

NATIONAL WEATHER SERVICE INSTRUCTION 10-601

JUNE 10, 2014

Operations and Services

Tropical Cyclone Weather Services Program, NWSPD 10-6

TROPICAL CYCLONE PRODUCTS

NOTICE: This publication is available at: <http://www.nws.noaa.gov/directives/>.

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SUMMARY OF REVISIONS: This directive supersedes NWS Instruction 10-601, dated June 11, 2013. In addition to minor grammar and formatting updates, the following revisions were made to this directive:

- Removed section 1.12: Maximum Wind Speed Probability Table, as the product has been discontinued by NHC.
- Section 1.3.3.4: The Tropical Weather Discussion product will be prepared in mixed case format beginning with the 2014 hurricane season.
- Section 1.6.3.3: The Tropical Cyclone Surface Wind Speed Probabilities Text (PWS) – the first part of the product – the categorical maximum wind speed (intensity) at standard forecast hours, has been eliminated by NHC. In addition, the individual period probabilities in the product have been renamed to onset probabilities.
- Section 1.12.3 (previously 1.13.3): Added information about suites of storm surge products used in the Tropical Cyclone Storm Surge Probability Product – Above Ground and Above Datum.
- Section 6.3: The Tropical Weather Outlook will be prepared in mixed case format beginning with the 2014 hurricane season. Also, the product will now be issued with tropical cyclone formation probabilities out to 120 hours for the Atlantic and Eastern North Pacific basins.
- Appendix A: Updated examples of the Tropical Weather Outlook, the Special Tropical Weather Outlook, and the Tropical Weather Discussion are provided in mixed case text.
- Appendix B: Added WMO headers and AWIPS Product Identifiers for new, experimental Spanish HLS products from WFO Brownsville, TX and updated information for these products issued by WFO San Juan, PR.

Signed

05/27/14

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Date

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1 Tropical Cyclone Forecast and Advisory Products

NOTE: Weather Service Office (WSO) Pago Pago, American Samoa, is 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. Also, WSO Pago Pago does not have an Automated Tropical Cyclone Forecast (ATCF) system or the Advanced Weather Interactive Processing System (AWIPS).

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), and Weather Forecast Office (WFO) Tiyan, Guam issue TCPs.

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 and AWIPS.

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 Weather Prediction Center (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 the western 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.

The initial advisory will be issued when data confirm a tropical or subtropical cyclone has developed. The title of the advisory will depend upon the intensity of the tropical cyclone as follows: A tropical depression advisory refers to a tropical cyclone with 1-minute sustained surface winds up to 33 knots (38 miles per hour (mph)); a tropical storm advisory for tropical cyclones with 1-minute sustained surface winds 34 to 63 knots (39 to 73 mph); a hurricane / typhoon advisory for tropical cyclones with 1-minute sustained surface of 64 knots (74 mph) or greater.

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, CPHC, and WFO Guam advisory products will continue if a post-tropical cyclone continues to pose a

significant threat to life and property, and if the transfer or responsibility to another office would result in an unacceptable discontinuity of service. For these situations, NHC will coordinate closely with the Ocean Prediction Center (OPC), WPC, Regional Headquarters, and affected WFOs; NHC will make the final decision on the transfer of responsibility after coordinating with the aforementioned offices. For these situations, NHC, CPHC, and WFO Guam 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. Local WFOs would continue to issue Hurricane Local Statements (HLSs) under the POST-TROPICAL CYCLONE XXXX header, as appropriate, until NHC and CPHC advisories are discontinued.

See Section 6.6 for information on TCPs issued by the WPC.
See Section 7.1 for information on HLSs issued by WFOs.

- c. The system is centered over land, is below tropical storm strength, and is not forecast to move back over water as a tropical cyclone, and no coastal tropical cyclone watches or warnings are in effect.

For Guam, when the tropical cyclone moves out of the WFO AOR.

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.
- b. Intermediate Public Advisories. Intermediate Public Advisories will be issued at 2- to 3-hourly intervals between scheduled advisories (see times of issuance below). Issue 3-hourly intermediate advisories whenever: 1) a coastal tropical storm or coastal hurricane / typhoon watch / warning is in effect, or 2) a tropical cyclone is over land at tropical storm strength or greater. Issue 2-hourly intermediates whenever tropical storm or hurricane / typhoon warnings are in effect and coastal radars are able to provide responsible tropical cyclone centers with a reliable hourly center position.

Three hourly issuances: NHC / CPHC at 0000, 0600, 1200, and 1800 UTC. WFO Guam at 0100, 0700, 1300, and 1900 UTC.

Two hourly issuances: NHC / CPHC at 2300, 0100, 0500, 0700, 1100, 1300, 1700, and 1900 UTC. WFO Guam at 0000, 0200, 0600, 0800, 1200, 1400, 1800, and 2000 UTC.

The content of intermediate advisories is identical to the content of regular advisories.

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: “(TROPICAL CYCLONE TYPE) (NAME or NUMBER) ADVISORY NUMBER XX.”

The eight Tropical Cyclone Types are:

Tropical Depression
Tropical Storm
Hurricane
Typhoon
Subtropical Depression
Subtropical Storm
Post-Tropical Cyclone
Remnants of

1.1.3.3 Content. The TCP comprises five sections: Summary, Watches and Warnings, Discussion and 48-hour 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. 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 and CPHC).** This section lists coastal watches and warnings in effect for hurricane / typhoon and tropical storm conditions. It 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, one change per paragraph.

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 / 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.

CPHC and WFO Guam issue tropical storm / hurricane / typhoon watches if tropical storm / hurricane / typhoon conditions are possible along the coast including the islands of Hawaii, northwest Hawaiian Islands, Guam, Northern Mariana Islands and selected points in the Micronesian countries. (WFO Guam will place the information on watches and warnings in the first section, after any lead statement or headline).

The definitions of hurricane / typhoon and tropical storm watches / warnings allow these watches and warnings to be issued or remain in effect after a tropical cyclone becomes post-tropical in those cases where the system continues to pose a significant threat to life and property, and where the transfer of responsibility to another office would result in an unacceptable discontinuity of service.

Tropical Storm Watches will be issued if tropical storm conditions are possible within the specified area within 48 hours.

Tropical Storm Warnings will be issued if tropical storm conditions are expected somewhere within the specified area within 36 hours, or 24 hours for WFO Guam.

Hurricane / Typhoon Watches will be issued if hurricane conditions are possible within the specified area. Because hurricane preparedness activities become difficult once winds reach tropical storm force, the hurricane watch is typically issued 48 hours before the anticipated, initial onset of tropical-storm-force winds.

Hurricane / Typhoon Warnings will be issued if hurricane conditions are expected somewhere within the specified area. Because hurricane preparedness activities become difficult once winds reach tropical storm force, the hurricane warning is typically issued

36 hours before the anticipated, initial onset of tropical-storm-force-winds. Typhoon warnings are typically issued by WFO Guam 24 hours before the anticipated, initial onset of tropical-storm-force-winds. A hurricane or typhoon warning can remain in effect when dangerously high water or a combination of dangerously high water and waves continue, even though winds may be less than hurricane or typhoon force.

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 tropical cyclone conditions has passed. 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 warning is already in place, a tropical storm warning may be issued, replacing the gale warning, at the discretion of the hurricane specialist after coordinating with the impacted WFO(s).

It is not normally advantageous to step down warnings for tropical cyclones. Do not use intermediate advisories to issue U.S. tropical cyclone watches or warnings. Intermediate advisories can be used to clear all, or parts of, a watch or warning area.

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.

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."

When a tropical cyclone watch is in effect and a tropical cyclone is either approaching or departing and conditions warrant, forecasters may include the statement: "A SMALL CRAFT ADVISORY IS IN EFFECT. SMALL CRAFT SHOULD STAY IN PORT." When discontinuing tropical cyclone warnings for an area where small craft advisories are to remain in effect, use the following statement: "SMALL CRAFT ADVISORIES REMAIN IN EFFECT FOR PORTIONS OF THE COAST. PLEASE MONITOR PRODUCTS ISSUED BY YOUR LOCAL NWS FORECAST OFFICE."

c. Discussion and Outlook. This is a free text section that describes the current location and motion, maximum winds, extent of hurricane- and tropical-storm-force

winds, and minimum pressure. It will provide a general outlook for the track and intensity of the cyclone over the next 24 to 48 hours.

Include the location of the center of the tropical cyclone by its latitude and longitude. When the center of the tropical cyclone 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 tropical cyclone's center. Give the present movement to 16 points of the compass. Include a generalized 48-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 48 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 48 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 48 hours may also be included (e.g., "Katrina could become a dangerous hurricane in the Gulf of Mexico in 2 to 3 days.").

Provide the area (or radius) of both tropical storm and hurricane / typhoon force winds. Provide central pressure values in millibars and inches (excludes WFO Guam).

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. Discuss storm hazards whenever warnings are in effect or earlier if possible and 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 the conterminous U.S., TCP estimates of surge-related flooding will be expressed in terms of storm tide (i.e., the combination of storm surge and astronomical tide). The TCP statements will also be referenced in terms of height above ground level (e.g., THE COMBINATION OF STORM SURGE AND TIDES 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...). For areas outside of the conterminous U.S., surge-related statements will be expressed in terms of storm surge (not storm tide), and 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: On a case by case basis, NHC will discuss with the affected WFOs on the hurricane hotline coordination call 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:

SWELLS 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 generally only when warnings are in effect. Identify the geographical area(s) at greatest risk, including inland areas. Include an estimate of the range of area-average amounts expected within the specified area(s), as well as an upper bound on the maximum spot values expected. In general, use storm-total values.

Tornadoes: When appropriate, provide information on the threat of tornadoes. Identify 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, identify the issuing office and product where subsequent information on the system remnants can be found.

When WPC is going to issue the next TCP on a system for which NHC has been providing TCPs, the final 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 TCPATn AND WMO HEADING WTNT3n

KWNH...BEGINNING AT XX AM/PM EDT.” See Section 6.6 for details on TCPs issued by the WPC.

When OPC is going to provide information on a tropical system which 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 XXX. 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 AND THE MARINE WEATHER DISCUSSION UNDER AWIPS HEADER MIMATN AND WMO HEADER AGNT40 KWNM...BEGINNING AT XX AM/PM EDT.”

When the Tropical Analysis Forecast Branch (TAFB) is going to provide information on a tropical system which 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 XXX. 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 AND THE MARINE WEATHER DISCUSSION UNDER AWIPS HEADER MIMATS AND WMO HEADER AGXX40 KNHC...BEGINNING AT XX AM/PM EDT.”

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 US 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 (storm name)...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 use nautical miles, following statute miles and preceded by ellipsis, and knots, following miles per hour and preceded by ellipsis. NHC 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).

```
WTaaii cccc ddhhmm
TCPxxx

BULLETIN
(TROPICAL CYCLONE TYPE) (NAME) ADVISORY NUMBER XX
(ISSUING OFFICE CITY STATE) BBCCYYYY
time am/pm time zone day of week mon dd yyyy

...HEADLINE...

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

Note: WFO Guam will normally include 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 and CPHC will prepare TCMs for all tropical cyclones within their area of responsibility.

1.2.1 Mission Connection. The TCM provides critical tropical cyclone watch, warning, and forecast information for the protection of life and property.

1.2.2 Issuance Guidelines

1.2.2.1 Creation Software. ATCF system.

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: “(TROPICAL CYCLONE 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-, 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 nautical miles through 72 hours and 64-knot wind speed radii at 12-, 24-, and 36-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

(TROPICAL CYCLONE TYPE) (NAME or NUMBER) FORECAST/ADVISORY NUMBER XX
(ISSUING OFFICE CITY STATE) BBCCYYYY
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 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.

1.3 Tropical Cyclone Discussion (TCD). NHC and CPHC issue TCDs to explain the forecaster's reasoning behind analysis and forecast of the tropical cyclone.

1.3.1 Mission Connection. The TCD is a primary tropical cyclone product explaining the forecaster's reasoning behind analysis and the forecast for a tropical cyclone. It also provides 12-, 24-, 36-, 48-, 72-, 96-, and 120-hour tropical cyclone forecast positions and maximum sustained wind speed forecasts; other meteorological decisions; and plans for watches and warnings.

1.3.2 Issuance Guidelines

1.3.2.1 Creation Software. ATCF system.

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: "(TROPICAL CYCLONE TYPE) (NAME or NUMBER) DISCUSSION NUMBER XX".

1.3.3.3 Content. Discussions include prognostic reasoning; objective techniques employed; 12-, 24-, 36-, 48-, 72-, 96- and 120-hour tropical cyclone forecast points. No position or wind speed will accompany the forecast of "dissipated". Also provide maximum sustained wind speed forecasts for each forecast point; other meteorological decisions; and plans for watches and warnings.

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

time zone(TROPICAL CYCLONE TYPE) (NAME or NUMBER) DISCUSSION NUMBER
XX
(ISSUING OFFICE CITY STATE) BBCCYYYY
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 to tropical cyclones.

1.4.2 Issuance Guidelines

1.4.2.2 Creation Software. ATCF system and AWIPS.

1.4.2.2 Issuance Criteria. TCUs are issued to inform users of significant changes in a tropical cyclone 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 special advisory that will contain the same watch/warning information, and indicates the special advisory will be issued shortly.

1.4.2.3 Issuance Times. TCUs issued to provide updated center position information (i.e., when watches / warnings are in effect and when the center is easily tracked with land-based radar) are issued between scheduled two-hourly TCPs near the beginning of the hour. All other TCUs are issued on an event-driven basis.

1.4.2.4 Valid Time. TCUs are valid at 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: “(TROPICAL CYCLONE TYPE) (NAME or NUMBER) 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 POSITION UPDATE...”).

CPHC and NHC base the information contained within the TCU on latest available data from all sources with special reliance on aircraft reconnaissance and satellite data. Local weather offices will use this information in all official statements. WFO Guam bases the information on data available from 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.

```

WTaa6i cccc ddhhmm
TCUxxx

(TROPICAL CYCLONE TYPE) (NAME or NUMBER) 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 graphical product portrays probabilistic surface wind speed information which will help users prepare for the potential of tropical storm or hurricane conditions.

1.5.2 Issuance Guidelines

1.5.2.1 Creation Software. National Centers AWIPS (N-AWIPS).

1.5.2.2 Issuance Criteria. The product will be issued for all named or numbered tropical and subtropical cyclones in the Atlantic and north Pacific basins.

1.5.2.3 Issuance Times. The static graphic will be issued at approximately 03, 09, 15, and 21 UTC and for special advisories. The animated display will be available no earlier than 15 minutes following the issuance deadlines for routine advisories (03, 09, 15, and 21 UTC) and after special advisories.

1.5.2.4 Valid Time. Product is valid at 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 centers.

1.5.3.4 Format. An example of a graphic can be found on the internet at:

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

1.6 Tropical Cyclone Surface Wind Speed Probabilities Text (PWS)

1.6.1 Mission Connection. This product 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.

1.6.2.2 Issuance Criteria. The product will be issued for all named or numbered tropical and subtropical cyclones in the Atlantic, East Pacific, Central Pacific, and western North Pacific basins.

1.6.2.3 Issuance Times. These products will be issued at 03, 09, 15, and 21 UTC and with all special advisories.

1.6.2.4 Valid Time. Product is valid at 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

(TROPICAL CYCLONE TYPE) (NAME or NUMBER) WIND SPEED PROBABILITIES
NUMBER XX
(ISSUING OFFICE CITY STATE) BBCCYYYY
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 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.

1.7 Tropical Cyclone Watch Warning Product (TCV). The TCV is based upon the Valid Time Event Code (VTEC). It summarizes all new, continued, and cancelled tropical cyclone watches and warnings issued by the NHC for the U.S. Atlantic and Gulf coasts, southern California coast, Puerto Rico, and U.S. Virgin Islands. The CPHC will issue a TCV for the main islands of the State of Hawaii.

1.7.1 Mission Connection. This product provides users with a complete listing of all coastal tropical cyclone watches and warnings.

1.7.2 Issuance Guidelines

1.7.2.1 Creation Software. N-AWIPS.

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, portions of the North East Pacific, and the North Central Pacific Ocean basin tropical cyclones.

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 2 or 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 TCV MND header product type line is: “(NAME) WATCH/WARNING BREAKPOINTS/ ADVISORY NUMBER XX”.

1.7.3.3 Content. The VTEC product will use three action codes:

-**NEW** is used when a watch or warning is first issued for a given geographic area. The geographic areas include the Atlantic and Gulf Coasts of the conterminous U.S., Puerto Rico, the U.S. Virgin Islands, southern California coast, and the main islands of the State of Hawaii. NEW is also used for upgrades and downgrades (e.g., Tropical Storm Watch to Tropical Storm Warning, Hurricane Warning to Tropical Storm Warning, Tropical Storm Warning to Hurricane Watch, etc.).

-**CON** is used if there are no changes in the watch / warning for a given geographic area.

-**CAN** is used to cancel an area if there is no longer a watch / warning in effect for the geographic area or if the watch / warning is upgraded / downgraded. (e.g., an area once under a Tropical Storm Warning is now under a Hurricane Warning: the VTEC will show the area as CAN for the Tropical Storm Warning and NEW for the Hurricane Warning).

The product will use official hurricane breakpoints and their latitude and longitude as defined in NWS Instruction (NWSI) 10-605, *Tropical Cyclone Official Defining Points and Geographic Defining Points*. In rare instances, other supplemental breakpoints, with their latitude and longitude, could be used.

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

- 1 – Atlantic / Gulf of Mexico
- 2 – East Pacific
- 3 – Central Pacific
- 4 – Western North Pacific (future)

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 those for storms for which watches and / or warnings are issued. Thus, the TCV ETNs may not be sequential.

1.7.3.4 Format.

```

WTNT8i KNHC ddhhmm
TCVxxx

(NAME) WATCH/WARNING BREAKPOINTS/ADVISORY NUMBER XX
NWS NATIONAL HURRICANE CENTER MIAMI FL BBCCYYYY
time am/pm time zone day of week mon dd yyyy

.HURRICANE (NAME)

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

BREAKPOINT START                XX.DDN {lat} YY.DD(W/E) {lon}
BREAKPOINT END                   XX.DDN {lat} YY.DD(W/E) {lon}

$$

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

BREAKPOINT START {etc.}

$$

```

Figure 6 Tropical Cyclone Watch Warning Product

See complete example in Appendix A. For VTEC details, see <http://www.weather.gov/os/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 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.

1.8 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.

1.8.2.2 Issuance Criteria. Prepared by NHC and CPHC for all ongoing tropical and subtropical cyclone activity in their respective areas of responsibility. 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: “(TROPICAL CYCLONE TYPE) (NAME or NUMBER) ICAO ADVISORY #”.

1.8.3.3 Content. TCAs list the current tropical cyclone position, motion and intensity, and 6-, 12-, 18- and 24-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
TCAXxx

(TROPICAL CYCLONE TYPE) (NAME or NUMBER)ICAO ADVISORY NUMBER ##
(ISSUING OFFICE CITY STATE) BBCCYYYY
time UTC day of week mon dd yyyy

TC ADVISORY
DTG:
TCAC:
TC:
NR:
PSN:
MOV:
C:
MAX WIND:
FCST PSN + 06 HR:
FCST MAX WIND + 06 HR:
FCST PSN + 12 HR:
FCST MAX WIND + 12 HR:
FCST PSN + 18 HR:
FCST MAX WIND + 18 HR:
FCST PSN + 24 HR:
FCST MAX WIND + 24 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 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.

1.9 Tropical Cyclone Track and Watch / Warning Graphic

1.9.1 Mission Connection. This product is a graphical representation of text products (TCP and TCM) issued by NHC, CPHC, and WFO Guam. It provides critical information on the forecast path of the tropical cyclone and watches / warnings.

1.9.2 Issuance Guidelines

1.9.2.1 Creation Software. N-AWIPS. Personal Computer (PC) for WFO Guam.

1.9.2.2 Issuance Criteria. Created when routine, intermediate and special TCPs are issued.

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 NHC and CPHC, the graphic is also produced for intermediate and special advisories. For WFO Guam, the graphic is produced for special advisories, but not for intermediate 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. The Tropical Cyclone Track and Watch / Warning graphic contains the storm's forecast track, a cone along the track based upon the average area of uncertainty, and watches / warnings. The cone (solid white and hatched area) represents the probable track of the center of a tropical cyclone, and is formed by enclosing the area swept out by a set of circles along the forecast track (at 12, 24, 36 hours, etc.). The size of each circle is set so that two-thirds of historical official forecast errors over a 5-year sample fall within the circle. This product is also issued for subtropical cyclones.

The coastal watches and warnings display shows an approximate representation of coastal areas under a hurricane warning (red), hurricane watch (pink), tropical storm warning (blue) and tropical storm watch (yellow). The orange circle indicates the current position of the center of the tropical cyclone. A second version of this graphic includes a black line and dots to depict the NHC / CPHC forecast track of the center at the times indicated.

1.9.3.4 Format. Examples of the graphic can be found on the internet at:
<http://www.nhc.noaa.gov/aboutnhcgraphics.shtml>.

1.10 Cumulative Wind Distribution Graphic

1.10.1 Mission Connection. This NHC product is a graphical representation of the past track and size of the storm. This information can be used to provide areas impacted by the past track of the storm.

1.10.2 Issuance Guidelines

1.10.2.1 Creation Software. N-AWIPS.

1.10.2.2 Issuance Criteria. Created when routine TCPs and TCMs are issued and for special advisories.

1.10.2.3 Issuance Times. The product is available on the Internet at 0300, 0900, 1500, and 2100 UTC. For NHC and CPHC, the graphic is also produced for special advisories. For WFO Guam, the graphic is also produced for special advisories, but not for intermediate advisories.

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 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: <http://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 tropical 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 watches / warnings.

1.11.2 Issuance Guidelines

1.11.2.1 Creation Software. N-AWIPS.

1.11.2.2 Issuance Criteria. Created for each tropical cyclone in the Atlantic, Eastern Pacific, and Central Pacific basins.

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.

1.11.3.1 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 warning (red), hurricane watch (pink), tropical storm warning (blue) and tropical storm watch (yellow). The white dot indicates the current position of the center of the tropical cyclone, and the dashed black line shows the history of the center of the tropical cyclone.

1.11.3.4 Format. An example of the product can be found on the internet at:
<http://www.nhc.noaa.gov/aboutnhcgraphics.shtml>.

1.12 Tropical Cyclone Storm Surge Probability Product

1.12.1 Mission Connection. This series of NHC products provides probabilistic information for decision makers such as emergency managers.

1.12.2 Issuance Guidelines

1.12.2.1 Creation Software. N-AWIPS.

1.12.2.2 Issuance Criteria. Created when a hurricane watch or hurricane warning is in effect for any portion of the Gulf or Atlantic coasts of the conterminous U.S.

1.12.2.3 Issuance Times. The products are available on the internet approximately one hour after the issuance of routine NHC tropical cyclone advisories which are issued at 0300, 0900, 1500, and 2100 UTC.

1.12.2.4 Valid Times. Valid from the time of issuance until the next routine issuance.

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 storm surge probabilities are based on an ensemble of Sea, Lake, and Overland Surge from Hurricanes (SLOSH) model runs using the NHC official advisory and account for track, size, and intensity errors based on historical errors. The product is a statistical combination of an ensemble of SLOSH model runs. All ensemble members are based on the current NHC tropical cyclone advisory. They take into account historical error characteristics by varying input parameters such as forward speed, cross track location, radius of maximum wind, and hurricane intensity.

There are two suites of storm surge (with tide) products provided, above ground and above datum (North American Vertical Datum (NAVD)-88).

Above Ground – Consists of two products: a) probabilities, in percent, of inundation exceeding 0 through 20 feet above ground level, at 1 foot intervals (e.g., the probabilities in percent of inundation exceeding 0, 1, 2, ..., 20 feet); b) heights, above ground level, that are exceeded by specific probabilities ranging from 10 to 50 percent at 10 percent intervals. Each of the probabilistic products will be provided as a cumulative probability, defined as the overall probability the event will occur at each grid cell from the start of the run until some specified time (e.g., 0 to 6 hours, 0 to 12, 0 to 18, etc.) and as an incremental probability, defined as the probability the event will occur sometime during the specified forecast period (e.g., 0 to 6 hours, 6 to 12, 12 to 18, etc.) at each grid cell.

NAVD-88 – Consists of two products: a) probabilities, in percent, of storm surge (with tide) exceeding 2 through 25 feet above NAVD-88, at 1 foot intervals (e.g., 2, 3, 4, ..., 25 feet); b) heights, above NAVD-88, that are exceeded by specific probabilities ranging from 10 to 90 percent at 10 percent intervals. The products are provided as a cumulative probability, defined as the overall probability the event will occur at each grid cell from the start of the run until 80 hours.

These products are provided in several formats including: .Keyhole Markup Language file (.kmz), Portable Network Graphics (.png) file, Google map interface, shape files, GRIdded Binary or General Regularly-distributed Information in Binary form (GRIB)2.

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 products consist of graphics and GRIB2 files for creating the graphics for the U.S. Gulf of Mexico and the Atlantic coastal areas.

1.12.3.4 Format. An example of the graphics can be found on the internet at: <http://www.nhc.noaa.gov/aboutnhcgraphics.shtml>.

2. Subtropical Cyclone Forecast and Advisory Products

2.1 Subtropical Cyclone Public Advisory (TCP). NHC will issue subtropical cyclone advisories. 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 centers in High Seas forecast products. Format and content of these products are similar to the public tropical cyclone advisory. (See Appendix A for an example). Title the advisories “SUBTROPICAL DEPRESSION (NUMBER)” and in the message body refer to the depression as “SUBTROPICAL DEPRESSION (NUMBER)”. If winds reach subtropical storm strength, the storm receives the next available name. Title the advisories “SUBTROPICAL STORM (NAME)” and in the body message refer to the storm as “SUBTROPICAL STORM (NAME)”. Issue these advisories at the same scheduled times as public tropical cyclone advisories.

2.2 Subtropical Cyclone Forecast / Advisory (TCM). Issue these advisories for all subtropical cyclones for which a TCP has been issued. Write the advisory in the same format and content as the tropical cyclone forecast / advisories. Title the advisories “SUBTROPICAL DEPRESSION NUMBER” and in the message body refer to the depression as “SUBTROPICAL DEPRESSION NUMBER”. If winds reach subtropical storm strength, the storm receives the next available name. Title the advisories “SUBTROPICAL STORM (NAME)” and in the body message refer to the storm as “SUBTROPICAL STORM (NAME)”. Issue these at the same times as scheduled tropical cyclone forecast / advisories.

3. Special Advisories. Special advisories are issued whenever an unexpected significant change has occurred or when watches or warnings are to be 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 winds products, and an International Civil Aviation Organization (ICAO) / WMO tropical cyclone advisory. The MND Header block is “(TROPICAL CYCLONE TYPE) (NAME or NUMBER) SPECIAL 1 (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 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.

4. Numbering and Naming Tropical and Subtropical Cyclones

4.1 Numbering and Naming Tropical Cyclones. NHC and CPHC will number tropical depressions in their areas of responsibility. Depression numbers are always spelled out (e.g., “ONE”, “TWO”, “THREE”, etc.). Depression numbers are assigned to match the seasonal cyclone number, even if a previous cyclone has bypassed the depression stage. For example, if the first tropical cyclone of the season forms directly as a storm (e.g., a fast-moving tropical

wave becomes a tropical storm without ever becoming a depression), then the depression number “ONE” would be skipped and not used until the following year. In the North Pacific, for ease in differentiation, tropical depression numbers, assigned by NHC or CPHC, will include the suffix “E” for eastern (east of 140°W) or “C,” for central (180° to 140°W), respectively, after the number. In the Atlantic, eastern and central Pacific, once the depression reaches tropical storm intensity, NHC and CPHC will name it and drop the depression number. The depression number will not be used again until the following year. Give tropical cyclones a name in the first advisory after intensifying to 34 knots (39 mph) or greater. 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.

The following rules apply for tropical cyclones passing from one basin to another: Retain the name if a tropical cyclone passes from one basin into another basin as a tropical cyclone, i.e., advisories are continuous. 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.

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 NHC uses all of the names for a given year and another storm requires a name, the Greek alphabet will be used (Alpha, Beta, etc.).

4.2 Numbering and Naming Subtropical Storms. A single list of numbers and names will be used for all tropical and subtropical cyclones. Therefore, numbering of subtropical depressions will follow the same procedure as tropical depressions. For example, if the first subtropical depression follows the first tropical depression, the subtropical depression will be given the designation “SUBTROPICAL DEPRESSION TWO”. If a subtropical depression becomes a subtropical storm, it receives the next available name in the tropical cyclone naming sequence.

5. Numbering Advisories and Tropical / Subtropical Cyclone Discussions. Number scheduled and special advisories and TCDs consecutively, beginning with the number 1 (not spelled out), for each new tropical or subtropical cyclone, and continue through the duration of the cyclone. In both the Atlantic and the Pacific, intermediate advisories and TCDs 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”).

6. Other Tropical Cyclone Centers and National Centers for Environmental Prediction (NCEP) Products

6.1 Satellite Interpretation Message (SIM)

6.1.1 Mission Connection. The SIM locates hazardous weather areas over land and sea, to locate obscured higher terrain, to describe general meteorological conditions, and to make plans for outdoor events, and other activities.

6.1.2 Issuance Guidelines

6.1.2.1 Creation Software. AWIPS.

6.1.2.2 Issuance Criteria. Issued by WFO Honolulu four times a day for the Hawaiian Islands, with updates as required. Issued by WFO Guam twice daily, with updates as necessary.

6.1.2.3 Issuance Times. For Hawaii: 0030, 0530, 1230, and 1830 UTC. For WFO Guam: 0300 and 1500 UTC.

6.1.2.4 Valid Time. SIMs are valid from the time of issuance until the next scheduled issuance or update.

6.1.2.5 Product Expiration Time. Generally should coincide with the next expected update.

6.1.3 Technical Description. SIMs will follow the format and content described in this section.

6.1.3.1 UGC Type. Not applicable.

6.1.3.2 MND Header. The SIM MND header block product type line is: "HAWAIIAN ISLANDS SATELLITE INTERPRETATION MESSAGE", or "SATELLITE INTERPRETATION MESSAGE".

6.1.3.3 Content. The SIM is an alphanumeric product providing an interpretation of synoptic weather features, significant weather areas, and various cloud and weather phenomena based upon satellite imagery (visual, infrared, water vapor, etc.). WFO Honolulu prepares the SIM for a portion of their AOR. The AORs for WFO Honolulu vary and depend upon the program (tropical cyclone, aviation, marine, public, and satellite). For the SIM program, WFO Honolulu's AOR is from 140°W to 180° and between 10°N and 30°N. WFO Guam's AOR is from 130°E to 180° between the equator and 25°N. WFOs Honolulu and Guam can include a description of more distant features if these features relate to significant weather affecting or will soon affect their AOR. WFOs Honolulu and Guam each determine the criteria for significant cloud features based on user inputs.

6.1.3.4 Format.

```
ATHW40 PHFO ddhhmm
SIMHI
```

```
HAWAIIAN ISLANDS SATELLITE INTERPRETATION MESSAGE
NWS CENTRAL PACIFIC HURRICANE CENTER HONOLULU HI
time am/pm time zone day of week mon dd yyyy
```

```
TEXT
```

```
$$
```

```
ATPQ40 PGUM ddhhmm
SIMGUM
```

```
SATELLITE INTERPRETATION MESSAGE
NATIONAL WEATHER SERVICE TIYAN GU
time am/pm time zone day of week mon dd yyyy
```

```
WESTERN NORTH PACIFIC BETWEEN THE EQUATOR AND 25N FROM 130E TO 180
```

```
TEXT
```

```
$$
```

Figure 8 Satellite Interpretation Message Format

6.2 Tropical Weather Discussion (TWD). NHC's TAFB will issue these discussions to describe major synoptic weather features and significant areas of disturbed weather in the tropics.

6.2.1 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.

6.2.2 Issuance Guidelines

6.2.2.1 Creation Software. AWIPS.

6.2.2.2 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.

6.2.2.3 Issuance Times. One TAFB discussion will cover the Gulf of Mexico, the Caribbean, and the Atlantic between the equator and 32°N latitude and will be transmitted by 0005, 0605, 1205, and 1805 UTC. A second TAFB discussion for the eastern Pacific between the equator and 32°N and east of 140°W will be transmitted by 0405, 1005, 1605, and 2205 UTC.

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

6.2.2.5 Product Expiration Time. Generally 6 hours after the issuance time and should coincide with the next expected update.

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

6.2.3.1 UGC Type. Not applicable.

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

6.2.3.3 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.

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

```
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 9 Tropical Weather Discussion Format

See complete example in Appendix A.

6.3 Tropical Weather Outlook (TWO). NHC and CPHC will prepare the TWO during their respective tropical cyclone seasons. This product will be prepared in mixed case format beginning with the 2014 hurricane season.

6.3.1 Mission Connection. The TWO provides users with a general assessment of activity in the tropics, pertaining to tropical cyclone formation by providing to users possible areas where tropical cyclones could develop.

6.3.2 Issuance Guidelines

6.3.2.1 Creation Software. ATCF system.

6.3.2.2 Issuance Criteria. Routinely during the tropical cyclone season. 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 respective tropical cyclone season.

6.3.2.3 Issuance Times. In the Atlantic, Eastern Pacific, and Central Pacific, transmission times are 0000, 0600, 1200, and 1800 UTC.

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

6.3.2.5 Product Expiration Time. Generally 6 hours after the issuance time and should coincide with the next expected update.

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

6.3.3.1 UGC Type. Not applicable.

6.3.3.2 MND Header. The TWO MND header block product type line is: “TROPICAL WEATHER OUTLOOK” or “SPECIAL TROPICAL WEATHER OUTLOOK”.

6.3.3.3 Content. The outlook covers tropical and subtropical waters and discusses areas of disturbed weather and the potential for tropical cyclone development during the next 48 hours for CPHC and the next 120 hours for NHC. The outlook will mention tropical and subtropical cyclones, including the system’s location (in either general terms or map coordinates), status, and change in status. For the first 24 hours of a tropical cyclone, the outlook will include a statement identifying the NWS product header and WMO headers for the advisory (see Appendix B).

For the Atlantic and Eastern Pacific hurricane basins, a graphical version of the product is also provided on the NHC web page. For the Central Pacific hurricane basin, a graphical version of the product is provided on the CPHC web page.

For the Atlantic, Eastern Pacific, and Central Pacific hurricane basins, the product will include a probability genesis forecast, to the nearest 10 percent, for the probability of tropical cyclone formation within the next 48 hours, as well as 120 hour formation likelihood for the Atlantic and Eastern North Pacific basins.

6.3.3.4 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
TWOxxx

TROPICAL WEATHER OUTLOOK
ISSUING OFFICE CITY STATE
time am/pm time_ zone day of week mon dd yyyy

Text...

$$

```

Figure 10 Tropical Weather Outlook Message Format

See complete example in Appendix A.

6.4 Tropical Cyclone Summary - Fixes (TCS)

6.4.1 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.

6.4.2 Issuance Guidelines

6.4.2.1 Creation Software. N-AWIPS.

6.4.2.2 Issuance Criteria. When a tropical cyclone is classifiable using the Dvorak technique.

6.4.2.3 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.

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

6.4.2.5 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.

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

6.4.3.1 UGC Type. Not applicable.

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

6.4.3.3 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 or 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. The AORs for CPHC / WFO Honolulu (CPHC is collocated with WFO Honolulu) varies depending

upon the program (tropical cyclone, aviation, marine, public, and satellite). For the TCS program, CPHC's AOR is the area north of the equator between 140°W to 160°E and from the equator to 25°S between 120°W to 160°E.

6.4.3.4 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 am/pm time zone day of week mon dd yyyy
```

```
TEXT
```

```
$$
```

Figure 11 Tropical Cyclone Summary - Fixes Format

6.5 Tropical Cyclone Danger Area Graphic

6.5.1 Mission Connection. The product is used to assist mariners and military agencies in avoiding high seas associated with tropical cyclones. Also, it provides guidance to users on possible tropical cyclone genesis.

6.5.2 Issuance Guidelines

6.5.2.1 Creation Software. N-AWIPS.

6.5.2.2 Issuance Criteria. Routinely prepared by NHC / TAFB and CPHC during the tropical cyclone season for all on-going tropical cyclone activity in their respective AORs.

6.5.2.3 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.

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

6.5.2.5 Product Expiration Time. Generally 6 hours after the issuance time and should coincide with the next expected update.

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

6.5.3.1 UGC Type. Not applicable.

6.5.3.2 MND Header. Not applicable.

6.5.3.3 Content. The Tropical Cyclone Danger Area is an NHC / TAFB graphical marine product depicting a tropical cyclone's track (out to 72 hours) and shades in a danger area determined by adding 100, 200, and 300 nautical miles plus the 34-knot wind radii to the 24-, 48-, and 72- hour forecast position respectively in the Atlantic and east Pacific. In addition, areas of possible tropical cyclone genesis with a 30 percent or greater chance of formation out to 48 hours are included. The area of possible formation is depicted on the graphic as a circular, rectangle, oval, or polygon shaped area. The product is prepared by the NHC / TAFB and covers 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. CPHC prepares a separate chart for 140°W to 180° and north of the equator.

6.5.3.4 Format. An example of a graphic can be found on the internet at:
<http://www.nhc.noaa.gov/abouttafbprod.shtml>.

6.6 WPC Public Advisory (TCP)

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

6.6.2 Issuance Guidelines

6.6.2.1 Creation Software. Word Processor.

6.6.2.2 Issuance Criteria. The WPC will issue public advisories after NHC discontinues its advisories on subtropical and tropical cyclones that have moved inland in the conterminous U.S. or Mexico, but still pose a threat of heavy rain and flash floods in the conterminous U.S. or Mexico. The last NHC advisory will normally be issued when winds in an inland tropical cyclone drop below tropical storm strength, and the tropical depression is not forecast to regain tropical storm intensity or re-emerge over water. Therefore, WPC will only handle tropical depressions or remnants. WPC advisories will terminate when the threat of flash flooding has ended.

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

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

6.6.2.5 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.

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

6.6.3.1 UGC Type. Not applicable.

6.6.3.2 MND Header. The TCP MND header block product type line is: “(TROPICAL CYCLONE TYPE) (NAME or NUMBER) ADVISORY NUMBER XX”.

The WPC Tropical Cyclone Types are:

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

6.6.3.3 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 be less structured than the NHC TCP products, and 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. A table at the end of the message will provide forecast latitude and longitude of the remnant low.

6.6.3.4 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
TCPATc

(TROPICAL CYCLONE 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

TEXT

SZATANEK/BANN

FORECAST POSITIONS

INITIAL      25/2100Z 29.0N  77.4W
12HR VT      26/0600Z 33.1N  72.6W
24HR VT      26/1800Z 39.4N  65.2W
36HR VT      27/0600Z 43.1N  58.2W
48HR VT      27/1800Z...DISSIPATED

$$

```

Figure 12 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; CP - Central Pacific).

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

Where: (YYYY) is the 4 digit year.

6.7 Tropical Weather Summary (TWS)

6.7.1 Mission Connection. These products are used by a variety of users for historical purposes, business (e.g., insurance) and climatological needs.

6.7.2 Issuance Guidelines

6.7.2.1 Creation Software. ATCF system.

6.7.2. Issuance Criteria. Monthly.

6.7.2.3 Issuance Times. Summaries are issued on the first day of each month from June through December for the Eastern Pacific and from July through December for the Atlantic and Central 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.

6.7.2.4 Valid Time. Not applicable.

6.7.2.5 Product Expiration Time. Not applicable.

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

6.7.3.1 UGC Type. Not applicable.

6.7.3.2 MND Header. The TWS MND header block product type line is: "TROPICAL WEATHER SUMMARY".

6.7.3.3 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.

6.7.3.4 Format

```

Ataaii cccc ddhhmm
TWSxx

TROPICAL WEATHER SUMMARY
ISSUING OFFICE CITY STATE
time am/pm time zone day of week mon dd yyyy

TEXT

$$

```

Figure 13 Tropical Weather Summary Format**6.8 Tropical Cyclone Report (TCR)**

6.8.1 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.

6.8.2 Issuance Guidelines

6.8.2.1 Creation Software. Word Processor.

6.8.2.2 Issuance Criteria. Not applicable.

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

6.8.2.4 Valid Times. Not applicable.

6.8.2.5 Product Expiration Time. Not applicable.

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

6.8.3.1 UGC Type. Not applicable.

6.8.3.2 MND Header. Not applicable. Internet product.

6.8.3.3 Content. The TCR is a post-event overview of a tropical cyclone comprised of a narrative describing the overall storm and a detailed listing of 6-hourly location and intensity data in both text and graphic format. NHC issues TCRs for tropical 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 Pacific basins. The tropical cyclone report will include landfall

and 6-hourly synoptic track and intensity data (i.e., the “best track”). NHC will post reports on the Internet at www.nhc.noaa.gov/pastall.shtml and CPHC at www.prh.noaa.gov/cphc. Reviews at CPHC will be conducted by the director and deputy director of CPHC, warning coordination meteorologist and hurricane program leader.

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

7. WFO Products

7.1 Hurricane / Typhoon Local Statement (HLS). The HLS is the local WFO, multi-purposed, segmented product that coastal and select inland WFOs (see Section 7.1.2.2) will use to issue tropical cyclone watches and warnings for geographic zones within their county / parish warning area (CWA) and / or marine area of responsibility (MAOR), if applicable.

The HLS is a common source of textual information to simultaneously communicate information to diverse user types (media, key decision makers, and the public). It provides decision-making support for local authorities with generalized and specific tropical cyclone information from a CWA perspective, as well as from a local county perspective.

The HLS should contain watch / warning information, protective action information from local officials, meteorological hazard and impact information, and meteorological conditions.

The HLS consists of two components: Overview Block and UGC / VTEC formatted segments.

- Overview Block – The Overview Block provides users generalized tropical cyclone information that is relative to the entire CWA / MAOR.
- UGC / VTEC formatted segments – The segment headers build on the Overview Block to provide users detailed tropical cyclone information for specific zones within a CWA / MAOR.

Information contained in the HLS will be relevant and should be expressed in a concise and succinct manner with limited redundancy.

7.1.1 Mission Connection. The HLS is the primary WFO product for providing critical information for the protection of life and property and to minimize the economic and environmental losses associated with tropical cyclones and their impacts. The WFOs detailed in Section 7.1.2.2 will issue the HLS. The HLS is the WFO product vehicle to provide and issue all tropical cyclone watches and warnings. Specifically, the HLS conveys tropical cyclone watches and warnings issued by the national tropical cyclone forecast center, and the HLS is used to issue tropical cyclone watches and warnings for inland zones and the WFO’s MAOR.

7.1.2 Issuance Guidelines

7.1.2.1 Creation Software. AWIPS Graphical Hazards Generator (GHG). (For WFO Guam areas outside of the AWIPS graphics domain in Micronesia, by PC).

7.1.2.2 Issuance Criteria. The national center issuance of a TCP precedes the issuance of an HLS. HLSs should not be issued for systems that have yet to be formally recognized by the national center through formal advisories.

Before the first HLS, the use of Public Information Statements (PNSs) is encouraged to inform the public on routine hurricane preparedness information. Special Weather Statements (SPSs) may also be used to address rumors associated with systems for which the national center is not yet writing advisories. Hazardous Weather Outlooks (HWOs) may be used to address peripheral weather of concern until the national center issues the first advisory or (if necessary) before the initial issuance of local tropical cyclone watches / warnings from active systems.

The following coastal WFOs / WSOs will issue HLSs when their area of responsibility is subject to a tropical cyclone watch / warning or evacuation orders. In addition, HLSs may also be issued as needed to dispel rumors or to clarify tropical cyclone-related information for their CWA. WFOs have the option to additionally include coastal, inland, or marine zones in the HLS not affected by a tropical cyclone watch or warning.

Coastal WFOs / WSOs are defined as those having at least one county with significant tidal influences. They are:

Eastern Region

Caribou, ME
 Portland, ME
 Boston, MA
 New York City, NY
 Philadelphia, PA
 Baltimore, MD / Washington, DC
 Wakefield, VA
 Newport / Morehead City, NC
 Wilmington, NC
 Charleston, SC

Southern Region

Brownsville, TX
 Corpus Christi, TX
 Houston / Galveston, TX
 Lake Charles, LA
 New Orleans, LA
 Mobile, AL
 Tallahassee, FL
 Tampa Bay, FL
 Miami, FL
 Key West, FL
 Melbourne, FL
 Jacksonville, FL
 San Juan, PR

Western Region

San Diego, CA
 Los Angeles / Oxnard, CA

Pacific Region

Honolulu, HI
 Guam
 WSO Pago Pago, American Samoa

The inland WFOs listed below will issue tropical cyclone watches and warnings via the HLS when hurricane or tropical storm force winds are expected to impact their area of responsibility.

Albany, NY (selected counties)		
Albuquerque, NM	Huntsville, AL	Nashville, TN
Amarillo, TX	Jackson, MS	Norman, OK
Atlanta, GA	Little Rock, AR	San Angelo, TX
Austin / San Antonio, TX	Lubbock, TX	Shreveport, LA
Birmingham, AL	Memphis, TN	Tulsa, OK
El Paso, TX	Midland, TX	
Fort Worth, TX	Morristown, TN	

The inland WFOs listed in Section 7.2 will not issue the HLS and will instead use the Non-precipitation Warning (NPW) products when hurricane or tropical storm force winds from a tropical cyclone are expected to impact their area of responsibility.

7.1.2.3 Issuance Times

a. Initial issuances.

Initial issuance by coastal WFOs: The initial HLS for a coastal WFO should be issued as soon as possible following the first issuance of a tropical storm / hurricane watch / warning for the WFO’s area of responsibility by NHC or CPHC. WFO Guam will issue each HLS one hour after the Tropical Cyclone Public Advisory (TCP) is issued.

Note: An HLS cannot be issued prior to the release of the initial national center’s advisory for a given system.

When a new tropical cyclone watch or warning is issued for one or more (inland, coastal, or marine) zones in a coastal WFO’s AOR, an “abbreviated HLS” will be issued to expedite the release of time-sensitive alerting information for the newly added zones. This shortened version will contain all mandatory components and sections of the HLS and headline the issuance of all new tropical cyclone watches and warnings within corresponding segments. The “abbreviated HLS” should state “a more detailed statement will follow shortly.” The issuance of an “abbreviated HLS” will minimize the delay between the national center’s issuance of the Tropical Cyclone Watch / Warning (TCV) product and the coastal WFO’s issuance of tropical cyclone watches and warnings via the HLS. Note that only the information contained within newly added zone segments will be abbreviated. See the example in the Appendix for an “abbreviated HLS”. Following the issuance of the “abbreviated HLS,” coastal WFOs will initiate and issue a comprehensive HLS (see the example in Appendix A).

Initial issuance by inland WFOs: The initial HLS, with associated tropical storm watches or warnings, for the inland WFOs listed in Section 7.1.2.2 should be issued when tropical storm or hurricane force winds are expected to impact their area of responsibility within 48 hours (watches) to 36 hours (warnings).

b. Subsequent updates: HLSs should be updated upon release of an advisory from the tropical cyclone centers, or may be updated for operationally significant changes. However, do

not release an HLS immediately before the official release of a national center advisory unless information is coordinated ahead of time.

c. Final: Routine HLSs may cease when the tropical cyclone is no longer a threat to an office's CWA / MAOR and / or when all local tropical cyclone watches / warnings are no longer in effect for the CWA / MAOR. However, WFOs have the option to continue to issue HLS products for sub-warning tropical cyclone impacts utilizing the HUS VTEC in the segment headers, as long as NHC continues to issue active tropical cyclone advisories on the particular storm.

After the final HLS issuance, a PNS may be used to relay critical post-storm information.

7.1.2.4 Valid Time. HLSs are valid at the time of issuance and until a subsequent HLS is issued, or when tropical cyclone watches and / or warnings are no longer in effect for the local area. During an event, HLSs are issued at least once every 6 hours. The approximate time of the next update is to be indicated within the body of the product text.

7.1.2.5 Event Beginning Time. Given the inherent uncertainties with forecasting tropical cyclones, an event beginning time is not explicitly provided. (WFO Guam does not issue P-VTEC outside of the AWIPS graphics domain).

7.1.2.6 Event Ending Time. Given the inherent uncertainties with forecasting tropical cyclones, an event ending time is not explicitly provided.

7.1.2.7 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.

7.1.3 Technical Description. HLSs will follow the prescribed format and content described in this section.

7.1.3.1 UGC Type. HLSs will use the zone (Z) form of the UGC.

7.1.3.2 MND Header. The HLS MND header block product type line is: “(TROPICAL CYCLONE TYPE) (NAME or NUMBER) LOCAL STATEMENT”. Appropriate product type line options are:

Hurricane (Name) or Typhoon (Name) Local Statement
Tropical Storm (Name) Local Statement
Tropical Depression (Number) Local Statement
Subtropical Storm (Name) Local Statement
Subtropical Depression (Number) Local Statement
Post-tropical Cyclone (Name) Local Statement
Remnants of (Name) Local Statement

WFO Guam will include the JTWC tropical cyclone number in parentheses once as name is provided by RSMC Tokyo.

7.1.3.3 Content. The HLS content is organized in two separate parts. The first part is known as the Overview Block and contains generalized tropical cyclone information relative to a WFO's AOR. The second part contains UTC / VTEC formatted segments which expand on the information presented in the Overview Block and provides users detailed tropical cyclone information for specific zones within a CWA / MAOR.

Note that because of the unique areas of responsibility for the Pacific Region offices, their HLSs may not always contain the Overview Block.

Content should always focus on the most impacting hazards, describing the most threatened areas, along with the associated peak magnitude, timing, and duration of each hazard.

HLSs will use tropical cyclone position information according to the latest advisory, or according to position estimates provided by the national center between advisories (when appropriate). Distance / bearing information should be provided relative to well-known locations or landmarks, with at least one located within the WFO's AOR.

When tropical cyclones threaten the Samoas (American Samoa and Samoa), the two local offices will coordinate with RSMC Nadi, CPHC, and with each other to determine the best integrated and internally consistent forecast of conditions expected in the area.

Wording may be added to the end of the HLS describing where additional storm information can be found within the supporting national center's TCP and TCM products, as well as PNSs and Short Term Forecasts (NOWs) issued by the local office.

7.1.3.4 Format

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

Important note: Many private sector vendors parse and scroll HLS section information. The vendor's software may key in on the headlines or one or more of the segment headers in each VTEC segment, using the ellipsis (...) at the beginning and ending of each headline or segment header, in the automatic parsing and routing of geographic and hazard-specific information to users. NOAA Weather Radio (NWR) broadcasts of the HLS are also connected to the exact formatting of the HLS. Therefore, maintaining format consistency (ellipses, carriage returns, exact section wording) of the HLS information is essential.

OVERVIEW BLOCK OF THE HLS

The intent of the Overview Block is to describe the expected evolution for the event relative to a WFO's CWA / MAOR and to describe expected meteorological hazards, impacts and conditions across the affected areas. The Overview block and associated sections is mandatory, except for WFO Guam. Effective use of the Overview Block will help decrease the overall length of the HLS (so common information is not repeated in each VTEC segment) and promotes increased product compatibility with NWR and other automated systems.

After the headline(s), the Overview Block begins with a mandatory New Information section. The other section headers in the Overview Block are also mandatory and occur in a standardized order. The section headers will automatically be generated by the GHG in the Graphical Forecast Editor (GFE) via the HLS Formatter. Each section header is preceded by one dot and followed by three dots. In the Overview Block, the section headers and their associated content will always be listed in the same order and always present within each HLS issuance. WFOs will not add any additional section headers to those listed below.

.NEW INFORMATION... (mandatory)

Concisely list what is new. If applicable, state “NO SIGNIFICANT CHANGES”.

.AREAS AFFECTED... (mandatory)

Details of which counties / parishes or cities are included in the HLS. At the WFO’s discretion, this may simply be described in general terms or with the degree of specificity needed for the event.

.WATCHES / WARNINGS... (mandatory)

Watches and warnings in effect and counties / parishes to which they apply.

The watches and warnings will be ordered, primarily by warning type and secondarily by location, as follows:

- HURRICANE WARNING...FOR COASTAL AND/OR INLAND ZONES
- HURRICANE WARNING...FOR MARINE ZONES
- TROPICAL STORM WARNING AND HURRICANE WATCH...FOR COASTAL AND/OR INLAND ZONES
- TROPICAL STORM WARNING AND HURRICANE WATCH...FOR MARINE ZONES
- TROPICAL STORM WARNING...FOR COASTAL AND/OR INLAND ZONES
- TROPICAL STORM WARNING...FOR MARINE ZONES
- TROPICAL STORM WATCH...FOR COASTAL AND/OR INLAND ZONES
- TROPICAL STORM WATCH...FOR MARINE ZONES

.STORM INFORMATION... (mandatory)

Present location, movement, and winds. Use the tropical cyclone forecast / advisory as guidance. Forecast trend information may also be provided.

.SITUATION OVERVIEW... (mandatory)

The mandatory Situation Overview section of the HLS concisely describes, in general terms, the tropical cyclone’s meteorological hazards (peak values, generalized onset / duration times and locations) and projected forecast track in relation to the WFO’s CWA / MAOR.

.PRECAUTIONARY / PREPAREDNESS ACTIONS... (mandatory)

This section may contain general protective action information as well as an overview of significant protective actions underway within the CWA / MAOR. Significant protective actions may include recommendations, announcements, or evacuation information for the general public provided by local or state officials. Listing these actions is particularly important once a tropical cyclone watch or warning is announced.

Much of the protective action information contained in this section can be coordinated with local and state officials both before an event (general protective action statements), and during an event (significant protective actions).

&&

.NEXT UPDATE... (mandatory)

This section provides a quick sentence stating the approximate time when the next HLS will be issued.

UGC / VTEC SEGMENTS OF THE HLS

After the Overview Block, the HLS contains UGC / VTEC formatted segments. The information conveyed in the UGC / VTEC segments is more detailed and unique, relative to a specific zone or group of zones, and expands on the information contained in the Overview.

The number of segments will vary depending on the geographic area potentially impacted and the tropical cyclone watches and warnings in effect.

Each UGC / VTEC segment will contain a mandatory headline(s) and optional section headers. The optional section headers within each UGC / VTEC segment should provide detailed and specific tropical cyclone hazard / impact information for the geographical zone grouping.

The HLS will contain tropical cyclone watches and warnings for the coastal marine zones, coastal land zones, and the inland zones. The VTEC phenomena codes used are:

<u>EVENT NAME</u>	<u>PHENOMENA CODE</u>
TROPICAL STORM	TR
HURRICANE	HU
TYPHOON	TY

The VTEC Significance codes for the HLS are:

Warning	W
Watch	A
Statement	S

The /S/ significance code may be issued, as deemed necessary by a WFO, to address rumors or other storm-related issues, for those zones not currently under a tropical cyclone watch or warning. An HLS containing only HU.S segments is preceded by a national center TCP product.

The ETN for tropical cyclone watches and warnings in all zones (inland, coastal, marine) is assigned through the basin's storm number in the coded string found in the Issuing Office Line of NHC's TCP product. Thus, the ETN in the National Center's TCV product is the same as the ETNs in the HLS. If the National Center has not issued a TCV product but has issued a TCP product, and the WFO issues tropical cyclone watches and warnings for marine zones only, then

the ETN for WFO-issued watches / warnings is also assigned from the basin's storm number in the aforementioned coded string of the TCP.

Note for WFO Guam, an SPS will be used to notify regional users of hazards associated with tropical systems, until such time as the JTWC issues a tropical cyclone bulletin. Once this occurs, WFO Guam will issue an appropriate TCP and set watches and warnings as needed.

...HEADLINE(s)... (mandatory)

Each segment headline begins and ends with ellipses (three dots). Segment headlines are mandatory and will be generated by the GHG in the GFE (with the exception of segments associated with HU.S). The headlines will be based on the corresponding VTEC code values in each segment. At least one headline is provided in each VTEC segment. The number and type of headlines to be generated is based on the combination of VTEC coding and forecaster determinations for zone groupings.

After the mandatory segment headlines, a series of optional sections (with headers) are presented. Section headers begin and end with ellipses (three dots). Additionally, WFOs retain the option to use a non-specific section header for other hazards not explicitly covered by the section headers listed below.

...NEW INFORMATION... (optional)

New and vital information specific to the segment which you wish to bring to the attention of users. If present, New Information will always be the first section header.

...PRECAUTIONARY / PREPAREDNESS ACTIONS... (optional)

PRECAUTIONARY / PREPAREDNESS ACTIONS...

The protective actions outlined in the overview block precautionary / preparedness actions section may be expanded upon here to provide further detail for a specific area of concern if necessary. This section should contain mainly significant protective actions issued by local and state officials. General protective action information should remain in the overview block, and need not be repeated in the individual VTEC segment precautionary / preparedness actions sections.

&&

...PROBABILITY TROPICAL STORM / HURRICANE CONDITIONS... (optional)

Information on the probability of hurricane / typhoon / tropical storm conditions.

...WINDS... or ...WINDS AND SEAS...if marine segment... (optional)

WFOs should provide information about the potential impacts of forecast winds. Supporting information should include the anticipated time of onset of tropical storm / hurricane / typhoon force winds, peak winds and gusts, as well as the approximate duration and cessation. Wind speed values should be expressed in appropriate ranges relative to the magnitude of the storm (40 to 50 mph instead of 45 mph). Timing of winds and their impacts should be in ranges or general

terms such as “afternoon” or “evening”. Ensure the information is consistent with national guidance.

...STORM SURGE AND STORM TIDE... (optional)

WFOs should provide information about the potential impacts of forecast storm surge and storm tide. Supporting information should include the anticipated time of onset of the storm surge and storm tide, as well as peak heights. Heights should be expressed in appropriate ranges relative to the magnitude of the surge and tide (8 to 12 feet above ground level). Timing of values and their impacts should be in ranges or general terms such as “afternoon” or “evening”. Ensure the information is consistent with national guidance. WFOs will reference storm surge and storm tide relative to height above ground level (inundation) consistent with NHC wording in the NHC product. Additionally, WFOs may use other vertical datum references such as Mean Sea Level (MSL) and / or Mean Lower Low Water (MLLW).

...INLAND FLOODING... (optional)

Highlight the threat of flash flooding and rapid inundation relative to the zone or zone group as a result of heavy rain. Consider guidance as provided by the WPC and regional River Forecast Center.

...TORNADOES... or ...TORNADOES AND WATERSPOUTS...if marine segment (optional)

Highlight the threat of tornadoes or waterspouts relative to the zone or zone group. Consider guidance as provided by the Storm Prediction Center (SPC).

...OTHER... (Non-specific section header, substitute appropriate header)...

The section is optional. WFOs may address other hazards specific to their area for the event (e.g., rip currents, mudslides).

IMPACT STATEMENTS IN THE HLS

Generic tropical cyclone Impact Statements have been baselined into the AWIPS GHG application. The impact statements have been organized to describe the expected or potential impacts, given the expected wind speed and / or storm surge, from a given magnitude tropical storm / hurricane. Localization of the impact statements is recommended in areas where effects to certain native vegetation (e.g., palm trees), local building characteristics (e.g., lanai screens, skyscrapers), bathymetry, etc. will enhance impacts.

In addition, the relative infrequency of extreme magnitude winds / surge may require some local impact statement re-wording. Impact statements for extreme events (e.g., Category 4 or 5 hurricanes) should be used only for these events. Use of phrases such as “certain death” have not been included in the baseline impact statements, but may be inserted if the extreme nature of the event warrants. However, forecasters should carefully consider the potential benefits before including such deterministic wording.

The overall format of the HLS follows.

Wtaaai cccc ddhhmm
HLSxxx

URGENT - IMMEDIATE BROADCAST REQUESTED
(TROPICAL CYCLONE TYPE)(NAME OR NUMBER) LOCAL STATEMENT
NATIONAL WEATHER SERVICE CITY, STATE
time am/pm time_zone day of week mon dd yyyy

...<Overview headline statement>...(optional)

.NEW INFORMATION...(mandatory)

.AREAS AFFECTED...(mandatory)

.WATCHES/WARNINGS...(mandatory)

.STORM INFORMATION...(mandatory)

.SITUATION OVERVIEW...(mandatory)

.PRECAUTIONARY/PREPAREDNESS ACTIONS...(mandatory)
PRECAUTIONARY/PREPAREDNESS ACTIONS...

&&

.NEXT UPDATE... (mandatory)

stZ001-005>015 (or marine GMZxxx-xxx) ddhhmm-
/k.aaa.cccc.pp.ss####.yymmddThhnnZ-000000T0000Z/
Zone-zone-zone-
Time am/pm time zone day mon dd yyyy

...HEADLINE... (mandatory)

...NEW INFORMATION...(optional)

...PRECAUTIONARY/PREPAREDNESS ACTIONS...(optional)
PRECAUTIONARY/PREPAREDNESS ACTIONS...

...PROBABILITY TROPICAL STORM/HURRICANE CONDITIONS...(optional)

...WINDS... or ...WINDS AND SEAS... for marine segment (optional)

```

...TORNADOES... or ...TORNADOES AND WATERSPOUTS... for marine segment
(optional)

$$

stZ001-005>015 (or marine GMZxxx-xxx) ddhhmm-
/k.aaa.cccc.pp.ss####.yymmddThhnnZ-000000T0000Z/
Zone-zone-zone-
Time am/pm time zone day mon dd yyyy

...HEADLINE... (mandatory)

...NEW INFORMATION...(optional)

...PRECAUTIONARY/PREPAREDNESS ACTIONS... (optional)
PRECAUTIONARY/PREPAREDNESS ACTIONS...

...PROBABILITY TROPICAL STORM/HURRICANE CONDITIONS... (optional)

...WINDS... or ...WINDS AND SEAS... for marine segment (optional)

...INLAND FLOODING...(optional)

...TORNADOES... or ...TORNADOES AND WATERSPOUTS...for marine segment
(optional)

...OTHER...(optional non-specific as included by forecaster)

$$

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Figure 14 Hurricane Local Statement format

See complete examples in Appendix A.

7.1.4 Relationship of HLS to other WFO-issued advisory / watch / warning products.

Four tables follow to clarify WFO product issuance actions once an HLS, carrying tropical cyclone watches and / or warnings, has been issued for their CWA.

Table 1A – Defines the products issued and those discontinued at coastal WFOs when tropical cyclone watches and warnings, issued via the HLS, are in effect for their CWA / MAOR.

Table 1B – Defines the products issued and those discontinued at inland WFOs listed in Section 7.1.2.2 when tropical cyclone watches and warnings, issued via the HLS, are in effect for their CWA.

Table 2 – Defines recommended WFO actions to take when NHC (or CPHC or WFO Guam) begins issuance of tropical cyclone advisories for the CWA when CFW products are currently in effect.

Table 3 – Defines recommended WFO actions to take when NHC (or CPHC or WFO Guam) begins issuance of tropical cyclone advisories for the CWA when Marine Weather Warning (MWW) products are currently in effect.

Table 1A. Coastal WFO Product Table

Tropical Cyclone Watch / Warning in Effect – Coastal WFOs	
Product	Product Issuance – Yes / No
Hurricane Local Statement (HLS)	Yes
Tornado Warning (TOR)	Yes
Extreme Wind Warning (EWW)	Yes
Severe Thunderstorm Warning (SVR)	Yes (See condition 1)
Special Marine Warning (SMW)	Yes (See condition 2)
Severe Weather Statement (SVS)	Yes
Special Weather Statement (SPS)	No
Marine Weather Statement (MWS)	Yes (See condition 2)
Non-precipitation Weather (NPW)	No (See condition 3)
Coastal Hazard Message (CFW)	Yes (See condition 4)
Surf Zone Forecast / Surf Forecast (SRF)	No
High Surf Warning / Advisory (CFW- issued by WFO Honolulu)	No

Table 1B. Inland WFO Product Table

Tropical Cyclone Watch / Warning in Effect – Inland WFOs in Section 7.1.2.2	
Product	Product Issuance – Yes / No
Hurricane Local Statement (HLS)	Yes
Tornado Warning (TOR)	Yes
Extreme Wind Warning (EWW)	Yes
Severe Thunderstorm Warning (SVR)	Yes (See condition 1)
Severe Weather Statement (SVS)	Yes
Special Weather Statement (SPS)	No
Non-precipitation Weather (NPW)	No (See condition 3)

Conditions for Tables 1A and 1B:

1 Severe Thunderstorm Warnings (SVR) and follow up statements may be issued as stand-alone products at the discretion of the WFO. However, their use should be confined to peripheral events, such as outer rain bands, prior to the onset of sustained tropical storm or hurricane force winds. If multiple SVR issuances are anticipated, the issuing WFO should contact SPC, adjacent WFOs, and affected Regional Operations Centers (ROCs) to collaborate on the potential need for convective watch products.

2 WFOs have the option to issue stand-alone Special Marine Warnings (SMWs) and follow up Marine Weather Statements (MWSs) on an as-needed basis. This will primarily occur during watch situations prior to the onset of tropical storm winds impacting a marine zone. In cases of waterspouts, SMWs may be issued anytime during tropical cyclone watch / warning situations.

3 WFOs will not issue NPW High Wind Watch / Warning products when tropical cyclone watch or warning conditions are expected, with the exception of those offices listed in Section 7.2. Those WFOs in Section 7.2 will issue NPW products in lieu of tropical cyclone watches or warnings.

4 If no CFW products were issued by the WFO prior to the issuance of a tropical cyclone watch or warning, then no CFW products will be issued once the tropical cyclone watches or warnings are in effect.

Complications occur when a CFW product is in effect and tropical cyclone watches and / or warnings are issued via the HLS. See Table 2 for guidance. In general, if the threat level of a tropical cyclone product equals or exceeds the threat level of an existing CFW, then the CFW will be discontinued. However, in cases where the threat level of the CFW product exceeds that of the tropical cyclone watch, then the CFW product will continue to be issued as a stand-alone product along with the HLS.

If a Rip Current Statement is in effect (via RP.S in the CFW) to heighten awareness for a Moderate or High Risk of Rip Currents and tropical cyclone watches / warnings are subsequently issued for those same zones, then the RP.S will be cancelled and rip current information will be provided within the HLS. For those zones for which a RP.S is in effect and tropical cyclone watches / warnings are not issued, WFOs may cancel the RP.S and replace it with a HU.S within the HLS.

Table 2. CFW VTEC Actions When Tropical Cyclone Watches / Warnings Are Subsequently Issued

VTEC Event and Significance Level	Tropical Cyclone (TC) Watch / Warning Subsequently Issued via the HLS	Continue VTEC Event	Cancel VTEC Event
Coastal Flood Watch /CF.A/	TC Watch		X
Coastal Flood Watch /CF.A/	TC Warning		X
Coastal Flood Advisory /CF.Y/	TC Watch	X	
Coastal Flood Advisory /CF.Y/	TC Warning		X
Coastal Flood Warning /CF.W/	TC Watch	X	
Coastal Flood Warning /CF.W/	TC Warning		X
High Surf Advisory /SU.Y/	TC Watch	X	
High Surf Advisory /SU.Y/	TC Warning		X
High Surf Warning (Pacific, Western Regions only) /SU.W/	TC Watch	X	
High Surf Warning (Pacific, Western Regions only) /SU.W/	TC Warning		X
Rip Current Statement /RP.S/	TC Watch		X
Rip Current Statement /RP.S/	TC Warning		X

Finally, if tropical cyclone advisories are discontinued and coastal hazards are expected behind the departing tropical cyclone, then CFW products will be issued as appropriate. Similar actions are taken when an MWW product is already in effect and tropical cyclone watches and / or warnings are issued via the HLS. In general, if the threat level of a tropical cyclone product

equals or exceeds the threat level of an existing MWW, then the MWW will be discontinued. However, in cases where the threat level of the MWW product exceeds that of the tropical cyclone watch, then the MWW product will continue to be issued as a stand-alone product, along with the HLS. See Table 3 for guidance.

Table 3. MWW Product Actions When Tropical Cyclone Watches / Warnings Are Subsequently Issued

Initial Coastal WFO Product In Effect	Tropical Cyclone (TC) Watch / Warning Subsequently Issued via the HLS	Continue MWW Issuance	Cancel MWW
Storm WATCH (MWW)	TC Watch / Warning		X
Storm WARNING (MWW)	TC Watch	X	
Storm WARNING (MWW)	TC Warning		X
Gale WATCH (MWW)	TC Watch / Warning		X
Gale WARNING (MWW)	TC Watch	X	
Gale WARNING (MWW)	TC Warning		X
Hazardous Seas WATCH (MWW)	TC Watch / Warning		X
Hazardous Seas WARNING (MWW)	TC Watch	X	
Hazardous Seas WARNING (MWW)	TC Warning		X
Small Craft Advisory (MWW)	TC Watch	X	
Small Craft Advisory (MWW)	TC Warning		X
Small Craft Advisory for Hazardous Seas (MWW)	TC Watch	X	
Small Craft Advisory for Hazardous Seas (MWW)	TC Warning		X
Small Craft Advisory for Winds (MWW)	TC Watch	X	
Small Craft Advisory for Winds (MWW)	TC Warning		X

7.1.5 Relationship of HLSs to the Short Term Forecast (NOW). The NOW is a stand-alone product focused on conditions impacting the office’s CWA for the next 0 to 6 hours. It may be used to complement the HLS by providing critical storm information.

7.1.6 Relationship of HLSs to the Zone Forecast Product (ZFP). The appropriate forecasts will highlight tropical cyclone watches and warnings.

7.2 Non-precipitation Weather Products (NPW). The following inland WFOs will **not** issue the HLS. These WFOs will issue the NPW for high wind watches and / or warnings if hurricane, tropical storm, subtropical storm, or post-tropical cyclone winds move into their area of responsibility.

Albany, NY (selected counties)
Binghamton, NY
Buffalo, NY
Burlington, VT
Charleston, WV
Cleveland, OH
Columbia, SC
Greer, SC
Pittsburgh, PA
Raleigh, NC
Roanoke, VA
State College, PA
Wilmington, OH

Flagstaff, AZ
Hanford, CA
Las Vegas, NV
Phoenix, AZ
Tucson, AZ

7.2.1 Mission Connection. Long duration warnings are issued by WFOs to protect lives and property. Watches and warnings provide our users and partners advance notice of hazardous weather events which have the potential to threaten life and property.

7.2.2 Issuance Guidelines

7.2.2.1 Creation Software. Use AWIPS GHG.

7.2.2.2 Issuance Criteria. High Wind Watches and Warnings will be issued following the guidance in NWSI 10-515, *WFO Non-Precipitation Weather Products Specification* and Region-specific supplements, if applicable.

- a. Watch - WFOs will issue High Wind Watches for their inland areas when tropical storm / hurricane force winds are possible within the watch area within 48 hours.
- b. Warning - WFOs will issue High Wind Warnings for their areas when tropical storm / hurricane force winds are expected within the warning area within 36 hours.

7.3 Extreme Wind Warning (EWW)

7.3.1 Mission Connection. Short duration warnings are issued by WFOs to protect lives and property. WFO forecasters issue short duration EWW products to provide the public with advance notice of the onset of extreme sustained winds of a major hurricane (category 3 or higher), usually associated with the eyewall of a hurricane. EWWs inform the public of the need to take immediate shelter in an interior portion of a well-built structure due to the onset of extreme tropical cyclone winds. WFO Guam will not normally issue EWW products for islands already covered by typhoon warnings.

7.3.2 Issuance Guidelines

7.3.2.1 Creation Software. AWIPS WarnGen.

7.3.2.2 Issuance Criteria. A EWW for extreme tropical cyclone winds should be issued when both of the following criteria are met:

- a. Tropical cyclone is a category 3 or greater on the Saffir Simpson Hurricane Wind Scale as designated by NHC or CPHC.
- b. Sustained tropical cyclone surface winds of 100 knots (115 mph) or greater are occurring or are expected to occur in a WFO's CWA within one hour.

7.3.2.3 Issuance Time. Short duration warnings are non-scheduled, event driven products.

7.3.2.4 Valid Time. The warning valid time should be two hours or less. In rare situations, the valid time may be for a three hour period. Forecasters should use good judgment to ensure the valid time of the short duration warning takes into account the geographic size of area warned versus the forward speed of the tropical cyclone. Once the EWW for an area has expired, WFOs should use the HLS or NOW products to provide additional information about the status of tropical cyclone winds for a previously warned area.

7.3.2.5 Product Expiration Time. The product expiration time is the end of the warning valid time.

7.3.3 Technical Description. The EWW will follow the format and content described in this section. WFOs should not use a call to action statement advising the public to go to the lowest floor if the warning area is susceptible to flooding.

7.3.4 UGC Type. County.

7.3.5 MND Broadcast Line. EWWs will include the broadcast line, "BULLETIN – EAS ACTIVATION REQUESTED". The term "BULLETIN" is used when information is sufficiently urgent to warrant breaking into a normal broadcast.

7.3.6 MND Header. The EWW MND header is: "EXTREME WIND WARNING".

7.3.7 Updates and Amendments. Updated EWWs and amendments are not applicable. WFOs should issue SVSs to update the status of specific EWWs. Updated information should include observed wind observations and / or reports of damage when available.

7.3.8 Cancellations and Expirations. WFOs may issue SVSs to inform the public when all or portions of a EWW have been canceled or have expired.

7.3.9 Corrections. WFOs will correct EWWs for significant grammatical errors, format or dissemination code errors, or for counties either omitted or erroneously added to a warning. Corrected warnings will have the same time in the MND Header and the same ETN in the VTEC line as the original warning.

7.3.10 Format

```

WFUS5i cccc ddhhmm
EWWccc
STC001-002-ddhhmm-
/k.aaa.cccc.pp.s.####.yyymmddThhnnZB-yyymmddThhnnZE/

BULLETIN - EAS ACTIVATION REQUESTED
EXTREME WIND WARNING
NATIONAL WEATHER SERVICE city state
time am/pm time zone day of the week mon dd yyyy

THE NATIONAL WEATHER SERVICE IN city HAS ISSUED AN

* EXTREME WIND WARNING FOR THE ONSET OF SUSTAINED WINDS OF 115 MPH OR
GREATER FOR...
  county one in section state (List warned counties)
  county two in section state (# Counties will match # counties in
UGC Line)
  IN ASSOCIATION WITH (Phenomenon/The Event)

* UNTIL hhmm am/pm time zone (Expiration time of warning)

* AT hhmm am/pm time zone...(Warning basis statement and forecast
impacts)

* THESE EXTREME WINDS WILL AFFECT... (Pathcast Version)
  location #1 AROUND hhmm am/pm time zone...
  location #2 AROUND hhmm am/pm time zone...

OR

  LOCATIONS IMPACTED INCLUDE... (Pathcast Version without time)
  location #1...
  location #2...
  (Impact Locations are mandatory, either pathcast or no pathcast
version listed above)

CALL TO ACTION
LAT...LON (Mandatory list of latitude/longitude points outlining the
forecaster-drawn area of greatest impact)
TIME...MOT...LOC

$$
FORECASTER NAME/NUMBER (OPTIONAL)

```

Figure 15 Extreme Wind Warning Format

See complete example in Appendix A.

7.4 Post Tropical Cyclone Report (PSH). The PSH is the primary WFO tropical cyclone product issued to the public to report and document local tropical cyclone impacts.

7.4.1 Mission Connection. The PSH product is intended to provide the NHC, NWS Headquarters, media, public and emergency management officials with a record of peak tropical cyclone conditions. This data are then used to formulate other post-event reports, news articles

and historical records. A standardized format has been introduced for easier post-processing of the data by end users. An example of this format can be found in Appendix A.

7.4.2 Issuance Guidelines

7.4.2.1 Creation Software. AWIPS Post Tropical Cyclone Storm Report software or text editor.

7.4.2.2 Issuance Criteria. All WFOs issuing HLSs will prepare post storm reports. Inland offices issuing Tropical Storm / Hurricane / Typhoon Wind watches or warnings will also submit reports. Other offices whose county warning area experiences wind gusts greater than 33 knots, flooding, tornadoes, damage or casualties will also submit reports.

7.4.2.3 Issuance Times. Transmit the reports within 5 days following the transmission of the last HLS or Tropical Storm / Hurricane / Typhoon Wind watches or warnings. Amend reports as needed.

7.4.2.4 Valid Times. Not applicable.

7.4.2.5 Product Expiration Time. Not applicable.

7.4.3 Technical Description.

7.4.3.1 UGC Type. Not applicable.

7.4.3.2 MND Header. The PSH header block product type line is: "POST TROPICAL CYCLONE REPORT...(TROPICAL CYCLONE TYPE)(NAME)".

7.4.3.3 Content. Include the following items in the initial report and in any subsequent updated reports:

Sections a and b - Wind data: If the observed peak gusts are greater than 33 knots, report highest sustained surface wind speed (knots) and duration (1-, 2- 8-, or 10-minute average whichever applies), peak gust (knots), and date / times of occurrence in UTC. Specify anemometer height (meters) if other than 10 meters. Report all land-based NOAA, DoD, and Federal Aviation Administration official observing sites (Automated Surface Observation Sites (ASOS) / Automated Weather Observation Sites (AWOS)) in the OFFICIAL OBSERVATIONS portion of section A. Report other reliable land-based data collected by government sources or other institutions in the UNOFFICIAL OBSERVATIONS portion of section A. These include: reports from stations maintained by the U. S. Coast Guard; state, county, and local governments; universities; private companies; and experimental networks. Report NOAA buoy / Coastal Marine Automated Network (C-MAN) stations, National Ocean Service (NOS) stations, and trusted private or university observations in, or near, a WFO's marine warning area, in section b. Also list adjusted speeds corrected for instrument type and speed range if known. NWS offices may include these data in the PSH only when deemed reliable based on the particular facts and circumstances.

Pressure data: Report lowest sea level pressure (millibars (mb)) and date / time of occurrence (UTC). Report data from all sources given in the wind data section and other stations where significant pressure observations are available. Report pressures less than 1005 mb, with pressure greater than 1005 mb reported as needed or as requested.

Section c - Storm total rainfall: Report amount (inches) and duration (dates). Report data from all sources given in Section a, and other stations where significant rainfall observations are available. Report storm total rainfalls of 3 inches or more, with amounts less than 3 inches reported as needed or as requested.

Section d - Inland flooding: Report to include date / times (UTC) and counties / parishes / independent cities of occurrence, along with a brief worded summary, as appropriate.

Section e - Maximum storm surge and storm tide: Reference storm tide to appropriate datums understood by local authorities. The preferred datum for reporting purposes is NAVD-88. Some areas may still be using the National Geodetic Vertical Datum of 1929 (NGVD-29) or MLLW. Report storm tide in feet above the datum, and storm surge / wind waves in feet above the normal, predicted (astronomical) tide level. Identify location and date / time (UTC) of occurrence where possible. Report storm surge greater than 1 foot. Report storm tides 1 foot or greater above the normal astronomical tide. Report tides of 1 foot or greater above normal, with tides of less than 1 foot above normal reported as needed or as requested. Report extent of beach erosion as appropriate.

The NOS Center for Operational Oceanographic Products and Services (NOS CO-OPS) will provide a final report of storm surge and storm tide information from NOS tide gauges to WFOs within 4 days following the issuance of the final HLS. The PSH will reflect the data and appropriate reference datums provided in the NOS report.

Section f - Tornadoes: Report times (UTC) and locations, along with a brief description of damage, as appropriate. The reports may be taken from Local Storm Reports (LSR) issued for the event.

Section g - Storm impacts: Including deaths, injuries, dollar damages, number of people evacuated, etc., per county / parish / independent city as reported by emergency management, trusted media sources, etc.

Please note: For data in sections (A, land observations), (B, marine observations), (C, storm total rainfall), and (F, tornadoes), latitude and longitude should be included. The AWIPS software will output the values, in the form xx.m (-)byy.n, where:

xx = degrees north latitude

m = rounded decimal value for latitude, in tenths of a degree

(-) = negative, or west, longitude, as necessary

b = 100s place, if needed

yy = degrees longitude, zero to 99

n = rounded decimal value for longitude, in tenths of a degree

7.4.3.4 Format

```

ACUS72 Kccc ddhhmm
PSHxxx

POST TROPICAL CYCLONE REPORT...(TROPICAL CYCLONE TYPE) (NAME)
NATIONAL WEATHER SERVICE CITY STATE
Time am/pm time zone day of week mon dd yyyy

TEXT (see Appendix A for specific details)

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Figure 16 Post Tropical Cyclone Report Format

See complete example in Appendix A.

7.5 Information for Service Assessments. Conterminous U.S. WFOs will forward a copy of media reports, especially newspaper clippings (online and printed) representative of the event and its impacts. Send reports to the appropriate regional headquarters and NHC within 7 days following the issuance of the last product concerning the storm. Reports do not have to include all interviews or radio or television spots concerning the landfall event in each local office's CWA.

7.6 Local Storm Reports (LSR). WFOs will prepare these reports in accordance with LSR instructions (Reference NWSI 10-517).

7.7 Storm Reports. WFOs will prepare these reports in accordance with Storm Data Preparation instruction (Reference NWSI 10-1605).

8. Correction Procedures. Tropical cyclone centers and WFOs should correct products using the following format:

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WTNT KNHC 161441 CCA
TCDAT1

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TROPICAL STORM ARTHUR DISCUSSION NUMBER 8...CORRECTED
NWS NATIONAL HURRICANE CENTER MIAMI FL
11 AM EDT TUE JULY 16 2002

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CORRECTED FOR (GIVE REASON)

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TEXT FOLLOWS...

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

9. Procedures for Populating WFO-Generated Wind Forecast Grids for Tropical Cyclone Events. Updates to this directive will take place as better methods for populating WFO-generated wind forecasts are integrated into the Interactive Forecast Preparation System. These instructions are primarily for CONUS WFOs.

9.1 Wind Speed Values Within the 34 knot Wind Radii

0 to 120 hours

WFOs will use the TCMWindTool to populate wind grids using the latest NHC advisory package. The AWIPS GFE Smart Tool uses the official tropical cyclone forecast center's TCM forecast advisory wind radii. For storm size, WFOs are not to exceed the wind radii specified in the official forecast advisory. For periods when the wind radii are not available from the official forecast advisory, WFOs will be provided output from a climatology-persistence model, but may also coordinate as needed with the tropical cyclone forecast center and with adjacent WFOs.

For storm intensity, the AWIPS GFE Smart Tool uses the full continuum of values, up to the maximum sustained wind speed value provided by the tropical cyclone forecast center through the forecast advisory. WFOs are not to exceed this maximum wind speed forecast.

Within the stated constraints, WFOs will apply local knowledge and mesoscale expertise to produce the final set of explicit / deterministic wind speed forecasts for the CWA / MAOR.

121 to 168 hours

Use WPC guidance on the location of tropical low pressure systems and associated wind fields and WFO discretion to produce explicit / deterministic wind speed forecasts for all CWA / MAOR grids using a full continuum of wind speeds up to 30 knots. The choice for 30 knots avoids potential confusion which can result from the automated rounding of 33 knots to 35 knots when generating graphical wind barbs, and with associated textual formatters which convert knots to miles per hour (then round to the nearest 5 mph).

9.2 Wind Speed Values Outside the 34 knot Wind Radii

0 to 168 hours

Use deterministic wind speed values.

9.3 Wind Direction Values Inside or Outside the 34 knot Wind Radii

0 to 168 hours

Use deterministic wind direction values.

9.4 Wind Gust Values Inside or Outside the 34 knot Wind Radii. At this time, there is no requirement to produce a gust grid. As an option, if a WFO desires to produce a gust grid it will have to be created with little or no guidance.

9.5 Caveat. It is highly recommended the following caveat be placed on all text and graphical products: “Winds in and near tropical cyclones should be used with caution due to uncertainty in forecast track, size, and intensity.”

APPENDIX A
EXAMPLES OF TROPICAL WEATHER PRODUCTS

Products from National Forecast Centers

Tropical Weather Outlook (TWO).....	A-2
Product Type Lines in Mass News Disseminator Header Block for TCP Products.....	A-4
Tropical Cyclone Public Advisory (TCP).....	A-4
Intermediate Public Advisory (TCP)	A-10
Special Public Advisory (TCP).....	A-12
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Tropical Cyclone Forecast / Advisory (TCM).....	A-18
Tropical Cyclone Discussion (TCD)	A-20
Tropical Cyclone Update (TCU)	A-21
Text Wind Speed Probabilities (PWS)	A-22
Graphical Wind Speed Probabilities.....	A-24
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Short Term Forecast (NOW)	A-39
Post Tropical Cyclone Report (PSH).....	A-40

Example: Tropical Weather Outlook from NHC

ZCZC MIATWOAT ALL
TTAA00 KNHC DDHHMM

TROPICAL WEATHER OUTLOOK
NWS NATIONAL HURRICANE CENTER MIAMI FL
200 PM EDT MON OCT 14 2013

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

The National Hurricane Center is issuing advisories on newly formed Tropical Depression Eleven, located in the central Gulf of Mexico.

Systems with the potential to become a tropical cyclone during the next 48 hours...

A broad area of low pressure located a couple of hundred miles south-southwest of Jamaica is accompanied by showers and thunderstorms. This disturbance remains disorganized, and development, if any, should be slow to occur over the next couple of days while it moves slowly northwestward. Environmental conditions are expected to be marginally conducive for some development when the system moves over the northwestern Caribbean Sea and the southern Gulf of Mexico later this week. Locally heavy rainfall is possible over portions of Haiti and Jamaica today, and will likely spread across the Cayman Islands and eastern Cuba on Tuesday.

- * Formation chance through 48 hours...low...10 percent
- * Formation chance through 5 days...medium...30 percent

A westward-moving tropical wave is producing showers and thunderstorms across the Windward Islands. However, upper-level winds are becoming unfavorable for further development of this system.

- * Formation chance through 48 hours...low...10 percent
- * Formation chance through 5 days...low...10 percent

Other systems with the potential to become a tropical cyclone beyond 48 hours...

A non-tropical area of low pressure could develop over the next couple of days a few hundred miles east of Bermuda, and this low will have some potential to gradually acquire tropical characteristics as it moves slowly southward.

- * Formation chance through 48 hours...low...near 0 percent
- * Formation chance through 5 days...low...20 percent

&&

Public Advisories on Tropical Depression Eleven are issued under WMO header WTNT31 KNHC and under AWIPS header MIATCPNT1. Forecast/Advisories are issued under WMO header WTNT21 KNHC and under AWIPS header MIATCMNT1.

\$\$
Forecaster Franklin
NNNN

Example: Tropical Weather Outlook from CPHC

ACPN50 PHFO 192350
TWOCP

TROPICAL WEATHER OUTLOOK
NWS CENTRAL PACIFIC HURRICANE CENTER HONOLULU HI
200 PM HST SUN SEP 19 2005

For The Central North Pacific...between 140W AND 180

1. An area of thunderstorms about 900 miles south southeast of Hilo is associated with a weak surface trough. The thunderstorms are currently poorly organized. The trough was moving west slowly.
*Formation chance through 48 hours...low...20 percent

Elsewhere...no tropical cyclones are expected through 200 PM HST.

\$\$

Fujii
NNNN

Example: Special Tropical Weather Outlook from NHC

ABNT20 KNHC 011550
TWOAT

SPECIAL TROPICAL WEATHER OUTLOOK
NWS NATIONAL HURRICANE CENTER MIAMI FL
400 PM EDT MON OCT 14 2014

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

Special tropical weather outlook issued to update the discussion of the low-pressure system near Jamaica.

Systems with the potential to become a tropical cyclone during the next 48 hours...

Updated: The broad area of low pressure located a couple of hundred miles south-southwest of Jamaica has become significantly better organized over the past few hours, and it's chances of becoming a tropical cyclone have increased. Environmental conditions are expected to remain favorable as the system moves slowly northwestward over the next couple of days. Locally heavy rainfall and strong gusty winds are possible over portions of Haiti and Jamaica today, and will likely spread across the Cayman Islands and eastern Cuba on Tuesday.

* Formation chance through 48 hours...high...60 percent
* Formation chance through 5 days...high...80 percent

A westward-moving tropical wave is producing showers and thunderstorms across the Windward Islands. However, upper-level winds are becoming unfavorable for further development of this system.

- * Formation chance through 48 hours...low...10 percent
- * Formation chance through 5 days...low...10 percent

Other systems with the potential to become a tropical cyclone beyond 48 hours...

A non-tropical area of low pressure could develop over the next couple of days a few hundred miles east of Bermuda, and this low will have some potential to gradually acquire tropical characteristics as it moves slowly southward.

- * Formation chance through 48 hours...low...near 0 percent
- * Formation chance through 5 days...low...20 percent

\$\$
Forecaster Franklin

Examples: Product Type Lines in MND Headers for TCP Products

TROPICAL DEPRESSION 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

Example: Tropical Cyclone Public Advisory (TCP) issued by NHC

WTNT34 KNHC 290252
TCPAT4

BULLETIN
HURRICANE ISAAC ADVISORY NUMBER 32
NWS NATIONAL HURRICANE CENTER MIAMI FL AL092012
1000 PM CDT TUE AUG 28 2012

...ISAAC PRODUCING A DANGEROUS STORM SURGE ALONG THE NORTHERN GULF COAST...
...FLOODING FROM RAINFALL TO FOLLOW...

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

LOCATION...29.0N 89.7W
ABOUT 75 MI...120 KM SE OF HOUMA LOUISIANA
ABOUT 75 MI...120 KM SSE OF NEW ORLEANS LOUISIANA
MAXIMUM SUSTAINED WINDS...80 MPH...130 KM/H
PRESENT MOVEMENT...NW OR 310 DEGREES AT 8 MPH...13 KM/H
MINIMUM CENTRAL PRESSURE...968 MB...28.59 INCHES

WATCHES AND WARNINGS

CHANGES WITH THIS ADVISORY...

THE TROPICAL STORM WATCH FROM WEST OF CAMERON LOUISIANA TO SABINE PASS TEXAS HAS BEEN REPLACED WITH A TROPICAL STORM WARNING.

SUMMARY OF WATCHES AND WARNINGS IN EFFECT...

A HURRICANE WARNING IS IN EFFECT FOR...

* EAST OF MORGAN CITY LOUISIANA TO THE MISSISSIPPI-ALABAMA BORDER...INCLUDING METROPOLITAN NEW ORLEANS...LAKE PONTCHARTRAIN...AND LAKE MAUREPAS

A HURRICANE WATCH IS IN EFFECT FOR...

* INTRACOASTAL CITY TO MORGAN CITY LOUISIANA

A TROPICAL STORM WARNING IS IN EFFECT FOR...

* THE MISSISSIPPI-ALABAMA BORDER TO DESTIN FLORIDA

* MORGAN CITY TO SABINE PASS TEXAS

A TROPICAL STORM WATCH IS IN EFFECT FOR...

* EAST OF HIGH ISLAND TEXAS TO JUST WEST OF SABINE PASS

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 48-HOUR OUTLOOK

AT 1000 PM CDT...0300 UTC...THE EYE OF HURRICANE ISAAC WAS LOCATED BY NOAA DOPPLER RADAR NEAR LATITUDE 29.0 NORTH...LONGITUDE 89.7 WEST. ISAAC IS MOVING TOWARD THE NORTHWEST NEAR 8 MPH...13 KM/H. A NORTHWESTWARD MOTION AT A SLIGHTLY SLOWER SPEED IS EXPECTED OVER THE NEXT DAY OR TWO. ON THE FORECAST TRACK...THE CENTER OF HURRICANE ISAAC WILL CONTINUE MOVING NEAR OR OVER THE SOUTHEASTERN COAST OF LOUISIANA TONIGHT...AND MOVE FARTHER INLAND OVER SOUTHEASTERN LOUISIANA DURING THE NEXT DAY OR SO.

MAXIMUM SUSTAINED WINDS ARE NEAR 80 MPH...130 KM/H...WITH HIGHER GUSTS. ISAAC IS A CATEGORY ONE HURRICANE ON THE SAFFIR-SIMPSON HURRICANE WIND SCALE. LITTLE CHANGE IN STRENGTH IS FORECAST TONIGHT. SLOW WEAKENING IS EXPECTED AFTER THAT.

HURRICANE FORCE WINDS EXTEND OUTWARD UP TO 60 MILES...95 KM...FROM THE CENTER...AND TROPICAL STORM FORCE WINDS EXTEND OUTWARD UP TO 185 MILES...295 KM. TROPICAL STORM CONDITIONS ARE OCCURRING ALONG THE COASTAL AREAS OF SOUTHEASTERN LOUISIANA...MISSISSIPPI...AND ALABAMA. A SUSTAINED WIND OF 56 MPH WITH A GUST TO 69 MPH WAS OBSERVED WITHIN THE PAST HOUR AT A NATIONAL OCEAN SERVICE SITE AT SHELL BEACH LOUISIANA. A WIND GUST TO 67 MPH WAS RECENTLY REPORTED AT LAKEFRONT AIRPORT ON THE SOUTH SHORE OF LAKE PONTCHARTRAIN NEAR NEW ORLEANS.

THE LATEST MINIMUM CENTRAL PRESSURE REPORTED RECONNAISSANCE AIRCRAFT WAS 968 MB...28.59 INCHES.

HAZARDS AFFECTING LAND

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...

- * MISSISSIPPI AND SOUTHEASTERN LOUISIANA...6 TO 12 FT
- * ALABAMA...4 TO 8 FT
- * SOUTH-CENTRAL LOUISIANA...3 TO 6 FT
- * FLORIDA PANHANDLE...3 TO 6 FT
- * APALACHEE BAY...2 TO 4 FT
- * REMAINDER OF FLORIDA WEST COAST...1 TO 3 FT

THE DEEPEST WATER WILL OCCUR ALONG THE IMMEDIATE COAST IN AREAS OF ONSHORE WINDS. 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 WEATHER SERVICE OFFICE. NEAR THE COAST...THE SURGE WILL BE ACCOMPANIED BY LARGE AND DANGEROUS WAVES.

A STORM SURGE OF 10.3 FEET WAS RECENTLY REPORTED AT A NATIONAL OCEAN SERVICE TIDE GAUGE AT SHELL BEACH LOUISIANA. A STORM SURGE OF 6.7 FEET WAS OBSERVED AT A NATIONAL OCEAN SERVICE TIDE GAUGE IN WAVELAND MISSISSIPPI.

WIND...TROPICAL STORM CONDITIONS WILL CONTINUE ACROSS THE WARNING AREA OVERNIGHT...AND HURRICANE CONDITIONS WILL CONTINUE TO SPREAD ONSHORE ACROSS SOUTHEASTERN LOUISIANA.

WINDS AFFECTING THE UPPER FLOORS OF HIGH-RISE BUILDINGS WILL BE SIGNIFICANTLY STRONGER THAN THOSE NEAR GROUND LEVEL. AT ABOUT THE 30TH STORY...WINDS WOULD LIKELY BE ONE SAFFIR-SIMPSON CATEGORY STRONGER THAN AT THE SURFACE.

RAINFALL...ISAAC IS EXPECTED TO PRODUCE TOTAL RAINFALL AMOUNTS OF 7 TO 14 INCHES...WITH POSSIBLE ISOLATED MAXIMUM AMOUNTS OF 20 INCHES...OVER MUCH OF LOUISIANA...SOUTHERN MISSISSIPPI...SOUTHERN ALABAMA...AND THE EXTREME WESTERN FLORIDA PANHANDLE. THESE RAINS COULD RESULT IN SIGNIFICANT LOWLAND FLOODING.

TORNADOES...ISOLATED TORNADOES ARE POSSIBLE ALONG THE CENTRAL GULF COAST REGION AND PARTS OF THE LOWER MISSISSIPPI RIVER VALLEY THROUGH WEDNESDAY.

SURF...DANGEROUS SURF AND RIP CURRENT CONDITIONS WILL CONTINUE TO AFFECT THE WEST COAST OF FLORIDA AND THE NORTHERN GULF COAST FOR THE NEXT DAY OR SO.

NEXT ADVISORY

NEXT INTERMEDIATE ADVISORIES...1200 AM CDT AND 200 AM CDT.
NEXT COMPLETE ADVISORY...400 AM CDT.

\$\$
FORECASTER BROWN

Example: Tropical Cyclone Public Advisory issued by WFO Guam

BULLETIN
TYPHOON BOPHA 26W ADVISORY NUMBER 29
NATIONAL WEATHER SERVICE TIYAN GU WP262012
800 AM CHST MON DEC 3 2012

...TYPHOON BOPHA (26W) WEAKENS AS IT MOVES AWAY FROM KOROR...

WATCHES AND WARNINGS

THE TYPHOON WARNINGS FOR KOROR AND KAYANGEL IN THE REPUBLIC OF PALAU ARE CANCELLED.

THE TROPICAL STORM WARNING REMAINS IN EFFECT FOR SONSOROL IN THE REPUBLIC OF PALAU.

SUMMARY OF 700 AM CHST...2100 UTC...INFORMATION

LOCATION...7.4N 133.6E
ABOUT 90 MI N OF SONSOROL
ABOUT 145 MI WSW OF KOROR AND
ABOUT 190 MI WSW OF KAYANGEL.
MAXIMUM SUSTAINED WINDS... 130 MPH
PRESENT MOVEMENT...W OR 275 AT 17 MPH

DISCUSSION AND OUTLOOK

AT 700 AM CHST...2100 UTC THE EYE OF TYPHOON BOPHA (26W) WAS LOCATED BY SATELLITE NEAR LATITUDE 7.4 NORTH...LONGITUDE 133.6 EAST. BOPHA IS MOVING TOWARD THE WEST AT 17 MPH. BOPHA IS EXPECTED TO MAINTAIN THIS GENERAL COURSE WITH A DECREASE IN FORWARD SPEED OVER THE NEXT 24 TO 48 HOURS. TYPHOON BOPHA IS MOVING FARTHER AWAY FROM KOROR AND IS NOW HEADING IN THE DIRECTION OF MINDANAO ISLAND IN THE SOUTHERN PHILIPPINES.

MAXIMUM SUSTAINED WINDS HAVE DECREASED TO 130 MPH...WITH HIGHER GUSTS TO 165 MPH. TYPHOON BOPHA WILL CONTINUE TO WEAKEN DURING THE DAY...HOWEVER A REINTENSIFICATION IS EXPECTED TONIGHT AND TOMORROW. BOPHA REMAINS A DANGEROUS CATEGORY FOUR TYPHOON ON THE SAFFIR-SIMPSON HURRICANE WIND SCALE.

TYPHOON FORCE WINDS EXTEND OUTWARD UP TO 35 MILES FROM THE CENTER AND TROPICAL STORM FORCE WINDS EXTEND OUTWARD UP TO 105 MILES FROM THE CENTER.

NEXT ADVISORY

NEXT INTERMEDIATE ADVISORY...1100 AM CHST THIS MORNING.
NEXT COMPLETE ADVISORY...200 PM CHST THIS AFTERNOON.

\$\$
KLEESCHULTE/AYDLETT

Example: Tropical Cyclone Public Advisory issued by NHC for system that has transitioned from a tropical cyclone to a post-tropical cyclone

BULLETIN
POST-TROPICAL CYCLONE MANDY ADVISORY NUMBER 29
NWS NATIONAL HURRICANE CENTER MIAMI FL AL182020
1100 AM EDT MON OCT 29 2020

...MANDY LOSES TROPICAL CHARACTERISTICS BUT HURRICANE WARNINGS REMAIN IN EFFECT...
...MANDY EXPECTED TO BRING LIFE-THREATENING STORM SURGE AND HURRICANE-FORCE WINDS TO THE COAST THIS AFTERNOON...

SUMMARY OF 1100 AM EDT...1500 UTC...INFORMATION

LOCATION...37.5N 71.5W
ABOUT 205 MI...330 KM SE OF ATLANTIC CITY NEW JERSEY
ABOUT 260 MI...415 KM SSE OF NEW YORK CITY
MAXIMUM SUSTAINED WINDS...90 MPH...150 KM/H
PRESENT MOVEMENT...NNW OR 330 DEGREES AT 18 MPH...30 KM/H
MINIMUM CENTRAL PRESSURE...943 MB...27.85 INCHES

WATCHES AND WARNINGS

CHANGES WITH THIS ADVISORY...

THE BERMUDA WEATHER SERVICE HAS DISCONTINUED THE TROPICAL STORM WARNING FOR BERMUDA.

SUMMARY OF WATCHES AND WARNINGS IN EFFECT...

A HURRICANE WARNING IS IN EFFECT FOR...
* NORTH OF CHINCOTEAGUE VIRGINIA TO CHATHAM MASSACHUSETTS
* THE TIDAL POTOMAC FROM COBB ISLAND TO SMITH POINT
* THE MIDDLE AND UPPER CHESAPEAKE BAY AND DELAWARE BAY

A TROPICAL STORM WARNING IS IN EFFECT FOR...
* NORTH OF SURF CITY NORTH CAROLINA TO CHINCOTEAGUE
* PAMLICO AND ALBEMARLE SOUNDS
* NORTH OF CHATHAM TO MERRIMACK RIVER MASSACHUSETTS
* THE LOWER CHESAPEAKE BAY

FOR STORM INFORMATION SPECIFIC TO YOUR AREA...INCLUDING INLAND WATCHES AND WARNINGS...PLEASE MONITOR PRODUCTS ISSUED BY YOUR LOCAL NATIONAL WEATHER SERVICE FORECAST OFFICE.

DISCUSSION AND 48-HOUR OUTLOOK

SATELLITE AND RECONNAISSANCE DATA INDICATE THAT THE CIRCULATION OF MANDY HAS BECOME OVERTAKEN BY A COLD FRONT DURING THE PAST FEW HOURS...AND AS A RESULT MANDY CAN NO LONGER BE CLASSIFIED AS A TROPICAL CYCLONE. HOWEVER...TO AVOID AN UNACCEPTABLE DISCONTINUITY IN SERVICE...THE NATIONAL HURRICANE CENTER WILL CONTINUE TO ISSUE ADVISORIES ON MANDY AS A POST-TROPICAL CYCLONE AS LONG AS THE SYSTEM POSES A SIGNIFICANT THREAT TO LIFE AND PROPERTY. IN ADDITION...THE COASTAL HURRICANE AND TROPICAL STORM WARNINGS WILL REMAIN IN EFFECT.

AT 1100 AM EDT...1500 UTC...THE CENTER OF POST-TROPICAL CYCLONE MANDY WAS LOCATED NEAR LATITUDE 37.5 NORTH...LONGITUDE 71.5 WEST. MANDY IS MOVING TOWARD THE NORTH-NORTHWEST NEAR 18 MPH...30 KM/H. A TURN TOWARD THE NORTHWEST IS EXPECTED SOON...FOLLOWED BY A TURN TOWARD THE WEST-NORTHWEST TONIGHT. ON THE FORECAST TRACK...THE CENTER OF MANDY IS EXPECTED TO MAKE LANDFALL ALONG OR JUST SOUTH OF THE SOUTHERN NEW JERSEY COAST THIS EVENING OR TONIGHT.

REPORTS FROM AN AIR FORCE HURRICANE HUNTER AIRCRAFT INDICATE THAT THE MAXIMUM SUSTAINED WINDS HAVE INCREASED TO NEAR 90 MPH...150 KM/H...WITH HIGHER GUSTS.

ALTHOUGH MANDY HAS BECOME A FRONTAL OR WINTERTIME LOW PRESSURE SYSTEM...THIS TRANSITION WILL NOT BE ACCOMPANIED BY A WEAKENING OF THE SYSTEM. IN FACT...A LITTLE STRENGTHENING IS POSSIBLE DURING THIS PROCESS. MANDY IS EXPECTED TO WEAKEN AFTER MOVING INLAND.

HURRICANE-FORCE WINDS EXTEND OUTWARD UP TO 175 MILES...280 KM...MAINLY SOUTHWEST OF THE CENTER...AND TROPICAL-STORM-FORCE WINDS EXTEND OUTWARD UP TO 485 MILES...780 KM. SUSTAINED WINDS TO TROPICAL STORM FORCE ARE OCCURRING FROM LONG ISLAND SOUTHWARD ALONG THE COASTS OF NEW JERSEY...DELAWARE...AND EASTERN VIRGINIA...AND EXTEND AS FAR INLAND AS THE CENTRAL AND SOUTHERN CHESAPEAKE BAY AND DELAWARE BAY. A WEATHERFLOW REPORT INDICATES A SUSTAINED WIND OF 53 MPH...85 KM/H...WITH A GUST TO 63 MPH...102 KM/H...HAS RECENTLY OCCURRED ON LONG ISLAND AT EATONS NECK NEW YORK.

THE ESTIMATED MINIMUM CENTRAL PRESSURE RECENTLY REPORTED BY RECONNAISSANCE AIRCRAFT WAS 943 MB...27.85 INCHES.

HAZARDS AFFECTING LAND

WIND...TROPICAL-STORM-FORCE WINDS ARE ALREADY OCCURRING OVER PORTIONS OF THE MID-ATLANTIC STATES FROM NORTH CAROLINA NORTHWARD TO LONG ISLAND. TROPICAL-STORM-FORCE WINDS ARE EXPECTED TO CONTINUE TO SPREAD OVER OTHER PORTIONS OF THE MID-ATLANTIC COAST...NEW YORK CITY...AND SOUTHERN NEW ENGLAND TODAY. HURRICANE-FORCE WINDS COULD REACH THE MID-ATLANTIC STATES...INCLUDING NEW YORK CITY AND LONG ISLAND...BY THIS EVENING. WINDS AFFECTING THE UPPER FLOORS OF HIGH-RISE BUILDINGS WILL BE SIGNIFICANTLY STRONGER THAN THOSE NEAR GROUND LEVEL.

STORM SURGE...THE COMBINATION OF AN EXTREMELY 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...

NC NORTH OF SURF CITY INCLUDING PAMLICO/ALBEMARLE SOUNDS...4 TO 6 FT
SE VA AND DELMARVA INCLUDING LOWER CHESAPEAKE BAY...2 TO 4 FT
UPPER AND MIDDLE CHESAPEAKE BAY...1 TO 3 FT
LONG ISLAND SOUND...RARITAN BAY...AND NEW YORK HARBOR...6 TO 11 FT
ELSEWHERE FROM OCEAN CITY MD TO THE CT/RI BORDER...4 TO 8 FT
CT/RI BORDER TO THE SOUTH SHORE OF CAPE COD INCLUDING BUZZARDS BAY AND NARRAGANSETT BAY...3 TO 6 FT
CAPE COD TO THE MA/NH BORDER INCLUDING CAPE COD BAY...2 TO 4 FT
MA/NH BORDER TO THE U.S./CANADA BORDER...1 TO 3 FT

SURGE-RELATED FLOODING DEPENDS ON THE RELATIVE TIMING OF THE SURGE AND THE TIDAL CYCLE...AND CAN VARY GREATLY OVER SHORT DISTANCES. GIVEN THE LARGE WIND FIELD ASSOCIATED WITH MANDY...ELEVATED WATER LEVELS COULD SPAN MULTIPLE TIDE CYCLES RESULTING IN REPEATED AND EXTENDED PERIODS OF COASTAL AND BAYSIDE FLOODING. IN ADDITION...ELEVATED WATERS COULD OCCUR FAR REMOVED FROM THE CENTER OF MANDY. THE TRANSITION OF MANDY TO A POST-TROPICAL CYCLONE WILL NOT IN ANY WAY LESSEN THESE IMPACTS. FOR INFORMATION SPECIFIC TO YOUR AREA...PLEASE SEE PRODUCTS ISSUED BY YOUR LOCAL NATIONAL WEATHER SERVICE OFFICE.

RAINFALL...RAINFALL TOTALS OF 3 TO 6 INCHES ARE EXPECTED OVER FAR NORTHEASTERN NORTH CAROLINA WITH ISOLATED MAXIMUM TOTALS OF 8 INCHES POSSIBLE. RAINFALL AMOUNTS OF 4 TO 8 INCHES ARE EXPECTED OVER PORTIONS OF THE MID ATLANTIC STATES...INCLUDING THE DELMARVA PENINSULA...WITH ISOLATED

MAXIMUM AMOUNTS OF 12 INCHES POSSIBLE. RAINFALL AMOUNTS OF 1 TO 3 INCHES WITH ISOLATED MAXIMUM AMOUNTS OF 5 INCHES ARE POSSIBLE FROM THE SOUTHERN TIER OF NEW YORK STATE NORTHEASTWARD THROUGH NEW ENGLAND.

SNOWFALL...SNOW ACCUMULATIONS OF 2 TO 3 FEET ARE EXPECTED IN THE MOUNTAINS OF WEST VIRGINIA WITH LOCALLY HIGHER TOTALS TODAY THROUGH WEDNESDAY. SNOWFALL OF 1 TO 2 FEET IS EXPECTED IN THE MOUNTAINS OF SOUTHWESTERN VIRGINIA TO THE KENTUCKY BORDER...WITH 12 TO 18 INCHES OF SNOW EXPECTED IN THE MOUNTAINS NEAR THE NORTH CAROLINA/TENNESSEE BORDER AND IN THE MOUNTAINS OF WESTERN MARYLAND.

SURF...DANGEROUS SURF CONDITIONS WILL CONTINUE FROM FLORIDA THROUGH NEW ENGLAND FOR THE NEXT COUPLE OF DAYS.

NEXT ADVISORY

NEXT INTERMEDIATE ADVISORY...200 PM EDT.
NEXT COMPLETE ADVISORY...500 PM EDT.

\$\$
FORECASTER STEWART

NNNN

Example: Intermediate Public Advisory

WTNT34 KNHC 241749
TCPAT4

BULLETIN
TROPICAL STORM DEBBY INTERMEDIATE ADVISORY NUMBER 5A
NWS NATIONAL HURRICANE CENTER MIAMI FL AL042012
100 PM CDT SUN JUN 24 2012

...TROPICAL STORM CONDITIONS CONTINUE OVER PORTIONS OF THE NORTHEAST GULF COAST...

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

LOCATION...28.3N 85.9W
ABOUT 200 MI...325 KM ESE OF THE MOUTH OF THE MISSISSIPPI RIVER
ABOUT 105 MI...170 KM SSW OF APALACHICOLA FLORIDA
MAXIMUM SUSTAINED WINDS...60 MPH...95 KM/H
PRESENT MOVEMENT...NE OR 40 DEGREES AT 5 MPH...7 KM/H
MINIMUM CENTRAL PRESSURE...993 MB...29.32 INCHES

WATCHES AND WARNINGS

CHANGES WITH THIS ADVISORY...

NONE.

SUMMARY OF WATCHES AND WARNINGS IN EFFECT...

A TROPICAL STORM WARNING IS IN EFFECT FOR...

NWSI 10-601 JUNE 10, 2014

* THE COAST OF LOUISIANA FROM THE MOUTH OF THE PEARL RIVER WESTWARD TO MORGAN CITY...NOT INCLUDING THE CITY OF NEW ORLEANS OR LAKE PONTCHARTRAIN
* THE MISSISSIPPI-ALABAMA BORDER EASTWARD TO THE SUWANNEE RIVER FLORIDA

A TROPICAL STORM WATCH IS IN EFFECT FOR...
* SOUTH OF THE SUWANNEE RIVER TO ANCLOTE KEY FLORIDA

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...IN THIS CASE WITHIN 12 TO 24 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 48-HOUR OUTLOOK

AT 100 PM CDT...1800 UTC...THE CENTER OF TROPICAL STORM DEBBY WAS LOCATED NEAR LATITUDE 28.3 NORTH...LONGITUDE 85.9 WEST. DEBBY IS MOVING TOWARD THE NORTHEAST NEAR 6 MPH...9 KM/H. NO SIGNIFICANT MOTION IS EXPECTED DURING THE NEXT 12 TO 24 HOURS...AND THE TRACK BEYOND THAT TIME IS HIGHLY UNCERTAIN.

MAXIMUM SUSTAINED WINDS REMAIN NEAR 60 MPH...95 KM/H...WITH HIGHER GUSTS. SOME SLIGHT STRENGTHENING IS POSSIBLE DURING THE NEXT 48 HOURS.

TROPICAL-STORM-FORCE WINDS EXTEND OUTWARD UP TO 200 MILES...325 KM.

THE LATEST MINIMUM CENTRAL PRESSURE MEASURED BY A RECONNAISSANCE AIRCRAFT WAS 993 MB...29.32 INCHES.

HAZARDS AFFECTING LAND

WIND...TROPICAL STORM CONDITIONS ARE ALREADY NEAR OR OVER PORTIONS OF THE NORTHEAST GULF COAST AND ARE EXPECTED TO REACH THE REMAINDER OF THE WARNING AREA BY TONIGHT...MAKING OUTSIDE PREPARATIONS DIFFICULT OR DANGEROUS.

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...

SOUTHEASTERN LOUISIANA EASTWARD THROUGH APALACHEE BAY...3 TO 5 FT
FLORIDA WEST COAST SOUTH OF APALACHEE BAY...1 TO 3 FT
SOUTHWESTERN LOUISIANA...1 TO 3 FT

THE DEEPEST WATER WILL OCCUR ALONG THE IMMEDIATE COAST IN AREAS OF ONSHORE FLOW. 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...DEBBY IS EXPECTED TO PRODUCE RAIN ACCUMULATIONS OF 5 TO 10 INCHES ALONG THE IMMEDIATE GULF COAST FROM SOUTHEAST LOUISIANA TO THE CENTRAL WEST COAST OF FLORIDA...WITH ISOLATED MAXIMUM AMOUNTS OF 15 INCHES POSSIBLE.

GIVEN THE RECENT HEAVY RAINFALL AND WET SOIL CONDITIONS...THESE ADDITIONAL AMOUNTS WILL EXACERBATE THE THREAT OF FLOODING ACROSS PORTIONS OF NORTHERN FLORIDA AND SOUTHERN ALABAMA.

TORNADOES...ISOLATED TORNADOES ARE POSSIBLE OVER PORTIONS OF THE WEST-CENTRAL AND SOUTHWESTERN FLORIDA PENINSULA TODAY.

NEXT ADVISORY

NEXT COMPLETE ADVISORY...400 PM CDT.

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FORECASTER AVILA

Example: Special Public Advisory

WTPZ31 KNHC 161206
TCPEP1

BULLETIN
HURRICANE PAUL SPECIAL ADVISORY NUMBER 12
NWS NATIONAL HURRICANE CENTER MIAMI FL EP162012
500 AM PDT TUE OCT 16 2012

...PAUL MOVING FASTER TOWARD THE COAST OF SOUTHERN BAJA CALIFORNIA...
...LANDFALL EXPECTED THIS AFTERNOON...

SUMMARY OF 500 AM PDT...1200 UTC...INFORMATION

LOCATION...22.9N 112.3W
ABOUT 130 MI...210 KM S OF CABO SAN LAZARO MEXICO
MAXIMUM SUSTAINED WINDS...110 MPH...175 KM/H
PRESENT MOVEMENT...NNE OR 20 DEGREES AT 21 MPH...33 KM/H
MINIMUM CENTRAL PRESSURE...967 MB...28.56 INCHES

WATCHES AND WARNINGS

CHANGES WITH THIS ADVISORY...

NONE.

SUMMARY OF WATCHES AND WARNINGS IN EFFECT...

A HURRICANE WARNING IS IN EFFECT FOR THE...

* WEST COAST OF BAJA CALIFORNIA FROM SANTA FE NORTHWARD TO PUNTA ABREOJOS

A TROPICAL STORM WARNING IS IN EFFECT FOR THE...

* WEST COAST OF BAJA CALIFORNIA NORTH OF PUNTA ABREOJOS TO EL POCITO

* WEST COAST OF BAJA CALIFORNIA SOUTH OF SANTA FE TO AGUA BLANCA

* EAST COAST OF BAJA CALIFORNIA FROM LA PAZ TO BAHIA SAN JUAN BAUTISTA

A TROPICAL STORM WATCH IS IN EFFECT FOR THE...

* WEST COAST OF BAJA CALIFORNIA NORTH OF EL POCITO TO PUNTA EUGENIA

PREPARATIONS TO PROTECT LIFE AND PROPERTY SHOULD BE RUSHED TO COMPLETION.

FOR STORM INFORMATION SPECIFIC TO YOUR AREA PLEASE MONITOR PRODUCTS ISSUED BY YOUR NATIONAL METEOROLOGICAL SERVICE.

DISCUSSION AND 48-HOUR OUTLOOK

AT 500 AM PDT...1200 UTC...THE CENTER OF HURRICANE PAUL WAS LOCATED NEAR LATITUDE 22.9 NORTH...LONGITUDE 112.3 WEST. PAUL HAS ACCELERATED AND IS NOW MOVING TOWARD THE NORTH-NORTHEAST NEAR 21 MPH...33 KM/H. ON THE FORECAST TRACK...THE CORE OF THE HURRICANE WILL MAKE LANDFALL WITHIN THE HURRICANE WARNING AREA THIS AFTERNOON. A TURN TO THE NORTH WITH A DECREASE IN FORWARD SPEED IS EXPECTED ON WEDNESDAY.

MAXIMUM SUSTAINED WINDS ARE NEAR 110 MPH...175 KM/H...WITH HIGHER GUSTS. PAUL IS A CATEGORY TWO HURRICANE ON THE SAFFIR-SIMPSON HURRICANE WIND SCALE. LITTLE CHANGE IN STRENGTH IS EXPECTED PRIOR TO LANDFALL...FOLLOWED BY WEAKENING AFTER LANDFALL.

HURRICANE FORCE WINDS EXTEND OUTWARD UP TO 30 MILES...45 KM...FROM THE CENTER...AND TROPICAL STORM FORCE WINDS EXTEND OUTWARD UP TO 115 MILES...185 KM.

ESTIMATED MINIMUM CENTRAL PRESSURE IS 967 MB...28.56 INCHES.

HAZARDS AFFECTING LAND

WIND...TROPICAL STORM CONDITIONS ARE EXPECTED TO BEGIN IN THE HURRICANE WARNING AREA WITHIN THE NEXT FEW HOURS...WITH HURRICANE CONDITIONS ARRIVING EARLY THIS AFTERNOON. TROPICAL STORM CONDITIONS ARE EXPECTED TO SPREAD NORTHWARD ALONG THE EAST COAST OF SOUTHERN AND CENTRAL BAJA CALIFORNIA LATER TODAY THROUGH EARLY WEDNESDAY. TROPICAL STORM CONDITIONS ARE POSSIBLE WITHIN THE TROPICAL STORM WATCH AREA ON WEDNESDAY.

RAINFALL...PAUL IS EXPECTED TO PRODUCE TOTAL RAIN ACCUMULATIONS OF 2 TO 4 INCHES OVER THE SOUTHERN BAJA PENINSULA...WITH POSSIBLE ISOLATED MAXIMUM AMOUNTS OF 8 INCHES. THESE RAINS COULD PRODUCE LIFE-THREATENING FLASH FLOODS AND MUD SLIDES...ESPECIALLY IN AREAS OF MOUNTAINOUS TERRAIN.

STORM SURGE...A DANGEROUS STORM SURGE IS EXPECTED TO PRODUCE SIGNIFICANT COASTAL FLOODING ALONG THE COAST OF SOUTHERN AND CENTRAL BAJA CALIFORNIA IN AREAS OF ONSHORE WINDS. NEAR THE COAST...THE SURGE WILL BE ACCOMPANIED BY LARGE AND DESTRUCTIVE WAVES.

SURF...SWELLS GENERATED BY PAUL WILL CONTINUE TO AFFECT THE WEST COAST OF BAJA CALIFORNIA FOR THE NEXT DAY OR SO. 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...800 AM PDT.

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FORECASTER AVILA/FRANKLIN

Example: Public Advisory Correction

WTNT31 KNHC 240855 CCA
TCPAT3

HURRICANE ANDREW ADVISORY NUMBER 25...CORRECTED
NWS NATIONAL HURRICANE CENTER MIAMI FL AL011992
500 AM EDT MON AUG 24 1992

CORRECTED FOR CENTRAL PRESSURE.

BODY OF TEXT
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Example: 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 48-HOUR 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...800 AM EDT.
NEXT COMPLETE ADVISORY...1100 AM EDT.

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FORECASTER BRENNAN

Example: WPC Public Advisory

WTNT35 KWNH 050914
TCPAT5

REMNANTS OF LEE ADVISORY NUMBER 15
NWS WEATHER PREDICTION CENTER CAMP SPRINGS MD AL132011
400 AM CDT MON SEP 05 2011

...TROPICAL DEPRESSION LEE BECOMES EXTRATROPICAL IN SOUTHERN LOUISIANA...

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

LOCATION...30.2N 90.8W
ABOUT 35 MILES...55 KM...WNW OF NEW ORLEANS/MOISANT LOUISIANA.
MAXIMUM SUSTAINED WINDS...35 MPH...55 KM/H
PRESENT MOVEMENT...E OR 090 DEGREES AT 12 MPH...19 KM/H
MINIMUM CENTRAL PRESSURE...994 MB...29.36 INCHES

WATCHES AND WARNINGS

FLASH FLOOD WARNINGS AND FLASH FLOOD WATCHES ARE IN EFFECT FROM THE LOWER MISSISSIPPI VALLEY EASTWARD INTO THE FLORIDA PANHANDLE AND THE SOUTHERN APPALACHIANS. WIND ADVISORIES ARE ALSO IN EFFECT FROM THE LOWER AND MID-MISSISSIPPI VALLEY WESTWARD INTO EASTERN TEXAS.

FOR INFORMATION SPECIFIC TO YOUR AREA...INCLUDING POSSIBLE WATCHES AND WARNINGS...PLEASE MONITOR PRODUCTS ISSUED BY YOUR LOCAL NATIONAL WEATHER SERVICE OFFICE AT WWW.WEATHER.GOV.

DISCUSSION AND 48-HOUR OUTLOOK

AT 400 AM CDT...0900 UTC...THE CENTER OF LEE WAS RELOCATED TO NEAR LATITUDE 30.2 NORTH...AND LONGITUDE 90.8 WEST. LEE HAS BECOME EXTRATROPICAL OVER SOUTHERN LOUISIANA AS IT HAS MERGED WITH A FRONTAL ZONE WITH COOL AND DRY AIR INFILTRATING THE CIRCULATION CENTER FROM THE NORTH AND WEST. THE EXTRATROPICAL LOW CENTER IS EXPECTED TO TURN TOWARDS THE NORTHEAST...BRINGING THE CENTER INTO SOUTHERN MISSISSIPPI TODAY AND INTO ALABAMA ON TUESDAY. TROPICAL MOISTURE ASSOCIATED WITH THE REMNANTS OF LEE WILL CONTINUE TO INTERACT WITH THE FRONTAL ZONE...AND EXTREMELY HEAVY RAIN IS EXPECTED TO FALL IN LOCATIONS WELL IN ADVANCE OF THE CIRCULATION CENTER.

MAXIMUM SUSTAINED WINDS ARE NEAR 35 MPH...55 KM/H...WITH HIGHER GUSTS.

MINIMUM CENTRAL PRESSURE IS 994 MB...29.36 INCHES.

HAZARDS

RAINFALL...THE REMNANTS OF LEE ARE EXPECTED TO PRODUCE TOTAL RAIN ACCUMULATIONS OF 10 TO 15 INCHES ACROSS THE CENTRAL GULF COAST REGION...WITH POSSIBLE ISOLATED MAXIMUM AMOUNTS OF 20 INCHES THROUGH TUESDAY. HEAVY RAINS WILL CONTINUE TO EXPAND NORTHEASTWARD INTO THE TENNESSEE VALLEY AND SOUTHERN APPALACHIAN MOUNTAINS THROUGH TUESDAY...WHERE RAINFALL AMOUNTS OF 4 TO 8 INCHES ARE EXPECTED...WITH ISOLATED AMOUNTS OF 12 INCHES POSSIBLE. THESE RAINS MAY CAUSE LIFE THREATENING FLASH FLOODS AND MUDSLIDES.

RAINFALL TOTALS

SELECTED STORM TOTAL RAINFALL IN INCHES THROUGH 3 AM CDT

...ALABAMA...

MOBILE/BATES FIELD	9.80
MUSCLE SHOALS RGNL ARPT	2.52
CAIRNS AAF/OZARK	1.55
EVERGREEN	1.47

...FLORIDA...

DESTIN AIRPORT	5.78
MILTON/WHITING FIELD NAS	5.25
HURLBURT FIELD AWS	5.24
PENSACOLA RGNL ARPT	4.37
APALACHICOLA MUNI ARPT	4.25
VALPARAISO/EGLIN AFB	4.24
TYNDALL AFB/PANAMA CITY	3.36
PENSACOLA NAS	3.29

...KENTUCKY...

HENDERSON CITY	0.95
BOWLING GREEN-WARREN CO. ARPT	0.84
FORT KNOX AAF	0.43

...LOUISIANA...

NEW ORLEANS/MOISANT	10.91
NEW ORLEANS/LAKEFRONT	9.85
BOOTHVILLE	8.64
BATON ROUGE/RYAN MUNI ARPT	8.20
SLIDELL	6.07
NEW IBERIA/ACADIANA	6.01
ALEXANDRIA/ESLER	5.90
LAFAYETTE RGNL ARPT	5.65

...MISSISSIPPI...

PASCAGOULA	10.43
KEESLER AFB/BILOXI	9.79
GULFPORT-BILOXI	9.16
MCCOMB/LEWIS FIELD	6.35
HATTIESBURG/LAUREL	6.04
HATTIESBURG/CHAIN MUNI ARPT	6.00
JACKSON WFO	5.43

...TENNESSEE...

CLARKSVILLE/OUTLAW FIELD	1.68
OAK RIDGE (ASOS)	1.58
CROSSVILLE MEMORIAL ARPT	1.46
KNOXVILLE MUNI ARPT	1.02
NASHVILLE METRO ARPT	1.00

...TEXAS...

BEAUMONT/PORT ARTHUR	3.20
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NEXT ADVISORY

THE NEXT ADVISORY WILL BE ISSUED AT 1000 AM CDT. PLEASE REFER TO YOUR LOCAL NATIONAL WEATHER SERVICE OFFICE FOR FURTHER INFORMATION ON THIS STORM.

FORECASTER KONG

FORECAST POSITIONS

INITIAL 05/0900Z 30.2N 90.8W
12HR VT 05/1800Z 31.9N 89.7W...POST-TROP/EXTRATROP
24HR VT 06/0600Z 32.9N 88.2W...POST-TROP/EXTRATROP
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Example: Tropical Cyclone Forecast / Advisory (TCM)

WTNT24 KNHC 111505
TCMAT4

HURRICANE IKE FORECAST/ADVISORY NUMBER 42
NWS NATIONAL HURRICANE CENTER MIAMI FL AL092008
1500 UTC THU SEP 11 2008

CHANGES IN WATCHES AND WARNINGS WITH THIS ADVISORY...

A HURRICANE WARNING HAS BEEN ISSUED FROM MORGAN CITY LOUISIANA TO BAFFIN BAY TEXAS.

A TROPICAL STORM WARNING HAS BEEN ISSUED FROM SOUTH OF BAFFIN BAY TO PORT MANSFIELD TEXAS.

SUMMARY OF WATCHES AND WARNINGS IN EFFECT...

A HURRICANE WARNING IS IN EFFECT FOR...
* MORGAN CITY LOUISIANA TO BAFFIN BAY TEXAS

A TROPICAL STORM WARNING IS IN EFFECT FOR...
* EAST OF MORGAN CITY TO THE MISSISSIPPI-ALABAMA BORDER...INCLUDING THE CITY OF NEW ORLEANS AND LAKE PONTCHARTRAIN
* SOUTH OF BAFFIN BAY TO PORT MANSFIELD

HURRICANE CENTER LOCATED NEAR 25.5N 88.4W AT 11/1500Z
POSITION ACCURATE WITHIN 10 NM

PRESENT MOVEMENT TOWARD THE WEST-NORTHWEST OR 290 DEGREES AT 9 KT

ESTIMATED MINIMUM CENTRAL PRESSURE 945 MB
MAX SUSTAINED WINDS 85 KT WITH GUSTS TO 105 KT.
64 KT.....100NE 100SE 30SW 60NW.
50 KT.....150NE 150SE 90SW 140NW.
34 KT.....230NE 240SE 150SW 180NW.
12 FT SEAS..330NE 240SE 240SW 400NW.
WINDS AND SEAS VARY GREATLY IN EACH QUADRANT. RADII IN NAUTICAL MILES ARE THE LARGEST RADII EXPECTED ANYWHERE IN THAT QUADRANT.

NWSI 10-601 JUNE 10, 2014

REPEAT...CENTER LOCATED NEAR 25.5N 88.4W AT 11/1500Z
AT 11/1200Z CENTER WAS LOCATED NEAR 25.3N 88.0W

FORECAST VALID 12/0000Z 25.9N 90.0W
MAX WIND 90 KT...GUSTS 110 KT.
64 KT...100NE 100SE 30SW 60NW.
50 KT...150NE 150SE 90SW 140NW.
34 KT...230NE 240SE 150SW 180NW.

FORECAST VALID 12/1200Z 26.6N 92.0W
MAX WIND 95 KT...GUSTS 115 KT.
64 KT...100NE 100SE 50SW 60NW.
50 KT...150NE 150SE 90SW 140NW.
34 KT...230NE 240SE 150SW 180NW.

FORECAST VALID 13/0000Z 27.8N 94.2W
MAX WIND 105 KT...GUSTS 130 KT.
64 KT...100NE 100SE 50SW 60NW.
50 KT...150NE 150SE 90SW 120NW.
34 KT...230NE 240SE 150SW 160NW.

FORECAST VALID 13/1200Z 29.5N 95.9W...INLAND
MAX WIND 100 KT...GUSTS 120 KT.
50 KT...120NE 125SE 75SW 90NW.
34 KT...180NE 240SE 120SW 120NW.

FORECAST VALID 14/1200Z 34.5N 94.0W...INLAND
MAX WIND 35 KT...GUSTS 45 KT.
34 KT... 75NE 75SE 50SW 50NW.

EXTENDED OUTLOOK. NOTE...ERRORS FOR TRACK HAVE AVERAGED NEAR 225 NM ON DAY 4
AND 300 NM ON DAY 5...AND FOR INTENSITY NEAR 20 KT EACH DAY.

OUTLOOK VALID 15/1200Z 38.0N 85.0W...POST-TROP/EXTRATROP
MAX WIND 25 KT...GUSTS 35 KT.

OUTLOOK VALID 16/1200Z...ABSORBED

REQUEST FOR 3 HOURLY SHIP REPORTS WITHIN 300 MILES OF 25.5N 88.4W

NEXT ADVISORY AT 11/2100Z

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FORECASTER FRANKLIN

Example: Tropical Cyclone Forecast Discussion (TCD)

WTNT41 KNHC 021452
 TCDAT1
 TROPICAL STORM TOMAS DISCUSSION NUMBER 18
 NWS NATIONAL HURRICANE CENTER MIAMI FL AL212010
 1100 AM EDT TUE NOV 02 2010

Tomas has certainly become better organized since yesterday, with a large area of deep convection and increased banding seen in conventional satellite and microwave data. However, the storm has changed little in organization since the reconnaissance aircraft reported SFMR surface winds of 45 kt around 0800 UTC. Therefore, the initial intensity is held at that value, which is in line with the latest DVORAK T-Numbers of 2.5 AND 3.5 from SAB AND TAFB, respectively. The next Air Force Hurricane Hunter aircraft is scheduled to investigate Tomas this afternoon.

Westerly shear continues to relax and the mid-level environment appears to be moistening. These atmospheric conditions, combined with high oceanic heat content, favor intensification during the next few days, which is shown by most of the guidance. In fact, the SHIPS rapid intensification index gives a 48 percent chance of a 30-kt increase in wind speed during the next 24 hours. The official forecast has been adjusted upward from the previous advisory and is now at or just above the high end of the intensity guidance. After a few days, land interaction, drier air, and some increase in southerly shear is likely to cause weakening.

The initial motion estimate is a little slower than before - 270/9. A turn to the west-northwest and northwest with a decrease in forward speed is forecast during the next 24-48 hours as a strong trough moves eastward across the Gulf of Mexico. As a result, Tomas is expected to turn northward and northeastward beyond 48 hours in deep-layer southwesterly flow on the east side of the trough. Several of the global models suggest that the trough will not completely capture Tomas and there remains a large disagreement in the future position of the cyclone at days 4 and 5. The official forecast is of low confidence during that time period and is near a consensus of the GFS, GFDL, UKMET, NOGAPS, and ECMWF models. Regardless of the exact track and intensity of Tomas, it appears that the tropical cyclone will pose a significant threat of heavy rainfall over Haiti and the Dominican Republic later in the week.

Forecast Positions and Max Winds

INIT	13/0900Z	20.5N	86.0W	80 KT	90 MPH
12H	13/1800Z	21.2N	85.9W	90 KT	105 MPH
24H	14/0600Z	22.0N	85.7W	95 KT	110 MPH
36H	14/1800Z	22.8N	85.6W	100 KT	115 MPH
48H	15/0600Z	23.7N	85.5W	105 KT	120 MPH
72H	16/0600Z	25.4N	85.2W	115 KT	135 MPH
96H	17/0600Z	27.1N	85.0W	120 KT	140 MPH
120H	18/0600Z	28.8N	84.7W	105 KT	120 MPH

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 Forecaster Cangialosi/Brown

Example: Tropical Cyclone Update (TCU)

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

WTNT64 KNHC 052333
TCUAT4

TROPICAL STORM COLIN TROPICAL CYCLONE UPDATE
NWS NATIONAL HURRICANE CENTER MIAMI FL AL042010
500 PM AST THU AUG 05 2010

...RECONNAISSANCE AIRCRAFT AND SATELLITE DATA INDICATE THAT TROPICAL STORM COLIN HAS STRENGTHENED...

AROUND 5 PM AST...RECONNAISSANCE AIRCRAFT INDICATED THAT MAXIMUM SUSTAINED WINDS IN TROPICAL STORM COLIN HAD INCREASED TO NEAR 60 MPH...WHICH IS SOONER THAN ORIGINALLY FORECAST. THEREFORE AN UPDATED INTENSITY FORECAST WILL BE ISSUED IN A SPECIAL ADVISORY BY 8 PM AST. THIS WILL SUPERCEDE THE REGULARLY SCHEDULED INTERMEDIATE PUBLIC ADVISORY PRODUCT.

SUMMARY OF 730 PM AST...2330 UTC...INFORMATION

LOCATION...25.6N 66.2W
ABOUT 470 MI...755 KM S OF BERMUDA
MAXIMUM SUSTAINED WINDS...60 MPH...95 KM/H
PRESENT MOVEMENT...NW OR 330 DEGREES AT 20 MPH...32 KM/H
MINIMUM CENTRAL PRESSURE...1005 MB...29.68 INCHES

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FORECASTER STEWART/BROWN

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.

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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 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

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FORECASTER STEWART

Example: Text Wind Speed Probabilities

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 5-DAY CUMULATIVE PROBABILITY IS AT LEAST 3 PERCENT.

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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 18Z SUN		FROM 06Z MON		FROM 18Z MON		FROM 06Z TUE		FROM 18Z TUE		FROM 18Z WED		FROM 18Z THU		FROM 18Z FRI	
	TO 06Z MON	TO 18Z MON	TO 18Z MON	TO 06Z TUE	TO 18Z TUE	TO 18Z TUE	TO 18Z WED	TO 18Z WED	TO 18Z THU	TO 18Z THU	TO 18Z THU	TO 18Z THU	TO 18Z THU	TO 18Z THU	TO 18Z FRI	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)												
W PALM BEACH	34 14	2(16)	X(16)	X(16)												
MIAMI FL	34 99	X(99)	X(99)	X(99)												
MARATHON FL	34 99	X(99)	X(99)	X(99)												
MARATHON FL	50 14	X(14)	X(14)	X(14)												
KEY WEST FL	34 99	X(99)	X(99)	X(99)												
KEY WEST FL	50 99	X(99)	X(99)	X(99)												
MARCO ISLAND	34 99	X(99)	X(99)	X(99)												
FT MYERS FL	34 48	1(49)	2(51)	X(51)	X(51)	X(51)										
VENICE FL	34 37	5(42)	2(44)	1(45)	X(45)	X(45)										
TAMPA FL	34 18	8(26)	3(29)	2(31)	X(31)	X(31)										
TALLAHASSEE FL	34 X	7(7)	10(17)	6(23)	6(29)	6(29)	6(29)	6(29)	6(29)	6(29)	6(29)	6(29)	6(29)	6(29)	6(29)	6(29)
ST MARKS FL	34 1	9(10)	9(19)	6(25)	5(30)	5(30)	5(30)	5(30)	5(30)	5(30)	5(30)	5(30)	5(30)	5(30)	5(30)	5(30)
APALACHICOLA	34 3	11(14)	16(30)	9(39)	7(46)	7(46)	7(46)	7(46)	7(46)	7(46)	7(46)	7(46)	7(46)	7(46)	7(46)	7(46)
APALACHICOLA	50 X	X(X)	2(2)	2(4)	1(5)	1(5)	1(5)	1(5)	1(5)	1(5)	1(5)	1(5)	1(5)	1(5)	1(5)	1(5)
APALACHICOLA	64 X	X(X)	X(X)	1(1)	X(1)	X(1)										
PANAMA CITY FL	34 1	11(12)	20(32)	13(45)	7(52)	7(52)	7(52)	7(52)	7(52)	7(52)	7(52)	7(52)	7(52)	7(52)	7(52)	7(52)
PANAMA CITY FL	50 X	X(X)	3(3)	4(7)	3(10)	3(10)	3(10)	3(10)	3(10)	3(10)	3(10)	3(10)	3(10)	3(10)	3(10)	3(10)
PANAMA CITY FL	64 X	X(X)	X(X)	1(1)	1(2)	1(2)	1(2)	1(2)	1(2)	1(2)	1(2)	1(2)	1(2)	1(2)	1(2)	1(2)
COLUMBUS GA	34 X	X(X)	3(3)	6(9)	11(20)	11(20)	11(20)	11(20)	11(20)	11(20)	11(20)	11(20)	11(20)	11(20)	11(20)	11(20)
MONTGOMERY AL	34 X	X(X)	7(7)	10(17)	18(35)	18(35)	18(35)	18(35)	18(35)	18(35)	18(35)	18(35)	18(35)	18(35)	18(35)	18(35)
MONTGOMERY AL	50 X	X(X)	X(X)	X(X)	5(5)	5(5)	5(5)	5(5)	5(5)	5(5)	5(5)	5(5)	5(5)	5(5)	5(5)	5(5)
MONTGOMERY AL	64 X	X(X)	X(X)	X(X)	1(1)	1(1)	1(1)	1(1)	1(1)	1(1)	1(1)	1(1)	1(1)	1(1)	1(1)	1(1)
PENSACOLA FL	34 X	6(6)	24(30)	25(55)	14(69)	14(69)	14(69)	14(69)	14(69)	14(69)	14(69)	14(69)	14(69)	14(69)	14(69)	14(69)
PENSACOLA FL	50 X	X(X)	2(2)	14(16)	12(28)	12(28)	12(28)	12(28)	12(28)	12(28)	12(28)	12(28)	12(28)	12(28)	12(28)	12(28)
PENSACOLA FL	64 X	X(X)	X(X)	4(4)	5(9)	5(9)	5(9)	5(9)	5(9)	5(9)	5(9)	5(9)	5(9)	5(9)	5(9)	5(9)
MOBILE AL	34 X	3(3)	22(25)	31(56)	20(76)	20(76)	20(76)	20(76)	20(76)	20(76)	20(76)	20(76)	20(76)	20(76)	20(76)	20(76)

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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)

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FORECASTER PASCH

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Example: Graphical Wind Speed Probabilities

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

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

Example: Graphical Storm Surge Probabilities

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

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

Example: Tropical Cyclone Watch Warning Product (TCV)

WTNT81 KNHC 141505
TCVAT1

ALPHA WATCH/WARNING BREAKPOINTS/ADVISORY NUMBER 10
NWS NATIONAL HURRICANE CENTER MIAMI FL AL012006
1000 AM EST THU DEC 14 2006

.HURRICANE ALPHA

NCZ095-097-098-100-101-SCZ034-046-142100-
/O.NEW.KNHC.HU.W.1001.061214T1500Z-000000T0000Z/
1000 AM EST THU DEC 14 2006

SOUTH-SANTEE-RIVER-SC 33.12N 79.27W
CAPE-LOOKOUT-NC 34.60N 76.53W

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GAZ116-117-118-119-138-139-140-141-154-166-SCZ043-047-048-049-050-051-142100-
/O.NEW.KNHC.HU.A.1001.061214T1500Z-000000T0000Z/
1000 AM EST THU DEC 14 2006

FERNANDINA-BEACH-FL 30.66N 81.44W
SOUTH-SANTEE-RIVER-SC 33.12N 79.27W

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NCZ017-102-103-104-142100-
/O.NEW.KNHC.HU.A.1001.061214T1500Z-000000T0000Z/
1000 AM EST THU DEC 14 2006

CAPE-LOOKOUT-NC 34.60N 76.53W
NC/VA-BORDER 36.55N 75.87W

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NCZ080-081-093-094-142100-
/O.NEW.KNHC.HU.A.1001.061214T1500Z-000000T0000Z/
1000 AM EST THU DEC 14 2006

PAMLICO-SOUND-NC 35.35N 75.85W

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NCZ015-016-032-045-046-047-142100-
/O.NEW.KNHC.HU.A.1001.061214T1500Z-000000T0000Z/
1000 AM EST THU DEC 14 2006

ALBEMARLE-SOUND-NC 36.05N 76.00W

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ATTN...WFO...AKQ...MHX...JAX...ILM...CHS...

Example: Tropical Cyclone Summary – Fixes (TCS) (WFO Honolulu / CPHC)

TXPS41 PHFO 091728
TCSSP1

SOUTH PACIFIC TROPICAL CYCLONE SUMMARY - FIXES
NWS CENTRAL PACIFIC HURRICANE CENTER HONOLULU HI
1723 UTC THU APR 09 2009

A. TROPICAL DISTURBANCE TEST

B. 09/1630Z

C. 8.1S

D. 163.9E

E. MTSAT

F. T1.5/2.0/S0.0/24 HOURS

G. IR

H. REMARKS...CURVE BAND WRAPPING .20 ON LOG 10 SPIRAL. POORLY DEFINED LOW
LEVEL CIRCULATION CENTER POSITON BASED ON ANIMATION.

I. ADDL POSITIONS

09/1254Z 8.0S 163.3E AMSU

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MORRISON

Example: Tropical Weather Discussion (TWD)

AXNT20 KNHC 032345
TWDAT

TROPICAL WEATHER DISCUSSION
NWS NATIONAL HURRICANE CENTER MIAMI FL
705 PM EST TUE NOV 03 2009

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 32N. THE FOLLOWING
INFORMATION IS BASED ON SATELLITE IMAGERY...METEOROLOGICAL ANALYSIS...WEATHER
OBSERVATIONS...AND RADAR.

BASED ON 1800 UTC SURFACE ANALYSIS AND SATELLITE IMAGERY THROUGH 2230 UTC.

...SPECIAL FEATURE...

A 1008 MB LOW IS CENTERED OVER THE SW CARIBBEAN SEA NEAR 10N81W. SCATTERED
MODERATE/ISOLATED STRONG CONVECTION IS FROM 9N-12N BETWEEN 79W-83W. THE LOW
IS EXPECTED TO MOVE LITTLE OVER THE NEXT DAY OR SO. UPPER LEVEL WINDS APPEAR
FAVORABLE FOR FURTHER DEVELOPMENT. THERE IS A MEDIUM CHANCE...30 TO 50

PERCENT...FOR THIS SYSTEM TO BECOME A TROPICAL CYCLONE DURING THE NEXT 48 HRS.

...TROPICAL WAVES...

EASTERN CARIBBEAN SEA TROPICAL WAVE IS ALONG 68W S OF 16N MOVING W NEAR 20 KT. THE WAVE COINCIDES WITH A DEEP LAYER MOISTURE MAXIMUM OBSERVED IN TOTAL PRECIPITABLE WATER IMAGERY. SCATTERED STRONG CONVECTION IS INLAND OVER VENEZUELA AND COLOMBIA FROM 4N-7N BETWEEN 66W-70W. SIMILAR ACTIVITY IS NEAR THE VENEZUELA COASTLINE FROM 10N-12N BETWEEN 68W-72W. ISOLATED SHOWERS/POSSIBLE THUNDERSTORMS ARE FROM 13N-16N BETWEEN 65W-70W.

...ITCZ...

THE ITCZ AXIS IS CENTERED ALONG 5N9W 6N22W 8N32W 9N41W 10N53W 10N66W. SCATTERED MODERATE/STRONG CONVECTION IS FROM 4N-8N BETWEEN 9W-16W. A SURFACE TROUGH IS EMBEDDED WITHIN THE AXIS FROM 11N30W TO 5N35W SUPPORTING A FEW ISOLATED SHOWERS NEAR 5N36W. A SECOND EMBEDDED SURFACE TROUGH IS FROM 12N41W TO 8N42W SUPPORTING SHOWERS/THUNDERSTORMS NEAR 10N42W. ISOLATED MODERATE/STRONG CONVECTION IS FROM 9N-15N BETWEEN 43W-59W.

...DISCUSSION...

THE GULF OF MEXICO...

A STATIONARY FRONT EXTENDS FROM S FLORIDA ACROSS THE SE GULF TO THE BAY OF CAMPECHE ALONG 25N81W 23N85W 22N92W 18N93W. SCATTERED SHOWERS COVER THE SW GULF FROM 20N-26N BETWEEN 90W-97W. STRONG NE WINDS ARE BEHIND THE FRONT IN THE SW GULF AS WELL. IN FACT...A GALE WARNING IS IN EFFECT FOR THE AREA S OF 21N W OF 94W. THE FRONT IS SUPPORTED BY A SHORTWAVE UPPER LEVEL TROUGH EXTENDING DOWN CENTRAL MEXICO PROVIDING MOIST SWLY FLOW ALOFT ACROSS THE WRN GULF. THE DIFFLUENT FLOW AROUND THE BASE OF THIS UPPER TROUGH IS ALSO ENHANCING THE SHOWER ACTIVITY IN THE SW GULF ALONG WITH SURFACE CONVERGENCE NEAR THE FRONT. ELSEWHERE...A SURFACE RIDGE BUILDS ACROSS THE NW GULF IN THE WAKE OF THE FRONT. AN UPPER LEVEL RIDGE ALONG WITH STRONG SUBSIDENCE COVER THE SE GULF. EXPECT STRONG WINDS AND SHOWER ACTIVITY TO CONTINUE OVER THE SW GULF. [text continues]

Example: Aviation Tropical Cyclone Advisory (TCA)

FKPA22 PHFO 140250
TCAPA2

HURRICANE TEST ICAO ADVISORY NUMBER 2
NWS CENTRAL PACIFIC HURRICANE CENTER HONOLULU HI CP012008
0300 UTC TUE AUG 14 2008

TC ADVISORY

DTG: 20080814/0300Z
TCAC: PHFO
TC: TEST
NR: 012
PSN: N1554 W15200
MOV: WNW 14KT
C: 0957HPA
MAX WIND: 105KT
FCST PSN + 06 HR: 140900 N1615 W15254

FCST MAX WIND + 06 HR: 105KT
FCST PSN + 12 HR: 141500 N1636 W15348
FCST MAX WIND + 12 HR: 105KT
FCST PSN + 18 HR: 142100 N1706 W15500
FCST MAX WIND + 18 HR: 105KT
FCST PSN + 24 HR: 150300 N1736 W15612
FCST MAX WIND + 24 HR: 100KT
RMK The forecast position information in this
product is interpolated from official forecast
data valid at 0000, 0600, 1200, and 1800Z.
NXT MSG: 20080814/0900Z
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Example: Tropical Cyclone Track and Watch/Warning graphic

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

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

Example: Cumulative Wind Distribution graphic

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

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

Example: Tropical Cyclone Wind Field graphic

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

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

Example: Hurricane Local Statement (HLS)

The example illustrates the proper formatting, including VTEC, of a segmented HLS. Its intent is not for it to be perfectly correct or logical according to the meteorology or geographic area.

“Abbreviated HLS” example for issuance of new watches:

WTUS82 KMLB 311610
HLSMLB

URGENT - IMMEDIATE BROADCAST REQUESTED
HURRICANE TEST LOCAL STATEMENT
NATIONAL WEATHER SERVICE MELBOURNE FL
1110 AM EST MON JAN 31 2011

...HURRICANE WATCHES NOW IN EFFECT FOR EAST CENTRAL FLORIDA...

...NEW INFORMATION...
NEW HURRICANE WATCHES HAVE BEEN ISSUED.

...AREAS AFFECTED...
THIS LOCAL STATEMENT PROVIDES IMPORTANT INFORMATION AND RECOMMENDED ACTIONS FOR PEOPLE AND MARINE INTERESTS IN ALL LOCATIONS AND COASTAL WATER LEGS OF EAST CENTRAL FLORIDA AND THE ADJACENT ATLANTIC WATERS.

...WATCHES/WARNINGS...
A HURRICANE WATCH IS IN EFFECT FOR THE FOLLOWING LOCATIONS...
MARTIN...SAINT LUCIE...INDIAN RIVER...SOUTH BREVARD...NORTH BREVARD...COASTAL VOLUSIA...INLAND VOLUSIA...SEMINOLE...ORANGE...OSCEOLA...AND OKEECHOBEE.

FOR MARINE INTERESTS...A HURRICANE WATCH IS IN EFFECT FOR ALL OF THE EAST CENTRAL FLORIDA ATLANTIC WATERS.

A HURRICANE WATCH MEANS THAT HURRICANE CONDITIONS ARE POSSIBLE WITHIN THE NEXT 48 HOURS SOMEWHERE WITHIN THE SPECIFIED AREAS.

IN ORDER TO MAKE THE BEST DECISIONS...BE SURE THAT YOU UNDERSTAND THE TERMINOLOGY AND DEFINITIONS ASSOCIATED WITH TROPICAL CYCLONE EVENTS.

...STORM INFORMATION...
AT 11 AM EST...THE CENTER OF MAJOR HURRICANE TEST WAS LOCATED NEAR LATITUDE 24.5N...LONGITUDE 75.2W...OR ABOUT 70 MILES EAST-SOUTHEAST OF ELEUTHERA ISLAND OF THE BAHAMAS. THIS WAS ABOUT 420 MILES SOUTHEAST OF COCOA BEACH FL...OR ABOUT 380 MILES EAST-SOUTHEAST OF FORT PIERCE FL.

THE CURRENT STORM MOTION WAS WEST-NORTHWEST AT 10 MPH. THE CURRENT STORM INTENSITY WAS 120 MPH.

...SITUATION OVERVIEW...
NEW HURRICANE WATCHES HAVE BEEN ISSUED. A MORE DETAILED STATEMENT WILL BE ISSUED BY 1 PM EST.

BE ADVISED...TEST IS A MAJOR HURRICANE WITH EXTREME LIFE THREATENING IMPLICATIONS TO THE PEOPLE OF EAST CENTRAL FLORIDA.

...PRECAUTIONARY/PREPAREDNESS ACTIONS...

NWSI 10-601 JUNE 10, 2014

FOR THOSE UNDER A HURRICANE WATCH OR WARNING...NOW IS THE TIME TO INITIATE PREPARATIONS ACCORDING TO YOUR DISASTER PLAN SPECIFIC TO YOUR HOME OR BUSINESS.

FOR THOSE NEARBY...REVIEW YOUR DISASTER PLAN AND BECOME READY TO ACT IF A TROPICAL CYCLONE WATCH OR WARNING IS ISSUED LATER FOR YOUR AREA.

MARINERS ARE URGED TO MAKE ALL NECESSARY PREPARATIONS TO RETURN TO PORT...SEEK SAFE HARBOR...AND SECURE THEIR CRAFT. NOW IS THE TIME TO INITIATE ACTIONS ACCORDING TO YOUR EMERGENCY PLAN. MONITOR WEATHER BROADCASTS FOR CHANGES TO THE LATEST FORECAST AND LISTEN FOR FURTHER STATEMENTS FROM LOCAL OFFICIALS.

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...NEXT UPDATE...

THE NEXT LOCAL STATEMENT WILL BE ISSUED BY THE NATIONAL WEATHER SERVICE IN MELBOURNE BY 1 PM EST. IT WILL PROVIDE IMPORTANT DETAILS REGARDING THE EVOLVING TROPICAL CYCLONE THREATS AND THEIR POTENTIAL IMPACTS UPON THE AREA.

FLZ047-054-059-064-147-011600-
/O.NEW.KMLB.HU.A.1001.110131T1610Z-000000T0000Z/
SOUTHERN BREVARD-INDIAN RIVER-ST. LUCIE-MARTIN-NORTHERN BREVARD-
1110 AM EST MON JAN 31 2011

...HURRICANE WATCH IN EFFECT...

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FLZ141-011600-
/O.NEW.KMLB.HU.A.1001.110131T1610Z-000000T0000Z/
COASTAL VOLUSIA-
1110 AM EST MON JAN 31 2011

...HURRICANE WATCH IN EFFECT...

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FLZ053-058-011600-
/O.NEW.KMLB.HU.A.1001.110131T1610Z-000000T0000Z/
OSCEOLA-OKEECHOBEE-
1110 AM EST MON JAN 31 2011

...HURRICANE WATCH IN EFFECT...

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FLZ041-045-046-011600-
/O.NEW.KMLB.HU.A.1001.110131T1610Z-000000T0000Z/
INLAND VOLUSIA-ORANGE-SEMINOLE-
1110 AM EST MON JAN 31 2011

...HURRICANE WATCH IN EFFECT...

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AMZ552-555-572-575-011600-
/O.NEW.KMLB.HU.A.1001.110131T1610Z-000000T0000Z/

COASTAL WATERS FROM VOLUSIA BREVARD COUNTY LINE TO SEBASTIAN INLET OUT 20 NM-
COASTAL WATERS FROM SEBASTIAN INLET TO JUPITER INLET OUT 20 NM-WATERS FROM
VOLUSIA BREVARD COUNTY LINE TO SEBASTIAN INLET 20 TO 60 NM OFFSHORE-WATERS
FROM SEBASTIAN INLET TO JUPITER INLET 20 TO 60 NM OFFSHORE-
1110 AM EST MON JAN 31 2011

...HURRICANE WATCH IN EFFECT...

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AMZ550-570-011600-
/O.NEW.KMLB.HU.A.1001.110131T1610Z-000000T0000Z/
COASTAL WATERS FROM FLAGLER BEACH TO VOLUSIA BREVARD COUNTY LINE OUT 20 NM-
WATERS FROM FLAGLER BEACH TO VOLUSIA BREVARD COUNTY LINE 20 TO 60 NM
OFFSHORE-
1110 AM EST MON JAN 31 2011

...HURRICANE WATCH IN EFFECT...

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Comprehensive HLS example

WTUS82 KMLB 311645
HLSMLB
URGENT - IMMEDIATE BROADCAST REQUESTED
HURRICANE TEST LOCAL STATEMENT
NATIONAL WEATHER SERVICE MELBOURNE FL
1145 AM EST MON JAN 31 2011

...MAJOR HURRICANE TEST HEADED TOWARD THE SPACE AND TREASURE COASTS...
...EVACUATION UNDERWAY FOR PORTIONS OF THE SPACE AND TREASURE COASTS...

...NEW INFORMATION...
DETAILS REGARDING THE POTENTIAL IMPACTS ASSOCIATED WITH MAJOR HURRICANE TEST
UPON THE LOCAL AREA ARE DESCRIBED.

...AREAS AFFECTED...
THIS LOCAL STATEMENT PROVIDES IMPORTANT INFORMATION AND RECOMMENDED ACTIONS
FOR PEOPLE AND MARINE INTERESTS IN ALL LOCATIONS AND COASTAL WATER LEGS OF
EAST CENTRAL FLORIDA AND THE ADJACENT ATLANTIC WATERS.

...WATCHES/WARNINGS...
A HURRICANE WATCH IS IN EFFECT FOR THE FOLLOWING LOCATIONS...MARTIN...SAINT
LUCIE...INDIAN RIVER...SOUTH BREVARD...NORTH BREVARD...COASTAL
VOLUSIA...INLAND VOLUSIA...SEMINOLE...ORANGE...OSCEOLA...AND OKEECHOBEE.

FOR MARINE INTERESTS...A HURRICANE WATCH CONTINUES FOR ALL OF THE EAST CENTRAL
FLORIDA ATLANTIC WATERS.

ALTHOUGH TROPICAL CYCLONE WATCHES OR WARNINGS ARE NOT IN EFFECT FOR THE
FOLLOWING LOCATIONS...NORTH LAKE...AND SOUTH LAKE...POSSIBLE IMPACTS FROM
RELATED HAZARDS ARE STILL A CONCERN.

...STORM INFORMATION...

AT 11 AM EST...THE CENTER OF MAJOR HURRICANE TEST WAS LOCATED NEAR LATITUDE 24.5N...LONGITUDE 75.2W...OR ABOUT 70 MILES EAST-SOUTHEAST OF ELEUTHERA ISLAND OF THE BAHAMAS. THIS WAS ABOUT 420 MILES SOUTHEAST OF COCOA BEACH FL...OR ABOUT 380 MILES EAST-SOUTHEAST OF FORT PIERCE FL. STORM MOTION WAS WEST-NORTHWEST AT 10 MPH. A NORTHWEST MOTION WITH SOME DECREASE IN FORWARD SPEED IS EXPECTED DURING THE NEXT 24 HOURS. ON THIS TRACK...THE CORE OF MAJOR HURRICANE TEST WILL MOVE THROUGH THE BAHAMAS TONIGHT AND TUESDAY.

MAXIMUM SUSTAINED WINDS WERE NEAR 120 MPH...WITH HIGHER GUSTS. SOME FLUCTUATIONS IN INTENSITY ARE FORECAST DURING THE NEXT 24 HOURS.

...SITUATION OVERVIEW...

MAJOR HURRICANE TEST IS A LARGE AND POWERFUL STORM. THE LIVES OF THOSE IN ITS PATH ARE SUBJECT TO AN EXTREME THREAT FROM DANGEROUS HIGH WINDS AND GUSTS. MORE SO...THOSE IN VICINITY OF THE COAST NEAR AND TO THE NORTH OF WHERE THE CENTER OF TEST MAKES LANDFALL ARE ALSO SUBJECT TO AN EXTREME THREAT FROM COASTAL FLOOD WATERS. THE EFFECTS OF STORM SURGE AND TIDE MAY BE DEVASTATING IN SOME AREAS.

IT IS TOO EARLY TO PROVIDE EXACT WIND AND SURGE FORECAST VALUES FOR SPECIFIC LOCATIONS. AN OVERALL CONCERN IS THE POTENTIAL FOR DEVASTATING DAMAGE ACROSS PARTS OF EAST CENTRAL FLORIDA. THE AREAS AT GREATEST RISK APPEAR TO BE ALONG THE SPACE AND TREASURE COASTS WHERE WINDS OF 120 MPH AND STORM SURGE AND TIDE WATERS UP TO 8 FEET MAY STRIKE THE COAST BY WEDNESDAY.

WITH THE LARGER SIZE AND DECREASING FORWARD SPEED OF THE STORM...INLAND FLOODING MAY FURTHER AGGRAVATE THE SITUATION. FLOOD WATCHES MAY BE ISSUED LATER TODAY. RAINFALL TOTALS WILL LIKELY EXCEED 15 INCHES IN SEVERAL PLACES...WITH FLOODING RAIN BECOMING A PRIMARY HAZARD FOR LOCATIONS ACROSS THE INTERIOR OF THE CENTRAL PENINSULA.

THE THREAT OF TORNADOES WILL INCREASE ON TUESDAY AS OUTER RAINBANDS BEGIN TO AFFECT EAST CENTRAL FLORIDA. TORNADO WATCHES MAY BE NEEDED ON TUESDAY AS OUTER RAINBANDS FROM TEST APPROACH THE AREA. AS YOU MAKE YOUR PREPARATIONS...BE SURE TO ALSO LISTEN FOR TORNADO WATCHES AND WARNINGS.

IT IS VITAL THAT YOU DO NOT FOCUS ON THE EXACT FORECAST TRACK. TO DO SO COULD RESULT IN BAD DECISIONS AND PLACE YOU OR THOSE YOU ARE RESPONSIBLE FOR AT GREATER RISK.

...PRECAUTIONARY/PREPAREDNESS ACTIONS...

THERE IS A MANDATORY EVACUATION UNDERWAY FOR THE BARRIER ISLANDS OF MARTIN AND ST LUCIE COUNTIES. A VOLUNTARY EVACUATION HAS BEEN REQUESTED FOR PEOPLE ON THE BARRIER ISLANDS OF INDIAN RIVER AND BREVARD COUNTIES. IT IS LIKELY THAT THE VOLUNTARY EVACUATION WILL BECOME MANDATORY LATER THIS AFTERNOON OR EVENING. TOLL CHARGES ON THE FLORIDA TURNPIKE AND OTHER AREA TOLL ROADS HAVE BEEN SUSPENDED FOR THE DURATION OF THE THREAT FROM HURRICANE TEST.

STAY CALM AND KEEP INFORMED. COMPLY WITH EVACUATION ORDERS THAT MAY BE ISSUED FOR YOUR AREA. IF YOUR HOME IS VULNERABLE TO HIGH WINDS...OR IF YOU LIVE IN A SURGE ZONE OR ANY LOCATION PRONE TO FLOODING...CONSIDER EVACUATING TO A DESIGNATED SHELTER OR RIDING OUT THE STORM IN THE STURDY HOME OF FAMILY OR FRIENDS OUTSIDE OF EVACUATION ZONES.

FOR THOSE UNDER A HURRICANE WATCH...NOW IS THE TIME TO BEGIN PREPARING YOUR HOME OR BUSINESS ACCORDING TO YOUR DISASTER PLAN. LISTEN FOR POSSIBLE WARNINGS AND BE READY TO EVACUATE IF NECESSARY. HEED THE ADVICE OF LOCAL OFFICIALS AND COMPLY WITH ANY ORDERS THAT ARE ISSUED.

FOR INTERESTS AT PORTS...DOCKS...AND MARINAS...IT IS RECOMMENDED THAT YOU PERFORM THE PRESCRIBED PREPARATIONS ACCORDING TO YOUR EMERGENCY OPERATIONS PLAN FOR TROPICAL CYCLONES. IF YOU LIVE ON A BOAT...BEGIN TO SAFELY SECURE YOUR CRAFT AND MAKE PLANS TO LEAVE IT FOR ADEQUATE LAND BASED SHELTER. LISTEN FOR POSSIBLE WARNINGS.

REGARDING THE COASTAL WATERS UNDER A WATCH...SMALL CRAFT SHOULD RETURN TO PORT OR SEEK SAFE HARBOR. CLOSELY MONITOR NOAA WEATHER RADIO OR OTHER LOCAL NEWS OUTLETS FOR OFFICIAL STORM INFORMATION. LISTEN FOR POSSIBLE CHANGES TO THE FORECAST.

FOR ADDITIONAL PRECAUTIONARY AND PREPAREDNESS INFORMATION...PLEASE REFER TO THE DETAILED RECOMMENDATIONS RELATIVE TO YOUR LOCATION AS FURTHER DESCRIBED BY YOUR LOCAL NATIONAL WEATHER SERVICE OFFICE AND YOUR LOCAL EMERGENCY MANAGEMENT. A COMPREHENSIVE CHECKLIST FOR EMERGENCY PLANNING...INCLUDING A CHECKLIST FOR AN EMERGENCY SUPPLY KIT...CAN BE FOUND AT WWW.READY.GOV.

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...NEXT UPDATE...

THE NEXT LOCAL STATEMENT WILL BE ISSUED BY THE NATIONAL WEATHER SERVICE IN MELBOURNE AROUND 6 PM EST...OR SOONER IF CONDITIONS WARRANT.

FLZ047-054-059-064-147-011645-
/O.CON.KMLB.HU.A.1001.000000T0000Z-000000T0000Z/
SOUTHERN BREVARD-INDIAN RIVER-ST. LUCIE-MARTIN-NORTHERN BREVARD-
1145 AM EST MON JAN 31 2011

...HURRICANE WATCH REMAINS IN EFFECT...
...EVACUATION UNDERWAY FOR PORTIONS OF THE TREASURE AND SPACE COAST...

...PRECAUTIONARY/PREPAREDNESS ACTIONS...

A MANDATORY EVACUATION HAS BEEN UNDERWAY SINCE THIS MORNING FOR PEOPLE ON THE BARRIER ISLANDS OF MARTIN AND SAINT LUCIE COUNTIES. VOLUNTARY EVACUATION HAS BEEN RECOMMENDED FOR PEOPLE ON THE BARRIER ISLANDS OF INDIAN RIVER AND BREVARD COUNTIES. FORMAL EVACUATION ORDERS MAY BE ISSUED EARLY THIS AFTERNOON BY OFFICIALS ON THE BARRIER ISLANDS OF INDIAN RIVER AND BREVARD COUNTIES. MARTIN...ST LUCIE...AND INDIAN RIVER COUNTIES WILL BE OPENING SHELTERS THIS AFTERNOON. CONTACT YOUR LOCAL OR COUNTY EMERGENCY MANAGEMENT AGENCY FOR MORE INFORMATION REGARDING SHELTER LOCATIONS AND THE AVAILABILITY OF PET FRIENDLY SHELTERS.

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...PROBABILITY OF TROPICAL STORM/HURRICANE CONDITIONS...
THE CHANCE FOR HURRICANE CONDITIONS AT THIS TIME IS UP TO 30 PERCENT.
ALSO...THE CHANCE FOR TROPICAL STORM CONDITIONS AT THIS TIME IS 78 TO 86 PERCENT. THIS REPRESENTS A GENERAL UPWARD TREND SINCE THE LAST FORECAST.

...WINDS...

AS MAJOR HURRICANE TEST MOVES CLOSER...THE THREAT FOR SUSTAINED HIGH WINDS IS LIKELY TO INCREASE. THE LATEST FORECAST IS FOR HURRICANE FORCE WINDS FROM EARLY WEDNESDAY MORNING TO EARLY WEDNESDAY EVENING...WITH MAJOR HURRICANE FORCE WINDS IMPACTING PLACES WHERE THE CORE OF TEST MAKES LANDFALL. TROPICAL STORM FORCE WINDS AND GUSTS ARE CURRENTLY FORECAST TO BEGIN AFFECTING THE AREA EARLY TOMORROW AFTERNOON.

IF REALIZED...MAJOR HURRICANE FORCE WINDS WILL BE CAPABLE OF CAUSING STRUCTURAL DAMAGE TO BUILDINGS...SOME WITH COMPLETE WALL AND ROOF FAILURES. COMPLETE DESTRUCTION OF MOBILE HOMES WILL OCCUR. NUMEROUS LARGE SIGNS AND TREES WILL BE BLOWN DOWN. MANY ROADS WILL BE IMPASSIBLE DUE TO LARGE DEBRIS. THERE WILL BE WIDESPREAD POWER OUTAGES.

...STORM SURGE AND STORM TIDE...

IT IS STILL TOO EARLY TO DETERMINE THE EXACT HEIGHTS OF COMBINED STORM SURGE AND TIDE WATERS FOR SPECIFIC LOCATIONS WITHIN THE FORECAST AREA ASSOCIATED WITH MAJOR HURRICANE TEST. MUCH DEPENDS ON THE PRECISE SIZE...INTENSITY...AND TRACK OF THE SYSTEM AS IT APPROACHES THE COAST. GIVEN THE LATEST FORECAST...THERE IS A CHANCE FOR COMBINED STORM SURGE AND ASTRONOMICAL TIDE WATERS UP TO 8 FEET ABOVE MEAN SEA LEVEL WITHIN AREAS CLOSER TO THE COAST...RESULTING IN WORST CASE FLOOD INUNDATION UP TO 6 TO 8 FEET ABOVE GROUND LEVEL SOMEWHERE WITHIN THE SURGE ZONE. PREPARATIONS SHOULD BE MADE FOR THESE POTENTIAL CONDITIONS.

AT THIS TIME...THERE IS AN OVERALL CONCERN FOR THE CHANCE OF WIDESPREAD MAJOR COASTAL FLOODING FROM SEA WATER...POSSIBLY REACHING SEVERAL MILES INLAND.

IF REALIZED...EXTREME BEACH EROSION WITH SEVERAL NEW INLAND CUTS WILL LIKELY BE CREATED. MANY LARGE SECTIONS OF NEARSHORE ROADS WILL BE WASHED OUT AND LOW LYING ESCAPE ROUTES FLOODED. INTENSE BATTERING WAVES MAY BREACH DUNES AND SEAWALLS IN MANY LOCATIONS WHICH COULD RESULT IN STRUCTURAL DAMAGE TO SHORELINE BUILDINGS. SOME STRUCTURES ALONG THE COASTLINE MAY BE WASHED INTO THE SEA. CONSIDERABLE FLOATING DEBRIS MAY CAUSE SECONDARY DAMAGE IN FLOODED AREAS. EXTENSIVE DAMAGE WILL OCCUR TO MARINAS...DOCKS...AND PIERS. NUMEROUS SMALL CRAFT WILL BE BROKEN FROM THEIR MOORINGS.

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FLZ141-011645-
/O.CON.KMLB.HU.A.1001.000000T0000Z-000000T0000Z/
COASTAL VOLUSIA-
1145 AM EST MON JAN 31 2011

...HURRICANE WATCH REMAINS IN EFFECT...

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...PROBABILITY OF TROPICAL STORM/HURRICANE CONDITIONS...
THE CHANCE FOR HURRICANE CONDITIONS AT THIS TIME IS 13 TO 21 PERCENT.
ALSO...THE CHANCE FOR TROPICAL STORM CONDITIONS AT THIS TIME IS 74 TO 79 PERCENT. THIS REPRESENTS A GENERAL UPWARD TREND SINCE THE LAST FORECAST.

...WINDS...

AS MAJOR HURRICANE TEST MOVES CLOSER...THE THREAT FOR SUSTAINED HIGH WINDS IS LIKELY TO INCREASE. THE LATEST FORECAST IS FOR STRONG TROPICAL STORM FORCE WINDS WITH HURRICANE FORCE GUSTS FROM LATE WEDNESDAY MORNING TO LATE WEDNESDAY EVENING. TROPICAL STORM FORCE WINDS ARE CURRENTLY FORECAST TO BEGIN AFFECTING THE AREA EARLY WEDNESDAY MORNING.

A GENERAL CONCERN IS THE POTENTIAL FOR DAMAGING WINDS ACROSS COASTAL VOLUSIA COUNTY.

...STORM SURGE AND STORM TIDE...

IT IS STILL TOO EARLY TO DETERMINE THE EXACT HEIGHTS OF COMBINED STORM SURGE AND TIDE WATERS FOR SPECIFIC LOCATIONS WITHIN THE FORECAST AREA ASSOCIATED

WITH MAJOR HURRICANE TEST. MUCH DEPENDS ON THE PRECISE SIZE...INTENSITY...AND TRACK OF THE SYSTEM AS IT APPROACHES THE COAST. GIVEN THE LATEST FORECAST...THERE IS A CHANCE FOR COMBINED STORM SURGE AND ASTRONOMICAL TIDE WATERS UP TO 6 FEET ABOVE MEAN SEA LEVEL WITHIN AREAS CLOSER TO THE COAST...RESULTING IN WORST CASE FLOOD INUNDATION UP TO 4 TO 6 FEET ABOVE GROUND LEVEL SOMEWHERE WITHIN THE SURGE ZONE. PREPARATIONS SHOULD BE MADE FOR THESE POTENTIAL CONDITIONS.

MAJOR HURRICANE TEST IS CURRENTLY FORECAST TO MAKE LANDFALL WELL SOUTH OF CAPE CANAVERAL...WHICH WOULD LIMIT THE POTENTIAL FOR SIGNIFICANT COASTAL FLOODING FOR VOLUSIA COUNTY. HOWEVER...INHERENT FORECAST UNCERTAINTIES REGARDING THE TRACK OF TEST MAKE IT UNWISE TO LOWER YOUR GUARD. AT THIS TIME...THERE IS A GENERAL CONCERN FOR THE POTENTIAL FOR MODERATE TO MAJOR COASTAL FLOODING.

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FLZ053-058-011645-
/O.CON.KMLB.HU.A.1001.000000T0000Z-000000T0000Z/
OSCEOLA-OKEECHOBEE-
1145 PM EST MON JAN 31 2011

...HURRICANE WATCH REMAINS IN EFFECT...

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...PROBABILITY OF TROPICAL STORM/HURRICANE CONDITIONS...
THE CHANCE FOR HURRICANE CONDITIONS AT THIS TIME IS 12 TO 20 PERCENT.
ALSO...THE CHANCE FOR TROPICAL STORM CONDITIONS AT THIS TIME IS 73 TO 82 PERCENT. THIS REPRESENTS A GENERAL UPWARD TREND SINCE THE LAST FORECAST.

...WINDS...

AS MAJOR HURRICANE TEST MOVES CLOSER...THE THREAT FOR SUSTAINED HIGH WINDS IS LIKELY TO INCREASE. THE LATEST FORECAST IS FOR HURRICANE FORCE WINDS FROM EARLY WEDNESDAY MORNING TO EARLY WEDNESDAY EVENING. TROPICAL STORM FORCE WINDS ARE CURRENTLY FORECAST TO BEGIN AFFECTING THE AREA TOMORROW EVENING.

A GENERAL CONCERN IS THE POTENTIAL FOR DAMAGING WINDS ACROSS OSCEOLA AND OKEECHOBEE COUNTIES. IF REALIZED...WINDS WILL BE CAPABLE OF CAUSING SIGNIFICANT DAMAGE TO ROOFING MATERIAL...DOORS...FENCES...AND WINDOWS. SOME STRUCTURAL DAMAGE COULD OCCUR WITH SOME BUILDINGS. CONSIDERABLE DAMAGE WILL OCCUR TO MOBILE HOMES. MANY LARGE SIGNS AND TREES WILL BE BLOWN DOWN WITH FURTHER DAMAGE TO STANDING TREES. SOME ROADS WILL BECOME IMPASSIBLE DUE TO LARGE DEBRIS. WIDESPREAD POWER OUTAGES WILL ALSO OCCUR.

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FLZ041-045-046-011645-
/O.CON.KMLB.HU.A.1001.000000T0000Z-000000T0000Z/
INLAND VOLUSIA-ORANGE-SEMINOLE-
1145 AM EST MON JAN 31 2011

...HURRICANE WATCH REMAINS IN EFFECT...

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...PROBABILITY OF TROPICAL STORM/HURRICANE CONDITIONS...

THE CHANCE FOR HURRICANE CONDITIONS AT THIS TIME IS 10 TO 20 PERCENT. ALSO...THE CHANCE FOR TROPICAL STORM CONDITIONS AT THIS TIME IS 72 TO 81 PERCENT. THIS REPRESENTS A GENERAL UPWARD TREND SINCE THE LAST FORECAST.

...INLAND FLOODING...

THE PRIMARY THREAT FROM HURRICANE TEST UPON SEMINOLE...ORANGE...AND INLAND VOLUSIA COUNTIES WILL BE FROM LONG DURATION HEAVY RAIN...ACCOMPANIED BY STRONG WIND GUSTS IN PASSING SQUALLS. LOCAL AMOUNTS OF 10 TO 12 INCHES MAY OCCUR. IT IS LIKELY THAT MODERATE TO MAJOR FLOODING WILL OCCUR IN THE ORLANDO METROPOLITAN AREA.

FLOOD WATCHES WILL LIKELY BE ISSUED LATER TODAY FOR ALL OF EAST CENTRAL FLORIDA. LISTEN FOR POSSIBLE FLOOD WARNINGS.

IF INLAND FLOOD WATERS OCCUR...DO NOT DRIVE THROUGH PLACES WHERE WATER OF UNKNOWN DEPTH COVERS THE ROAD.

...WINDS...

AS MAJOR HURRICANE TEST MOVES CLOSER...THE THREAT FOR SUSTAINED HIGH WINDS IS LIKELY TO INCREASE. THE LATEST FORECAST IS FOR STRONG TROPICAL STORM FORCE WINDS WITH HURRICANE FORCE GUSTS FROM LATE WEDNESDAY MORNING TO LATE WEDNESDAY NIGHT. TROPICAL STORM FORCE WINDS ARE CURRENTLY FORECAST TO BEGIN AFFECTING THE AREA WEDNESDAY MORNING. A GENERAL CONCERN IS THE POTENTIAL FOR DAMAGING WINDS SOMEWHERE WITHIN THE AREA.

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FLZ044-144-011645-
/O.NEW.KMLB.HU.S.1001.110131T1732Z-000000T0000Z/
NORTHERN LAKE-SOUTHERN LAKE-
1145 AM EST MON JAN 31 2011

...STRONG AND GUSTY WINDS WITH FLOODING RAIN POSSIBLE...

...PRECAUTIONARY/PREPAREDNESS ACTIONS...
LISTEN FOR POSSIBLE TROPICAL CYCLONE WATCHES OR WARNINGS FOR YOUR AREA.

TAKE ADVANTAGE OF THIS OPPORTUNITY TO REVIEW YOUR HURRICANE DISASTER PLAN. IF YOU DO NOT HAVE A PLAN...MAKE ONE. IF YOU NEED ASSISTANCE WITH YOUR PLAN...CONTACT THE NATIONAL WEATHER SERVICE...LOCAL EMERGENCY MANAGEMENT...OR AMERICAN RED CROSS.

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...INLAND FLOODING...

THE PRIMARY THREAT FROM HURRICANE TEST UPON LAKE COUNTY WILL BE FROM LONG DURATION HEAVY RAIN...ACCOMPANIED BY STRONG WIND GUSTS IN PASSING SQUALLS. LOCAL AMOUNTS OF 10 TO 12 INCHES MAY OCCUR.

FLOOD WATCHES WILL LIKELY BE ISSUED LATER TODAY FOR ALL OF EAST CENTRAL FLORIDA. LISTEN FOR POSSIBLE FLOOD WARNINGS.

IF INLAND FLOOD WATERS OCCUR...DO NOT DRIVE THROUGH PLACES WHERE WATER OF UNKNOWN DEPTH COVERS THE ROAD.

...WINDS...

TROPICAL CYCLONE WATCHES OR WARNINGS ARE CURRENTLY NOT IN EFFECT...NOR ARE THEY LIKELY UNDER PRESENT CIRCUMSTANCES.

THE LATEST FORECAST IS FOR MAXIMUM WINDS TO REMAIN BELOW TROPICAL STORM FORCE. AT THIS TIME...REMAIN CALM AND STAY INFORMED. LISTEN FOR POSSIBLE CHANGES TO THE FORECAST.

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AMZ552-555-572-575-011645-
/O.CON.KMLB.HU.A.1001.000000T0000Z-000000T0000Z/
COASTAL WATERS FROM VOLUSIA BREVARD COUNTY LINE TO SEBASTIAN
INLET OUT 20 NM-
COASTAL WATERS FROM SEBASTIAN INLET TO JUPITER INLET OUT 20 NM-
WATERS FROM VOLUSIA BREVARD COUNTY LINE TO SEBASTIAN INLET 20 TO 60 NM
OFFSHORE-
WATERS FROM SEBASTIAN INLET TO JUPITER INLET 20 TO 60 NM OFFSHORE-
1145 AM EST MON JAN 31 2011

...HURRICANE WATCH REMAINS IN EFFECT...

...PRECAUTIONARY/PREPAREDNESS ACTIONS...
BOAT OWNERS AND CAPTAINS OF SMALL CRAFT NEED TO DETERMINE THE BEST STRATEGY FOR SECURING THEIR CRAFT.

LISTEN FOR POSSIBLE CHANGES TO THE LATEST MARINE FORECAST.

&&

...WINDS AND SEAS...
AS MAJOR HURRICANE TEST MOVES CLOSER...THE THREAT FOR SUSTAINED HIGH WINDS IS LIKELY TO INCREASE. THE LATEST FORECAST IS FOR HURRICANE FORCE WINDS FROM VERY EARLY WEDNESDAY MORNING TO EARLY WEDNESDAY EVENING. TROPICAL STORM FORCE WINDS ARE CURRENTLY FORECAST TO BEGIN AFFECTING THE AREA EARLY TUESDAY EVENING.

ACCORDING TO THE LATEST FORECAST...PEAK SUSTAINED WINDS ARE FORECAST TO 105 KNOTS ASSOCIATED WITH THE CORE OF MAJOR HURRICANE TEST. GUSTS TO 125 KNOTS ARE POSSIBLE. HIGHEST SEAS ARE FORECAST TO BUILD TO 24 TO 28 FEET AS TEST MOVES THROUGH THE COASTAL WATERS SOUTH OF CAPE CANAVERAL.

THERE IS AN EXTREME THREAT TO MARINERS. AT BEAUFORT SCALE 10...VERY HIGH WAVES WITH LONG OVERHANGING CRESTS FORM. VISIBILITY IS GREATLY REDUCED FROM BLOWING DENSE FOAM AND SPRAY. AT BEAUFORT SCALE 12...MEDIUM SIZED SHIPS MAY BE LOST TO VIEW BEHIND EXCEPTIONALLY HIGH WAVES AS THE AIR FILLS WITH FOAM AND SPRAY. BAY AND INLAND WATERS BECOME EXTREMELY ROUGH.

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AMZ550-570-011645-
/O.CON.KMLB.HU.A.1001.000000T0000Z-000000T0000Z/
COASTAL WATERS FROM FLAGLER BEACH TO VOLUSIA BREVARD COUNTY LINE OUT 20 NM-
WATERS FROM FLAGLER BEACH TO VOLUSIA BREVARD COUNTY LINE 20 TO 60 NM
OFFSHORE-
1145 AM EST MON JAN 31 2011

...HURRICANE WATCH REMAINS IN EFFECT...

...PRECAUTIONARY/PREPAREDNESS ACTIONS...
BOAT OWNERS AND CAPTAINS OF SMALL CRAFT NEED TO DETERMINE THE BEST STRATEGY FOR SECURING THEIR CRAFT.

LISTEN FOR POSSIBLE CHANGES TO THE LATEST MARINE FORECAST.

&&

...WINDS AND SEAS...

AS MAJOR HURRICANE TEST MOVES CLOSER...THE THREAT FOR SUSTAINED HIGH WINDS IS LIKELY TO INCREASE. THE LATEST FORECAST IS FOR HURRICANE FORCE WINDS FROM WEDNESDAY MORNING TO WEDNESDAY EVENING. TROPICAL STORM FORCE WINDS ARE CURRENTLY FORECAST TO BEGIN AFFECTING THE AREA VERY EARLY WEDNESDAY MORNING.

ACCORDING TO THE LATEST FORECAST...PEAK SUSTAINED WINDS ARE FORECAST TO 70 KNOTS OUTSIDE AND AWAY FROM THE CORE OF MAJOR HURRICANE TEST. GUSTS TO 85 KNOTS ARE POSSIBLE IN PASSING SQUALLS. HIGHEST SEAS NORTH OF CAPE CANAVERAL ARE FORECAST TO BUILD TO 18 TO 22 FEET AS TEST MOVES THROUGH THE COASTAL WATERS SOUTH OF CAPE CANAVERAL. THERE IS AN EXTREME THREAT TO MARINERS. AT BEAUFORT SCALE 10...VERY HIGH WAVES WITH LONG OVERHANGING CRESTS FORM. VISIBILITY IS GREATLY RESTRICTED BY BLOWING DENSE FOAM AND SPRAY. AT BEAUFORT SCALE 12...MEDIUM SIZED SHIPS MAY BE LOST TO VIEW BEHIND EXCEPTIONALLY HIGH WAVES AS THE AIR FILLS WITH FOAM AND SPRAY. BAY AND INLAND WATERS BECOME EXTREMELY ROUGH.

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Example: Extreme Wind Warning (EWW)

WFUS52 KTBW 131938
EWWTBW
FLC015-071-132100-
/O.NEW.KTBW.EW.W.0013.040813T1938Z-040813T2100Z/

BULLETIN - EAS ACTIVATION REQUESTED
EXTREME WIND WARNING
NATIONAL WEATHER SERVICE TAMPA BAY - RUSKIN FL
338 PM EDT FRI AUG 13 2004

THE NATIONAL WEATHER SERVICE IN RUSKIN HAS ISSUED AN

* EXTREME WIND WARNING FOR THE ONSET OF SUSTAINED WINDS OF 115 MPH OR GREATER FOR...

CHARLOTTE COUNTY IN SOUTHWEST FLORIDA
LEE COUNTY IN SOUTHWEST FLORIDA

* UNTIL 500 PM EDT

* AT 335 PM EDT...SURFACE OBSERVATIONS AND NATIONAL WEATHER SERVICE DOPPLER RADAR INDICATED EXTREME WINDS...ASSOCIATED WITH THE EYEWALL OF HURRICANE CHARLEY...WERE MOVING ONSHORE NEAR NORTH CAPTIVA ISLAND. SUSTAINED WINDS IN EXCESS OF 140 MPH...CAPABLE OF PRODUCING WIDESPREAD DESTRUCTION...CAN BE EXPECTED AS THE EYEWALL PASSES OVERHEAD. MOVEMENT WAS NORTH NORTHEAST AT 20 MPH.

* THESE EXTREME WINDS WILL AFFECT...

ST. JAMES CITY BY 345 PM
BOKEELIA BY 350 PM
PUNTA GORDA BY 400 PM

THIS IS A DANGEROUS STORM! MOVE INTO AN INTERIOR ROOM AWAY FROM WINDOWS AND OUTER WALLS. COVER YOUR HEAD AND BODY WITH PILLOWS OR BLANKETS.

LAT...LON 2672 8226 2644 8213 2702 8174 2702 8207
TIME...MOT...LOC 1935 200DEG 17KT 2665 8210

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Example: Severe Weather Statement (SVS) follow-up for EWW

WWUS52 KTBW 132015
SVSTBW

SEVERE WEATHER STATEMENT
NATIONAL WEATHER SERVICE TAMPA BAY - RUSKIN FL
415 PM EDT FRI AUG 13 2004

FLC071-132030-
/O.CAN.KTBW.EW.W.0013.000000T0000Z-040813T2100Z
LEE-
415 PM CDT FRI AUG 13 2004

...EXTREME WIND WARNING CANCELLED FOR LEE COUNTY...

EXTREME WINDS...ASSOCIATED WITH THE EYEWALL OF HURRICANE CHARLEY...HAVE MOVED NORTHEAST OF LEE COUNTY. THUS THE EXTREME WIND WARNING HAS BEEN CANCELLED FOR LEE COUNTY.

LAT...LON 2672 8226 2644 8213 2702 8174 2702 8207

\$\$

Example: Short Term Forecast (NOW)

FPUS71 KMOB 192130
NOWMOB

SHORT TERM FORECAST
NATIONAL WEATHER SERVICE MOBILE AL
430 PM CDT SAT AUG 19 1995

ALZ051>064-MSZ067-075-076-078-079-192330-
BALDWIN-MOBILE-HANCOCK-HARRISON-JACKSON
0430 PM CDT SAT AUG 19 1995

.NOW...

...HURRICANE GARY WILL MOVE ACROSS BALDWIN AND MOBILE COUNTIES BY 530 PM...

SUSTAINED WINDS ABOVE 80 MPH WITH HIGHER GUSTS AND TORRENTIAL RAINFALL CAN BE EXPECTED AS THE RAIN BAND MOVES ACROSS. THE RAIN BAND SHOULD WEAKEN SLIGHTLY AS IT MOVES ACROSS CLARKE...WASHINGTON...AND GEORGE COUNTIES BY 6 PM. BUT PEOPLE IN THESE COUNTIES SHOULD EXPECT WIND GUSTS TO NEAR HURRICANE FORCE AND EXTREMELY HEAVY RAINFALL.

SCATTERED AREAS OF MODERATE TO HEAVY RAINFALL WILL CONTINUE ACROSS SOUTHERN ALABAMA AND MISSISSIPPI THROUGH 6 PM. BANDS OF STRONG STORMS WILL MOVE NORTHWESTWARD ACROSS THE AREA. EAST WINDS OF 30-40 MPH AND HEAVY RAIN WILL PERSIST WITH STRONGER WINDS AND HEAVIER RAINFALL NEAR THE RAIN BANDS. TEMPERATURES ACROSS THE REGION WILL REMAIN IN THE 70S.

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Example: Post Tropical Cyclone Report (PSH)

ACUS72 KTBW 140058
PSHTBW

POST TROPICAL CYCLONE REPORT...TROPICAL STORM ALBERTO
NATIONAL WEATHER SERVICE TAMPA BAY AREA - RUSKIN FL
900 PM EDT TUE JUN 13 2006

COUNTIES INCLUDED: LEVY...CITRUS...HERNANDO...PASCO...HILLSBOROUGH...
POLK...PINELLAS...MANATEE...SARASOTA...

A. LOWEST SEA LEVEL PRESSURE/MAXIMUM SUSTAINED WINDS AND PEAK GUSTS

OFFICIAL OBSERVATIONS...

NOTE: ANEMOMETER HEIGHT IS 10 METERS AND WIND AVERAGING IS 2 MINUTES

LOCATION ID MIN DATE/ MAX DATE/ PEAK DATE/
LAT LON PRES TIME SUST TIME GUST TIME
DEG DECIMAL (MB) (UTC) (KT) (UTC) (KT) (UTC)

KVVG-THE VILLAGES

28.9 -81.9 1008.1 13/0745 210/024 13/1805 210/036 13/1805

KBKV-BROOKSVILLE

28.5 -82.5 1006.8 13/0859 210/024 13/1928 210/037 13/1656

KPIE-SAINT PETERSBURG

27.9 -82.7 1007.1 13/0836 200/035 13/0540 200/044 13/0547

KGIF-WINTER HAVEN

28.0 -81.7 1009.1 13/0640 220/023 13/1706 220/030 13/1705

KTPA-TAMPA INTERNATIONAL

28.0 -82.5 1007.8 13/0931 200/029 13/0509 I 220/039 13/0707 I

REMARKS: TAMPA ANEMOMETER STOPPED WORKING AT 13/0800.

UNOFFICIAL OBSERVATIONS...

NOTE: ANEMOMETER HEIGHT IN METERS AND WIND AVERAGING PERIOD IN MINUTES INDICATED UNDER MAXIMUM SUSTAINED WIND IF KNOWN

LOCATION ID MIN DATE/ MAX DATE/ PEAK DATE/
LAT LON PRES TIME SUST TIME GUST TIME
DEG DECIMAL (MB) (UTC) (KT) (UTC) (KT) (UTC)

CDRF1 CEDAR KEY

NWSI 10-601 JUNE 10, 2014

29.1 -83.0 1004.1 13/1100 185/036 13/0830 180/048 13/0900
02/10

PTRF1 PORT RICHEY

28.3 82.7 1005.4 13/1205 I 210/029 13/1154 220/035 13/1200
01/05

VENF1 VENICE

27.1 -82.6 1005.6 13/0705 209/036 13/0610 210/046 13/0637

REMARKS: PRESSURE SENSOR AT PORT RICHEY STOPPED WORKING AT 13/1245.

B. MARINE OBSERVATIONS...

NOTE: ANEMOMETER HEIGHT IN METERS AND WIND AVERAGING PERIOD IN MINUTES INDICATED UNDER MAXIMUM SUSTAINED WIND IF KNOWN.

LOCATION ID MIN DATE/ MAX DATE/ PEAK DATE/
LAT LON PRES TIME SUST TIME GUST TIME
DEG DECIMAL (MB) (UTC) (KT) (UTC) (KT) (UTC)

42036 100 NM WEST OF BAYPORT
28.5 -84.5 1008.5 13/0905 280/035 13/1040 080/045 12/1050
05/08

42013 30 NM WEST OF VENICE
25.9 -85.9 1003.7 13/1040 170/029 12/2210 200/035 13/0310 I
03/10

42003 210 NM W OF CAPTIVA ISLAND
25.9 -85.9 1005.6 13/1350 196/038 12/1350 160/049 12/0516

REMARKS: WIND SENSOR AT USF COMPS BUOY 42013 STOPPED WORKING AT 13/0311.

C. STORM TOTAL RAINFALL FROM 0000 UTC JUNE 12 UNTIL 2359 UTC JUNE 13 2006

CITY/TOWN COUNTY ID RAINFALL
LAT LON (IN)
DEG DECIMAL

SUWANNEE LEVY SUWF1 4.23
29.2 -83.1

CHIEFLAND LEVY CHIF1 3.67
29.5 -82.9

WILLISTON LEVY WLSF1 4.53
29.4 -82.5

THE VILLAGES SUMTER KVVG 0.87
28.9 -81.9

DADE CITY PASCO STLFL1 2.62
28.3 -82.3

PINELLAS PARK PINELLAS PINPK4.10
27.9 -82.7

REMARKS: NONE.

D. INLAND FLOODING...

 LEVY...NUMEROUS REPORTS OF LOCALIZED FRESH WATER FLOODING IN URBAN AREAS.

CITRUS...LOCALIZED FRESH WATER FLOODING REPORTED IN SEVERAL AREAS.

HILLSBOROUGH...LOCALIZED FRESH WATER FLOODING WAS OBSERVED.

REMARKS: NONE.

E. MAXIMUM STORM SURGE AND STORM TIDE...
 OFFICIAL TIDE GAUGES NOTED WITH LEADING "G"

COUNTY	CITY/TOWN OR LOCATION	SURGE (FT)	TIDE (FT)	DATE TIME	BEACH EROSION
LEVY	G CEDAR KEY	4.09	6.74	13/0800	MINOR
PINELLAS	G CLEARWATER	2.42	4.02	13/0900	MINOR
MANATEE	COQUINA BEACH	4.33	6.78	13/0700	MAJOR

MAJOR BEACH EROSION AT COQUINA BEACH WHERE THE SAND WAS DUG OUT 2 FEET DEEP AND HALF THE BEACH DISAPPEARED.

PINELLAS	INDIAN SHORES	3.56	6.45	13/0800	MODERATE
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MODERATE BEACH EROSION REPORTED AT INDIAN SHORES.

CITRUS	NORTHERN COAST	4.00	N/A	13/1000	UNKNOWN
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COUNTY EMERGENCY MANAGEMENT REPORTED A 3 TO 4 FOOT SURGE FROM HOMOSASSA TO JUST SOUTH OF INGLIS.

REMARKS: DATE AND TIME ESTIMATED FOR MANATEE PINELLAS AND CITRUS COUNTIES.

F. TORNADOES...

(DIST)CITY/TOWN LAT LON (DEG DECIMAL) DESCRIPTION	COUNTY	DATE/ TIME(UGC)	EF SCALE (IF KNOWN)
3 NE WAUCHULA 27.6 -81.8	HARDEE	12/0650	EF0

COUNTY ROAD CREW OBSERVED THE TORNADO NEAR HIGHWAY 62.

2 E BARTOW 27.9 -81.8	POLK	12/0809	EF0
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TORNADO OBSERVED 1 MILE EAST OF BARTOW AIRPORT.

1 S ARCADIA 27.2 -81.9	DESOTO	12/0658	EF0
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TORNADO OBSERVED 1 MILE SOUTH OF ARCADIA.

REMARKS: NONE.

G. STORM IMPACTS BY COUNTY...

COUNTY DESCRIPTION	DEATHS	INJURIES	EVACUATIONS
LEVY 20 HOMES IN YANKEETOWN RECEIVED FLOOD DAMAGE AS TWO FEET OF WATER COVERED THE ROAD DOWNTOWN. WATER ALSO CLOSED NEAR SHORE AREAS OF HIGHWAY 40 AND 24.	0	0	100
CITRUS SURGE FLOODING NEAR HOMOSSASSA PUT 3 FEET OF WATER INTO ONE RESTAURANT AND DAMAGED 20 HOMES. TWO PEOPLE WHO DID NOT EVACUATE HAD TO BE RESCUED...ONE IN HOMOSSASSA AND THE OTHER IN CRYSTAL RIVER. FORT ISLAND TRAIL WAS COVERED WITH 4 FEET OF WATER.	0	0	25
PASCO 4 FOOT SURGE UP AND DOWN THE COUNTY COASTLINE. WAS NOT HIGH ENOUGH TO FLOOD PROPERTY...EVEN AT HIGH TIDE.	0	0	0
HILLSBOROUGH A COUPLE OF TREES ON HOUSES. FRESH WATER FLOODING AND BAY OVERSPRAY CLOSED PARTS OF BAY SHORE BOULEVARD FOR A TIME.	0	0	0
MANATEE NO PROBLEMS.	0	0	0
SARASOTA NO PROBLEMS.	0	0	0

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Legend:
I-Incomplete Data
E-Estimated

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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 Basin	ABNT20 KNHC	TWOAT
Eastern Pacific	ABPZ20 KNHC	TWOEP
Central Pacific	ACPN50 PHFO	TWOCP
San Juan - Spanish	ACCA62 TJSJ	TWOSPN
Western Pacific	ABPW10 PGTW	N/A
Indian Ocean	ABIO10 PGTW	N/A
<u>Tropical Weather Discussion</u>		
Atlantic Basin	AXNT20 KNHC	TWDAT
Eastern Pacific	AXPZ20 KNHC	TWDEP

<u>PRODUCT TITLE</u>	<u>WMO HEADER</u>	<u>AWIPS PRODUCT IDENTIFIER (NNNXXX)</u>
<u>Tropical / Subtropical Cyclone</u>		
<u>Public Advisory</u>		
Atlantic Basin	WTNT/31-35/ KNHC	TCPAT/1-5/
San Juan - Spanish	WTCA/41-45/ TJSJ	TCPSP/1-5/
Eastern Pacific	WTPZ/31-35/ KNHC	TCPEP/1-5/
Central Pacific	WTPA/31-35/ PHFO	TCPCP/1-5/
Western North Pacific	WTPQ/31-35/ PGUM	TCPPQ/1-5/
<u>Public Advisory from WPC</u>		
Conterminous U.S. - WPC issued	WTNT/31-35/ KWNH	TCPAT/1-5/
<u>Tropical Cyclone Surface Wind Speed</u>		
<u>Probabilities Text Product</u>		
Atlantic	FONT/11-15/ KNHC	PWSAT/1-5/
East Pacific	FOPZ/11-15/ KNHC	PWSEP/1-5/
Central Pacific	FOPA/11-15/ PHFO	PWSCP/1-5/
<u>Tropical / Subtropical Cyclone</u>		
<u>Forecast / Advisory</u>		
Atlantic Basin	WTNT/21-25/ KNHC	TCMAT/1-5/
Eastern Pacific	WTPZ/21-25/ KNHC	TCMEP/1-5/
Central Pacific	WTPA/21-25/ PHFO	TCMCP/1-5/
<u>Tropical Cyclone Discussion</u>		
Atlantic Basin	WTNT/41-45/ KNHC/	TCDAT/1-5/
Eastern Pacific	WTPZ/41-45/ KNHC	TCDEP/1-5/
Central Pacific	WTPA/41-45/ PHFO	TCDCP/1-5/
<u>Tropical Cyclone Valid Time Event</u>		
<u>Code Product</u>		
Atlantic Basin	WTNT/81-85/ KNHC	TCVAT/1-5/
East Pacific Basin	WTPZ/81-85/ KNHC	TCVEP/1-5/
Central Pacific Basin	WTPA/81-85/ PHFO	TCVCP/1-5/
<u>Prognostic Reasoning of Warnings for NW Pacific</u>		
	WDPN/31-36/ PGTW	N/A

<u>PRODUCT TITLE</u>	<u>WMO HEADER</u>	<u>AWIPS PRODUCT IDENTIFIER (NNNXXX)</u>
<u>Tropical Cyclone Position and Intensity from Satellite Data</u>		
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
<u>Tropical Cyclone Formation Alert Message</u>		
Issued by JTWC		
Northwest Pacific	WTPN/21-25/ PGTW	N/A*
Southwest 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		
Southeast Pacific	WTPS/21-25/ PHNC	N/A
<u>Tropical Cyclone Update</u>		
Atlantic Basin	WTNT/61-65/ KNHC	TCUAT/1-5/
Eastern Pacific	WTPZ/61-65/ KNHC	TCUEP/1-5/
Central Pacific	WTPA/61-65/ PHFO	TCUCP/1-5/
Western North Pacific	WTPQ/61-65/ PGUM	TCUPQ/1-5/
<u>Tropical Cyclone Warnings</u>		
Northwest Pacific	WTPN/31-35/ PGTW	TCPWP/1-5/
Southwest 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
<u>Tropical Weather Summary</u>		
Atlantic Basin	ABNT30 KNHC	TWSAT
Eastern Pacific	ABPZ30 KNHC	TWSEP
Central Pacific	ACPN60 PHFO	TWSCP
<u>Satellite Interpretation Message</u>		
Hawaiian Islands	ATHW40 PHFO	SIMHI
Western North Pacific (Guam)	ATPQ40 PGUM	SIMGUM

<u>PRODUCT TITLE</u>	<u>WMO HEADER</u>	<u>AWIPS PRODUCT IDENTIFIER (NNNXXX)</u>
<u>Satellite-Derived Rainfall</u>		
Eastern Caribbean	TCCA21 KNHC	STDECA
Central Caribbean	TCCA22 KNHC	STDCCA
Western Caribbean	TCCA23 KNHC	STDWCA
<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	SOVX81 KNHC	OCDXBT
MinObs	URNT40 KWBC	

<u>PRODUCT TITLE</u>	<u>WMO HEADER</u>	<u>AWIPS PRODUCT IDENTIFIER (NNNXXX)</u>
<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	
<u>Summer / Winter Reconnaissance Schedule [Atlantic/Pacific]</u>	NOUS42 KNHC	REPRPD

<u>PRODUCT TITLE</u>	<u>WMO HEADER</u>	<u>AWIPS PRODUCT IDENTIFIER (NNNXXX)</u>
<u>Hurricane Local Statement</u>		
Atlantic	WTUS/81-84/ KCCC	HLSNNN
Brownsville, TX	WTUS84 KBRO	HLSSPN
San Juan, PR	WTCA82 TJSJ	HLSSJU
San Juan (Spanish)	WTCA82 TJSJ	HLSSPN
Eastern Pacific	WTUS86 KCCC	HLSNNN
Central Pacific (All Hawaiian Islands)	WTHW80 PHFO	HLSHFO
Western North Pacific (Guam)	WTPQ/81-85/ PGUM	HLSPQ/1-5/
South Pacific (Pago Pago, American Samoa)	WTZS/81-85/ NSTU	HLSZS/1-5/
<u>Tropical Cyclone Objective Guidance Products</u>		
Atlantic Basin	WHXX01 KMIA	CHGHUR
Pacific Basin	WHXX01 KWBC	CHGE77
Atlantic Basin	WHXX04 KWBC	CHGQLM
<u>Aviation Tropical Cyclone Advisory Message</u>		
Atlantic Basin	FKNT/21-25/ KNHC	TCANT/1-5/
East Pacific	FKPZ/21-25/ KNHC	TCAPZ/1-5/
Central Pacific	FKPA/21-25/ PHFO	TCAPA/1-5/
<u>Tropical Cyclone Summary - Fixes</u>		
South Central Pacific 120°W - 160°E	TXPS/41-45/ PHFO	TCSSP/1-5/
North Central Pacific 140°W - 180°	TXPN/41-45/ PHFO	TCSCP/1-5/

* N/A indicates currently none assigned.