation Software

ATCF system.

5.6.2.2 Issuance Criteria

Monthly.

5.6.2.3 Issuance Times

Summaries are issued on the first day of each month from June through December for the eastern North Pacific and from July through December for the Atlantic and central North Pacific hurricane basins. The last TWS of the tropical cyclone season (December issuance) covers activity during the entire season from June through the end of November.

5.6.2.4 Valid Time

Not applicable.

5.6.2.5 Product Expiration Time

Not applicable.

5.6.3 Technical Description

TWSs will follow the format and content described in this section.

5.6.3.1 UGC Type

Not applicable.

5.6.3.2 MND Header

The TWS MND header block product type line is: "Tropical Weather Summary".

5.6.3.3 Content

The TWS is a monthly alphanumeric product which the NHC and CPHC issue to summarize tropical cyclone activity during the previous month. NHC issues summaries which cover tropical cyclone activity over the Atlantic and eastern North Pacific (north of the equator and east of 140°W) basins. CPHC issues summaries which cover tropical cyclone activity over the central North Pacific (north of the equator between 140°W and 180°). The product provides a table of basic meteorological statistics, such as the dates of occurrence and estimated peak intensity, for all of the season's tropical cyclones to date. It may contain brief descriptions for records of interest. Monthly updates permit a timely release of tropical cyclone information. In

addition to the TWS, NHC and CPHC prepare and submit formal, detailed end-of-season tropical cyclone reports which involves a lengthy review and publication process, providing comprehensive information on each tropical cyclone, including synoptic history, meteorological statistics, casualties and damages, and the post-analysis best track six-hourly positions and intensities.

5.6.3.4 Format

NHC and CPHC will prepare the TWS in mixed case text.

```
Ataaii cccc ddhhmm
TWSxx

Tropical Weather Summary
Issuing_Office City STATE
Time AM/PM TIME_ZONE Day_of_week Mon DD YYYY

Text...

$$
```

Figure 12 Tropical Weather Summary Format

5.7 Tropical Cyclone Report (TCR)

5.7.1 Mission Connection

The TCR is the official record of each tropical cyclone within NHC’s and CPHC’s respective AORs and documents each storm’s intensity (wind and pressure) and location throughout its lifetime. These detailed reports are used by various users for research, NWS verification and historical purposes.

5.7.2 Issuance Guidelines

5.7.2.1 Creation Software

Word Processor.

5.7.2.2 Issuance Criteria

Not applicable.

5.7.2.3 Issuance Times

The report will be released as soon as practical after the last advisory on each tropical cyclone.

5.7.2.4 Valid Times

Not applicable.

5.7.2.5 Product Expiration Time

Not applicable.

5.7.3 Technical Description

TCRs will follow the format and content described in this section.

5.7.3.1 UGC Type

Not applicable.

5.7.3.2 MND Header

Not applicable. Internet product.

5.7.3.3 Content

The TCR is a post-event overview of a tropical or subtropical cyclone comprising a narrative of the storm's history and a detailed listing of 6-hourly location and intensity data in both text and graphic format. NHC issues TCRs for tropical/subtropical cyclone activity in the Atlantic and eastern North Pacific (north of the equator and east of 140°W) basins. CPHC issues TCRs for tropical cyclone activity in the central North Pacific (north of the equator between 140°W and 180°). A single report will be jointly issued for systems that were tropical cyclones in both the eastern and central North Pacific basins. The tropical cyclone report will include landfall and 6-hourly synoptic track and intensity data (i.e., the "best track"). NHC and CPHC will post reports on the Internet at: <https://www.nhc.noaa.gov/data/tcr/index.php>

5.7.3.4 Format

This product is available in industry standard encoding and languages, and may include, but not limited to, ASCII, XML, WML and HTML.

6 Correction Procedures

Tropical cyclone centers and WFOs should correct products using the following format:

```
WTNT KNHC 161441 CCA  
TCDAT1
```

```
Tropical Storm Arthur Discussion Number 8...Corrected  
NWS National Hurricane Center Miami FL  
11 AM EDT Tue July 16 2002
```

Corrected for (give reason)

Text follows...

CCA - If a second correction is necessary, the "A" becomes a "B" (CCB). "Corrected for" is optional but encouraged.

7 Procedures for Populating NHC-Generated Hazard Grids for Tropical Cyclone Events

The general instructions below are solely for NHC and their service backup centers, WPC and OPC.

7.1 Storm Surge Watch/Warning Collaboration Process

NHC will collaborate with affected East and Gulf Coast WFOs and WFO San Juan on the grid-based storm surge watch/warning. NHC will initiate collaboration by contacting the offices that will be affected by a potential storm surge watch/warning. NHC will use the available data and model guidance to create a ProposedSS grid in AWIPS GFE. They will send a ProposedSS grid to those WFOs who will then return the grid with suggested edits. Another round of collaboration can occur if needed. The final storm surge watch/warning collaboration grid is due before advisory time. In the event of disagreement, NHC will determine the areas under a watch and / or warning.

7.2 National TCV Compilation

NHC will compile all WFO tropical cyclone watches/warnings into a single National TCV product. All WFO tropical cyclone wind and storm surge hazard grids are due at advisory time. Once all of the WFO tropical hazards are available, NHC will run the tool in AWIPS GFE that finalizes the hazard grid (i.e., FinalizeHazards) and create the TCV text product using an AWIPS GFE text formatter.

APPENDIX A: Examples of Tropical Cyclone Forecast Center Products

Table of Contents		Page
1	Tropical Weather Outlook (TWO)	A-2
2	Special Tropical Weather Outlook	A-3
3	Product Type Lines in MND Headers for TCP Products	A-4
4	Tropical Cyclone Public Advisory (TCP) issued by NHC	A-5
5	Tropical Cyclone Public Advisory (TCP) issued by CPHC	A-10
6	Tropical Cyclone Public Advisory (TCP) issued by WFO Guam	A-12
7	Potential Tropical Cyclone Public Advisory (TCP)	A-14
8	Post-Tropical Cyclone Public Advisory (TCP)	A-16
9	Intermediate Public Advisory	A-19
10	Special Public Advisory	A-22
11	Public Advisory Correction	A-26
12	Subtropical Cyclone Public Advisory	A-30
13	WPC Public Advisory	A-33
14	National Tropical Cyclone Watch Warning Product (National TCV)	A-35
15	Tropical Cyclone Forecast / Advisory (TCM)	A-36
16	Tropical Cyclone Forecast Discussion (TCD)	A-38
17	Tropical Cyclone Update (TCU)	A-40
18	Wind Speed Probabilities Text Product (PWS)	A-42
19	Graphical Wind Speed Probabilities	A-44
20	Storm Surge Watch/Warning Graphic	A-44
21	Potential Storm Surge Flooding Map	A-44
22	Tropical Cyclone Summary – Fixes (TCS)	A-45
23	Tropical Weather Discussion (TWD)	A-46
24	Aviation Tropical Cyclone Advisory (TCA)	A-50
25	Tropical Cyclone Track and Watch/Warning Graphic	A-50
26	Cumulative Wind Distribution Graphic	A-51
27	Tropical Cyclone Wind Field Graphic	A-51
28	Tropical-Storm-Force Winds Arrival Timing Graphics	A-51
29	Peak Storm Surge Forecast Graphic	A-51

1 Tropical Weather Outlook (TWO)

ABNT20 KNHC 020539

TWOAT

Tropical Weather Outlook
NWS National Hurricane Center Miami FL
200 AM EDT Fri Sep 2 2022

For the North Atlantic...Caribbean Sea and the Gulf of Mexico:

Active Systems:

The National Hurricane Center is issuing advisories on Tropical Storm Danielle, located about 925 miles west of the Azores.

East of the Leeward Islands (AL91):

Satellite imagery indicates there has been little change in the organization of the area of low pressure located several hundred miles east of the Leeward Islands during the past several hours. Any additional development of the system over the next few days would lead to the formation of a tropical depression. The disturbance is expected to move slowly west-northwestward, toward the adjacent waters of the northern Leeward Islands. Locally heavy rains may occur over portions of the Leeward Islands during the next couple of days, and interests in that area should monitor the progress of the system. Additional information on this system can be found in High Seas Forecasts issued by the National Weather Service.

* Formation chance through 48 hours...medium...50 percent.

* Formation chance through 7 days...high...70 percent.

Eastern Tropical Atlantic:

Shower activity associated with a broad area of low pressure located just northwest of the Cabo Verde Islands has increased some over the last several hours, but remains poorly organized. This system is moving into an area of less favorable environmental conditions, and significant development is not anticipated.

* Formation chance through 48 hours...low...10 percent.

* Formation chance through 7 days...low...10 percent.

&&

Public Advisories on Tropical Storm Danielle are issued under WMO header WTNT35 KNHC and under AWIPS header MIATCPAT5. Forecast/Advisories on Tropical Storm Danielle are issued under WMO header WTNT25 KNHC and under AWIPS header MIATCMAT5.

High Seas Forecasts issued by the National Weather Service can be found under AWIPS header NFDHSFAT1, WMO header FZNT01 KWBC, and online at ocean.weather.gov/shtml/NFDHSFAT1.php

\$\$

Forecaster Beven

2 Special Tropical Weather Outlook

ABNT20 KNHC 041548
TWOAT

Special Tropical Weather Outlook
NWS National Hurricane Center Miami FL
1150 AM EDT Tue Oct 4 2022

Special Tropical Weather Outlook to update discussion of the
tropical wave east of the Windward Islands

For the North Atlantic...Caribbean Sea and the Gulf of Mexico:

Eastern Tropical Atlantic (AL91):

A broad low pressure system located a few hundred miles west-southwest of the Cabo Verde Islands continues to produce a large area of showers and thunderstorms. Environmental conditions are currently conducive for development, and a tropical depression is likely to form during the next day or so while moving northwestward at about 10 mph over the eastern tropical Atlantic. Upper-level winds are expected to become less conducive for development by Wednesday and Thursday.

* Formation chance through 48 hours...high...80 percent.

* Formation chance through 7 days...high...80 percent.

East of the Windward Islands (AL92):

Updated: Visible satellite images and recent satellite-derived wind data suggest that a broad low-level circulation could be forming in association with the tropical wave located a few hundred miles east of the southern Windward Islands. Although the wave is currently being affected by strong upper-level winds, conditions could become more conducive for a tropical depression to form while moving westward at about 15 mph, crossing the Windward Islands tonight and early Wednesday. Conditions appear to become more conducive for development later this week when the system reaches the central and western Caribbean Sea. Regardless of development, locally heavy rainfall and gusty winds are expected over portions of the Windward Islands tonight and Wednesday. Interests in the Windward Islands, the ABC Islands, and the northern coast of Venezuela should monitor the progress of this system. An Air Force Reserve Hurricane Hunter aircraft is currently enroute to investigate this system.

* Formation chance through 48 hours...medium...40 percent.

* Formation chance through 7 days...high...70 percent.

\$\$

Forecaster Berg

3 Product Type Lines in MND Headers for TCP Products

Potential Tropical Cyclone Three Advisory Number 2
Tropical Depression Twenty-One-E Advisory Number 1
Tropical Storm Alex Advisory Number 3
Hurricane Alex Advisory Number 4
Subtropical Storm Gabrielle Advisory Number 1
Subtropical Depression Two Advisory Number 1
Typhoon Parma (19W) Advisory Number 10
Post-Tropical Cyclone Irene Advisory Number 35
Remnants of Jose Advisory Number 6

4 Tropical Cyclone Public Advisory (TCP) issued by NHC

WTNT35 KNHC 300251
TCPAT5

BULLETIN
Hurricane Idalia Advisory Number 14
NWS National Hurricane Center Miami FL AL102023
1100 PM EDT Tue Aug 29 2023

...IDALIA STILL STRENGTHENING...
...FORECAST TO BE AN EXTREMELY DANGEROUS CATEGORY 4 INTENSITY AT
LANDFALL...

SUMMARY OF 1100 PM EDT...0300 UTC...INFORMATION

LOCATION...27.7N 84.5W
ABOUT 125 MI...200 KM W OF TAMPA FLORIDA
ABOUT 185 MI...300 KM S OF TALLAHASSEE FLORIDA
MAXIMUM SUSTAINED WINDS...110 MPH...175 KM/H
PRESENT MOVEMENT...N OR 10 DEGREES AT 18 MPH...30 KM/H
MINIMUM CENTRAL PRESSURE...958 MB...28.29 INCHES

WATCHES AND WARNINGS

CHANGES WITH THIS ADVISORY:

The Tropical Storm Warning for the Dry Tortugas is discontinued,
and the Tropical Storm Watch for the Lower Florida Keys is
discontinued.

SUMMARY OF WATCHES AND WARNINGS IN EFFECT:

A Storm Surge Warning is in effect for...

* Englewood northward to Indian Pass, including Tampa Bay

A Hurricane Warning is in effect for...

* Middle of Longboat Key northward to Indian Pass, including Tampa
Bay

A Tropical Storm Warning is in effect for...

* Chokoloskee northward to the Middle of Longboat Key
* West of Indian Pass to Mexico Beach
* Sebastian Inlet Florida to Surf City North Carolina

A Storm Surge Watch is in effect for...

* Bonita Beach northward to Englewood, including Charlotte Harbour
* Mouth of the St. Mary's River to South Santee River South
Carolina

- * Beaufort Inlet to Drum Inlet North Carolina
- * Neuse and Pamlico Rivers North Carolina

A Hurricane Watch is in effect for...

- * Mouth of the St. Mary's River to Edisto Beach South Carolina

A Tropical Storm Watch is in effect for...

- * North of Surf City North Carolina to the North Carolina/Virginia border
- * Pamlico and Albemarle Sounds

A Hurricane Warning means that hurricane conditions are expected somewhere within the warning area. Preparations to protect life and property should be rushed to completion.

A Storm Surge Warning means there is a danger of life-threatening inundation, from rising water moving inland from the coastline, during the next 36 hours in the indicated locations. For a depiction of areas at risk, please see the National Weather Service Storm Surge Watch/Warning Graphic, available at hurricanes.gov. This is a life-threatening situation. Persons located within these areas should take all necessary actions to protect life and property from rising water and the potential for other dangerous conditions. Promptly follow evacuation and other instructions from local officials.

A Tropical Storm Warning means that tropical storm conditions are expected somewhere within the warning area.

A Storm Surge Watch means there is a possibility of life-threatening inundation, from rising water moving inland from the coastline, in the indicated locations during the next 48 hours. For a depiction of areas at risk, please see the National Weather Service Storm Surge Watch/Warning Graphic, available at hurricanes.gov.

A Hurricane Watch means that hurricane conditions are possible within the watch area.

A Tropical Storm Watch means that tropical storm conditions are possible within the watch area, generally within 48 hours.

Additional warnings will likely be required tonight or on Wednesday.

For storm information specific to your area in the United States, including possible inland watches and warnings, please monitor products issued by your local National Weather Service forecast office.

DISCUSSION AND OUTLOOK

At 1100 PM EDT (0300 UTC), the center of Hurricane Idalia was located near latitude 27.7 North, longitude 84.5 West. Idalia is moving toward the north near 18 mph (30 km/h). A northward to north-northeastward motion is expected through tonight, with Idalia's center forecast to reach the Big Bend coast of Florida on Wednesday morning. After landfall, the center of Idalia is forecast to turn toward the northeast and east-northeast, moving near or along the coasts of Georgia, South Carolina, and North Carolina late Wednesday and Thursday.

Hurricane Hunter aircraft data indicate that maximum sustained winds are near 110 mph (175 km/h) with higher gusts. Additional strengthening is forecast, and Idalia is expected to become a major hurricane during the next few hours before it reaches the Big Bend coast of Florida. Idalia is likely to still be a hurricane while moving across southern Georgia, and possibly when it reaches the coast of Georgia or southern South Carolina on Wednesday.

Hurricane-force winds extend outward up to 25 miles (35 km) from the center and tropical-storm-force winds extend outward up to 160 miles (260 km).

The estimated minimum central pressure based on Hurricane Hunter aircraft observations is 958 mb (28.29 inches).

HAZARDS AFFECTING LAND

Key messages for Idalia can be found in the Tropical Cyclone Discussion under AWIPS header MIATCDAT5 and WMO header WTNT45 KNHC, and on the web at hurricanes.gov/text/MIATCDAT5.shtml

STORM SURGE: The combination of a dangerous storm surge and the tide will cause normally dry areas near the coast to be flooded by rising waters moving inland from the shoreline. The water could reach the following heights above ground somewhere in the indicated areas if the peak surge occurs at the time of high tide...

Wakulla/Jefferson County line, FL to Yankeetown, FL...12-16 ft
Ochlockonee River, FL to Wakulla/Jefferson County line, FL...8-12 ft
Yankeetown to Chassahowitzka, FL...7-11 ft
Chassahowitzka, FL to Anclote River, FL...6-9 ft
Carrabelle, FL to Ochlockonee River, FL...5-8 ft

For a complete depiction of areas at risk of storm surge inundation, please see the National Weather Service Peak Storm Surge Graphic, available at hurricanes.gov/graphics_at5.shtml?peakSurge.

The deepest water will occur along the immediate coast in areas of onshore winds, where the surge will be accompanied by large and

dangerous waves. Surge-related flooding depends on the relative timing of the surge and the tidal cycle, and can vary greatly over short distances. For information specific to your area, please see products issued by your local National Weather Service forecast office.

WIND: Hurricane conditions are expected within the hurricane warning area in Florida early Wednesday morning, with tropical storm conditions beginning within the next few hours.

Tropical storm conditions will begin in the tropical storm warning area along the Florida Gulf coast and the Florida west coast soon.

Hurricane conditions are possible within the hurricane watch area along the coasts of Georgia and South Carolina Wednesday and Wednesday night.

Tropical storm conditions are expected to begin on Wednesday in the warning area along the east coast of Florida, Georgia, and South Carolina, and spread into North Carolina Wednesday night and Thursday. Tropical storm conditions are possible within the watch area in North Carolina by Thursday.

RAINFALL: Idalia is expected to produce a swath of 4 to 8 inches of rainfall with isolated maxima up to 12 inches from the Florida Big Bend through central Georgia and South Carolina, and through eastern North Carolina into Thursday. These rainfall amounts will lead to areas of flash, urban, and moderate river flooding, with locally considerable impacts.

For a complete depiction of forecast rainfall and flash flooding associated with Idalia, please see the National Weather Service Storm Total Rainfall Graphic, available at hurricanes.gov/graphics_at5.shtml?rainqpf and the Flash Flood Risk graphic at hurricanes.gov/graphics_at5.shtml?ero

SURF: Swells generated by Idalia are affecting the southwestern coast of Florida and will spread northward and westward to the north-central Gulf coast through Wednesday. These swells are likely to cause life-threatening surf and rip current conditions. Please consult products from your local weather office.

TORNADOES: A few tornadoes are possible tonight from the coast of west-central Florida northward into the Florida Big Bend region. The tornado risk will shift into southeast Georgia and the coastal Carolinas on Wednesday.

NEXT ADVISORY

Next intermediate advisory at 200 AM EDT.

Next complete advisory at 500 AM EDT.

\$\$

Forecaster Pasch

NNNN

5 Tropical Cyclone Public Advisory (TCP) issued by CPHC

WTPA35 PHFO 010600
TCPCP5

BULLETIN
Tropical Storm Madeline Intermediate Advisory Number 23A
NWS Central Pacific Hurricane Center Honolulu HI EP142016
800 PM HST Wed Aug 31 2016

...WEAKENING TROPICAL STORM MADELINE PASSING SOUTH OF
THE BIG ISLAND...

SUMMARY OF 800 PM HST...0600 UTC...INFORMATION

LOCATION...17.3N 155.9W
ABOUT 175 MI...280 KM S OF HILO HAWAII
ABOUT 305 MI...490 KM SE OF HONOLULU HAWAII
MAXIMUM SUSTAINED WINDS...60 MPH...95 KM/H
PRESENT MOVEMENT...SW OR 240 DEGREES AT 15 MPH...24 KM/H
MINIMUM CENTRAL PRESSURE...1000 MB...29.53 INCHES

WATCHES AND WARNINGS

CHANGES WITH THIS
ADVISORY:

None.

SUMMARY OF WATCHES AND WARNINGS IN
EFFECT:

A Tropical Storm Warning is in effect
for...
* Hawaii County
* Maui County including the islands of Maui, Molokai, Lanai
and
Kahoolawe

A Tropical Storm Warning means that tropical storm conditions
are expected somewhere within the watch area, in this case
over the next 12 hours. Preparations to protect life and
property should be complete.

For storm information specific to your area, please monitor
products issued by the National Weather Service office in
Honolulu Hawaii.

DISCUSSION AND OUTLOOK

At 800 PM HST (0600 UTC), the center of Tropical Storm Madeline was located near latitude 17.3 North, longitude 155.9 West. Madeline is moving toward the southwest near 15 mph (24 km/h). This general motion is expected to continue tonight with a gradual turn toward the west on Thursday and Friday.

Maximum sustained winds are near 65 mph (100 km/h) with higher gusts. Steady weakening is expected over the next couple of days.

Tropical-storm-force winds extend outward up to 105 miles (165 km) from the center. Wind gusts as high as 60 mph (97 km/h) have been reported in North Kohala in Hawaii County earlier today.

The estimated minimum central pressure is 1000 mb (29.53 inches).

HAZARDS AFFECTING LAND

WIND: Tropical storm conditions are expected to continue over Hawaii County and isolated portions of Maui County tonight. Winds will be strongest over mountains and where winds blow downslope from higher terrain.

SURF: Swells generated by Madeline will peak in Hawaiian waters tonight, and could be damaging along east facing shores of Hawaii County, especially in the Puna and Kau Districts.

RAIN: Madeline is expected to produce total rain accumulations of 5 to 10 inches, with isolated maximum amounts near 15 inches, across Hawaii County, especially over windward areas and the Kau District. Total rainfall accumulations of 1 to 3 inches, with isolated maximum amounts up to 4 inches, can be expected in the islands of Maui County, mainly over windward terrain. This rainfall may lead to dangerous flash floods and mudslides.

NEXT ADVISORY

Next complete advisory at 1100 PM HST.

\$\$
Forecaster Birchard

6 Tropical Cyclone Public Advisory (TCP) issued by WFO Guam

WTPQ31 PGUM 120352
TCPPQ1

BULLETIN
Typhoon Talim (20W) Advisory Number 14
National Weather Service Tiyan GU WP202017
200 PM ChST Tue Sep 12 2017

...TALIM UPGRADED TO A TYPHOON AS IT MOVES THROUGH THE OPEN OCEAN...

CHANGES WITH THIS ADVISORY

None.

WATCHES AND WARNINGS

None.

SUMMARY OF 100 PM CHST...00300 UTC...INFORMATION

Location...21.8N 129.9E

About 1010 miles north-northwest of Yap
About 1135 miles west-northwest of Guam and Rota
About 1130 miles west-northwest of Tinian
About 1135 miles west-northwest of Saipan

Maximum sustained winds...75 mph
Present movement...northwest...310 degrees at 18 mph

DISCUSSION AND OUTLOOK

At 100 PM CHST...0300 UTC...the center of Typhoon Talim was located near Latitude 21.8 North and Longitude 129.9 East. Typhoon Talim is moving toward the northwest at 18 mph. After a slight turn to the west-northwest Talim is expected to resume its northwest track with a decrease in forward speed for the next two days.

Maximum sustained winds have increased to 75 mph. Typhoon Talim is forecast to further intensify over the next couple of days, and may become a major typhoon Wednesday night.

Typhoon force winds extend outward up to 15 miles from the center.

Tropical storm force winds extend out up to 160 miles in the eastern semicircle and 120 miles in the western semicircle.

NEXT ADVISORY

This will be the last advisory issued by the National Weather Service on Typhoon Talim.

\$\$

Stanko

7 Potential Tropical Cyclone Public Advisory (TCP)

WTNT32 KNHC 190240
TCPAT2

BULLETIN

Potential Tropical Cyclone Two Advisory Number 2
NWS National Hurricane Center Miami FL AL022017
1100 PM AST Sun Jun 18 2017

...TROPICAL STORM CONDITIONS EXPECTED TO REACH THE SOUTHERN
WINDWARD ISLANDS BY MONDAY NIGHT...

SUMMARY OF 1100 PM AST...0300 UTC...INFORMATION

LOCATION...7.9N 52.4W
ABOUT 630 MI...1015 KM ESE OF TRINIDAD
ABOUT 695 MI...1120 KM ESE OF GRENADA
MAXIMUM SUSTAINED WINDS...40 MPH...65 KM/H
PRESENT MOVEMENT...W OR 280 DEGREES AT 23 MPH...37 KM/H
MINIMUM CENTRAL PRESSURE...1005 MB...29.68 INCHES

WATCHES AND WARNINGS

CHANGES WITH THIS
ADVISORY:

None.

SUMMARY OF WATCHES AND WARNINGS IN EFFECT:

A Tropical Storm Warning is in effect for...
* Barbados
* St. Vincent and the Grenadines
* Trinidad
* Tobago
* Grenada

A Tropical Storm Warning means that tropical storm conditions
are expected somewhere within the warning area within 36
hours.

For storm information specific to your area, please monitor
products issued by your national meteorological service.

DISCUSSION AND OUTLOOK

At 1100 PM AST (0300 UTC), the disturbance was centered near
latitude 7.9 North, longitude 52.4 West. A fast motion toward

the west-northwest is expected for the next 48 hours. On the forecast track, the disturbance is expected to move through the Windward Islands Monday night and Tuesday.

Maximum sustained winds have increased to near 40 mph (65 km/h) with higher gusts. Some additional strengthening is expected during the next 48 hours, and the disturbance is forecast to be a tropical storm when it moves through the Windward Islands Monday night and Tuesday.

Thunderstorm activity associated with the disturbance continues to become better organized, and additional development is likely during the next day or two. * Formation chance through 48 hours...high...90 percent.
* Formation chance through 5 days...high...90 percent.

Tropical-storm-force winds extend outward up to 60 miles (95 km), mainly northwest through northeast of the center. The estimated minimum central pressure is 1005 mb (29.68 inches).

HAZARDS AFFECTING LAND

WIND: Tropical storm conditions are expected to first reach the warning area overnight Monday and Tuesday morning, making outside preparations difficult or dangerous.

RAINFALL: The disturbance is expected to produce total rain accumulations of 2 to 4 inches over the Windward Islands Monday night and Tuesday.

NEXT ADVISORY

Next intermediate advisory at 200 AM
AST.
Next complete advisory at 500 AM AST.

\$\$
Forecaster Stewart

8 Post-Tropical Cyclone Public Advisory (TCP)

WTNT34 KNHC 091754
TCPAT4

BULLETIN
Post-Tropical Cyclone Matthew Intermediate Advisory Number
46A
NWS National Hurricane Center Miami FL AL142016
200 PM EDT Sun Oct 09 2016

...STORM SURGE AND INLAND FLOODING CONTINUES OVER EASTERN
NORTH CAROLINA...

SUMMARY OF 200 PM EDT...1800 UTC...INFORMATION

LOCATION...35.2N 72.9W
ABOUT 150 MI...240 KM E OF CAPE HATTERAS NORTH CAROLINA
MAXIMUM SUSTAINED WINDS...75 MPH...120 KM/H
PRESENT MOVEMENT...E OR 80 DEGREES AT 15 MPH...24 KM/H
MINIMUM CENTRAL PRESSURE...988 MB...29.18 INCHES

WATCHES AND WARNINGS

CHANGES WITH THIS
ADVISORY:

The Tropical Storm Warning has been discontinued south of
Surf City.

SUMMARY OF WATCHES AND WARNINGS IN EFFECT:

A Tropical Storm Warning is in effect for...
* Surf City to Duck
* Pamlico and Albemarle Sounds

A Storm Surge Warning is in effect for...
* Cape Lookout to Duck

A storm surge warning means there is a danger of life-threatening
inundation during the next 36 hours in the indicated locations. For a
depiction of areas at risk, please see the National Weather Service
Storm Surge Watch/Warning Graphic, available at hurricanes.gov. This
is a life-threatening situation. Persons located within these areas
should take all necessary actions to protect life and property from
rising water and the potential for other dangerous conditions.
Promptly follow evacuation and other instructions from local
officials. For storm information specific to your area, including
possible inland watches and warnings, please monitor products issued
by your local National Weather Service forecast office.

For storm information specific to your area, including possible inland watches and warnings, please monitor products issued by your local National Weather Service forecast office.

DISCUSSION AND OUTLOOK

At 200 PM EDT (1800 UTC), the center of Post-Tropical Cyclone Matthew was located near latitude 35.2 North, longitude 72.9 West.

The post-tropical cyclone is moving toward the east near 15 mph (24 km/h), and this general motion is expected to continue during the next day or so. On the forecast track, the center of Matthew will move farther offshore of the coast of the North Carolina Outer Banks this afternoon and tonight.

Maximum sustained winds are near 75 mph (120 km/h) with higher gusts. Gradual weakening is forecast during the next day or so, and the low is expected to be absorbed within a frontal boundary Monday night.

Hurricane-force winds extend outward up to 70 miles (110 km), mainly to the southwest of the center, and tropical-storm-force winds extend outward up to 240 miles (390 km).

The estimated minimum central pressure is 988 mb (29.18 inches).

HAZARDS AFFECTING LAND

WIND: Tropical storm conditions are expected to continue over the warning area this afternoon, and then gradually diminish by this evening.

STORM SURGE: The combination of a dangerous storm surge and the tide will cause normally dry areas near the coast to be flooded by rising waters. The water could reach the following heights above ground if the peak surge occurs at the time of high tide...

Cape Lookout to Duck...4 to 6 ft

RAINFALL: Life-threatening flooding will continue over portions of eastern North Carolina that have received record rains from Matthew. Consult products issued by your local National Weather Service forecast office for additional information and warnings.

SURF: Swells generated by Matthew will continue to affect much of the southeastern and Mid-Atlantic coasts of the

United States during the next couple of days. These swells will likely cause life-threatening surf and rip current conditions. Please consult products from your local weather office.

NEXT ADVISORY

Next complete advisory at 500 PM
EDT.

\$\$
Forecaster Brown

9 Intermediate Public Advisory

WTNT34 KNHC 211758
TCPAT4

BULLETIN

Potential Tropical Cyclone Nine Intermediate Advisory Number 1A
NWS National Hurricane Center Miami FL AL092023
100 PM CDT Mon Aug 21 2023

...TROPICAL STORM WARNING ISSUED FOR PORTIONS OF THE TEXAS COAST...
...FLOODING RAINS AND COASTAL FLOODING ARE POSSIBLE...

SUMMARY OF 100 PM CDT...1800 UTC...INFORMATION

LOCATION...25.0N 91.0W
ABOUT 480 MI...770 KM ESE OF PORT MANSFIELD TEXAS
MAXIMUM SUSTAINED WINDS...35 MPH...55 KM/H
PRESENT MOVEMENT...W OR 275 DEGREES AT 16 MPH...26 KM/H
MINIMUM CENTRAL PRESSURE...1008 MB...29.77 INCHES

WATCHES AND WARNINGS

CHANGES WITH THIS ADVISORY:

A Tropical Storm Warning has been issued for the coast of south Texas south of Port O'Connor.

SUMMARY OF WATCHES AND WARNINGS IN EFFECT:

A Tropical Storm Warning is in effect for...
* Mouth of Rio Grande to south of Port O'Connor, Texas

A Tropical Storm Watch is in effect for...
* Port O'Connor to Sargent, Texas

A Tropical Storm Warning means that tropical storm conditions are expected somewhere within the warning area, in this case within 24 hours.

A Tropical Storm Watch means that tropical storm conditions are possible within the watch area, in this case within 24 hours. Interests elsewhere in eastern Texas and northern Mexico should monitor the progress of this system.

For storm information specific to your area, including possible inland watches and warnings, please monitor products issued by your local National Weather Service forecast office.

DISCUSSION AND OUTLOOK

At 100 PM CDT (1800 UTC), the disturbance was centered near latitude 25.0 North, longitude 91.0 West. The system is moving toward the west near 16 mph (26 km/h). A fast motion to the west is expected to continue, and the system is forecast to move inland over south Texas early Tuesday.

Maximum sustained winds are near 35 mph (55 km/h) with higher gusts. Strengthening is forecast, and the system is expected to become a tropical storm before it reaches the Texas coast.

Satellite images indicate that the system continues to become better organized and it is expected to become a tropical depression later today.

* Formation chance through 48 hours...high...90 percent.

* Formation chance through 7 days...high...90 percent.

The estimated minimum central pressure is 1008 mb (29.77 inches).

HAZARDS AFFECTING LAND

Key messages for the disturbance can be found in the Tropical Cyclone Discussion under AWIPS header MIATCDAT4 and WMO header WTNT44 KNHC and on the web at hurricanes.gov/text/MIATCDAT4.shtml.

RAINFALL: Potential Tropical Cyclone Nine is expected to produce storm total rainfall amounts of 3 to 5 inches, with isolated higher amounts of 7 inches, across Southern Texas on Tuesday and Wednesday. This rainfall could lead to areas of flash and urban flooding.

Across Mexico, storm total rainfall of 4 to 6 inches, with local amounts of 10 inches, are expected across portions of Coahilla and Nuevo Leon on Tuesday and Wednesday. Areas of flash and urban flooding are expected.

WIND: Tropical storm conditions are expected in the warning area and are possible in the watch area by Tuesday morning.

STORM SURGE: The combination of a storm surge and the tide will cause normally dry areas near the coast to be flooded by rising waters moving inland from the shoreline. The water could reach the following heights above ground somewhere in the indicated areas if the peak surge occurs at the time of high tide...

Mouth of Rio Grande to Sargent, including Baffin Bay, Corpus Christi Bay and Matagorda Bay...1 to 3 ft

The deepest water will occur along the immediate coast near and to the north of the landfall location, where the surge will be accompanied by large waves. Surge-related flooding depends on the relative timing of the surge and the tidal cycle, and can vary greatly over short distances. For information

NWSI 10-607 APRIL 15, 2024

specific to your area, please see products issued by your local National Weather Service forecast office.

SURF: Large swells generated by the disturbance will affect portions of southern Texas tonight through Tuesday. These swells are likely to cause life-threatening surf and rip current conditions. Please consult products from your local weather office.

NEXT ADVISORY

Next complete advisory at 400 PM CDT.

\$\$

Forecaster Cangialosi

NNNN

10 Special Public Advisory

WTNT35 KNHC 190002
TCPAT5

BULLETIN

Hurricane Maria Special Advisory Number 11
NWS National Hurricane Center Miami FL AL152017
800 PM AST Mon Sep 18 2017

...MARIA BECOMES A POTENTIALLY CATASTROPHIC CATEGORY 5 HURRICANE...
...THE EYE AND THE INTENSE INNER CORE IS NEARING DOMINICA...

SUMMARY OF 800 PM AST...0000 UTC...INFORMATION

LOCATION...15.3N 61.1W
ABOUT 15 MI...25 KM ESE OF DOMINICA
ABOUT 40 MI...70 KM N OF MARTINIQUE
MAXIMUM SUSTAINED WINDS...160 MPH...260 KM/H
PRESENT MOVEMENT...WNW OR 300 DEGREES AT 9 MPH...15 KM/H
MINIMUM CENTRAL PRESSURE...925 MB...27.32 INCHES

WATCHES AND WARNINGS

CHANGES WITH THIS ADVISORY:

The government of France has changed the Hurricane Warning to a Tropical Storm Warning for Martique.

SUMMARY OF WATCHES AND WARNINGS IN EFFECT:

A Hurricane Warning is in effect for...

- * Guadeloupe
- * Dominica
- * St. Kitts, Nevis, and Montserrat
- * U.S. Virgin Islands
- * British Virgin Islands
- * Puerto Rico, Culebra, and Vieques

A Tropical Storm Warning is in effect for...

- * Antigua and Barbuda
- * Saba and St. Eustatius
- * St. Maarten
- * Anguilla
- * St. Lucia
- * Martinique

A Hurricane Watch is in effect for...

- * Saba and St. Eustatius
- * St. Maarten

- * St. Martin and St. Barthelemy
- * Anguilla
- * Isla Saona to Puerto Plata

A Tropical Storm Watch is in effect for...

- * St. Vincent and the Grenadines
- * West of Puerto Plata to the northern Dominican Republic-Haiti border

A Hurricane Warning means that hurricane conditions are expected somewhere within the warning area. Preparations to protect life and property should be rushed to completion.

A Tropical Storm Warning means that tropical storm conditions are expected somewhere within the warning area.

A Hurricane Watch means that hurricane conditions are possible within the watch area. A watch is typically issued 48 hours before the anticipated first occurrence of tropical-storm-force winds, conditions that make outside preparations difficult or dangerous.

A Tropical Storm Watch means that tropical storm conditions are possible within the watch area, generally within 48 hours.

Interests elsewhere in Hispaniola should monitor the progress of this system. Additional watches and warnings may be required later tonight or on Tuesday.

For storm information specific to your area in the United States, including possible inland watches and warnings, please monitor products issued by your local National Weather Service forecast office. For storm information specific to your area outside the United States, please monitor products issued by your national meteorological service.

DISCUSSION AND OUTLOOK

At 800 PM AST (0000 UTC), the eye of Hurricane Maria was located near latitude 15.3 North, longitude 61.1 West. Maria is moving toward the west-northwest near 9 mph (15 km/h), and this general motion is expected to continue through Wednesday. On the forecast track, the core of Maria will move near Dominica and the adjacent Leeward Islands during the next few hours, over the extreme northeastern Caribbean Sea the remainder of tonight and Tuesday, and approach Puerto Rico and the Virgin Islands Tuesday night and Wednesday.

Maximum sustained winds are near 160 mph (260 km/h) with higher gusts. Maria is a category 5 hurricane on the Saffir-Simpson Hurricane Wind Scale. Some additional strengthening is possible tonight, but some fluctuations in intensity are likely during the next day or two.

Hurricane-force winds extend outward up to 25 miles (35 km) from the center and tropical-storm-force winds extend outward up to 125 miles (205 km).

The estimated minimum central pressure based on Air Force Hurricane Hunter data is 925 mb (27.32 inches).

HAZARDS AFFECTING LAND

WIND: Hurricane conditions should be spreading across Dominica, Guadeloupe, and Martinique during the next few hours, with tropical storm conditions already occurring over portions of the Leeward Islands. Hurricane conditions should spread through the remainder of the hurricane warning area tonight through Wednesday. Hurricane conditions are possible within the hurricane watch area Tuesday through Wednesday, with tropical storm conditions possible tonight. Tropical storm conditions are possible in the tropical storm watch area in St. Vincent and the Grenadines through tonight, and are possible in the tropical storm watch area in the Dominican Republic on Wednesday.

Wind speeds atop and on the windward sides of hills and mountains are often up to 30 percent stronger than the near-surface winds indicated in this advisory, and in some elevated locations could be even greater.

STORM SURGE: A dangerous storm surge accompanied by large and destructive waves will raise water levels by as much as 6 to 9 feet above normal tide levels in the hurricane warning area near where the center of Maria moves across the Leeward Islands and the British Virgin Islands.

The combination of a dangerous storm surge and the tide will cause normally dry areas near the coast to be flooded by rising waters moving inland from the shoreline. The water is expected to reach the following heights above ground if the peak surge occurs at the time of high tide...

Puerto Rico and the U.S. Virgin Islands...6 to 9 ft

The deepest water will occur along the immediate coast near and to the north and east of the landfall location, where the surge will be accompanied by large and destructive waves. Surge-related flooding depends on the relative timing of the surge and the tidal cycle, and can vary greatly over short distances. For information specific to your area, please see products issued by your local National Weather Service forecast office.

RAINFALL: Maria is expected to produce the following rain accumulations through Thursday:

NWSI 10-607 APRIL 15, 2024

Central and southern Leeward Islands...10 to 15 inches, isolated 20 inches.

U.S. and British Virgin Islands...10 to 15 inches, isolated 20 inches.

Puerto Rico...12 to 18 inches, isolated 25 inches.

Northern Leeward Islands from Barbuda to Anguilla...4 to 8 inches, isolated 10 inches.

Windward Islands and Barbados...2 to 4 inches, isolated 6 inches.

Eastern Dominican Republic...4 to 8 inches, isolated 12 inches.

Rainfall on all of these islands could cause life-threatening flash floods and mudslides.

SURF: Swells generated by Maria are affecting the Lesser Antilles. These swells are likely to cause life-threatening surf and rip current conditions. Please consult products from your local weather office.

NEXT ADVISORY

Next intermediate advisory at 800 PM AST.

Next complete advisory at 1100 PM AST.

\$\$

Forecaster Brown

11 Public Advisory Correction

WTNT34 KNHC 150311 CCA
TCPAT4

BULLETIN

Hurricane Sally Advisory Number 15...Corrected
NWS National Hurricane Center Miami FL AL192020
1000 PM CDT Mon Sep 14 2020

Corrected Storm Surge Hazards section

...OUTER RAIN BANDS MOVING ONSHORE IN THE FLORIDA PANHANDLE...
...LIFE-THREATENING STORM SURGE, HURRICANE-FORCE WINDS, AND FLASH
FLOODING LIKELY ALONG PORTIONS OF THE NORTHERN GULF COAST STARTING
LATER TONIGHT AND TUESDAY...

SUMMARY OF 1000 PM CDT...0300 UTC...INFORMATION

LOCATION...28.9N 87.6W
ABOUT 90 MI...145 KM E OF THE MOUTH OF THE MISSISSIPPI RIVER
ABOUT 130 MI...210 KM SE OF BILOXI MISSISSIPPI
MAXIMUM SUSTAINED WINDS...100 MPH...155 KM/H
PRESENT MOVEMENT...WNW OR 300 DEGREES AT 3 MPH...6 KM/H
MINIMUM CENTRAL PRESSURE...986 MB...29.12 INCHES

WATCHES AND WARNINGS

CHANGES WITH THIS ADVISORY:

The Hurricane Warning west of Grand Isle to Morgan City, Louisiana,
has been downgraded to a Tropical Storm Warning.

SUMMARY OF WATCHES AND WARNINGS IN EFFECT:

A Storm Surge Warning is in effect for...
* Port Fourchon Louisiana to the Okaloosa/Walton County Line Florida
* Lake Pontchartrain, Lake Maurepas, and Lake Borgne
* Mobile Bay

A Hurricane Warning is in effect for...
* Grand Isle Louisiana to the Navarre Florida
* Lake Pontchartrain and Lake Maurepas including metropolitan New
Orleans

A Tropical Storm Warning is in effect for...
* East of of Navarre Florida to Indian Pass Florida
* West of Grand Isle to Morgan City Louisiana

A Storm Surge Warning means there is a danger of life-threatening inundation, from rising water moving inland from the coastline, during the next 36 hours in the indicated locations. For a depiction of areas at risk, please see the National Weather Service Storm Surge Watch/Warning Graphic, available at hurricanes.gov. This is a life-threatening situation. Persons located within these areas should take all necessary actions to protect life and property from rising water and the potential for other dangerous conditions. Promptly follow evacuation and other instructions from local officials.

A Hurricane Warning means that hurricane conditions are expected somewhere within the warning area. Preparations to protect life and property should be rushed to completion.

A Tropical Storm Warning means that tropical storm conditions are expected somewhere within the warning area within 36 hours.

For storm information specific to your area, including possible inland watches and warnings, please monitor products issued by your local National Weather Service forecast office.

DISCUSSION AND OUTLOOK

At 1000 PM CDT (0300 UTC), the center of Hurricane Sally was located near latitude 28.9 North, longitude 87.6 West. Sally is moving toward the west-northwest near 3 mph (6 km/h) and this motion is expected to continue through Tuesday morning. A northward turn is likely by Tuesday afternoon, and a slow north-northeastward to northeastward motion is expected Tuesday night through Wednesday night. On the forecast track, the center of Sally will move near the coast of southeastern Louisiana tonight and Tuesday, and make landfall in the hurricane warning area Tuesday night or Wednesday.

Maximum sustained winds are near 100 mph (155 km/h) with higher gusts. Some strengthening is forecast early Tuesday and Sally is expected to be a dangerous hurricane when it moves onshore along the north-central Gulf coast.

Hurricane-force winds extend outward up to 45 miles (75 km) from the center and tropical-storm-force winds extend outward up to 125 miles (205 km). A buoy south of Dauphin Island, Alabama, recently reported sustained winds of 61 mph (98 km/h) and a wind gust of 69 mph (111 km/h).

The estimated minimum central pressure based on data from the NOAA and Air Force Hurricane Hunters is 986 mb (29.12 inches).

HAZARDS AFFECTING LAND

Key messages for Sally can be found in the Tropical Cyclone Discussion under AWIPS header MIATCDAT4 and WMO header WTNT44 KNHC, and on the web at www.hurricanes.gov/text/MIATCDAT4.shtml

STORM SURGE: The combination of a dangerous storm surge and the tide will cause normally dry areas near the coast to be flooded by rising waters moving inland from the shoreline. The water could reach the following heights above ground somewhere in the indicated areas if the peak surge occurs at the time of high tide...

Mouth of the Mississippi River to Dauphin Island including Lake Borgne...6-9 ft
Mobile Bay...6-9 ft
Lake Pontchartrain and Lake Maurepas...3-5 ft
Dauphin Island to AL/FL Border...4-7 ft
Port Fourchon to Mouth of the Mississippi River...2-4 ft
AL/FL Border to Okaloosa/Walton County Line including Pensacola Bay and Choctawhatchee Bay...2-4 ft
Okaloosa/Walton County Line to Chassahowitzka including Saint Andrew Bay...1-3 ft
Burns Point to Port Fourchon...1-2 ft

Overtopping of local levees outside of the Hurricane and Storm Damage Risk Reduction System is possible where local inundation values may be higher than those shown above.

The deepest water will occur along the immediate coast in areas of onshore winds, where the surge will be accompanied by large and damaging waves. Surge-related flooding depends on the relative timing of the surge and the tidal cycle, and can vary greatly over short distances. For information specific to your area, please see products issued by your local National Weather Service forecast office.

WIND: Hurricane conditions are expected to begin within the hurricane warning area later tonight and Tuesday. Tropical storm conditions expected to begin within the warning area during the next few hours.

RAINFALL: Sally is expected to be a slow moving system as it approaches land, producing 8 to 16 inches of rainfall with isolated amounts of 24 inches over portions of the central Gulf Coast from the western Florida Panhandle to far southeastern Mississippi through the middle of the week. Life-threatening flash flooding is likely. In addition, this rainfall will likely lead to widespread minor to isolated major flooding on area rivers.

Sally is forecast to turn inland early Wednesday and track across the Southeast producing rainfall of 4 to 8 inches, with isolated maximum amounts of 12 inches, across portions of eastern Mississippi, central Alabama, northern Georgia, southeastern

Tennessee, and the western Carolinas. Significant flash and urban flooding is likely, as well as widespread minor to moderate flooding on some rivers.

Outer bands of Sally could produce additional rainfall of 1 to 3 inches across the Florida peninsula through tonight. This rainfall may produce flash and urban flooding and prolong high flows and ongoing minor flooding on rivers across central Florida.

TORNADOES: A tornado or two will be possible late tonight through early Tuesday in coastal areas of the Florida Panhandle and Alabama. The threat for tornadoes should increase and slowly spread inland during the day on Tuesday.

SURF: Swells from Sally will continue to affect the coast from the Florida Big Bend westward to southeastern Louisiana during the next couple of days. These swells are likely to cause life-threatening surf and rip current conditions. Please consult products from your local weather office.

NEXT ADVISORY

Next intermediate advisory at 100 AM CDT.

Next complete advisory at 400 AM CDT.

\$\$

Forecaster Cangialosi/Stewart

12 Subtropical Cyclone Public Advisory

WTNT32 KNHC 260845
TCPAT2

BULLETIN

Subtropical Storm Beryl Advisory Number 2
NWS National Hurricane Center Miami FL AL022012
500 AM EDT Sat May 26 2012

...BERYL MOVING WEST-SOUTHWESTWARD...
...TROPICAL STORM CONDITIONS EXPECTED IN THE WARNING AREA ON SUNDAY...

SUMMARY OF 500 AM EDT...0900 UTC...INFORMATION

LOCATION...32.3N 75.6W
ABOUT 180 MI...285 KM SE OF CAPE FEAR NORTH CAROLINA
ABOUT 260 MI...415 KM E OF CHARLESTON SOUTH CAROLINA
MAXIMUM SUSTAINED WINDS...45 MPH...75 KM/H
PRESENT MOVEMENT...WSW OR 255 DEGREES AT 5 MPH...7 KM/H
MINIMUM CENTRAL PRESSURE...1001 MB...29.56 INCHES

WATCHES AND WARNINGS

CHANGES WITH THIS ADVISORY:

None.

Summary of Watches and Warnings in effect...

A Tropical Storm Warning is in effect for...

* Volusia/Brevard county line Florida to Edisto Beach South Carolina

A Tropical Storm Watch is in effect for...

* North of Edisto Beach to South Santee River South Carolina

A Tropical Storm Warning means that tropical storm conditions are expected somewhere within the warning area within 36 hours.

A Tropical Storm Watch means that tropical storm conditions are possible within the watch area, generally within 48 hours.

For storm information specific to your area in the United States, including possible inland watches and warnings, please monitor products issued by your local National Weather Service forecast office.

DISCUSSION AND OUTLOOK

At 500 AM EDT (0900 UTC), the center of Subtropical Storm Beryl was located near latitude 32.3 North, longitude 75.6 West. Beryl is moving toward the west-southwest near 5 mph (7 km/h). A west-southwest or southwest motion with an increase in forward speed is expected through Sunday, with a turn toward the west expected on Sunday night. On the forecast track the center of Beryl will approach the coast in the warning area on Sunday.

Maximum sustained winds remain near 45 mph (75 km/h) with higher gusts. A little strengthening is possible during the next day or so.

Tropical storm force winds extend outward up to 115 miles (185 km) from the center.

The estimated minimum central pressure is 1001 mb (29.56 inches).

HAZARDS AFFECTING LAND

WIND: Tropical storm conditions are expected to reach the coast within the warning area from northeast Florida to South Carolina on Sunday. Tropical storm conditions are possible in the watch area along the central South Carolina coast late tonight or Sunday.

STORM SURGE: The combination of a storm surge and the tide will cause normally dry areas near the coast to be flooded by rising waters. The water could reach the following heights above ground if the peak surge occurs at the time of high tide...

Coastal portions of South Carolina...Georgia...and north Florida...1 to 3 ft.

The deepest water will occur along the immediate coast near and to the north of the landfall location, where the surge will be accompanied by large waves.

Surge-related flooding depends on the relative timing of the surge and the tidal cycle, and can vary greatly over short distances. For information specific to your area, please see products issued by your local National Weather Service office.

RAINFALL: Beryl is expected to produce total rain accumulations of 2 to 4 inches along the southeastern coast of the United States from northeastern Florida through southeastern North Carolina.

SURF: Dangerous surf conditions are possible along the northeast Florida, Georgia, South Carolina, and central and southern North Carolina coasts over the Memorial Day weekend. Please see statements issued by your local National Weather Service office for information specific to your area.

NEXT ADVISORY

Next intermediate advisory at 800 AM EDT.

Next complete advisory at 1100 AM EDT.

\$\$

Forecaster Brennan

13 WPC Public Advisory

WTNT34 KWNH 310905
TCPAT4

BULLETIN

Tropical Depression Harvey Advisory Number 44
NWS Weather Prediction Center College Park MD AL092017
400 AM CDT Thu Aug 31 2017

...FLOODING RAINS CONTINUE ACROSS FAR EASTERN TEXAS AND WESTERN LOUISIANA WITH HEAVY RAINFALL EXPECTED TO SPREAD NORTHEASTWARD THROUGH THE LOWER MISSISSIPPI VALLEY AND INTO THE TENNESSEE VALLEY OVER THE NEXT DAY OR TWO...

SUMMARY OF 400 AM CDT...0900 UTC...INFORMATION

LOCATION...32.3N 92.0W
ABOUT 5 MI...10 KM S OF MONROE LOUISIANA
ABOUT 65 MI...105 KM NNE OF ALEXANDRIA LOUISIANA
MAXIMUM SUSTAINED WINDS...30 MPH...45 KM/H
PRESENT MOVEMENT...NNE OR 25 DEGREES AT 10 MPH...17 KM/H
MINIMUM CENTRAL PRESSURE...998 MB...29.47 INCHES

WATCHES AND WARNINGS

Flood and flash flood warnings and watches are in effect from eastern Texas through parts of the lower Mississippi Valley and into western portions of the Tennessee Valley and the lower Ohio Valley.

For storm information specific to your area, including possible inland watches and warnings, please monitor products issued by your local National Weather Service forecast office.

DISCUSSION AND OUTLOOK

At 400 AM CDT (0900 UTC), the center of Tropical Depression Harvey was located near latitude 32.3 North, longitude 92.0 West. The depression is moving toward the north-northeast near 10 mph (17 km/h) and is expected to continue this motion over the next 48 hours. This forecast track would take Harvey into northwestern Mississippi by Thursday afternoon, the western Tennessee Valley region on Friday, and into the lower Ohio Valley early Saturday before anticipated dissipation by Saturday afternoon.

Maximum sustained winds are near 30 mph (45 km/h) with higher gusts. Little change in strength is forecast during the next 48 hours.

The estimated minimum central pressure is 998 mb (29.47 inches).

HAZARDS AFFECTING LAND

RAINFALL: Harvey is expected to produce 3 to 5 inches of rain from far eastern Arkansas, northern Mississippi, northeastward across western to central Tennessee, western to central Kentucky and into southern Ohio. Locally higher totals of 6 to 10 inches possible across far northern Mississippi, western Tennessee into southwest Kentucky. These rains will enhance the flash flooding risk across these areas, especially from far northern Mississippi, western Tennessee and into far southwest Kentucky.

Catastrophic and life-threatening flooding will continue in and around Houston, Beaumont/Port Arthur, and eastward into southwest Louisiana for the rest of the week. the expected heavy rains spreading northeastward from Louisiana into western Kentucky may also lead to flash flooding and increased river and small stream flooding. Do not attempt to travel in the affected area if you are in a safe place. Do not drive into flooded roadways.

For the latest rainfall and wind reports associated with Hurricane Harvey, see the companion storm summary at <https://www.wpc.ncep.noaa.gov/discussions/nfdsccl.html>

NEXT ADVISORY

Next complete advisory at 1000 AM CDT.

\$\$

Forecaster Santorelli

NNNN

14 National Tropical Cyclone Watch Warning Product (National TCV)

WTNT84 KNHC 252110
TCVAT4

Isaac Watch/Warning Advisory Number 19
NWS National Hurricane Center Miami FL AL042012
510 PM EDT Sat Aug 25 2012

.Tropical Storm Isaac

Caution...this product only approximately conveys the extent of tropical cyclone wind and surge watches and warnings. Please see the latest public advisory from the National Hurricane Center for the precise lateral extent of wind watches and warnings along the coast...as well as the approximate lateral extent of surge watches and warnings. The precise extent of surge watches and warnings can be found in the NWS National Digital Forecast Database Hazard grids.

FLZ050-134-139-142-148-149-151-155-260515-
/O.UPG.KNHC.SS.A.1004.000000T0000Z-000000T0000Z/
/O.EXA.KNHC.SS.W.1004.000000T0000Z-000000T0000Z/
510 PM EDT Sat Aug 25 2012

\$\$

FLZ069-070-075-160-162-165-265-260515-
/O.CON.KNHC.SS.W.1004.000000T0000Z-000000T0000Z/
510 PM EDT Sat Aug 25 2012

\$\$

FLZ014-015-027-028-108-112-114-115-118-127-260515-
/O.EXA.KNHC.SS.A.1004.000000T0000Z-000000T0000Z/
510 PM EDT Sat Aug 25 2012 /410 PM CDT Sat Aug 25 2012/

\$\$

FLZ128-260515-
/O.CON.KNHC.SS.A.1004.000000T0000Z-000000T0000Z/
510 PM EDT Sat Aug 25 2012

\$\$ ATTN...WFO...MFL...TAE...TBW...

15 Tropical Cyclone Forecast / Advisory (TCM)

WTNT23 KNHC 102156
TCMAT3

HURRICANE LEE FORECAST/ADVISORY NUMBER 22
NWS NATIONAL HURRICANE CENTER MIAMI FL AL132023
2100 UTC SUN SEP 10 2023

HURRICANE CENTER LOCATED NEAR 22.1N 61.7W AT 10/2100Z
POSITION ACCURATE WITHIN 15 NM

PRESENT MOVEMENT TOWARD THE WEST-NORTHWEST OR 300 DEGREES AT 7 KT

ESTIMATED MINIMUM CENTRAL PRESSURE 954 MB
EYE DIAMETER 20 NM

MAX SUSTAINED WINDS 105 KT WITH GUSTS TO 120 KT.

64 KT..... 40NE 35SE 30SW 40NW.

50 KT..... 90NE 70SE 50SW 80NW.

34 KT.....150NE 140SE 100SW 140NW.

12 FT SEAS..300NE 180SE 240SW 300NW.

WINDS AND SEAS VARY GREATLY IN EACH QUADRANT. RADII IN NAUTICAL
MILES ARE THE LARGEST RADII EXPECTED ANYWHERE IN THAT QUADRANT.

REPEAT...CENTER LOCATED NEAR 22.1N 61.7W AT 10/2100Z
AT 10/1800Z CENTER WAS LOCATED NEAR 21.9N 61.4W

FORECAST VALID 11/0600Z 22.7N 62.7W

MAX WIND 115 KT...GUSTS 140 KT.

64 KT... 50NE 40SE 35SW 50NW.

50 KT... 90NE 80SE 50SW 80NW.

34 KT...150NE 140SE 100SW 140NW.

FORECAST VALID 11/1800Z 23.3N 63.9W

MAX WIND 120 KT...GUSTS 145 KT.

64 KT... 50NE 50SE 35SW 50NW.

50 KT... 90NE 80SE 60SW 80NW.

34 KT...150NE 150SE 110SW 140NW.

FORECAST VALID 12/0600Z 23.8N 65.1W

MAX WIND 120 KT...GUSTS 145 KT.

64 KT... 60NE 60SE 40SW 50NW.

50 KT... 90NE 90SE 70SW 80NW.

34 KT...150NE 150SE 120SW 140NW.

FORECAST VALID 12/1800Z 24.2N 66.2W

MAX WIND 115 KT...GUSTS 140 KT.

64 KT... 60NE 50SE 40SW 50NW.

50 KT... 90NE 90SE 70SW 80NW.

34 KT...160NE 160SE 120SW 150NW.

FORECAST VALID 13/0600Z 24.7N 67.0W
MAX WIND 105 KT...GUSTS 130 KT.
50 KT...100NE 100SE 80SW 80NW.
34 KT...170NE 170SE 130SW 160NW.

FORECAST VALID 13/1800Z 25.6N 67.6W
MAX WIND 100 KT...GUSTS 120 KT.
50 KT...100NE 90SE 80SW 90NW.
34 KT...180NE 180SE 140SW 180NW.

EXTENDED OUTLOOK. NOTE...ERRORS FOR TRACK HAVE AVERAGED NEAR 125 NM
ON DAY 4 AND 175 NM ON DAY 5...AND FOR INTENSITY NEAR 15 KT EACH DAY

OUTLOOK VALID 14/1800Z 28.9N 68.0W
MAX WIND 90 KT...GUSTS 110 KT.
50 KT...110NE 100SE 90SW 100NW.
34 KT...200NE 200SE 160SW 200NW.

OUTLOOK VALID 15/1800Z 33.6N 67.4W
MAX WIND 80 KT...GUSTS 100 KT.
50 KT...120NE 100SE 90SW 90NW.
34 KT...210NE 200SE 160SW 200NW.

REQUEST FOR 3 HOURLY SHIP REPORTS WITHIN 300 MILES OF 22.1N 61.7W

NEXT ADVISORY AT 11/0300Z

\$\$
FORECASTER BROWN

NNNN

16 Tropical Cyclone Forecast Discussion (TCD)

WTNT41 KNHC 120232

TCDAT1

Tropical Depression Irma Discussion Number 52
 NWS National Hurricane Center Miami FL AL112017
 1100 PM EDT Mon Sep 11 2017

Irma continues to move farther inland and is approaching the Georgia-Alabama border, with a large rain shield spread across much of the southeastern United States. There have been no surface reports of sustained tropical-storm-force winds from within the tropical storm warning areas, so it is assumed that Irma has weakened to a tropical depression with maximum winds of 30 kt. Winds should continue to decrease over the next day or so while Irma remains over land and is hammered by 40 kt of shear. These conditions should also cause the deep convection to die off, and Irma is likely to become a remnant low in about 24 hours. The global models are then in agreement that the remnant low will dissipate by 48 hours. Irma has turned northwestward with an initial motion of 325/14 kt. The depression is embedded within a larger cyclonic gyre, which is expected to move northwestward through Monday, and then turn north-northwestward over western Tennessee or western Kentucky before it dissipates. Water levels have fallen below the storm surge warning criteria along the southeastern United States coast and the Florida west coast. The Storm Surge Warnings in those areas have therefore been discontinued. Future information on this system can be found in Public Advisories issued by the Weather Prediction Center beginning at 5 AM EDT, under AWIPS header TCPAT1, WMO header WTNT31 KWNH, and on the web at <http://www.wpc.ncep.noaa.gov>.

KEY MESSAGES:

1. Irma continues to produce very heavy rain across the southeastern United States. Intense rainfall rates are leading to flash flooding and rapid rises on creeks, streams, and rivers. Significant river flooding will persist over the Florida peninsula in the wake of Irma and across Georgia, South Carolina and north-central Alabama where additional heavy rains are expected. Portions of these states within the southern Appalachians will be especially vulnerable to flash flooding. Irma is also expected to produce heavy rains in northern Mississippi and southern portions of Tennessee and North Carolina, where local flooding may occur.
2. Storm surge flooding is subsiding along portions of the coasts of western Florida, Georgia, and South Carolina.

FORECAST POSITIONS AND MAX WINDS

INIT 12/0300Z 32.4N 84.9W 30 KT 35 MPH...INLAND

NWSI 10-607 APRIL 15, 2024

12H	12/1200Z	33.8N	86.4W	25 KT	30 MPH...	INLAND
24H	13/0000Z	35.2N	88.2W	25 KT	30 MPH...	POST-TROP/INLAND
36H	13/1200Z	36.4N	88.6W	20 KT	25 MPH...	POST-TROP/INLAND
48H	14/0000Z	...DISSIPATED				

\$\$

Forecaster Berg

17 Tropical Cyclone Update (TCU)

Example 1 - TCU to convey changes in storm information (with summary section)

WTNT63 KNHC 052135
TCUAT3

Tropical Storm Colin Tropical Cyclone Update
NWS National Hurricane Center Miami FL AL032016
430 PM CDT Sun Jun 05 2016

...DEPRESSION STRENGTHENS TO A TROPICAL
STORM...

Reports from an Air Force Reserve Unit Hurricane Hunter aircraft indicate that Tropical Depression Three is now a tropical storm with maximum sustained winds of 40 mph (65 km/h).

SUMMARY OF 430 PM CDT...2130 UTC...INFORMATION

LOCATION...23.3N 87.9W
ABOUT 465 MI...750 KM SW OF TAMPA FLORIDA
ABOUT 475 MI...765 KM SSW OF APALACHICOLA FLORIDA
MAXIMUM SUSTAINED WINDS...40 MPH...65 KM/H
PRESENT MOVEMENT...N OR 360 DEGREES AT 12 MPH...19 KM/H
MINIMUM CENTRAL PRESSURE...1005 MB...29.68 INCHES

\$\$
Forecaster Pasch

Example 2 - TCU to notify users that change in status is forthcoming (no summary section)

WTNT62 KNHC 251800
TCUAT2

Tropical Depression Seven Tropical Cyclone Update
NWS National Hurricane Center Miami FL AL072008
200 PM EDT Mon Aug 25 2008

Preliminary reports from an air force hurricane hunter aircraft indicate that Tropical Depression Seven has strengthened. A special advisory will be issued within the next 30 minutes to upgrade the depression to a tropical storm, to update the intensity forecast, and to issue new watches and warnings for Hispaniola.

\$\$
Forecaster Pasch

NNNN

Example 3 – TCU with position update

Hurricane Isaac Tropical Cyclone Update
NWS National Hurricane Center Miami FL AL092012
1100 AM CDT Wed Aug 29 2012

...11 AM CDT POSITION
UPDATE...

A gust to 67 mph was recently reported at Shell Beach Louisiana.
Tropical storm conditions are continuing along the Mississippi and
Alabama coasts.

SUMMARY OF 1100 AM CDT...1600 UTC...INFORMATION

LOCATION...29.6N 90.7W
ABOUT 1 MI...2 KM W OF HOUMA LOUISIANA
ABOUT 45 MI...75 KM SW OF NEW ORLEANS LOUISIANA
MAXIMUM SUSTAINED WINDS...75 MPH...120 KM/H
PRESENT MOVEMENT...NW OR 310 DEGREES AT 6 MPH...9 KM/H
MINIMUM CENTRAL PRESSURE...972 MB...28.70 INCHES

\$\$
Forecaster Stewart

18 Wind Speed Probabilities Text Product (PWS)

FONT14 KNHC 262041
PWSAT4

TROPICAL STORM ISAAC WIND SPEED PROBABILITIES NUMBER 23
NWS NATIONAL HURRICANE CENTER MIAMI FL AL092012
2100 UTC SUN AUG 26 2012

AT 2100Z THE CENTER OF TROPICAL STORM ISAAC WAS LOCATED NEAR LATITUDE 24.2 NORTH...LONGITUDE 82.3 WEST WITH MAXIMUM SUSTAINED WINDS NEAR 50 KTS...60 MPH...95 KM/H.

Z INDICATES COORDINATED UNIVERSAL TIME (GREENWICH)
ATLANTIC STANDARD TIME (AST)...SUBTRACT 4 HOURS FROM Z TIME
EASTERN DAYLIGHT TIME (EDT)...SUBTRACT 4 HOURS FROM Z TIME
CENTRAL DAYLIGHT TIME (CDT)...SUBTRACT 5 HOURS FROM Z TIME

WIND SPEED PROBABILITY TABLE FOR SPECIFIC LOCATIONS

CHANCES OF SUSTAINED (1-MINUTE AVERAGE) WIND SPEEDS OF AT LEAST ...34 KT (39 MPH... 63 KPH)...
...50 KT (58 MPH... 93 KPH)...
...64 KT (74 MPH...119 KPH)...

FOR LOCATIONS AND TIME PERIODS DURING THE NEXT 5 DAYS

PROBABILITIES FOR LOCATIONS ARE GIVEN AS OP (CP) WHERE
OP IS THE PROBABILITY OF THE EVENT BEGINNING DURING AN INDIVIDUAL TIME PERIOD (ONSET PROBABILITY)
(CP) IS THE PROBABILITY OF THE EVENT OCCURRING BETWEEN 18Z SUN AND THE FORECAST HOUR (CUMULATIVE PROBABILITY)

PROBABILITIES ARE GIVEN IN PERCENT
X INDICATES PROBABILITIES LESS THAN 1 PERCENT
PROBABILITIES FOR 34 KT AND 50 KT ARE SHOWN AT A GIVEN LOCATION WHEN THE 5DAY CUMULATIVE PROBABILITY IS AT LEAST 3 PERCENT.
PROBABILITIES FOR 64 KT ARE SHOWN WHEN THE 5-DAY CUMULATIVE PROBABILITY IS AT LEAST 1 PERCENT.

- - - - WIND SPEED PROBABILITIES FOR SELECTED LOCATIONS - - - -

TIME PERIODS	FROM	FROM	FROM	FROM	FROM	FROM	FROM
	18Z SUN TO 06Z MON	06Z MON TO 18Z MON	18Z MON TO 06Z TUE	06Z TUE TO 18Z TUE	18Z TUE TO 18Z WED	18Z WED TO 18Z THU	18Z THU TO 18Z FRI
FORECAST HOUR	(12)	(24)	(36)	(48)	(72)	(96)	(120)
LOCATION	KT						
FT PIERCE FL	34 9	2(11)	X(11)	X(11)	X(11)	X(11)	X(11)

NWSI 10-607 APRIL 15, 2024

W PALM BEACH	34	14	2 (16)	X (16)	X (16)	X (16)	X (16)	X (16)
MIAMI FL	34	99	X (99)	X (99)	X (99)	X (99)	X (99)	X (99)
MARATHON FL	34	99	X (99)	X (99)	X (99)	X (99)	X (99)	X (99)
MARATHON FL	50	14	X (14)	X (14)	X (14)	X (14)	X (14)	X (14)
KEY WEST FL	34	99	X (99)	X (99)	X (99)	X (99)	X (99)	X (99)
KEY WEST FL	50	99	X (99)	X (99)	X (99)	X (99)	X (99)	X (99)
MARCO ISLAND	34	99	X (99)	X (99)	X (99)	X (99)	X (99)	X (99)
FT MYERS FL	34	48	1 (49)	2 (51)	X (51)	X (51)	X (51)	X (51)
VENICE FL	34	37	5 (42)	2 (44)	1 (45)	X (45)	1 (46)	X (46)
TAMPA FL	34	18	8 (26)	3 (29)	2 (31)	X (31)	1 (32)	X (32)
TALLAHASSEE FL	34	X	7 (7)	10 (17)	6 (23)	6 (29)	1 (30)	X (30)
ST MARKS FL	34	1	9 (10)	9 (19)	6 (25)	5 (30)	1 (31)	1 (32)
APALACHICOLA	34	3	11 (14)	16 (30)	9 (39)	7 (46)	1 (47)	X (47)
APALACHICOLA	50	X	X (X)	2 (2)	2 (4)	1 (5)	1 (6)	X (6)
APALACHICOLA	64	X	X (X)	X (X)	1 (1)	X (1)	X (1)	X (1)
PANAMA CITY FL	34	1	11 (12)	20 (32)	13 (45)	7 (52)	1 (53)	1 (54)
PANAMA CITY FL	50	X	X (X)	3 (3)	4 (7)	3 (10)	1 (11)	X (11)
PANAMA CITY FL	64	X	X (X)	X (X)	1 (1)	1 (2)	X (2)	X (2)
COLUMBUS GA	34	X	X (X)	3 (3)	6 (9)	11 (20)	2 (22)	1 (23)
MONTGOMERY AL	34	X	X (X)	7 (7)	10 (17)	18 (35)	3 (38)	1 (39)
MONTGOMERY AL	50	X	X (X)	X (X)	X (X)	5 (5)	2 (7)	X (7)
MONTGOMERY AL	64	X	X (X)	X (X)	X (X)	1 (1)	1 (2)	X (2)
PENSACOLA FL	34	X	6 (6)	24 (30)	25 (55)	14 (69)	2 (71)	X (71)
PENSACOLA FL	50	X	X (X)	2 (2)	14 (16)	12 (28)	1 (29)	1 (30)
PENSACOLA FL	64	X	X (X)	X (X)	4 (4)	5 (9)	2 (11)	X (11)
MOBILE AL	34	X	3 (3)	22 (25)	31 (56)	20 (76)	2 (78)	X (78)
MOBILE AL	50	X	X (X)	2 (2)	15 (17)	21 (38)	2 (40)	X (40)
MOBILE AL	64	X	X (X)	X (X)	3 (3)	12 (15)	1 (16)	X (16)
GULFPORT MS	34	X	3 (3)	22 (25)	33 (58)	21 (79)	2 (81)	X (81)
GULFPORT MS	50	X	X (X)	2 (2)	19 (21)	22 (43)	2 (45)	X (45)
GULFPORT MS	64	X	X (X)	X (X)	5 (5)	13 (18)	2 (20)	X (20)
STENNIS SC	34	X	2 (2)	19 (21)	32 (53)	23 (76)	3 (79)	1 (80)
STENNIS SC	50	X	X (X)	1 (1)	15 (16)	22 (38)	2 (40)	X (40)
STENNIS SC	64	X	X (X)	X (X)	4 (4)	12 (16)	1 (17)	X (17)
BURAS LA	34	X	5 (5)	29 (34)	33 (67)	14 (81)	2 (83)	1 (84)
BURAS LA	50	X	X (X)	5 (5)	25 (30)	15 (45)	2 (47)	X (47)

BURAS LA	64	X	X(X)	1(1)	8(9)	11(20)	1(21)	X(21)
JACKSON MS	34	X	X(X)	3(3)	11(14)	33(47)	6(53)	1(54)
JACKSON MS	50	X	X(X)	X(X)	X(X)	12(12)	4(16)	X(16)
JACKSON MS	64	X	X(X)	X(X)	X(X)	3(3)	2(5)	X(5)
NEW ORLEANS LA	34	X	1(1)	16(17)	29(46)	23(69)	3(72)	1(73)
NEW ORLEANS LA	50	X	X(X)	1(1)	10(11)	18(29)	3(32)	1(33)
NEW ORLEANS LA	64	X	X(X)	X(X)	1(1)	9(10)	1(11)	X(11)
BATON ROUGE LA	34	X	X(X)	9(9)	18(27)	24(51)	6(57)	X(57)
BATON ROUGE LA	50	X	X(X)	X(X)	2(2)	14(16)	3(19)	X(19)
BATON ROUGE LA	64	X	X(X)	X(X)	X(X)	5(5)	2(7)	X(7)
NEW IBERIA LA	34	X	X(X)	7(7)	12(19)	20(39)	7(46)	X(46)
NEW IBERIA LA	50	X	X(X)	X(X)	1(1)	9(10)	2(12)	1(13)
NEW IBERIA LA	64	X	X(X)	X(X)	X(X)	3(3)	2(5)	X(5)
SHREVEPORT LA	34	X	X(X)	X(X)	1(1)	9(10)	6(16)	1(17)
PORT ARTHUR TX	34	X	X(X)	X(X)	3(3)	10(13)	5(18)	X(18)
PORT ARTHUR TX	50	X	X(X)	X(X)	X(X)	1(1)	2(3)	1(4)
PORT ARTHUR TX	64	X	X(X)	X(X)	X(X)	X(X)	1(1)	X(1)

\$\$

FORECASTER PASCH

NNNN

19 Graphical Wind Speed Probabilities

An example of this graphic can be found on the Internet at:

<https://www.nhc.noaa.gov/aboutnhcgraphics.shtml>.

20 Storm Surge Watch/Warning Graphic

An example of this graphic can be found on the Internet at:

<https://www.nhc.noaa.gov/pdf/surgeWatchWarningPDD.pdf>.

21 Potential Storm Surge Flooding Map

An example of this graphic can be found on the Internet at:

https://www.nhc.noaa.gov/surge/inundation/interactive_example/.

22 Tropical Cyclone Summary – Fixes (TCS)

TXPN41 PHFO 301758

TCSNP1

CENTRAL PACIFIC TROPICAL CYCLONE SUMMARY - FIXES
NWS CENTRAL PACIFIC HURRICANE CENTER HONOLULU HI
1755 UTC TUE AUG 30 2016

A. HURRICANE MADELINE (EP142016)

B. 30/1730Z

C. 19.3N

D. 148.7W

E. GOES-15

F. T5.0/6.0/W0.5/24 HRS

G. VIS/IR/EIR

H. REMARKS...A MG EYE WITH A SUFFICIENTLY LARGE LG SHIELD
YIELDS AN EYE NUMBER OF 5.0. THE MG EYE WITH A SURROUNDING W
RING DOES NOT PROVIDE AND ADDITIONAL EYE
ADJUSTMENT...THEREFORE THE DT IS 5.0. PAT AGREES AND THE MET
IS 4.5. FT IS BASE ON DT.

I. ADDL POSITIONS

NONE.

\$\$

EATON

23 Tropical Weather Discussion (TWD)

AXNT20 KNHC 091739

TW DAT

Tropical Weather Discussion
NWS National Hurricane Center Miami FL
1805 UTC Mon Oct 09 2023

Tropical Weather Discussion for North America, Central America
Gulf of Mexico, Caribbean Sea, northern sections of South
America, and Atlantic Ocean to the African coast from the
Equator to 31N. The following information is based on satellite
imagery, weather observations, radar and meteorological analysis.

Based on 1200 UTC surface analysis and satellite imagery
through 1710 UTC.

...SPECIAL FEATURES...

The Eastern Tropical Atlantic Ocean (INVEST-AL92):

A tropical wave is along 26W/27W, from 16N southward, moving
westward 10 knots to 15 knots. A 1010 mb low pressure center
is along the tropical wave near 08N. Precipitation: scattered
moderate to strong is within 270 nm of the center in the W
semicircle. The environmental conditions appear to be conducive
for more development of this system during the next several
days. It is likely for a tropical depression to form around
midweek, while the system is forecast to move west-northwestward
or northwestward in the eastern tropical Atlantic Ocean. The
chance for formation into a tropical cyclone during the next 48
hours is medium.

Please see the latest Tropical Weather Outlook issued by the
National Hurricane Center at www.hurricanes.gov for more
information.

...TROPICAL WAVES...

A Caribbean Sea tropical wave is along 77W/78W, from Jamaica
southward. The wave is moving westward 15 knots. Precipitation:
Scattered moderate to widely scattered strong is within 30 nm to
60 nm on either side of the line that curves from 18N76W to
17N80W to 17N81W, to 12N between 80W and 81W. Isolated moderate
to locally strong is elsewhere between 72W and 85W.

...MONSOON TROUGH/ITCZ...

The monsoon trough passes through the coastal plains of Guinea

near 11N15W, to the 1010 mb low pressure center that is the subject of the INVEST-AL92, to 09N38W. The ITCZ continues along 08N/09N, from 38W to 55W. A NE-to-SW oriented surface trough is along 18N40W to 14N43W. Precipitation: Isolated moderate to locally strong is in the remainder of the Atlantic Ocean that is from 18N southward from 60W eastward.

...GULF OF MEXICO...

A 1009 mb low pressure center is near 19N94W, in the SW corner of the Gulf of Mexico. A NW-to-SE oriented surface trough extends from the 1009 mb low pressure center toward the Deep South of Texas/NE Mexico. Precipitation: scattered moderate to isolated strong is from 23N in the SW corner of the Gulf of Mexico. Isolated moderate to locally strong covers the rest of the area that is between 87W in the NW Caribbean Sea and the coastal waters of the Yucatan Peninsula and Belize, and 100W in the Isthmus of Tehuantepec of southern Mexico. The environmental conditions appear to be marginally favorable for some more development. The system is forecast to move slowly northward, before the low pressure center merges with a western Gulf of Mexico frontal system by midweek.

A stationary front is along 31N71W in the Atlantic Ocean, between the NW Bahamas and SE Florida, to the Straits of Florida, to the south central Gulf of Mexico, toward the 1009 mb low pressure center. Precipitation: broken to overcast multilayered clouds, and widely scattered moderate to isolated strong, cover much of the rest of the Gulf of Mexico.

Broad surface high pressure center covers the Gulf of Mexico from 28N northward from the border of Texas and Louisiana eastward.

Rough seas are in the SW corner of the Gulf of Mexico. Moderate seas are elsewhere in the southern half of the area. Slight seas are in the northern half of the area. Fresh and moderate winds have been from 26N southward during the last 12 hours or so. Some strong winds have been within 210 nm of the 1009 mb low pressure center in the N semicircle. Moderate or slower winds are elsewhere.

A stationary front extends from the Florida Keys to the Bay of Campeche. Weak low pressure has formed near 19N94W along the stationary front. The front will lift northward Tue into Wed. The low pressure is expected to strengthen along the front Tue night over the NW Gulf, and move eastward across the N central and NE Gulf Wed through Wed evening, then inland across N Florida Wed night. Scattered strong thunderstorms and strong to near gale force winds will accompany this low pressure system across the

northern Gulf.

...CARIBBEAN SEA...

A tropical wave is along 77W/78W, from Jamaica southward. The wave is moving westward 15 knots. Precipitation: Scattered moderate to widely scattered strong is within 30 nm to 60 nm on either side of the line that curves from 18N76W to 17N80W to 17N81W, to 12N between 80W and 81W. Isolated moderate to locally strong is elsewhere between 72W and 85W.

Moderate to fresh SE winds are in the eastern one-third Of the area, and from 14N northward between the Windward Passage and 80W around the 77W/78W tropical wave. Moderate or slower winds are elsewhere. Moderate seas are nearly everywhere from 80W eastward, accept for the waters that are about 210 nm to the north of Panama. Slight seas are in the remainder of the Caribbean Sea, including in the waters that are about 210 nm to the north of Panama.

The monsoon trough extends from the coastal plains of northern Colombia, to 10N along 75W/76W, westward beyond Costa Rica, and into the Pacific Ocean. Precipitation: isolated moderate to locally strong is from 12N southward from the 77W/78W tropical wave westward.

Comparatively drier air in subsidence is evident in the water vapor imagery, from Haiti eastward.

The 24-hour rainfall totals in inches, for the period that ended at 09/1200 UTC, according to the MIATPTPAN, are: 1.01 in Freeport in the Bahamas; 0.33 in Kingston in Jamaica; 0.17 in Guadeloupe; and 0.08 in Bermuda.

Weak high pressure across the central Atlantic extends a ridge westward along 22N to the SE Bahamas, and will shift slightly W-NW across the remainder of the Bahamas through Thu. Moderate to locally fresh E to SE winds will prevail across the eastern and central Caribbean into Tue night, then become easterly through Thu. Strong winds will pulse near the coast of NW Venezuela and N Colombia Tue evening. Fresh SE to S winds will develop across the NW Caribbean early Wed and become strong Wed evening through Thu as low pressure moves eastward across the northern Gulf of Mexico.

...ATLANTIC OCEAN...

Please, read the Special Features section, for details about the INVEST-AL92 low pressure center and tropical wave.

A stationary front is along 31N71W in the Atlantic Ocean, between the NW Bahamas and SE Florida, to the Straits of Florida, to the south central Gulf of Mexico, toward the SW Gulf of Mexico 1009 mb low pressure center. Precipitation: widely scattered moderate to isolated strong is from 25N northward between 50W and 70W, and from the Bahamas northward from 70W westward.

A 1018 mb high pressure center is near 23N62W.

A dissipating cold front passes through 31N54W, to 28N60W, to 24N70W, to NW Cuba. Precipitation: widely scattered moderate to isolated strong is to the northwest of the line 30N36W 25N60W 20N70W.

A surface trough is along 31N47W 21N49W. The surface trough is at the southern end of a stationary front that is to the north of the area. Precipitation: widely scattered moderate to isolated strong is within 180 nm to the east and southeast of the surface trough, and from 18N to 23N between 49W and 57W.

A dissipating stationary front is along 31N27W 22N42W. Precipitation: isolated to widely scattered moderate, and locally strong, is from 19N northward between 20W and 44W.

Moderate to fresh northerly winds are from the western Atlantic Ocean stationary front northward from 70W westward. Fresh easterly winds are from 01N southward between 40W and 50W. Moderate or slower winds are in the remainder of the Atlantic Ocean. Rough seas are from 15N northward between 30W and 60W. Mostly moderate to some rough seas are from 15N northward from 30W eastward. Moderate or lower seas are in the remainder of the Atlantic Ocean.

Weak high pressure across the central Atlantic extends a ridge westward along 22N to the SE Bahamas. A weak stationary front extending from 31N71W to near Key Largo, Florida, will gradually dissipate through mid-week, as high pressure builds W across the remainder of the Bahamas. Large NE swell will continue across the waters east of 65W through Tue before gradually subsiding. Low pressure along a front is expected to move eastward across NE Florida Wed night, then continue eastward, bringing strong to near gale force winds east of northern and central Florida Thu, move E of 70W Thu night, and across the NE waters Fri and Fri night. Mariners who are traversing the waters north of 27N should stay tuned to future updates for possible gale warnings with this low pres over the Atlantic.

\$\$
mt/ah

24 Aviation Tropical Cyclone Advisory (TCA)

FKNT22 KNHC 151436
TCANT2

TROPICAL STORM BILL ICAO ADVISORY NUMBER 5
NWS NATIONAL HURRICANE CENTER MIAMI FL AL022021
1500 UTC TUE JUN 15 2021

TC ADVISORY

DTG: 20210615/1500Z
TCAC: KNHC
TC: BILL
ADVISORY NR: 2021/005
OBS PSN: 15/1500Z N4030 W06200
MOV: NE 33KT
INTST CHANGE: NC
C: 0998HPA
MAX WIND: 050KT
FCST PSN +3 HR: 15/1800Z N4225 W05939
FCST MAX WIND +3 HR: 050KT
FCST PSN +6 HR: 15/2100Z N4325 W05835
FCST MAX WIND +6 HR: 050KT
FCST PSN +9 HR: 16/0000Z N4425 W05722
FCST MAX WIND +9 HR: 050KT
FCST PSN +15 HR: 16/0600Z N4628 W05507
FCST MAX WIND +15 HR: 045KT
FCST PSN +21 HR: 16/1200Z N//// W/////

FCST MAX WIND +21 HR: //KT
FCST PSN +27 HR: 16/1800Z N//// W/////

FCST MAX WIND +27 HR: //KT

RMK: SOME FORECAST INFORMATION IN
THIS PRODUCT IS INTERPOLATED FROM
OFFICIAL FORECAST DATA.

NXT MSG: 20210615/2100Z
\$\$

25 Tropical Cyclone Track and Watch/Warning Graphic

Examples of this graphic in PNG, shapefile, and kmz format can be found on the Internet at:

- NHC/CPHC-issued PNG example - <https://www.nhc.noaa.gov/aboutnhcgraphics.shtml>
- NHC/CPHC-issued Shapefile and kmz examples - <https://www.nhc.noaa.gov/gis/>
- Examples for the South Pacific: <https://www.weather.gov/ppg/spacTropicalExample>
- Examples for the western North Pacific: <https://www.weather.gov/gum/wpacTropicalExample>

26 Cumulative Wind Distribution Graphic

An example of this graphic can be found on the Internet at:
<https://www.nhc.noaa.gov/aboutnhcgraphics.shtml>.

27 Tropical Cyclone Wind Field Graphic

An example of this graphic can be found on the Internet at:
<https://www.nhc.noaa.gov/aboutnhcgraphics.shtml>.

28 Tropical-Storm-Force Winds Arrival Timing Graphics

Examples of these graphics can be found on the Internet at:
<https://www.nhc.noaa.gov/arrivaltimes/>.

29 Peak Storm Surge Forecast Graphic

An example of this graphic can be found on the Internet at:
<https://www.nhc.noaa.gov/aboutnhcgraphics.shtml>.

APPENDIX B – Tropical Cyclone Assessment and Warning Product Identifiers

<u>AREA</u>	<u>WMO</u>	<u>AWIPS</u>
Caribbean	CA	
North Atlantic and Caribbean	NT	AT
East Pacific	PZ	EP
Central Pacific	PA	CP
West Pacific	PW	WP
North Pacific	PN	
West North Pacific	PQ	
South Pacific	PS	
Indian Ocean	IO	
South Indian Ocean	XS	
<u>Issuing Office</u>	<u>WMO CCCC</u>	
WFO HFO / CPHC – Honolulu, HI	PHFO	
WFO Guam	PGUM	
JTWC - Pearl Harbor, HI	PGTW	
NHC - Miami, FL	KNHC	
WPC - College Park, MD	KWNH	
NAVPACMETOCCEN – Naval Pacific Meteorology and Oceanography Center - Pearl Harbor, HI	PHNC	
Offutt Air Force Base, NE	KGWC	
<u>PRODUCT TITLE</u>	<u>WMO HEADER</u>	<u>AWIPS PRODUCT IDENTIFIER (NNNXXX)</u>
<u>Tropical Weather Outlook</u>		
Atlantic	ABNT20 KNHC	TWOAT
Eastern North Pacific	ABPZ20 KNHC	TWOEP
Central North Pacific	ACPN50 PHFO	TWOCN
Atlantic (Spanish)	ACCA62 KNHC	TWOSAT
Western Pacific	ABPW10 PGTW	N/A
Indian Ocean	ABIO10 PGTW	N/A
<u>Tropical Weather Discussion</u>		
Atlantic	AXNT20 KNHC	TWDAT
Eastern North Pacific	AXPZ20 KNHC	TWDEP
Western North Pacific	AXPQ20 PGUM	TWDPQ

<u>PRODUCT TITLE</u>	<u>WMO HEADER</u>	<u>AWIPS PRODUCT IDENTIFIER (NNNXXX)</u>
<u>Tropical / Subtropical Cyclone</u>		
<u>Public Advisory</u>		
Atlantic– NHC	WTNT/31-35/ KNHC	TCPAT/1-5/
Atlantic– WPC	WTNT/31-35/ KWNH	TCPAT/1-5/
Atlantic (Spanish)	WTCA/41-45/ KNHC	TASAT/1-5/
Eastern North Pacific – NHC	WTPZ/31-35/ KNHC	TCPEP/1-5/
Eastern North Pacific – WPC	WTPZ/31-35/ KWNH	TCPEP/1-5
Central North Pacific	WTPA/31-35/ PHFO	TCPCP/1-5/
Western North Pacific	WTPQ/31-35/ PGUM	TCPPQ/1-5/
<u>Tropical Cyclone Surface Wind Speed</u>		
<u>Probabilities Text Product</u>		
Atlantic	FONT/11-15/ KNHC	PWSAT/1-5/
Eastern North Pacific	FOPZ/11-15/ KNHC	PWSEP/1-5/
Central North Pacific	FOPA/11-15/ PHFO	PWSCP/1-5/
<u>Tropical / Subtropical Cyclone</u>		
<u>Forecast / Advisory</u>		
Atlantic – NHC	WTNT/21-25/ KNHC	TCMAT/1-5/
Atlantic – WPC	WTNT/21-25/ KWNH	TCMAT/1-5/
Eastern North Pacific – NHC	WTPZ/21-25/ KNHC	TCMEP/1-5/
Eastern North Pacific – WPC	WTPZ/21-25/ KWNH	TCMEP/1-5/
Central North Pacific – CPHC	WTPA/21-25/ PHFO	TCMCP/1-5/
<u>Tropical Cyclone Discussion</u>		
Atlantic – NHC	WTNT/41-45/ KNHC	TCDAT/1-5/
Atlantic – WPC	WTNT/41-45/ KWNH	TCDAT/1-5/
Eastern North Pacific – NHC	WTPZ/41-45/ KNHC	TCDEP/1-5/
Eastern North Pacific – WPC	WTPZ/41-45/ KWNH	TCDEP/1-5/
Central North Pacific – CPHC	WTPA/41-45/ PHFO	TCDCP/1-5/
<u>National Tropical Cyclone</u>		
<u>Watch/Warning Product</u>		
Atlantic	WTNT/81-85/ KNHC	TCVAT/1-5/
Eastern North Pacific	WTPZ/81-85/ KNHC	TCVEP/1-5/
<u>Prognostic Reasoning of Warnings</u>		
<u>for NW Pacific</u>		
	WDPN/31-36/ PGTW	N/A
<u>Tropical Cyclone Position and</u>		

Intensity from Satellite Data

West Pacific Ocean	TXPQ/20-29/ KNES	TCSWNP
South Pacific Ocean	TXSP/20-29/ KNES	TCSWSP
South Atlantic Ocean	TXST/20-29/ KNES	TCSSTL
North Indian Ocean	TXIO/20-29/ KNES	TCSNIO
South Indian Ocean	TXXS/20-29/ KNES	TCSSIO

Tropical Cyclone Formation Alert

Message

Issued by JTWC

Western North Pacific	WTPN/21-25/ PGTW	N/A*
Western South Pacific	WTPS/21-25/ PGTW	N/A
North Indian Ocean	WTIO/21-25/ PGTW	N/A
South Indian Ocean	WTXS/21-25/ PGTW	N/A

Issued by NAVPACMETOCEN

Eastern South Pacific	WTPS/21-25/ PHNC	N/A
-----------------------	------------------	-----

Tropical Cyclone Update

Atlantic	WTNT/61-65/ KNHC	TCUAT/1-5/
Eastern North Pacific	WTPZ/61-65/ KNHC	TCUEP/1-5/
Central North Pacific	WTPA/61-65/ PHFO	TCUCP/1-5/
Western North Pacific	WTPQ/61-65/ PGUM	TCUPQ/1-5/

Tropical Cyclone Warnings

Western North Pacific	WTPN/31-35/ PGTW	TCPWP/1-5/
Western South Pacific	WTPS/31-35/ PGTW	N/A
North Indian Ocean	WTIO/31-35/ PGTW	N/A
South Indian Ocean	WTXS/31-35/ PGTW	N/A

Tropical Weather Summary

Atlantic	ABNT30 KNHC	TWSAT
Eastern North Pacific	ABPZ30 KNHC	TWSEP
Central North Pacific	ACPN60 PHFO	TWSCP

<u>PRODUCT TITLE</u>	<u>WMO HEADER</u>	<u>AWIPS PRODUCT IDENTIFIER (NNNXXX)</u>
<u>Aircraft Reconnaissance Messages Reports - Atlantic Basin</u>		
Recco Observation non-tropical (NHC)	URNT10 KNHC	REPNT0
Recco Observation non-tropical (DoD)	URNT10 KBIX	REPNT0
Recco Obs. non-tropical (NOAA / AOC)	URNT10 KWBC	
Recco Observation (NHC)	URNT11 KNHC	REPNT1
Recco Observation (DoD)	URNT11 KBIX	REPNT1
Recco Observation (NOAA / AOC)	URNT11 KWBC	
Vortex Data Message (NHC)	URNT12 KNHC	REPNT2
Vortex Data Message (DoD)	URNT12 KBIX	REPNT2
Vortex Data Message (NOAA / AOC)	URNT12 KWBC	
High Density Obs. (HDOB) (DoD)	URNT15 KNHC	AHONT1
High Density Obs. (HDOB)	URNT15 KBIX	AHONT1
High Density Obs. (HDOB) (NOAA/AOC)	URNT15 KWBC	
Dropsonde Report (NHC)	UZNT13 KNHC	REPNT3
Dropsonde Report (DoD)	UZNT13 KBIX	REPNT3
Dropsonde Report (NOAA / AOC)	UZNT13 KWBC	
Airbourne Expendable Bathythermograph MinObs	SOVX81 KNHC URNT40 KWBC	OCDXBT
<u>Aircraft Reconnaissance Messages - East and Central Pacific Basins</u>		
Recco Observation non-tropical (NHC)	URPN10 KNHC	REPPN0
Recco Observation non-tropical (DoD)	URPN10 KBIX	REPPN0
Recco Obs. non-tropical (NOAA / AOC)	URPN10 KWBC	
Recco Observation (NHC)	URPN11 KNHC	REPPN1
Recco Observation (DoD)	URPN11 KBIX	REPPN1
Recco Observation (NOAA / AOC)	URPN11 KWBC	
Vortex Data Message (NHC)	URPN12 KNHC	REPPN2
Vortex Data Message (DoD)	URPN12 KBIX	REPPN2
Vortex Data Message (NOAA / AOC)	URPN12 KWBC	
High Density Obs. (HDOB) (NHC)	URPN15 KNHC	AHOPN1
High Density Obs. (HDOB) (DoD)	URPN15 KBIX	AHOPN1
High Density Obs. (HDOB) (NOAA / AOC)	URPN15 KWBC	
Dropsonde Report (NHC)	UZPN13 KNHC	REPPN3
Dropsonde Report (DoD)	UZPN13 KBIX	REPPN3
Dropsonde Report (NOAA / AOC)	UZPN13 KWBC	
<u>Aircraft Reconnaissance Messages - West Pacific Basins</u>		
Recco Observation non-tropical (NHC)	URPA10 KNHC	REPPA0
Recco Observation non-tropical (DoD)	URPA10 KBIX/PGUA	REPPA0
Recco Obs. non-tropical (NOAA / AOC)	URPA10 KWBC	
Recco Observation (NHC)	URPA11 KNHC	REPPA1

Recco Observation (DoD)	URPA11 KBIX/PGUA	REPPA1
Recco Observation (NOAA / AOC)	URPA11 KWBC	
Vortex Data Message (NHC)	URPA12 KNHC	REPPA2
Vortex Data Message (DoD)	URPA12 KBIX/PGUA	REPPA2
Vortex Data Message (NOAA / AOC)	URPA12 KWBC	
High Density Obs. (HDOB) (NHC)	URPA15 KNHC	AHOPA1
High Density Obs. (HDOB) (DoD)	URPA15 BKIX/PGUA	AHOPA1
High Density Obs. (HDOB) (NOAA / AOC)	URPA15 KWBC	
Dropsonde Report (NHC)	UZPA13 KNHC	REPPA3
Dropsonde Report (DoD)	UZPA13 KBIX/PGUA	REPPA3
Dropsonde Report (NOAA / AOC)	UZPA13 KWBC	

Summer / Winter Reconnaissance Schedule (Atlantic / Pacific)

NOUS42 KNHC	REPRPD
-------------	--------

Aviation Tropical Cyclone Advisory Message

Atlantic	FKNT/21-25/ KNHC	TCANT/1-5/
Eastern North Pacific	FKPZ/21-25/ KNHC	TCAPZ/1-5/
Central North Pacific	FKPA/21-25/ PHFO	TCAPA/1-5/

Tropical Cyclone Summary - Fixes

South Central Pacific 120°W - 160°E	TXPS/41-45/ PHFO	TCSSP/1-5/
North Central Pacific 140°W - 160°E	TXPN/41-45/ PHFO	TCSNP/1-5/

* N/A indicates currently none assigned.

**Where “CCC” and “NNN” are the valid WFO 4-letter and 3-letter station identifiers respectively.