Department of Commerce • National Oceanic & Atmospheric Administration • National Weather Service

NATIONAL WEATHER SERVICE INSTRUCTION 10-601
JULY 14, 2022

Operations and Services
Tropical Cyclone Weather Services Program, NWSPD 10-6

WEATHER FORECAST OFFICE 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 *"Weather Forecast Office Tropical Cyclone Products"*, dated April 16, 2021.

The following revisions were made to this directive:

1. Section 1.1.2.2 was amended to permit Weather Forecast Offices (WFOs) Albany, Binghamton, Burlington, and State College to issue tropical cyclone watches and warnings anywhere within their County Warning Areas (CWAs) when conditions warrant.
2. Section 1.3.3.5 was updated to clarify that Hurricane Local Statement (HLS) products from WFO Guam for Micronesia and from WSO American Samoa do not include VTEC.
3. Section 1.5.2.2 was updated to note that the Extreme Wind Warning (EWW) product can be issued in the Central Pacific basin.
4. The title for Section 3 was changed from "Procedures for Populating WFO-Generated Wind Forecast Grids for Tropical Cyclone Events" to "Procedures for Populating Wind Forecast Grids for Tropical Cyclone Events" to reflect that both WFOs and marine forecast centers generate wind forecast grids.
5. Section 3.1 was updated for the instruction to be valid for both WFOs and marine forecast centers by replacing the mentions of "WFOs" with "field offices".

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July 14, 2022

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Date

Weather Forecast Office (WFO) Tropical Cyclone Products

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1 Weather Forecast Office (WFO) Tropical Cyclone Products

Weather Forecast Offices (WFOs) will issue tropical cyclone products designed to inform media, local decision makers, and the public on present and/or anticipated tropical cyclone conditions in their Area of Responsibility (AOR). WFOs are also responsible for determining if tropical cyclone wind watches and warnings will be issued for their inland AOR. Coastal Atlantic basin WFOs in the continental U.S., as well as WFO San Juan, Puerto Rico, will collaborate with the National Hurricane Center (NHC) to determine storm surge watches and warnings for their AOR. Each WFO will ensure products are consistent with the latest products issued by their respective tropical cyclone forecast center and with surrounding offices.

Refer to Appendix A for tropical cyclone product examples.

1.1 WFO Tropical Cyclone Local Watch/Warning Product (WFO TCV)

Atlantic basin offices with tropical cyclone wind watch/warning responsibility will issue the WFO Tropical Cyclone Watch/Warning (TCV). In the Pacific basin, only WFO Honolulu will issue the WFO TCV product.

The WFO TCV text product is a segmented Valid Time Event Code (VTEC) product with each segment being a discrete forecast zone. Each segment contains land-based tropical cyclone wind and storm surge watches/warnings in effect, meteorological information, hazards (wind, storm surge, flooding rain, tornadoes), and their potential threats and impacts. The product is generated from local gridded forecast information and national guidance and is, therefore, not intended to be manually edited by the forecaster.

This text product is intended for parsing by the weather enterprise and is paired with the WFO HLS to provide a complete, localized tropical forecast. It can also be useful to decision makers as it provides detailed information on the timing of hazards, threats, and impacts on a zone level.

1.1.1 Mission Connection

The TCV is the WFO product for disseminating land-based tropical cyclone watches and warnings within their AOR. It is the primary WFO product for providing their users with critical information for the protection of life and property and to minimize the economic and environmental losses associated with tropical cyclones and their impacts. Specifically, the TCV conveys tropical cyclone watches and warnings issued by NHC or the Central Pacific Hurricane Center (CPHC), and the TCV is used to disseminate tropical cyclone watches and warnings issued by WFOs for land zones. If the NHC/CPHC Tropical Cyclone Public advisory product includes coastal watches and warnings, the corresponding WFO coastal zones must contain the same hazards in the WFO TCV product issued for that advisory. In addition to the watch/warning information, the TCV details forecasts, potential threats, and impacts for each of the four primary hazards associated with tropical cyclones on a zone by zone basis. The TCV product format is intended to facilitate the parsing of the information by the weather enterprise and other users for integration into their products and automated display systems.

Marine-based tropical cyclone watches and warnings will be issued using the Marine Weather Message (MWW) product. See NWSI 10-315: *Marine Weather Message*, for the latest information on the use of the Marine Weather Message during tropical events.

1.1.2 Issuance Guidelines

1.1.2.1 Creation Software

Advanced Weather Interactive Processing System (AWIPS) Graphical Forecast Editor (GFE).

1.1.2.2 Issuance Criteria

The national center issuance of a Tropical Cyclone Public Advisory (TCP) precedes the issuance of a TCV for consistency of formatting. Thus, the TCV formatter cannot be run until the TCP has been issued. WFO TCVs cannot be issued for systems that have yet to be formally recognized by NHC or the CPHC through formal advisories since the VTEC Event Tracking Number (ETN) for the WFO watches and warnings is derived from the national products.

Offices that issue TCVs are listed below.

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

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

Pacific Region
Honolulu, HI

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

The inland WFOs listed below will issue tropical cyclone watches and warnings via the TCV when hurricane or tropical storm force winds from a tropical cyclone may impact their area of responsibility.

Eastern Region
Albany, NY
Binghamton, NY
Blacksburg, VA
Burlington, VT
Columbia, SC
Greenville / Spartanburg, SC
Raleigh / Durham, NC
State College, PA

Southern Region
Atlanta, GA
Austin / San Antonio, TX
Birmingham, AL
Fort Worth, TX
Huntsville, AL
Jackson, MS
Little Rock, AR
Memphis, TN
Morristown, TN
Nashville, TN
Shreveport, LA

Inland WFOs not listed above will not issue the TCV 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.

1.1.2.3 Issuance Times

a. Initial Issuances

Initial Issuance by coastal WFOs: The initial TCV should be issued as closely as possible to the first issuance of a tropical storm/hurricane watch/warning for the coastal WFO's AOR by NHC or CPHC. If necessary, WFOs may issue an abbreviated TCV that contains the appropriate VTEC actions to trigger the dissemination of downstream notifications in a timely fashion but does not include all of the forecast threat and impact information contained in a normal TCV issuance. This abbreviated TCV should be followed up by a full TCV as soon as possible. An example of an abbreviated WFO TCV product is provided in Appendix A.

Initial Issuance by inland WFOs: The initial TCV, with associated tropical storm or hurricane watches or warnings, for the inland WFOs listed in Section 1.2.2, should be issued, in coordination with neighboring WFOs, when tropical storm or hurricane force winds are forecast by NHC or CPHC within their area of responsibility within 48 hours (watches) to 36 hours (warnings). The initial TCV should be issued as closely as possible to the initial NHC advisory package issuance.

b. Subsequent updates: TCVs should be updated within 30 minutes of the release of a regularly scheduled advisory from the pertinent tropical cyclone forecast center or after the tropical cyclone forecast center issues an intermediate advisory that contains changes in the watches/warnings for the WFO's county warning area (CWA). Tropical wind and/or storm surge watches and/or warnings may only be changed in the WFO TCV product in conjunction with the issuance of a regular or intermediate public advisory from NHC or CPHC. TCVs may also be updated for other operationally significant changes (e.g., changes to rainfall or tornado information). However, a TCV that includes the latest NHC/CPHC forecast information should not be disseminated prior to the official release of a NHC or CPHC advisory unless coordinated ahead of time with the appropriate center.

c. Final: TCVs will cease when all local tropical cyclone watches/warnings are no longer in effect for the CWA.

1.1.2.4 Valid Time

TCVs are valid at the time of issuance and until a subsequent TCV is issued, or when tropical cyclone watches and/or warnings are no longer in effect for the local area. During an event, TCVs are issued at least once every 6 hours.

1.1.2.5 Event Beginning Time

The event's VTEC contains a start time.

1.1.2.6 Event Ending Time

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

1.1.2.7 Product Expiration Time

The product expiration time is generally 6 hours after the issuance time and should coincide with the next expected update or when the event is forecast to end. Note that the product expiration time is set to 8 hours to allow for possible issues.

1.1.3 Technical Description

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

1.1.3.1 Universal Geographic Code (UGC) Type

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

1.1.3.2 Mass News Disseminator (MND) Header\

The TCV MND header product type line is: "(Name or Number) Local Watch/Warning Statement/Advisory Number ##."

The "##" is the sequential number of the advisory in the series for the particular tropical cyclone and corresponds to the NHC/CPHC TCP advisory number.

As part of the header, a coded string will be appended at the end of the "Issuing Office City State" line (Example: National Weather Service Wilmington NC BBCCYYYY).

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

1.1.3.3 Content

The TCV content consists of one or more formatted segments. The number of segments will vary depending on the tropical cyclone watches and warnings in effect. Each segment contains formatted content for one UGC zone consisting of:

UGC/VTEC encoding for the zone and watch/warning
Watch/warning headline(s)
Plain language locations affected
Hazard sections consisting of:
- Meteorological forecast information
- Threat information
- Potential Impacts

Sources of additional information

1.1.3.4 Format

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

The TCV will contain tropical cyclone watches and warnings for all land zones. The VTEC phenomena codes used are:

EVENT NAME	PHENOMENA CODE
TROPICAL STORM	TR
HURRICANE	HU
STORM SURGE	SS*

The VTEC Significance codes for the TCV are:

Warning	W
Watch	A

* WFO Honolulu does not issue storm surge watches or warnings.

The ETN is a unique value assigned for each tropical cyclone. The ETN for tropical cyclone watches and warnings in all land zones (inland, coastal) is assigned through the basin's storm number in the coded string found in the "Issuing Office" line of the respective tropical cyclone forecast center's TCP product. Thus, the ETN in the tropical cyclone forecast center's TCV product is the same as the ETNs in the TCV. For more information on ETNs, please see NWSI 10-607: *Tropical Cyclone Forecast Center Products*, section 1.7.3.3.

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

Each segment headline begins and ends with ellipses (three dots). The headlines will be based on the corresponding VTEC code values in each segment. At least one headline is provided in each VTEC segment.

Segment Subsections

*** LOCATIONS AFFECTED** (mandatory)

A listing of significant locations within the zone.

*** WIND** (mandatory)

Description of wind forecast, threats and potential impacts.

*** STORM SURGE** (mandatory for surge-prone zones only)

Description of storm surge forecast, threats and potential impacts.

*** FLOODING RAIN** (mandatory)

Description of flooding rain forecast, threats and potential impacts.

*** TORNADO** (mandatory)

Description of tornado forecast, threats and potential impacts.

*** FOR MORE INFORMATION** (mandatory)

Preparedness information including World Wide Web links.

The overall format of the WFO TCV follows.

WTxx8i Kxxx ddhhmm
TCVxxx

Product header – includes advisory # from NHC/CPHC

URGENT – IMMEDIATE BROADCAST REQUESTED
(Name or Number) Local Watch/Warning Statement/Advisory Number ##
National Weather Service (City) (STATE) (BBCCYYYY)
(time) (AM/PM) (TIME_ZONE) (Day_of_week) (Mon) DD YYYY

Segment information including tropical VTEC

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

Wind information including:
- Forecast with potential windows for TS and Hurricane force winds.
- Threat for which preparations need to be made.
- Includes general trend of this particular threat, with statements geared toward time to impact.
- Potential impacts for this area.

HEADLINE *Tropical headlines*

* LOCATIONS AFFECTED *Locations in this segment*

* WIND
- LATEST LOCAL FORECAST:

- THREAT TO LIFE AND PROPERTY THAT INCLUDES TYPICAL FORECAST UNCERTAINTY IN TRACK, SIZE AND INTENSITY:

- POTENTIAL IMPACTS:

Surge information including:
- Forecast and potential window for storm surge flooding
- Threat for which preparations need to be made
- Includes general trend of this particular threat.
- Statements are geared toward time to impact
- Potential impacts for surge-prone areas.

* STORM SURGE
- LATEST LOCAL FORECAST:

- THREAT TO LIFE AND PROPERTY THAT INCLUDES TYPICAL FORECAST UNCERTAINTY IN TRACK, SIZE AND INTENSITY:

- POTENTIAL IMPACTS:

Flooding rain forecast (including watches), threats and potential impacts.

* FLOODING RAIN
- LATEST LOCAL FORECAST:

- THREAT TO LIFE AND PROPERTY THAT INCLUDES TYPICAL FORECAST UNCERTAINTY IN TRACK, SIZE AND INTENSITY:

- Potential Impacts:

Tornado watch information, threats and potential impacts.

* TORNADO
- LATEST LOCAL FORECAST:

- THREAT TO LIFE AND PROPERTY THAT INCLUDES TYPICAL FORECAST UNCERTAINTY IN TRACK, SIZE AND INTENSITY:

- POTENTIAL IMPACTS:

General and zone-specific websites.

* FOR MORE INFORMATION:
$$

Figure 1 WFO Hurricane Local Watch/Warning Product

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

1.1.3.5 Relationship of the TCV to the Short Term Forecast (NOW)

The NOW is a stand- alone product focused on conditions affecting the office's CWA within 6 hours of product issuance. It may be used to complement the TCV by providing more specific information valid over the next six hours.

1.1.3.6 Relationship of the TCV to the Zone Forecast Product (ZFP)

The appropriate zone forecast products will highlight tropical cyclone watches and warnings issued in the TCV.

1.1.3.7 Relationship of the TCV to other WFO-issued advisory/watch/warning products

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

Table 1A – Defines the products issued and those discontinued for individual forecast zones at coastal WFOs when tropical cyclone watches and/or warnings, issued via the TCV, are in effect.

Table 1B – Defines the products issued and those discontinued for individual forecast zones at inland WFOs listed in Section 1.1.2.2 when tropical cyclone watches and/or warnings, issued via the TCV, are in effect.

Table 2A – Defines permitted Coastal Hazards Message (CFW) VTEC actions when a tropical cyclone forecast center begins issuance of tropical cyclone advisories that affect forecast zone(s) within a CWA, and there are no storm surge watches or warnings in effect for the zone.

Table 2B - Defines permitted CFW VTEC actions when a tropical cyclone forecast center begins issuance of tropical cyclone advisories that affect forecast zone(s) within their CWA, and there are storm surge watches or warnings in effect for the zone.

Table 1A. Coastal WFO Product Table when Tropical Cyclone Wind and/or Storm Surge Watches/Warnings are in Effect Within the CWA

Tropical Cyclone Wind and/or Storm Surge Watch/Warning in Effect – Coastal WFOs	
Product	**Product Issuance – Yes / No**
Local Watch/Warning Statement / Advisory (WFO TCV)	Yes
Marine Weather Message (MWW)	Yes
Hurricane Local Statement (HLS)	Yes
Tornado Warning (TOR / SVS)	Yes (see condition 1)
Extreme Wind Warning (EWW / SVS)	Yes (see condition 1)
Severe Thunderstorm Warning (SVR / SVS)	Yes (See conditions 1, 2)
Special Marine Warning (SMW / MWS)	Yes (See conditions 1, 3)
Special Weather Statement (SPS)	Yes
Non-follow-up Marine Weather Statement (MWS)	No (See condition 3)
Non-precipitation Weather (NPW)	Yes (See condition 4)
Flash Flood Watches / Warnings (FFA / FFW)	Yes
Coastal Hazard Message (CFW)	Yes (See Tables 2A and 2B and condition 5)
Surf Zone Forecast / Surf Forecast (SRF)	Yes

Table 1B. Inland WFO Product Table when Tropical Cyclone Wind Watches/Warnings are in Effect Within the CWA

Tropical Cyclone Wind Watch/Warning in Effect – Inland WFOs in Section 1.1.2.2	
Product	**Product Issuance – Yes / No**
Tropical Cyclone Local Watch/Warning Product (WFO TCV)	Yes
Hurricane Local Statement (HLS)	Yes
Tornado Warning (TOR)	Yes
Extreme Wind Warning (EWW)	Yes
Severe Thunderstorm Warning (SVR)	Yes (See condition 2)
Severe Weather Statement (SVS)	Yes (See condition 1)
Special Weather Statement (SPS)	Yes
Non-precipitation Weather (NPW)	Yes (See condition 4)

Conditions for Tables 1A and 1B:

1 A Severe Weather Statement (SVS) product should be issued as a follow-up to a Severe Thunderstorm Warning (SVR) or Tornado Warning (TOR) as instructed in NWSI 10-511. A SVS should also be issued as a follow-up to an Extreme Wind Warning (EWW). A Marine

Weather Statement (MWS) product should be used to provide follow-up to a Special Marine Warning (SMW) as instructed in NWSI 10-314.

2 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. WFOs should use discretion when determining the need for SVRs in areas where tropical wind watches/warnings are in effect. If multiple SVR issuances are anticipated, the issuing WFO should contact the Storm Prediction Center, adjacent WFOs, and affected Regional Operations Centers (ROCs) to collaborate on the potential need for convective watch products.

Note: SVRs have the capacity for forecasters to promote potential tornado formation within the storm, as long as either/both of the minimum issuance criteria is met (hail: 1.00 inch and/or winds: 50 knots/58 mph). Please refer to NWSI 10-511, section 2.3.5 for more details.

3 WFOs have the option to issue stand-alone Special Marine Warnings (SMWs) and follow-up 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.

4 NPWs for headlines other than high wind hazards can be issued. WFOs listed in Section 1.1.2.2 that issue TCVs will not issue NPW High Wind Watch/Warning products when tropical cyclone watch or warning conditions are expected. Any WFO that does not issue TCV products will issue NPW High Wind Watch/Warning products in lieu of tropical cyclone watches or warnings in the event their AOR is impacted by a tropical cyclone event.

5 If tropical cyclone watches/warnings are issued, Coastal Hazard Message (CFW) products should also be issued when conditions warrant. During tropical events, water levels used to describe coastal flooding hazards in CFW products will be provided as ranges of water levels above ground (inundation). Those ranges should be consistent with values in the HLS and the corresponding Tropical Cyclone Public Advisory (TCP) issued for the area. CFWs will be updated every 6 hours, as soon as possible after the HLS is issued, during a tropical event.

Table 2A. CFW VTEC Actions When Tropical Cyclone Wind Watches/Warnings are Issued for a Zone and There are No Tropical Cyclone Storm Surge Watches/Warnings for that Zone in the TCV

VTEC Event and Significance Level	Tropical Cyclone (TC) Wind Watch/Warning Issued via the TCV	VTEC Event Permitted	VTEC Event Not Permitted
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 /SU.W/	TC Watch	X	
High Surf Warning /SU.W/	TC Warning	X	
Beach Hazards Statement /BH.S/	TC Watch / TC Warning	X	
Rip Current Statement /RP.S/	TC Watch / TC Warning	X	

Table 2B. CFW VTEC actions when Tropical Cyclone Storm Surge Watches/Warnings are Issued for a Zone in the TCV

VTEC Event and Significance Level	Tropical Cyclone (TC) Storm Surge (SS) Watch/Warning Issued via the TCV	VTEC Event Permitted	VTEC Event Not Permitted
Coastal Flood Watch /CF.A/	Storm Surge Watch		X
Coastal Flood Watch /CF.A/	Storm Surge Warning		X
Coastal Flood Advisory /CF.Y/	Storm Surge Watch		X
Coastal Flood Advisory /CF.Y/	Storm Surge Warning		X
Coastal Flood Warning /CF.W/	Storm Surge Watch		X
Coastal Flood Warning /CF.W/	Storm Surge Warning		X
High Surf Advisory /SU.Y/	Storm Surge Watch	X	
High Surf Advisory /SU.Y/	Storm Surge Warning	X	
High Surf Warning /SU.W/	Storm Surge Watch	X	
High Surf Warning /SU.W/	Storm Surge Warning	X	
Beach Hazards Statement /BH.S/	Storm Surge Watch / Storm Surge Warning	X	
Rip Current Statement /RP.S/	Storm Surge Watch / Storm Surge Warning	X	

Conditions for Tables 2A and 2B:

1 If a storm surge watch/warning has been issued for any part of a zone, coastal flood watch/warning/advisory hazards in CFW products will be discontinued for the entire zone.

2 WFO Honolulu does not issue storm surge watches/warnings.

3 WFOs will provide ranges of water level above ground (no lower than 0.5 foot resolution is recommended) in CFW products during tropical cyclone events to convey the inherent uncertainty in the forecast. See NWSI 10-320 for guidance on water level information.

4 WFOs will strive to make the values in the CFW consistent with those in the TCV and TCP. It is highly recommended that a single source of data be used as guidance for all of these products to ensure consistency.

5 If tropical cyclone advisories are discontinued and coastal hazards are expected behind the departing tropical cyclone, then CFW products will continue to be issued as appropriate.

1.2 Hurricane Local Statement (HLS) – Atlantic basin and WFO Honolulu

The HLS for the Atlantic basin and WFO Honolulu is designed to be a discussion preparedness product that conveys a succinct message on land-based local impacts from a tropical cyclone. This product does not contain VTEC information and is not segmented. In addition, for ALL areas, tropical hazards for marine zones are contained in the Marine Weather Message (MWW) product. For information on the MWW and how it relates to tropical VTEC, refer to NWSI 10-315: *Marine Weather Message*.

The HLS contains an overview of the storm from a local perspective along with a succinct message on local impacts. The HLS is a common source of information to simultaneously communicate information to diverse users (media, key decision makers, and the public).

1.2.1 Mission Connection

Along with the WFO TCV, the HLS provides 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 1.1.2.2 will issue the Atlantic basin/WFO Honolulu version of the HLS. The HLS is a non-segmented product intended to communicate important tropical cyclone watch/warning, hazard, and impact information to users interested in a bigger picture. The HLS contains a succinct overview of the tropical event and a generalized summary of potential impacts and preparedness information for land areas only. Potential impact information is ordered based upon the greatest expected impact from the tropical cyclone within the CWA. Possible sections are wind, surge, flooding rain, tornadoes, and other coastal hazards.

1.2.2 Issuance Guidelines

1.2.2.1 Creation Software. AWIPS GFE.

1.2.2.2 Issuance Criteria

The issuance of the tropical cyclone forecast center TCP and the WFO TCV precede the creation of an HLS when there are active tropical cyclone watches/warnings within the CWA. The HLS formatter cannot be run prior to the issuance of the WFO TCV when there are active tropical

cyclone watches/warnings. This is the case for every advisory including intermediate and special advisory updates.

When a tropical cyclone or disturbance is not expected to impact an area, the HLS can be issued as a stand-alone product to dispel rumors if there are no tropical watches and warnings in effect in the CWA. See sections 1.2.3.6-8 for more details on the relationship of the HLS to other NWS products that may be issued when there are no active tropical cyclone watches/warnings within the CWA or with the initial issuance of tropical watches/warnings.

1.2.2.3 Issuance Times

a. Initial issuances: The initial HLS issuance should follow closely after the WFO TCV issuance.

b. Subsequent updates: All HLS issuances should follow closely after the WFO TCV issuance for each advisory.

c. Final: The final HLS should be issued soon after all tropical cyclone watches/warnings have been cancelled through the WFO TCV.

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

1.2.2.4 Valid Time

HLSs are valid at the time of issuance and until a subsequent HLS is issued 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.

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. Note that the product expiration time is set to 8 hours to allow for possible delays in product issuance.

1.2.3 Technical Description

Atlantic basin/WFO Honolulu HLS products will follow the prescribed format and content described in this section.

1.2.3.1 UGC Type

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

1.2.3.2 MND Header

The HLS MND header block product type line is: "(System Type) (Name or Number) Local Statement Advisory Number ##". Appropriate system type line options are:

Hurricane (Name) Local Statement

Tropical Storm (Name) Local Statement
Tropical Depression (Number) Local Statement
Subtropical Storm (Name) Local Statement
Subtropical Depression (Number) Local Statement
Potential Tropical Cyclone (Number) Local Statement
Post-Tropical Cyclone (Name) Local Statement
Remnants of (Name) Local Statement

The "##" is the sequential number of the advisory in the series for the particular tropical cyclone and corresponds to the NHC/CPHC TCP advisory number.

As part of the header, a coded string will be appended at the end of the "Issuing Office City State" line (Example: National Weather Service Wilmington NC BBCCYYYY).

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

1.2.3.3 Content

Content should always focus on the most severe hazards, describing the most threatened areas.

HLSs will use tropical cyclone position information according to the latest advisory, or according to position estimates provided by the tropical cyclone forecast center between advisories (when appropriate). Distance/bearing information should be provided relative to one or two well-known local locations or landmarks.

1.2.3.4 Format

The HLS is available in industry standard encoding and languages that may include, but are not limited to, American Standard Code for Information Interchange (ASCII), eXtensible Markup Language (XML), Wireless Markup Language (WML) and Hypertext Markup Language (HTML).

The HLS content is organized into the following sections: Affected Area, Headline/Primary Message, New Information, Situation Overview, Precautionary/Preparedness Actions, and Next Update.

THIS PRODUCT COVERS < **Affected Area**> (mandatory)

The general area covered by the HLS is described in a line that begins with "THIS PRODUCT COVERS" followed by a generic geographic description.

** <**Headline or Primary Message** > ** (mandatory)

The plain text headline is located between doubles asterisks ("**") and may be more than one line.

NEW INFORMATION (mandatory)

This section includes: "Changes to Watches and Warnings", "Current Watches and Warnings", and "Storm Information." This is pre-populated with information primarily pulled from the TCP and the hazard history. This section should concisely list what is new and, if applicable, state "None".

SITUATION OVERVIEW (mandatory)

The mandatory Situation Overview section of the HLS concisely describes aspects of the tropical cyclone that are of the greatest importance to users in the WFO's CWA. This can include thresholds for threats and impacts which assist in making decisions related to personal protective action.

POTENTIAL IMPACTS (mandatory)

Potential impact information is ordered based upon the greatest expected impact from the tropical cyclone within the CWA. The five possible sections are wind, surge, flooding rain, tornadoes, and other coastal hazards.

Not every section must be present. Only those sections with a legitimate threat will be included, and specific potential impacts are only given for the highest threat across the area. If there are a range of threats across the area, those will also be highlighted.

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. 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 tropical cyclone wind and/or storm surge watches and/or warnings are 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).

Sub-bullets include:

- Evacuations: Contains generic evacuation information.
- Other Preparedness Information: Contains generic preparedness information.
- Additional Sources of Information: Contains links to area-wide sources for additional information, such as links to local, state, and federal emergency management sites and other disaster relief entities (American Red Cross, The Salvation Army, etc.).

NEXT UPDATE (mandatory)

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

The overall format of the HLS follows.

```
Wtaaii cccc ddhhmm
HLSxxx
STZxxx-xxx>xxx-ddhhmm-

(System Type) (Name or Number) Local Statement Advisory Number ##
National Weather Service (City) (STATE)     (BBCCYYY)
(time) (AM/PM) (TIME_ZONE) (Day_of_week) (Mon) DD YYYY

THIS PRODUCT COVERS general description of area

**<Overview headline statement>**(mandatory)

NEW INFORMATION (mandatory)
---------- (mandatory)

* CHANGES TO WATCHES AND WARNINGS: (mandatory)
   - <Description>

* CURRENT WATCHES AND WARNINGS: (mandatory)
   - <Description>

* STORM INFORMATION: (mandatory)
   - <Description>

SITUATION OVERVIEW (mandatory)
---------- (mandatory)

POTENTIAL IMPACTS (mandatory)
---------- (mandatory)
* <Hazard section header (Surge, Wind, etc.)>:
<Content about that hazard>

PRECAUTIONARY/PREPAREDNESS ACTIONS (mandatory)
---------- (mandatory)
* Evacuations: (mandatory)
  - <Description>

* Other Preparedness Information: (mandatory)
   - <Description>

* Additional Sources of Information: (mandatory)
   - <Description>

NEXT UPDATE (mandatory)
---------- (mandatory)

<Description>
$$
```

WMO Header is the same as the corresponding TCV from the WFO

Figure 2 Hurricane Local Statement Format – Atlantic Basin and WFO Honolulu
See complete examples in Appendix A.

1.2.3.5 Relationship of HLSs to the Short Term Forecast (NOW)

The NOW is a stand-alone product focused on conditions affecting the office's CWA within 6 hours of product issuance. It may be used to complement the HLS by providing additional specific information on conditions expected over the next six hours.

1.2.3.6 Relationship of the HLS to the Public Information Statement (PNS)

Before the first HLS, the use of PNSs is encouraged to inform the public on routine hurricane preparedness information.

1.2.3.7 Relationship of the HLS to the Special Weather Statement (SPS)

SPSs may be used to provide preliminary information associated with systems for which the tropical cyclone forecast center is not yet issuing advisories.

For shorter-fused sub-severe convective storms outside of the zones with tropical wind watches/warning, the Impact-Based Warning (IBW) formatted SPS should be issued according to the criteria outlined in NWSI 10-517, section 3.2.2.

1.2.3.8 Relationship of the HLS to the Hazardous Weather Outlook (HWO)

HWOs may be used to address peripheral weather of concern until the tropical cyclone forecast center issues the first advisory or (if necessary) before the initial issuance of local tropical cyclone watches/warnings from active systems.

1.3 Tropical Cyclone Local Statement (HLS) – Pacific basin except WFO Honolulu

This HLS product is a discussion-centric preparedness product that contains information on land-based local impacts. This HLS is a common source of information to simultaneously communicate information to diverse users (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 zone perspective. Information contained in the HLS should be expressed in a concise and succinct manner with limited redundancy.

Tropical hazards for marine zones can be found in the MWW product. For more information on the MWW, please see NWS Instruction 10-315.

1.3.1 HLS Format for the Pacific tropical cyclone basin except WFO Honolulu

The HLS issued for Southern California, American Samoa, and for Guam and the Northern Mariana Islands consists of two components: Overview Block and UGC/VTEC formatted segments when the threat will impact land areas in the WFO San Diego or Oxnard CWAs or in Guam or the Northern Marianas. The HLSs issued by Guam for areas outside of that area will not contain UGC/VTEC segments. Weather Service Office (WSO) Pago Pago does not issue VTEC in its products.

- Overview Block – The Overview Block provides users generalized tropical cyclone information that is relative to the entire CWA.

- 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.

Wtaaii cccc ddhhmm
HLSxxx

URGENT – IMMEDIATE BROADCAST REQUESTED
(SYSTEM TYPE)(NAME OR NUMBER) LOCAL STATEMENT
NATIONAL WEATHER SERVICE (CITY) (STATE/TERRITORY)
(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)

&&

.NEXT UPDATE (mandatory)

NOTE - HLS products issued by WSO Pago Pago will not contain VTEC

stZ001-005>015 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... (optional)

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

...TORNADOES... (optional)

$$

stZ001-005>015 -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)

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

...WINDS... (optional)

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

...INLAND FLOODING... (optional)

...TORNADOES... (optional)

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

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

$$

Figure 3 HLS Format – Pacific Basin except WFO Honolulu.

See complete examples in Appendix A.

1.3.2 Mission Connection

The HLS is the primary Pacific basin 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 1.3.3.2 will issue the Pacific basin HLS. This HLS is a segmented product intended to communicate important information to diverse users – media, emergency managers, and the public. It contains a succinct meteorological discussion for the tropical event and a generalized summary of potential impacts and preparedness information for land areas only. Potential impact information is ordered based upon the greatest expected impact within the entire CWA.

1.3.3 Issuance Guidelines

1.3.3.1 Creation Software

AWIPS GFE.

1.3.3.2 Issuance Criteria

The tropical cyclone forecast center issuance of a Tropical Cyclone Public Advisory (TCP) precedes the issuance of an HLS. HLSs should not be issued for systems that have yet to be formally recognized by the respective tropical cyclone center through formal advisories.

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

For the Pacific basin HLS, coastal WFOs/WSOs are defined as those having at least one county with significant tidal influences. They are:

<u>Western Region</u>
San Diego, CA
Los Angeles / Oxnard, CA

<u>Pacific Region</u>
Guam
WSO Pago Pago, American Samoa

1.3.3.3 Issuance Times

a. Initial issuances. The initial HLS for the Pacific basin WFOs (excluding WFO Honolulu) should be issued as soon as possible following the first issuance of a tropical storm/hurricane/typhoon watch/warning for the WFO's AOR by the respective tropical

cyclone forecast center. WFO Guam will issue each HLS within one hour after the TCP is issued.

Note: An HLS cannot be issued prior to the release of the initial tropical cyclone forecast center's first advisory for a given system.

When a new tropical cyclone watch or warning is issued for one or more land zones in a coastal WFO's AOR, an "abbreviated HLS" may 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." For Southern California, the issuance of an "abbreviated HLS" will minimize the delay between issuance of the tropical cyclone forecast center's 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 example in Appendix A).

b. Subsequent updates: HLSs should be updated within 30 minutes of the release of a regularly scheduled advisory from the pertinent tropical cyclone forecast center or after the tropical cyclone forecast center issues an intermediate advisory that contains changes in the watches/warnings for the WFO's CWA. Inland tropical wind watches and warnings may only be changed for Southern California in conjunction with the issuance of a regular or intermediate public advisory from NHC. Otherwise, HLSs may be updated for operationally significant changes.

c. Final: Routine HLSs may cease when the tropical cyclone is no longer a threat to a WFO's CWA and/or when all local tropical cyclone watches/warnings are no longer in effect for the CWA. However, Pacific basin WFOs have the option to continue to issue HLS products for sub-warning criteria tropical cyclone impacts utilizing the Hurricane Local Statement (HU.S) VTEC in the segment headers, as long as the tropical cyclone forecast center 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.

1.3.3.4 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.

1.3.3.5 Event Beginning Time

The event's VTEC contains a start time, that is the time when the NEW hazard is issued. Note that WFO Guam products for Micronesia and WSO American Samoa products do not include VTEC.

1.3.3.6 Event Ending Time

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

1.3.3.7 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.

1.3.3.8 Technical Description

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

1.3.3.9 UGC Type

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

1.3.3.10 MND Header

The HLS MND header block product type line is: "(System 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
Potential Tropical Cyclone (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 a name is provided by Regional Specialized Meteorological Center (RSMC) Tokyo. WSO Pago Pago will include the JTWC tropical cyclone number in parentheses once a name is provided by RSMC Nadi.

1.3.3.11 Content

For the Pacific basin (except WFO Honolulu), 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 UGC/VTEC formatted segments that expand on the information presented in the Overview Block and provides users detailed tropical cyclone information for specific zones within a CWA.

Content should always focus on the most severe 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 tropical cyclone forecast 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 and with each other to determine the best integrated and internally consistent forecast of conditions expected for the area. There will be continuous coordination between JTWC, CPHC, and WSO Pago Pago during any watch/warning event for the WSO Pago Pago CWA.

Wording may be added to the end of the HLS describing where additional storm information can be found within the supporting tropical cyclone forecast center's TCP and Tropical Cyclone Marine Advisory (TCM) products, as well as PNSs and NOWs issued by the local office.

1.3.3.12 Format

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

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 and to describe expected meteorological hazards, impacts and conditions across the affected areas. The Overview Block and associated sections are mandatory. 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 NOAA Weather Radio 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 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 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 to which they apply.

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

```
HURRICANE / TYPHOON WARNING...FOR COASTAL AND/OR INLAND
     ZONES
TROPICAL STORM WARNING AND HURRICANE WATCH...FOR COASTAL
     AND/OR INLAND ZONES
TROPICAL STORM WARNING...FOR COASTAL AND/OR INLAND ZONES
TROPICAL STORM WATCH...FOR COASTAL AND/OR INLAND 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.

.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. 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).

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

If this section is included, WFOs should provide information on the probability of hurricane/typhoon/tropical storm conditions.

...WINDS... (optional)

If this section is included, 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)

If this section is included, WFOs should provide information about the potential impacts of heightened water levels caused by storm surge. Supporting information should include the anticipated time of onset of the storm surge, as well as peak water level heights. WFOs will reference water levels relative to height above ground (inundation). Forecast peak water level heights will be expressed in appropriate ranges (e.g., 8 to 12 feet above ground). Mean Higher High Water (MHHW) should be used as a proxy for ground level in most locations, but the WFO-determined ground level may vary when MHHW is not the best approximation. Additionally, WFOs may use other vertical datum references such as Mean Sea Level (MSL) and/or Mean Lower Low Water (MLLW), but this information should follow any references to above ground inundation and should be enclosed in parenthesis (e.g., 8 to 12 feet above ground (10-14 feet MLLW)). 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. Water level values provided in the HLS should be consistent with those in the Coastal Hazard Message (CFW) product which will contain all coastal flood hazards during a tropical event.

...INLAND FLOODING... (optional)

If this section is included, highlight the threat of flash flooding and rapid inundation relative to the zone or zone group as a result of heavy rain.

...TORNADOES... (optional)

If this section is included, highlight the threat of tornadoes or waterspouts relative to the zone or zone group.

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

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

.NEXT UPDATE… (mandatory)

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

IMPACT STATEMENTS IN THE HLS

Generic tropical cyclone impact statements have been baselined into the AWIPS GFE application. The impact statements are organized to describe the expected or potential impacts, given the expected wind speed and/or storm surge, from a given magnitude tropical storm/hurricane/typhoon. 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 3, 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.

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. Note that WFO Guam does not issue P-VTEC outside of the AWIPS graphics domain that includes Guam and the Northern Mariana Islands.

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 land areas only. The VTEC phenomena codes used in the HLS (Pacific hurricane/typhoon basin except WFO Honolulu) are:

EVENT NAME	PHENOMENA CODE
TROPICAL STORM	TR
HURRICANE	HU
TYPHOON	TY

The VTEC Significance codes for the HLS (Pacific hurricane basin) 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.

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/CPHC's/WFO Guam's (GUM) TCP product. The storm number will be used to provide the ETN. For additional information on the connection between the Marine Weather Message and tropical products, consult NWSI 10-315: *Marine Weather Message*.

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

Two 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 3 - Defines the products issued and those discontinued at WFOs when tropical cyclone watches and warnings, issued via the HLS, are in effect for their CWA.

Table 4 - Defines recommended WFO actions to take when a tropical cyclone forecast center or WFO Guam begins issuance of tropical cyclone advisories for the CWA when CFW products are currently in effect.

Table 3. Pacific Basin (except WFO Honolulu) Product Table when Tropical Cyclone Wind Watches/Warnings are in Effect Within the CWA

Tropical Cyclone Watch/Warning in Effect – Coastal WFOs	
Product	**Product Issuance – Yes / No**
Hurricane/Typhoon Local Statement (HLS)	Yes
Tornado Warning (TOR / SVS)	Yes (see condition 1)
Severe Thunderstorm Warning (SVR / SVS)	Yes (see conditions 1, 2)
Marine Weather Message (MWW)	Yes
Special Marine Warning (SMW / MWS)	Yes (See conditions 1, 3)
Special Weather Statement (SPS)	Yes
Non-precipitation Weather (NPW)	Yes (See condition 4)
Flash Flood Watches/Warnings (FFA / FFW)	Yes
Coastal Hazard Message (CFW)	Yes (See condition 5)
Surf Zone Forecast/Surf Forecast (SRF)	Yes

Conditions for Table 3:

1 A Severe Weather Statement (SVS) product should be issued as a follow-up to a Severe Thunderstorm Warning (SVR) or Tornado Warning (TOR) as instructed in NWSI 10-511. A Marine Weather Statement (MWS) product should be used to provide follow-up to a Special Marine Warning (SMW) as instructed in NWSI 10-314.

2 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 adjacent WFOs, and affected ROCs to collaborate on the potential need for convective watch products.

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

4 NPWs for headlines other than high wind hazards can be issued. The Pacific WFOs listed in Section 1.3.3.2 that issue the HLS will not issue NPW High Wind Watch/Warning products when tropical cyclone watch or warning conditions are expected. Any WFO that does not issue HLS products will issue NPW products in lieu of tropical cyclone watches or warnings in the event their AOR is impacted by a Pacific tropical cyclone event.

5 If tropical cyclone watches/warnings are issued, Coastal Hazard Message (CFW) products should also be issued when conditions warrant. During tropical events, water levels used to describe coastal flooding hazards in CFW products will be provided as ranges of water levels above ground (inundation). Those ranges should be consistent with values in the HLS and the corresponding TCP issued for the area. CFWs will be updated every 6 hours, as soon as possible after the HLS is issued, during a tropical event.

Finally, if tropical cyclone advisories are discontinued and coastal hazards are expected behind the departing tropical cyclone, then CFW products will continue to be issued as appropriate.

Table 4. CFW VTEC Actions for a Zone When Tropical Cyclone Watches/Warnings are Subsequently Issued for that Zone

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 /SU.W/	TC Watch	X	
High Surf Warning /SU.W/	TC Warning	X	
Beach Hazards Statement /BH.S/	TC Watch/TC Warning	X	
Rip Current Statement /RP.S/	TC Watch/TC Warning	X	

1.3.3.14 Relationship of the Pacific HLS to the Short Term Forecast (NOW)

The NOW is a stand-alone product focused on conditions impacting the office's CWA within 6 hours of product issuance. It may be used to complement the HLS by providing critical storm information.

1.3.3.15 Relationship of the Pacific HLS to the Zone Forecast Product (ZFP)

The appropriate ZFPs will highlight tropical cyclone watches and warnings.

1.3.3.16 Relationship of the Pacific HLS to the Public Information Statement (PNS)

Before the first HLS, the use of PNSs is encouraged to inform the public on routine hurricane preparedness information.

1.3.3.17 Relationship of the Pacific HLS to the Special Weather Statement (SPS)

SPSs may be used to provide preliminary information associated with systems for which the tropical cyclone forecast center is not yet issuing advisories. Note: for WFO Guam and WSO Pago Pago, an SPS will be used to notify regional users of hazards associated with tropical systems, until such time as the tropical cyclone forecast center issues a tropical cyclone bulletin.

For shorter-fused sub-severe convective storms outside of the zones with tropical wind watches/warning, the Impact-Based Warning (IBW) formatted SPS should be issued according to the criteria outlined in NWSI 10-517, section 3.2.2.

1.3.3.18 Relationship of the Pacific HLS to the Hazardous Weather Outlook (HWO)

HWOs may be used to address peripheral weather of concern until the tropical cyclone forecast center issues the first advisory or (if necessary) before the initial issuance of local tropical cyclone watches/warnings from active systems.

1.4 Non-precipitation Weather Products (NPW)

Any inland WFO that does not issue the TCV or HLS will issue the NPW for high wind watches and/or warnings if hurricane, tropical storm, subtropical storm, or post-tropical cyclone winds are forecast for their AOR.

1.4.1 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.

1.4.2 Issuance Guidelines

1.4.2.1 Creation Software

AWIPS GFE.

1.4.2.2 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.

1.5 Extreme Wind Warning (EWW)

1.5.1 Mission Connection

Short duration warnings are issued by WFOs for immediate threats to lives and property. Atlantic basin and WFO Honolulu 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. Pacific basin WFOs aside from WFO Honolulu will not issue EWW products.

1.5.2 Issuance Guidelines

1.5.2.1 Creation Software

AWIPS WarnGen.

1.5.2.2 Issuance Criteria

An EWW for extreme tropical cyclone winds should be issued for Atlantic and Central Pacific basin tropical cyclones when both of the following criteria are met:

- Tropical cyclone is a category 3 or greater on the Saffir Simpson Hurricane Wind Scale as designated by NHC or CPHC.

- 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.

1.5.2.3 Issuance Time

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

1.5.2.4 Valid Time

The warning valid time may be for up to a three-hour period. Forecasters should use their judgment to ensure the valid time of the short duration warning takes into account the geographic size of the area warned versus the forward speed of the tropical cyclone. Once the EWW for an area has expired and EWW issuance criteria is no longer met, WFOs should use the TCV and HLS products to provide additional information about the status of tropical cyclone winds for a previously warned area. For extreme tropical cyclone winds that are expected to meet or exceed EWW issuance criteria beyond the valid time of the original warning, WFOs should issue a new EWW.

1.5.2.5 Product Expiration Time

The product expiration time is the end of the warning valid time.

1.5.3 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.

1.5.4 UGC Type

County.

1.5.5 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.

1.5.6 MND Header

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

1.5.7 Updates and Amendments

For extreme tropical cyclone winds that are expected to meet or exceed EWW issuance criteria beyond the valid time of the original warning, WFOs should issue a new EWW. WFOs should issue SVSs at least once during the valid time of an EWW. Updated information should include wind observations and/or reports of damage when available.

1.5.8 Cancellations and Expirations

WFOs should issue SVSs to inform the public when all or portions of an EWW have been canceled or have expired.

1.5.9 Corrections

WFOs will correct EWWs for significant grammatical or content errors. Corrected warnings will have the same time in the MND Header and the same ETN in the VTEC line as the original warning. Errors in the area (UGC), valid time, etc. cannot be changed in a corrected warning (COR). Please see the following website for more information: http://www.nws.noaa.gov/os/vtec/COR.html.

1.5.10 Format

```
WFUS5i cccc ddhhmm
EWWccc
STC001-002-ddhhmm-
/k.aaa.cccc.pp.s.####.yymmddThhnnZB-yymmddThhnnZE/

BULLETIN - EAS ACTIVATION REQUESTED
Extreme Wind Warning
National Weather Service (City) (State)
(Time) (AM/PM) (TIME_ZONE) (DAY_OF_WEEK) (MON) DD YYYY

The National Weather Service in (City) has issued an

* Extreme Wind Warning for...
  county one in section state (List warned counties)
  county two in section state (# Counties will match # counties in UGC Line)

* UNTIL hhmm AM/PM TIME_ZONE (Expiration time of warning)

* AT hhmm AM/PM TIME_ZONE... (Warning basis statement and forecast impacts)

* Locations impacted include...
  Location #1, Location #2, Location #n. (n = variable number of
  locations)

PRECAUTIONARY/PREPAREDNESS ACTIONS... (List applicable actions)

&&

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

$$

Forecaster Name/Number (optional)
```

Figure 4 Extreme Wind Warning Format

See complete example in Appendix A.

1.6 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. WSO Pago Pago is exempt from issuing the PSH product.

1.6.1 Mission Connection

The PSH product is intended to provide the NHC, CPHC, NWS Headquarters, media, public, and emergency management officials with a record of peak tropical cyclone conditions. This data is 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.

1.6.2 Issuance Guidelines

1.6.2.1 Creation Software

AWIPS Post Tropical Cyclone Storm Report software.

1.6.2.2 Issuance Criteria

All WFOs that issued tropical cyclone watches and/or warnings and HLSs will prepare post storm reports. WFO Guam will contact the appropriate WSOs to obtain information concerning impacts within their state or national area of responsibility after a tropical storm or typhoon.

1.6.2.3 Issuance Times

Transmit the preliminary reports within 5 days following the transmission of the last HLS. Amend reports as needed, with the final reports issued no later than 15 days after the last HLS. WFO Guam will release a PSH as soon as practical after the last advisory on each tropical cyclone that an HLS was also issued.

1.6.2.4 Valid Times

Not applicable.

1.6.2.5 Product Expiration Time

Not applicable.

1.6.3 Technical Description

1.6.3.1 UGC Type

Not applicable.

1.6.3.2 MND Header

The PSH header block product type line is: “POST TROPICAL CYCLONE REPORT... (TROPICAL CYCLONE TYPE) (NAME)”.

The tropical cyclone type in the MND header is the intensity at the time it affected the WFO. If the intensity varies during the period of impact, use peak intensity during the period of impact.

1.6.3.3 Content

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

Note: WFO Guam may adapt the content and format of this report to meet their observational network; to summarize the timing of their special weather statements, watches, and warnings; and to provide any changes required from the JTWC and/or RSMC Tokyo guidance. A short synopsis of events during the history of the tropical cyclone while in their AOR may also be provided (or included).

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, Department of Defense (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 adjusted speed 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 significant storm total rainfalls for the event. As a general guide, amounts of 3 inches or more should be reported, 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 observed water level (WL): The preferred reference level for reporting peak water level is MHHW. With exceptions, MHHW is a good approximation of the level of inundation along the immediate coast in most locations. For NOS tide stations, MHHW should be used as the reference datum for peak water levels in most cases. For United States Geological Survey (USGS) or other non-NOS tide gages, maximum water level observations should be reported on MHHW where possible. Observations reported on the North American Vertical Datum of 1988 (NAVD88) or Above Ground Level (AGL) are also acceptable. The reference datum along with the data source (including station ID) should be specified for each observation. For USGS high water marks (HWMs), AGL measurements are typically provided, and no conversion is required. Do not include HWMs based on debris lines found on the ground in a

PSH, as debris lines are often influenced by waves and may not accurately represent the maximum still water height. Report maximum water level in feet above the reference datum. Identify location and date / time (UTC) of peak occurrence where possible. Report observations greater than 1 foot, with water levels of less than 1 foot reported as needed or as requested.

The NOS Center for Operational Oceanographic Products and Services (NOS CO-OPS) will provide a final report of peak water level and meteorological information from NOS tide gauges to NWS Regional offices within 4 days following the issuance of the final HLS. The PSH will reflect the maximum water level observation referenced to MHHW 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 Preliminary Local Storm Reports (LSRs) 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-F, 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, to two decimal places (sections A-D, F & G) or four decimal places (section E)
(-) = negative, or west, longitude, as necessary
b = 100s place, if needed
yy = degrees longitude, zero to 99
n = rounded decimal value for longitude, to two decimal places (sections A-D, F, & G) or four decimal places (section E)

1.6.3.4 Format

```
ACUS72 Kccc ddhhmm
PSHxxx

POST TROPICAL CYCLONE REPORT... (SYSTEM 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)

$$
```

Figure 5 Post Tropical Cyclone Report Format

See complete example in Appendix A.

1.7 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.

1.8 Local Storm Reports (LSRs)

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

1.9 Storm Reports

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

2 Correction Procedures

2.1 Non-VTEC Product Corrections

WFOs should correct products using the following format:

WTUS82 KILM 290301 CCA
HLSILM
NCZ087-096-099-105>110-SCZ017-023-024-032-033-039-053>056-291115-

Tropical Storm Bonnie Local Statement Advisory Number 6…Corrected
National Weather Service Wilmington NC AL 022016
1101 PM EDT Sat May 28 2016

Corrected for (give reason)

Text Follows…

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

2.2 VTEC Product Corrections

WFOs should correct products that contain VTEC using the procedures in NWSI 10-1703. For further information, please reference the GFE correction job sheet found at: http://www.nws.noaa.gov/os/vtec/GHG_COR.html.

3 Procedures for Populating Wind Forecast Grids for Tropical Cyclone Events

Updates to this directive will take place as better methods for populating wind forecasts are integrated into the National Digital Forecast Database (NDFD).

3.1 Wind Speed Values Within the 34-knot Wind Radii

0 to 120 hours

Field offices will use the appropriate designated wind tool for the area (e.g., TCMWindTool) to populate wind grids using the latest NHC/CPHC/JTWC advisory package. The AWIPS GFE procedure uses the official tropical cyclone forecast center's TCM forecast advisory wind radii. For storm size, field offices are not to exceed the wind radii specified in an official NWS forecast advisory. However, WFO Guam may alter wind radii guidance provided by JTWC as they deem appropriate. For periods when the wind radii are not available from the official forecast advisory, field offices will be provided output from a climatology-persistence model but may also coordinate as needed with the tropical cyclone forecast center and with adjacent field offices.

For storm intensity, field offices should use the full continuum of values, up to the maximum sustained wind speed value provided by the tropical cyclone forecast center, through the forecast advisory. Field offices are not to exceed this maximum wind speed forecast.

Within the stated constraints, field offices will apply local knowledge and mesoscale expertise to produce the final set of explicit/deterministic wind speed forecasts for the CWA/Marine Area of Responsibility (MAOR).

121 to 168 hours

When available in the Radii Climatology and Persistence Model (RCL), offices will use the appropriate designated wind tool for the area to populate wind grids for days 6 and 7, capping wind speeds at no higher than 45 knots. When day 6 and 7 forecast points are not available in the RCL, forecast offices will collaborate to agree upon a forecast background that is closest to the NHC and WPC collaborated points while still capping winds at 45 knots.

3.2 Wind Speed Values Outside the 34 knot Wind Radii

0 to 168 hours

Use deterministic wind speed values.

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

0 to 168 hours

Use deterministic wind direction values.

3.4 Wind Gust Values Inside or Outside the 34 knot Wind Radii

Wind gust grids are required and can be created through local GFE procedures. The methodology and values should be collaborated with all neighboring WFOs.

3.5 Caveat

It is recommended the following caveat be emphasized for 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."

4 Procedures for Tropical Cyclone Storm Surge Watch/Warning Collaboration with NHC

Updates to this directive will take place as better methods for populating storm surge forecasts are integrated into the NDFD. These instructions are intended for Atlantic basin coastal WFOs, as storm surge watches/warnings may only be issued at these offices.

4.1 Collaboration Initiation

NHC will inform affected WFOs when storm surge inundation values are expected to approach storm surge watch/warning criteria.

4.2 Collaborative Process

Using AWIPS GFE, NHC will send the affected WFOs proposed storm surge grids (Proposed SS grids) that the WFOs can edit as appropriate for their local area and send back to NHC. If necessary, a second round of collaboration may occur. In the event of a disagreement between NHC and a WFO(s) on the areas placed under a storm surge watch or warning, NHC will make the final determination.

NHC will strive to ensure that storm surge watches and warnings begin and end at zone boundaries. WFOs should also be aware of zone boundaries during the collaborative process. In the event that only part of a zone is impacted by a storm surge watch/warning, that zone cannot have any other coastal flood hazard in effect at the same time since the coastal flood hazard is issued for the entire zone and would overlap the storm surge watch/warning. However, other coastal hazards are allowed to be issued for a zone impacted by a storm surge watch/warning (see Table 2b).

4.3 Finalization of Storm Surge Watches/Warnings

WFOs will finalize the storm surge hazards prior to the advisory time. These surge hazards will be added to the local WFO Hazards grid and used in the WFO TCV product using an AWIPS GFE text formatter.

APPENDIX A - Examples of WFO Tropical Cyclone Products

Table of Contents **Page**

1 WFO Tropical Cyclone Local Watch/Warning Product (WFO TCV)

NOTE: While this format is applicable to all Atlantic basin WFOs and WFO Honolulu, storm surge watches/warnings are not issued by WFO Honolulu.

```
WTUS82 KMHX 270902
TCVMHX

URGENT - IMMEDIATE BROADCAST REQUESTED
Irene Local Watch/Warning Statement/Advisory Number 28
National Weather Service Newport/Morehead City NC  AL092011
502 AM EDT Sat Aug 27 2011

NCZ203-271715-
/O.CON.KMHX.SS.W.1009.000000T0000Z-000000T0000Z/
/O.CON.KMHX.HU.W.1009.000000T0000Z-000000T0000Z/
Northern Outer Banks-
502 AM EDT Sat Aug 27 2011

...HURRICANE WARNING REMAINS IN EFFECT...
...STORM SURGE WARNING REMAINS IN EFFECT...

* LOCATIONS AFFECTED
    - Kitty Hawk
    - Nags Head
    - Manteo

* WIND
    - LATEST LOCAL FORECAST: Equivalent Cat 1 Hurricane force wind
        - Peak Wind Forecast: 65-85 mph with gusts to 105 mph
        - Window for Tropical Storm force winds: until early Sunday
          morning
        - Window for Hurricane force winds: until this evening

    - THREAT TO LIFE AND PROPERTY THAT INCLUDES TYPICAL FORECAST
      UNCERTAINTY IN TRACK, SIZE AND INTENSITY: Potential for wind 74
      to 110 mph
        - The wind threat has decreased from the previous assessment.
        - PLAN: Plan for life-threatening wind of equivalent CAT 1 or
          2 hurricane force.
        - PREPARE: Last minute efforts should solely focus on
          protecting life. The area remains subject to considerable
          wind damage.
        - ACT: Now is the time to shelter from life-threatening wind.

    - POTENTIAL IMPACTS: Unfolding
        - Potential impacts from the main wind event are unfolding.

* STORM SURGE
    - LATEST LOCAL FORECAST: Life-threatening storm surge possible
        - Peak Storm Surge Inundation: The potential for 3-5 feet
          above ground somewhere within surge prone areas
        - Window of concern: through Sunday afternoon

    - THREAT TO LIFE AND PROPERTY THAT INCLUDES TYPICAL FORECAST
      UNCERTAINTY IN TRACK, SIZE AND INTENSITY: Potential for storm
```

surge flooding greater than 3 feet above ground
- The storm surge threat has remained nearly steady from the previous assessment.
- PLAN: Shelter against life-threatening storm surge of greater than 3 feet above ground.
- PREPARE: Flood preparations and ordered evacuations should be complete. Evacuees should be in shelters well away from storm surge flooding.
- ACT: Remain sheltered in a safe location. Do not venture outside.

- POTENTIAL IMPACTS: Unfolding
  - Potential impacts from the main surge event are unfolding.

* FLOODING RAIN
- LATEST LOCAL FORECAST:
  - Peak Rainfall Amounts: Additional 2-4 inches, with locally higher amounts

- THREAT TO LIFE AND PROPERTY THAT INCLUDES TYPICAL FORECAST UNCERTAINTY IN TRACK, SIZE AND INTENSITY: Potential for localized flooding rain
  - The flooding rain threat has decreased from the previous assessment.
  - PLAN: Emergency plans should include the potential for localized flooding from heavy rain.
  - PREPARE: Consider protective actions if you are in an area vulnerable to flooding.
  - ACT: Heed any flood watches and warnings.

- POTENTIAL IMPACTS: Limited
  - Localized rainfall flooding may prompt a few evacuations.
  - Rivers and tributaries may quickly rise with swifter currents. Small streams, creeks, canals, arroyos, and ditches may become swollen and overflow in spots.
  - Flood waters can enter a few structures, especially in usually vulnerable spots. A few places where rapid ponding of water occurs at underpasses, low-lying spots, and poor drainage areas. Several storm drains and retention ponds become near-full and begin to overflow. Some brief road and bridge closures.

* TORNADO
- LATEST LOCAL FORECAST: Tornado Watch is in effect
  - Situation is favorable for tornadoes

- THREAT TO LIFE AND PROPERTY THAT INCLUDES TYPICAL FORECAST UNCERTAINTY IN TRACK, SIZE AND INTENSITY: Potential for several tornadoes
  - The tornado threat has remained nearly steady from the previous assessment.
  - PLAN: Emergency plans should continue to include the potential for several tornadoes.
  - PREPARE: Stay within your shelter keeping informed of the latest tornado situation.
  - ACT: Move quickly to the safest place within your shelter if a tornado warning is issued.

```
    - POTENTIAL IMPACTS: Significant
        - The occurrence of scattered tornadoes can hinder the
          execution of emergency plans during tropical events.
        - Several places may experience tornado damage with a few
          spots of considerable damage, power loss, and
          communications failures.
        - Locations could realize roofs torn off frame houses, mobile
          homes demolished, boxcars overturned, large trees snapped
          or uprooted, vehicles tumbled, and boats tossed about.
          Dangerous projectiles can add to the toll.

* FOR MORE INFORMATION:
    - http://ready.gov/hurricanes

$$

NCZ205-271715-
/O.CON.KMHX.SS.W.1009.000000T0000Z-000000T0000Z/
/O.CON.KMHX.HU.W.1009.000000T0000Z-000000T0000Z/
Hatteras Island-
502 AM EDT Sat Aug 27 2011

...HURRICANE WARNING REMAINS IN EFFECT...
...STORM SURGE WARNING REMAINS IN EFFECT...

* LOCATIONS AFFECTED
    - Rodanthe
    - Buxton
    - Hatteras Village

* WIND
    - LATEST LOCAL FORECAST: Equivalent Cat 1 Hurricane force wind
        - Peak Wind Forecast: 65-85 mph with gusts to 105 mph
        - Window for Tropical Storm force winds: until early Sunday
          morning
        - Window for Hurricane force winds: until this evening

    - THREAT TO LIFE AND PROPERTY THAT INCLUDES TYPICAL FORECAST
      UNCERTAINTY IN TRACK, SIZE AND INTENSITY: Potential for wind 74
      to 110 mph
        - The wind threat has decreased from the previous assessment.
        - PLAN: Plan for life-threatening wind of equivalent CAT 1 or
          2 hurricane force.
        - PREPARE: Last minute efforts should solely focus on
          protecting life. The area remains subject to considerable
          wind damage.
        - ACT: Now is the time to shelter from life-threatening wind.

    - POTENTIAL IMPACTS: Unfolding
        - Potential impacts from the main wind event are unfolding.

* STORM SURGE
    - LATEST LOCAL FORECAST: Life-threatening storm surge possible
        - Peak Storm Surge Inundation: The potential for 3-5 feet
          above ground somewhere within surge prone areas
        - Window of concern: through Sunday afternoon
```

    - THREAT TO LIFE AND PROPERTY THAT INCLUDES TYPICAL FORECAST UNCERTAINTY IN TRACK, SIZE AND INTENSITY: Potential for storm surge flooding greater than 3 feet above ground
        - The storm surge threat has remained nearly steady from the previous assessment.
        - PLAN: Shelter against life-threatening storm surge of greater than 3 feet above ground.
        - PREPARE: Flood preparations and ordered evacuations should be complete. Evacuees should be in shelters well away from storm surge flooding.
        - ACT: Remain sheltered in a safe location. Do not venture outside.

    - POTENTIAL IMPACTS: Unfolding
        - Potential impacts from the main surge event are unfolding.

* FLOODING RAIN
    - LATEST LOCAL FORECAST:
        - Peak Rainfall Amounts: Additional 2-4 inches, with locally higher amounts

    - THREAT TO LIFE AND PROPERTY THAT INCLUDES TYPICAL FORECAST UNCERTAINTY IN TRACK, SIZE AND INTENSITY: Potential for localized flooding rain
        - The flooding rain threat has decreased from the previous assessment.
        - PLAN: Emergency plans should include the potential for localized flooding from heavy rain.
        - PREPARE: Consider protective actions if you are in an area vulnerable to flooding.
        - ACT: Heed any flood watches and warnings.

    - POTENTIAL IMPACTS: Limited
        - Localized rainfall flooding may prompt a few evacuations.
        - Rivers and tributaries may quickly rise with swifter currents. Small streams, creeks, canals, arroyos, and ditches may become swollen and overflow in spots.
        - Flood waters can enter a few structures, especially in usually vulnerable spots. A few places where rapid ponding of water occurs at underpasses, low-lying spots, and poor drainage areas. Several storm drains and retention ponds become near-full and begin to overflow. Some brief road and bridge closures.

* TORNADO
    - LATEST LOCAL FORECAST: Tornado Watch is in effect
        - Situation is favorable for tornadoes

    - THREAT TO LIFE AND PROPERTY THAT INCLUDES TYPICAL FORECAST UNCERTAINTY IN TRACK, SIZE AND INTENSITY: Potential for several tornadoes
        - The tornado threat has remained nearly steady from the previous assessment.
        - PLAN: Emergency plans should continue to include the potential for several tornadoes.
        - PREPARE: Stay within your shelter keeping informed of the

```
          latest tornado situation.
        - ACT: Move quickly to the safest place within your shelter
          if a tornado warning is issued.

    - POTENTIAL IMPACTS: Significant
        - The occurrence of scattered tornadoes can hinder the
          execution of emergency plans during tropical events.
        - Several places may experience tornado damage with a few
          spots of considerable damage, power loss, and
          communications failures.
        - Locations could realize roofs torn off frame houses, mobile
          homes demolished, boxcars overturned, large trees snapped
          or uprooted, vehicles tumbled, and boats tossed about.
          Dangerous projectiles can add to the toll.

* FOR MORE INFORMATION:
    - http://ready.gov/hurricanes

$$
```

2 Abbreviated WFO TCV Product

```
WTUS82 KJAX 140301
TCVJAX

URGENT - IMMEDIATE BROADCAST REQUESTED
Julia Local Watch/Warning Statement/Advisory Number 1
National Weather Service Jacksonville FL  AL112016
1101 PM EDT Tue Sep 13 2016

GAZ154-141115-
/O.NEW.KJAX.TR.W.1011.160914T0301Z-000000T0000Z/
Coastal Glynn-
1101 PM EDT Tue Sep 13 2016

...TROPICAL STORM WARNING IN EFFECT...

A Tropical Storm Warning means Tropical storm wind conditions are
expected somewhere within this area and within the next 36 hours

* LOCATIONS AFFECTED
    - Brunswick
    - St. Simons
    - Country Club Estates
    - Dock Junction

* WIND
    - LATEST LOCAL FORECAST: Not available at this time. To be
      updated shortly.

    - THREAT TO LIFE AND PROPERTY THAT INCLUDES TYPICAL FORECAST
      UNCERTAINTY IN TRACK, SIZE AND INTENSITY: Not available at this time.
To be updated shortly.

    - POTENTIAL IMPACTS: Not available at this time. To be
      updated shortly.

* STORM SURGE
    - LATEST LOCAL FORECAST: Not available at this time. To be
      updated shortly.

    - THREAT TO LIFE AND PROPERTY THAT INCLUDES TYPICAL FORECAST
      UNCERTAINTY IN TRACK, SIZE AND INTENSITY: Not available at this time.
To be updated shortly.

    - POTENTIAL IMPACTS: Not available at this time. To be
      updated shortly.

* FLOODING RAIN
    - LATEST LOCAL FORECAST: Not available at this time. To be
      updated shortly.

    - THREAT TO LIFE AND PROPERTY THAT INCLUDES TYPICAL FORECAST
      UNCERTAINTY IN TRACK, SIZE AND INTENSITY: Not available at this time.
To be updated shortly.

    - POTENTIAL IMPACTS: Not available at this time. To be
```

```
      updated shortly.


* TORNADO
    - LATEST LOCAL FORECAST: Not available at this time. To be
      updated shortly.

    - THREAT TO LIFE AND PROPERTY THAT INCLUDES TYPICAL FORECAST
      UNCERTAINTY IN TRACK, SIZE AND INTENSITY: Not available at this time.
To be updated shortly.

    - POTENTIAL IMPACTS: Not available at this time. To be
      updated shortly.

* FOR MORE INFORMATION:
    - HTTP://WWW.WEATHER.GOV/JAX/

$$

GAZ166-141115-
/O.NEW.KJAX.TR.W.1011.160914T0301Z-000000T0000Z/
Coastal Camden-
1101 PM EDT Tue Sep 13 2016

...TROPICAL STORM WARNING IN EFFECT...

A Tropical Storm Warning means Tropical storm wind conditions are
expected somewhere within this area and within the next 36 hours

* LOCATIONS AFFECTED
    - St. Marys
    - Kingsland

* WIND
    - LATEST LOCAL FORECAST: Not available at this time. To be
      updated shortly.

    - THREAT TO LIFE AND PROPERTY THAT INCLUDES TYPICAL FORECAST
      UNCERTAINTY IN TRACK, SIZE AND INTENSITY: Not available at this time.
To be updated shortly.

    - POTENTIAL IMPACTS: Not available at this time. To be
      updated shortly.

* STORM SURGE
    - LATEST LOCAL FORECAST: Not available at this time. To be
      updated shortly.

    - THREAT TO LIFE AND PROPERTY THAT INCLUDES TYPICAL FORECAST
      UNCERTAINTY IN TRACK, SIZE AND INTENSITY: Not available at this time.
To be updated shortly.

    - POTENTIAL IMPACTS: Not available at this time. To be
      updated shortly.

* FLOODING RAIN
    - LATEST LOCAL FORECAST: Not available at this time. To be
```

```
      updated shortly.

    - THREAT TO LIFE AND PROPERTY THAT INCLUDES TYPICAL FORECAST
      UNCERTAINTY IN TRACK, SIZE AND INTENSITY: Not available at this time.
To be updated shortly.

    - POTENTIAL IMPACTS: Not available at this time. To be
      updated shortly.

* TORNADO
    - LATEST LOCAL FORECAST: Not available at this time. To be
      updated shortly.

    - THREAT TO LIFE AND PROPERTY THAT INCLUDES TYPICAL FORECAST
      UNCERTAINTY IN TRACK, SIZE AND INTENSITY: Not available at this time.
To be updated shortly.

    - POTENTIAL IMPACTS: Not available at this time. To be
      updated shortly.

* FOR MORE INFORMATION:
    - HTTP://WWW.WEATHER.GOV/JAX/

$$
```

3 Hurricane Local Statement (HLS) – Atlantic basin and WFO Honolulu

NOTE: While this format is applicable to all Atlantic basin WFOs and WFO Honolulu, storm surge watches/warnings are not issued by WFO Honolulu.

```
WTUS82 KMHX 111443
HLSMHX
NCZ029-044>047-079>081-090>095-098-103-104-112245-

Hurricane Irene Local Statement Advisory Number 22
National Weather Service Newport/Morehead City NC  AL092017
943 AM EST Wed Jan 11 2017

This product covers Eastern North Carolina

**DANGEROUS HURRICANE IRENE FORECAST TO APPROACH EASTERN NORTH CAROLINA
COAST ON THURSDAY**

NEW INFORMATION
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* CHANGES TO WATCHES AND WARNINGS:
   - A Hurricane Watch has been upgraded to a Hurricane Warning for
     Pitt, Duplin, Lenoir, Jones, and Martin
   - A Hurricane Watch has been upgraded to a Hurricane Warning and
     A Storm Surge Watch has been upgraded to a Storm Surge Warning
     for Washington, Tyrrell, Mainland Dare, Beaufort, Mainland
     Hyde, Craven, Pamlico, Carteret, Onslow, Outer Banks Dare, and
     Outer Banks Hyde
   - A Tropical Storm Watch has been upgraded to a Tropical Storm
     Warning for Greene

* CURRENT WATCHES AND WARNINGS:
   - A Hurricane Warning is in effect for Pitt, Duplin, Lenoir,
     Jones, and Martin
   - A Hurricane Warning and Storm Surge Warning are in effect for
     Washington, Tyrrell, Mainland Dare, Beaufort, Mainland Hyde,
     Craven, Pamlico, Carteret, Onslow, Outer Banks Dare, and Outer
     Banks Hyde
   - A Tropical Storm Warning is in effect for Greene

* STORM INFORMATION:
   - About 580 miles south of Buxton NC or About 530 miles south of
     Morehead City NC
   - 27.0N 77.3W
   - Storm Intensity 115 mph
   - Movement North-northwest or 335 degrees at 14 mph

SITUATION OVERVIEW
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When making decisions...do not focus on the exact forecast track.
Due to the size and the strength of the storm...there is a potential
for major to devastating impacts from wind across eastern North
Carolina as well as significant to extensive impacts from storm
surge along portions of the coast Thursday into Friday. Residents of
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eastern North Carolina need to heed the advice of their local emergency officials and complete their preparedness actions today.

POTENTIAL IMPACTS
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* WIND:
Protect against life-threatening wind having possible devastating impacts across portions of eastern North Carolina. Potential impacts in this area include:
- Structural damage to sturdy buildings, some with complete roof and wall failures. Complete destruction of mobile homes. Damage greatly accentuated by large airborne projectiles. Locations may be uninhabitable for weeks or months.
- Numerous large trees snapped or uprooted along with fences and roadway signs blown over.
- Many roads impassable from large debris, and more within urban or heavily wooded places. Many bridges, causeways, and access routes impassable.
- Widespread power and communications outages.

* SURGE:
Protect against life-threatening surge having possible extensive impacts across areas along the Neuse and Pamlico rivers as well as coastal sections of Onslow county. Potential impacts in these areas include:
- Large areas of deep inundation with storm surge flooding accentuated by battering waves. Structural damage to buildings, with several washing away. Damage compounded by floating debris. Locations may be uninhabitable for an extended period.
- Large sections of near-shore escape routes and secondary roads washed out or severely flooded. Flood control systems and barriers may become stressed.
- Severe beach erosion with significant dune loss.
- Major damage to marinas, docks, boardwalks, and piers. Many small craft broken away from moorings, especially in unprotected anchorages with some lifted onshore and stranded.

Also, protect against life-threatening surge having possible significant impacts across portions of the Outer Banks and Pamlico Sound facing areas.

* FLOODING RAIN:
Protect against life-threatening rainfall flooding having possible devastating impacts across portions of eastern North Carolina. Potential impacts include:
- Extreme rainfall flooding may prompt numerous evacuations and rescues.
- Rivers and tributaries may overwhelmingly overflow their banks in many places with deep moving water. Small streams, creeks, canals, arroyos, and ditches may become raging rivers. In mountain areas, deadly runoff may rage down valleys while increasing susceptibility to rockslides and mudslides. Flood control systems and barriers may become stressed.
- Flood waters can enter numerous structures within multiple

communities, some structures becoming uninhabitable or washed away. Flood waters may cover escape routes. Streets and parking lots become rivers of raging water with underpasses submerged. Driving conditions become very dangerous. Numerous road and bridge closures with some weakened or washed out.

* TORNADOES:
Protect against a dangerous tornado event having possible significant impacts across eastern North Carolina. Potential impacts include:
- The occurrence of scattered tornadoes can hinder the execution of emergency plans during tropical events.
- Several places may experience tornado damage with a few spots of considerable damage, power loss, and communications failures.
- Locations could realize roofs torn off frame houses, mobile homes demolished, boxcars overturned, large trees snapped or uprooted, vehicles tumbled, and small boats tossed about. Dangerous projectiles can add to the toll.

PRECAUTIONARY/PREPAREDNESS ACTIONS
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* EVACUATIONS:
For those under evacuation orders, leave as soon as practical with a destination in mind. Gas up your vehicle well ahead of time. Be sure that you take all essential materials from your emergency supplies kit. Let others know where you are going and when you intend to arrive.

For those not under evacuation orders, understand that there are inherent risks to evacuation (such as traffic congestion, accidents, and driving in bad weather), so evacuate only if necessary. Help keep roadways open for those that are under evacuation orders.

If you are exceptionally vulnerable to wind or water hazards from tropical systems, consider voluntary evacuation, especially if being officially recommended. Relocate to a predetermined shelter or safe destination.

* OTHER PREPAREDNESS INFORMATION:
Now is the time to bring to completion all preparations to protect life and property in accordance with your emergency plan.

If you are a visitor and still in the area, listen for the name of the city or town in which you are staying within local news updates. Be sure you know the name of the county or parish in which it resides. Pay attention for instructions from local authorities.

Closely monitor NOAA Weather radio or other local news outlets for official storm information. Be ready to adapt to possible changes to the forecast.

* ADDITIONAL SOURCES OF INFORMATION:
- For information on appropriate preparations see ready.gov
- For information on creating an emergency plan see getagameplan.org
- For additional disaster preparedness information see redcross.org

NEXT UPDATE

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The next local statement will be issued by the National Weather
Service in Newport/Morehead City NC around NOON, or sooner if
conditions warrant.

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4 Tropical Cyclone Local Statement without VTEC issued by WFO Guam for the area outside of their Guam and the Northern Mariana Islands AWIPS graphics (gridded) AOR

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WTPQ81 PGUM 132202
HLSPQ1

URGENT - IMMEDIATE BROADCAST REQUESTED
TROPICAL STORM FENGSHEN (26W) LOCAL STATEMENT
NATIONAL WEATHER SERVICE TIYAN GU
802 AM ChST Thu Nov 14 2019

...AN INTENSIFYING TROPICAL STORM FENGSHEN HEADING TOWARD PAGAN...

.NEW INFORMATION...
A Typhoon Warning is now in effect for Agrihan, Pagan and Alamagan
islands in the Commonwealth of the Northern Marianas.

.AREAS AFFECTED...
This local statement provides information and recommended actions for
people on Agrihan, Pagan and Alamagan in the Commonwealth of the
Northern Marianas.

.WATCHES/WARNINGS...
A Typhoon Warning is now in effect for Agrihan, Pagan, and Alamagan
in the Commonwealth of the Northern Marianas. Damaging winds,
including winds of 39 mph or more are expected late this evening with
typhoon conditions, including winds of 74 mph or more, expected early
Friday morning.

.STORM INFORMATION...
At 7 AM ChST, Tropical Storm Fengshen (26W) was centered near
Latitude 17.1N and Longitude 150.7E. This was about 320 miles east of
Alamagan. Fengshen was moving west at 16 mph with maximum sustained
winds of 60 mph.

.SITUATION OVERVIEW...
The latest track shows Fengshen passing close to Pagan early Friday
morning as a strong tropical storm. Fengshen will be intensifying and
could become a typhoon near or just west of Pagan. Any small
variations in the motion of Fengshen could result in significant
changes to expected wind impacts from island to island.

.NEXT UPDATE...
The next local statement will be issued by the National Weather
Service in Tiyan around 3 PM, or sooner if conditions warrant.

...AGRIHAN...PAGAN AND ALAMAGAN...

...TYPHOON WATCH IN EFFECT...

.PRECAUTIONARY/PREPAREDNESS ACTIONS...
Preparations should be well underway for the onset of damaging winds
late this evening and destructive winds early Friday morning. Ensure
you have suitable shelter and adequate supplies of food, water, and
needed medical supplies. Keep a radio ready for receiving storm
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information.

.WIND INFORMATION...
Winds of 10 to 15 mph will increase to between 15 and 25 mph this afternoon as Tropical Storm Fengshen approaches. Damaging winds of 35 to 45 mph with gusts to 55 mph are expected late this evening and will increase to near-typhoon force of 60 to 70 mph with gusts to 85 mph early Friday morning. Once Fengshen has moved west, winds will quickly decrease to between 20 and 30 mph later Friday morning.

.STORM SURGE AND SURF INFORMATION...
Dangerous surf of 14 to 18 feet is expected, primarily along windward-facing shores. Inundation of 2 to 3 feet is also possible.

.OTHER STORM EFFECTS...
Between 3 and 5 inches of rain is expected from this evening through Friday afternoon. Heaviest showers are found near and south of the center of Fengshen.

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W. Aydlett

5 Tropical Cyclone/Hurricane Local Statement (HLS) with VTEC issued by WFO San Diego, WFO Oxnard, and WFO Guam for their AWIPS graphics (gridded) AOR that includes Guam and the Northern Mariana Islands

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WTPQ81 PGUM 060639
HLSPQ1

URGENT - IMMEDIATE BROADCAST REQUESTED
Tropical Storm Hagibis (20W) Local Statement
National Weather Service TIYAN GU
439 PM ChST Sun Oct 6 2019

...TROPICAL STORM HAGIBIS STRENGTHENING EAST OF THE MARIANAS...

.NEW INFORMATION...
Tropical Storm Warning is now in effect for Rota, Tinian, Saipan in
the CNMI, and for Alamagan, Pagan and Agrihan in the northern CNMI.

Typhoon Watch is now in effect for Tinian, Saipan and Pagan Islands.

.AREAS AFFECTED...
This local statement provides information and recommended actions for
people in the CNMI and the Northern Mariana Islands.

.WATCHES/WARNINGS...
A Tropical Storm Warning is now in effect for Rota, Tinian, Saipan,
Alamagan, Pagan and Agrihan Islands. Tropical storm conditions,
including damaging winds of 39 mph or more, are expected within 24
hours, around Monday afternoon.

A Typhoon Watch is in effect for Tinian, Saipan, Alamagan and Pagan
Islands. Typhoon conditions, including destructive winds of 74 mph or
more, are possible within 24 hours, around Monday afternoon.

.STORM INFORMATION...
At 1 PM ChST...the center of Tropical Storm Hagibis (20W) was
located near Latitude 15.0 degrees North and Longitude 155.0 degrees
East, which was about 620 miles east of Saipan. Hagibis was moving
west at 21 mph with maximum winds of 50 mph.

.SITUATION OVERVIEW...
Tropical Storm Hagibis is expected to continue intensifying as it
approaches the Marianas. It is anticipated to pass through the
Marianas north of Saipan Monday night as a typhoon.

The 9 PM Local Statement will reflect any changes made at 5 PM and
at 8 PM.

.PRECAUTIONARY/PREPAREDNESS ACTIONS...
PRECAUTIONARY/PREPAREDNESS ACTIONS...
Be prepared to execute your typhoon disaster preparedness plan, and
inspect your typhoon shelters. Begin to make arrangements for taking
care of elders and pets. Make sure to have a supply of water, food,
and fresh batteries at home. Mariners should safely secure your
craft.
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If you live on a boat, make final preparations for securing your craft before leaving it. Small craft should return to port.

Closely monitor advisories from the National Weather Service and announcements by local emergency management offices for the latest storm information.

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.NEXT UPDATE...
The next local statement will be issued by the National Weather Service in Tiyan by 9 PM this evening.

GUZ003-004-061445-
/O.UPG.PGUM.TR.A.4020.000000T0000Z-000000T0000Z/
/O.NEW.PGUM.TY.A.4020.191006T0639Z-000000T0000Z/
/O.NEW.PGUM.TR.W.4020.191006T0639Z-000000T0000Z/
Tinian-Saipan-
439 PM ChST Sun Oct 6 2019

...Tropical Storm Warning in effect...
...Typhoon Watch in effect...

...PRECAUTIONARY/PREPAREDNESS ACTIONS...
PRECAUTIONARY/PREPAREDNESS ACTIONS...
Review your disaster preparedness plans and begin preparing for the onset of damaging winds, which are possible by Monday evening. Make sure you have adequate supplies of food, water, and needed medical supplies. Fill your vehicles with fuel and ensure your generator is in good working order, and have extra supplies of fuel for its operation. Clear your property of potential debris. Have a portable radio ready for receiving storm information.

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...WINDS...
As Hagibis approaches the Marianas Monday, north winds will increase in the afternoon, to between 25 and 35 mph. Tropical storm force north to northwest winds of 40 to 50 mph are expected Monday night. Winds will shift to southwest and increase to between 45 and 55 mph Tuesday morning. Southwest winds will gradually subside Tuesday night into Wednesday.

...STORM SURGE AND STORM TIDE...
Seas will build as winds increase on Monday. Combined seas are expected to build to between 12 and 15 feet late Monday, increasing to between 15 and 20 feet late Monday night and into Tuesday morning. Dangerous surf of 15 to 20 feet is expected Monday night and Tuesday. Up to 3 feet of inundation is possible along windward coasts.

...OTHER STORM EFFECTS...
Heavy rainfall will begin Monday with 5 and 8 inches of rain possible through Tuesday.

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GUZ002-061445-

/O.UPG.PGUM.TR.A.4020.000000T0000Z-000000T0000Z/
/O.NEW.PGUM.TR.W.4020.191006T0639Z-000000T0000Z/
Rota-
439 PM ChST Sun Oct 6 2019

...Tropical Storm Warning in effect...

...PRECAUTIONARY/PREPAREDNESS ACTIONS...
PRECAUTIONARY/PREPAREDNESS ACTIONS...
Review your disaster preparedness plans and begin preparing for the onset of damaging winds, which are possible by Monday evening. Make sure you have adequate supplies of food, water, and needed medical supplies. Fill your vehicles with fuel and ensure your generator is in good working order, and have extra supplies of fuel for its operation. Clear your property of potential debris. Have a portable radio ready for receiving storm information.

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...WINDS...
As Hagibis approaches the Marianas Monday, north winds will shift to west, increasing to between 15 and 25 mph in the afternoon. Tropical storm force west winds of 30 to 40 mph are expected late Monday night and will shift to southwest and increase to between 35 and 45 mph Tuesday. Southwest winds will gradually subside Tuesday night into Wednesday.

...STORM SURGE AND STORM TIDE...
Seas will build as winds increase on Monday. Combined seas are expected to build to between 8 and 12 feet late Monday, increasing to between 10 and 15 feet late Monday night and into Tuesday morning. Dangerous surf of up to 15 feet is expected Monday night and Tuesday. Up to 2 feet of inundation is possible along windward coasts.

...OTHER STORM EFFECTS...
Heavy rainfall will begin Monday with 3 and 5 inches of rain possible through Tuesday.

GUZ005-061445-
Alamagan-Pagan-
439 PM ChST Sun Oct 6 2019

...Tropical Storm Warning in effect...
...Typhoon Watch in effect...

...PRECAUTIONARY/PREPAREDNESS ACTIONS...
Preparations should be underway for the onset of damaging by late Monday afternoon. Make sure you have adequate supplies of food, water, and needed medical supplies. Have a radio ready for receiving storm information.

...WINDS...
As Hagibis approaches the Marianas, gentle to moderate northeast winds will become fresh Monday. Tropical storm force northeast to east winds are expected by Monday evening with typhoon force winds possible later Monday night. Winds will turn to the southeast, then

south later on Tuesday, subsiding through the day.

...STORM SURGE AND STORM TIDE...
Seas will build as winds increase on Monday. Combined seas are expected to reach to between 15 and 20 feet. Dangerous surf of 15 to 20 feet is expected Monday night and Tuesday. Up to 3 to 5 feet of inundation is possible along windward coasts.

...OTHER STORM EFFECTS...
Heavy rainfall will begin Monday with 5 and 8 inches of rain possible through Tuesday.

GUZ005-061445-
Agrihan-
439 PM ChST Sun Oct 6 2019

...Tropical Storm Warning in effect...

...PRECAUTIONARY/PREPAREDNESS ACTIONS...
Preparations should be underway for the onset of damaging by late Monday afternoon. Make sure you have adequate supplies of food, water, and needed medical supplies. Have a radio ready for receiving storm information.

...WINDS...
As Hagibis approaches the Marianas, moderate northeast winds will increase throughout the day Monday. Tropical storm force northeast winds are expected Monday evening. Winds will turn to south and gradually subside Tuesday afternoon.

...STORM SURGE AND STORM TIDE...
Seas will build as winds increase on Monday. Combined seas are expected to reach to between 12 and 15 feet. Dangerous surf of 12 to 15 feet is expected Monday night and Tuesday. Up to 2 feet of inundation is possible along windward coasts.

...OTHER STORM EFFECTS...
Heavy rainfall will begin Monday with 3 and 5 inches of rain possible through Tuesday.

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W. Aydlett

6 Tropical Cyclone Local Statement (HLS) – WSO Pago Pago

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WTZS81 NSTU 250015
HLSZS1

URGENT - IMMEDIATE BROADCAST REQUESTED
TROPICAL DEPRESSION 11F - Local Statement
National Weather Service Pago Pago AS
115 PM SST Sun Feb 24 2019

...TROPICAL DEPRESSION 11F (95P) FORMS NORTHWEST OF AMERICAN SAMOA...

...NEW INFORMATION...
A Tropical Storm Watch has now been issued for Tutuila, Aunu'u,
Manu'a and Swains Islands.

...AREAS AFFECTED...
This local statement provides information and recommended actions
for people in the main islands of American Samoa.

...WATCHES/WARNINGS...
A Tropical Storm Watch is in effect for Tutuila, Aunu'u, Manu'a
and Swains Islands.

A Tropical Storm Watch means that tropical storm conditions are
possible within the next 24 hours within the specified area.

All persons in the watch areas should review their preparedness
plans and be ready to implement it should a warning be issued.

Please check the latest public and marine forecasts for detailed
information about additional hazards.

...STORM INFORMATION...
At 12 PM SST, the center of Tropical Depression 11F (95P) was
located near latitude 12.0S, longitude 176.6W. This was about 400
miles Northwest of Tutuila, moving southwest slowly.

.STORM OVERVIEW...
A tropical depression 11F (95P) is just northwest of Tutuila. It
is expected to intensify and could reach tropical storm strength
as it passes near Savai'i.

.PRECAUTIONARY/PREPAREDNESS ACTIONS...
PRECAUTIONARY/PREPAREDNESS ACTIONS...

Now is the time to initiate preparations according to your
tropical cyclone disaster plan specific to your home or business.
Become ready to act if a warning is later issued.

Heavy rainfall and runoff may cause small streams to overflow,
resulting in flooding of low lying areas and roadways. Please
take extra caution when driving through flooded roads. Mud and
landslides are also possible along steep slopes and mountainous
areas as grounds become saturated.
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It is important to actively listen for forthcoming information
from your National Weather Service Office and TEMCO.

For additional preparedness information, please contact the EOC at
699-3800.

For updated weather information, please listen to your NOAA
Weather Radio, follow us on Facebook @NWSPagoPago and visit our
website at www.weather.gov/ppg.

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.NEXT UPDATE...
The next local statement will be issued by the National Weather
Service Office 7 PM SST Sunday or sooner if conditions warrant.

ASZ001>003-250615-
Tutuila-Aunuu-Manua-Swains-
115 PM SST Sun Feb 24 2019

...INLAND FLOODING...
Continuous rainfall, heavy at times, is possible through Tuesday.
This could cause flooding in poor drainage areas, mudslides are
highly likely as grounds have been saturated.

...WINDS...
As Tropical Depression 11F (95P) moves closer to the Samoan
islands, the threat for sustained high winds will increase. The
latest forecast depicts the potential for winds to reach at least
40 mph with higher gusts, especially downslopes, along valleys
and at higher elevations.

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Lapataiga mo matagi malolosi
Ofisa o le Tau Pago Pago AS
1 Aoauli Aso sa Fepuari 24 2019

...Ua iai nei se ta'aviliga o savili malolosi 11F (95P) i matu i
sisifo o le atunu'u...

...FAAMATALAGA FOU...
Ua iai nei se nofo vaavaaia mo matagi malolosi mo Tutuila, Aunu'u,
Manu'a ma Swains.

...NOFOAGA UA AAFIA...
O nei fa'asalalauga e aafia ai Tutuila, Aunu'u, Manu'a ma Swains.

...NOFO VAAVAAIA/LAPATAIGA...
Ua iai nei se nofo vaavaaia mo matagi malolosi mo Tutuila, Aunu'u,
Manu'a ma Swains.

O le uiga o matagi malolosi, o le a iai matagi malolosi e silia
atu ma le 39 mph ma e maualuluga atu le agi faata'uta'u e ono
aafia ai Tutuila, Aunu'u, Manu'a ma Swains i totonu o le 24 itula.

Fa'amolemole ia taga'i toto'a ane i au tapenaga mo ni fesuia'iga

mo le nofo vaavaaia i le lapataiga.

Ia toe taga'i ane i tala o le tau mo Amerika Samoa fa'apea ona gataifale mo ni isi fautuaga.

...FAAMATALAGA E FAATATAU I TULAGA LOULOUA O LE TAU...
I le 12 i le aoauli nei, sa ta'oto Ta'aviliga o Savili Malolosi o 11F (95P) e tusa ma le 400 maila i matu i sisifo o Tutuila. O loo aga'i lemu nei ta'aviliga o savili malolosi i saute i sasa'e.

FAUTUAGA/TAPENAGA...

Fautua atu i le mamalu o le atunu'u ia taga'i toto'a ane i au fuafuaga mo le saogalemu o au mea totino. Ia nofo sauniuni mo ni isi suiga i luma atu.

O timuga mamafa ma le malolosi o tafega e mafai ona faatupulaia ai lologa i nofoaga maualolo ma auala-tele. Faamolemole ia faaeteete i taimi o femalagaiga ae maise nofoaga e lata i mauga ona o le susu o le eleele ua iai nei.

Ia fa'afeso'ota'i le ofisa o le TEMCO i le 699-3800 mo ni isi fautuaga mo lau saogalemu.

Fa'amolemole, ia fa'alogologo pea i lau letio po o le televise mo ni tala fou mai le ofisa o le tau po o le TEMCO.

E mafai fo'i ona maua tala fou i luga o le upega tafa'ilagi i le www.weather.gov/ppg ma le Facebook i le @NWSPagoPago.

...LOLOGA MA TAFEGA...
E tetele timuga, ma e mamafa i nisi o taimi, se'ia oo atu i le Aso Lua. O nei timuga e ono mafua ai tafega ma lologa fa'apea sologa mai mauga ma eleele.

...MATAGI MALOLOSI...
A o aga'i mai Ta'aviliga o Savili Malolosi o 11F (95P) e lata i le Atusamoa, o le a vaaia le siisii i luga o matagi malolosi, ma e maualuluga atu le agi fa'ata'uta'u i nofoaga tu-lata i va i mauga fa'apea nofoaga maualuluga.

...MO NISI RIPOTI FOU...
O le a toe auina atu se isi ripoti fou i le 7 i le po nanei, pe o se taimi mai i luma pe a iai nisi suiga fou o le tau.

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7 Extreme Wind Warning (EWW)

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461
WFUS52 KMFL 101927
EWWMFL
FLC021-051-102130-
/O.NEW.KMFL.EW.W.0002.170910T1927Z-170910T2130Z/

BULLETIN - EAS ACTIVATION REQUESTED
Extreme Wind Warning
National Weather Service Miami FL
327 PM EDT SUN SEP 10 2017

The National Weather Service in Miami has issued a

* Extreme Wind Warning for...
  Western Collier County in southwestern Florida...
  West central Hendry County in southern Florida...

* Until 530 PM EDT

* At 326 PM EDT, surface observations indicated extreme winds of
  over 120 mph, associated with the eyewall of Hurricane Irma, were
  moving onshore over Marco Island, or near Naples, moving north at
  15 mph.
  This is an extremely dangerous and life-threatening situation!

* Locations impacted include...
  Naples, Marco Island, Chokoloskee, Ave Maria and Golden Gate
  Estates.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

TAKE COVER NOW! Treat these imminent extreme winds as if a tornado
was approaching and move immediately to the safe room in your
shelter. Take action now to protect your life!

The safest place to be during a major landfalling hurricane is in a
reinforced interior room away from windows. Get under a table or
other piece of sturdy furniture. Use mattresses, blankets or pillows
to cover your head and body. Remain in place through the passage of
these life-threatening conditions.

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LAT...LON 2633 8184 2633 8182 2632 8182 2632 8166
      2642 8166 2642 8156 2677 8157 2677 8156
      2581 8125 2576 8142 2579 8144 2577 8153
      2581 8161 2577 8167 2580 8175 2599 8184
TIME...MOT...LOC 1926Z 164DEG 15KT 2614 8175

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RAG/KScharf
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8 Severe Weather Statement (SVS) follow-up for EWW

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WWUS52 KMFL 102057
SVSMFL

Severe Weather Statement
National Weather Service Miami FL
457 PM EDT SUN SEP 10 2017

FLC021-051-102130-
/O.CON.KMFL.EW.W.0002.000000T0000Z-170910T2130Z/
Collier FL-Hendry FL-
457 PM EDT SUN SEP 10 2017

...AN EXTREME WIND WARNING REMAINS IN EFFECT UNTIL 530 PM EDT FOR
WESTERN COLLIER AND WEST CENTRAL HENDRY COUNTIES...

At 455 PM EDT, surface observations indicated extreme winds above
115 mph, associated with the eyewall of Hurricane Irma, were moving
over North Naples and Vanderbilt Beach, moving north at 15 mph. This
is an extremely dangerous and life-threatening situation!

Locations impacted include...
Naples, Marco Island, Chokoloskee, Ave Maria and Golden Gate Estates.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

TAKE COVER NOW! Treat these imminent extreme winds as if a tornado
was approaching and move immediately to the safe room in your
shelter. Take action now to protect your life!

The safest place to be during a major landfalling hurricane is in a
reinforced interior room away from windows. Get under a table or
other piece of sturdy furniture. Use mattresses, blankets or pillows
to cover your head and body. Remain in place through the passage of
these life-threatening conditions.

LAT...LON 2633 8184 2633 8182 2632 8182 2632 8166
      2642 8166 2642 8156 2677 8157 2677 8156
      2581 8125 2576 8142 2579 8144 2577 8153
      2581 8161 2577 8167 2580 8175 2599 8184
TIME...MOT...LOC 2055Z 163DEG 14KT 2645 8185

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RAG
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9 Short Term Forecast (NOW)

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494
FPUS72 KMLB 162318
NOWMLB

Short Term Forecast
National Weather Service Melbourne FL
718 PM EDT SAT SEP 16 2017

AMZ550-552-555-570-572-575-FLZ041-044>047-053-054-058-059-064-141-
144-147-170900-
Coastal Volusia-Flagler Beach to Volusia-
Brevard County Line 20 NM to 60 NM Offshore-Flagler Beach to Volusia-
Brevard County Line Out to 20 NM-Indian River-Inland Volusia-Martin-
Northern Brevard-Northern Lake-Okeechobee-Orange-Osceola-
Sebastian Inlet to Jupiter Inlet 20 NM to 60 NM Offshore-
Sebastian Inlet to Jupiter Inlet Out To 20 NM-Seminole-
Southern Brevard-Southern Lake-St. Lucie-Volusia-
Brevard County Line to Sebastian Inlet 20 NM to 60 NM Offshore-
Volusia-Brevard County Line to Sebastian Inlet Out to 20 NM-
718 PM EDT SAT SEP 16 2017

.NOW...

...Large Swells Producing Hazardous Beach and Boating Conditions...

Swells from Hurricane Jose becoming fully arisen overnight will produce life
threatening rip currents and rough surf at the east central Florida beaches
overnight into Sunday. At the next high tide just before daybreak Sunday some
minor beach erosion will be possible.

Poor to hazardous boating conditions exist over the Atlantic waters due to
swells and northeast winds at 10-15 knots. Very rough conditions will exist
near inlets during the outgoing tides as well.


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Additional details...including graphics are available online at:
http://www.weather.gov/mlb/blog

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10 Post Tropical Cyclone Report (PSH)

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ACUS72 KMFL 050903
PSHMFL

POST TROPICAL CYCLONE REPORT...HURRICANE DORIAN
NATIONAL WEATHER SERVICE MIAMI SOUTH FLORIDA
503 PM EDT THU SEP 5 2019


NOTE: THE DATA SHOWN HERE ARE PRELIMINARY....AND SUBJECT TO UPDATES
AND CORRECTIONS AS APPROPRIATE.

THIS REPORT INCLUDES EVENTS OCCURRING WHEN WATCHES AND/OR WARNINGS
WERE IN EFFECT...OR WHEN SIGNIFICANT FLOODING ASSOCIATED WITH DORIAN
OR ITS REMNANTS WAS AFFECTING THE AREA.

COUNTIES INCLUDED...BROWARD...GLADES...MIAMI-DADE...PALM BEACH




A. LOWEST SEA LEVEL PRESSURE/MAXIMUM SUSTAINED WINDS AND PEAK GUSTS
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METAR OBSERVATIONS...
NOTE: ANEMOMETER HEIGHT IS 10 METERS AND WIND AVERAGING IS 2 MINUTES
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LOCATION  ID    MIN    DATE/     MAX      DATE/     PEAK    DATE/
LAT  LON        PRES   TIME      SUST     TIME      GUST    TIME
DEG DECIMAL     (MB)   (UTC)     (KT)     (UTC)     (KT)    (UTC)
-------------------------------------------------------------------
KPBI-WEST PALM BEACH FL
26.68 -80.12  1000.3  03/0820   290/026  03/1953   320/038 03/2122

KPMP-POMPANO BEACH AIRPARK FL
26.25 -80.12  1001.3  03/0935   290/032  03/1825   280/042 03/1824

KFXE-FORT LAUDERDALE EXECUTIVE FL
26.20 -80.17  1001.4  03/0920   290/026  03/1835   290/034 03/1747

KFLL-FORT LAUDERDALE/HOLLYWOOD INTL FL
26.07 -80.15  1001.4  03/0925   270/026  03/1745   270/036 03/1745

KHWO-HOLLYWOOD NORTH PERRY FL
26.00 -80.24  1002.4  03/0810   280/025  03/1750   300/036 03/1749

KOPF-MIAMI/OPA LOCKA FL
25.91 -80.28  1002.7  03/0935   290/026  02/1845   290/037 02/1843

KTMB-MIAMI/KENDALL-TAMIAMI EXECUTIVE FL
25.65 -80.43  1003.4  03/0815   320/027  02/1850   320/037 02/1850

KF45-NORTH PALM BEACH GENERAL AVIATION AIRPORT FL
26.85 -80.22  1001.7  03/0910   300/023  03/1930   300/034 04/0050
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REMARKS:

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

LOCATION ID LAT LON DEG DECIMAL	MIN PRES (MB)	DATE/ TIME (UTC)	MAX SUST (KT)	DATE/ TIME (UTC)	PEAK GUST (KT)	DATE/ TIME (UTC)	
XMGN - MANGONIA PARK FL							
26.76 -80.07			I 326/019 23	03/0023	339/036	03/0718	
XURB - DORAL FL							
25.86 -80.37			I 291/019 15	02/1922	291/035	02/1922	
XBOC - BOCA RATON FL							
26.37 -80.08			I 297/022 21	03/1803	295/035	03/1758	
XOAK - JUPITER FL							
26.91 -80.07			I 348/022 15	03/0714	348/038	03/0714	
1343W - CITY OF SUNRISE FL							
26.16 -80.29			I 337/028	03/1850	315/036	03/1850	

REMARKS: 1343W - CITY OF SUNRISE: ANEMOMETER HEIGHT UNKNOWN. COULD BE ELEVATED ABOVE 10 METERS.

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

LOCATION ID LAT LON DEG DECIMAL	MIN PRES (MB)	DATE/ TIME (UTC)	MAX SUST (KT)	DATE/ TIME (UTC)	PEAK GUST (KT)	DATE/ TIME (UTC)	
LKWF1 - LAKE WORTH							
26.61 -80.03	1001.4	03/0842	350/033 6	02/1912	349/040	02/1912	
FWYF1 - FOWEY ROCKS							
25.59 -80.09	1003.3	03/0800	269/031 44	03/1640	290/044	02/1856	
PEGF1-SOUTH PORT EVERGLADES, FL							
26.08 -80.12	1001.7	03/0918	320/029	03/1900	320/037	03/1900	I
XDIN - DINNER KEY LIGHT 1							
25.71 -80.21			I 299/023 5	02/1750	299/037	02/1750	

XKBS - BISCAYNE BAY LIGHT 20
25.66 -80.19 1003.0 03/0757 296/026 02/1752 302/039 03/2331
6

XGVT - GOVERNMENT CUT
25.75 -80.10 I 285/030 02/1945 304/045 02/1940
23

XJUP - JUNO BEACH PIER
26.89 -80.06 999.9 03/1949 360/043 03/0459 357/053 03/0759
6

FROST MUSEUM OF SCIENCE - MIAMI
25.79 -80.19 I 312/027 03/0820 274/038 02/1940
20

LZ40 - LAKE OKEECHOBEE CENTER
26.90 -80.79 1002.8 03/0815 340/027 04/0115 340/034 04/0115
6

L001 - LAKE OKEECHOBEE NORTH
27.14 -80.79 1002.1 03/2115 290/024 04/0745 030/037 02/2115
6

L006 - LAKE OKEECHOBEE SOUTH
26.82 -80.78 1002.4 03/0815 320/027 04/0115 320/037 03/1945
6

REMARKS: PEGF1-SOUTH PORT EVERGLADES ANEMOMETER HEIGHT IS LIKELY BELOW 10 METERS FROST MUSEUM OF SCIENCE - MIAMI ANEMOMETER HEIGHT IS ESTIMATED, ON TOP OF SIX STORY BUILDING

C. STORM TOTAL RAINFALL FROM 1200 UTC SEP 02 UNTIL 1200 UTC SEP 04

CITY/TOWN LAT LON DEG DECIMAL	COUNTY	ID	RAINFALL (IN)
1 E HARD ROCK STADIUM 25.95 -80.22	MIAMI-DADE	NMBF1	3.01
2 NNW BOYNTON BEACH 26.56 -80.10	PALM BEACH	FW3299	2.85
2 NW WEST PALM BEACH 26.73 -80.08	PALM BEACH	DW4888	2.82
1 NW PALM BEACH SHORES 26.80 -80.04	PALM BEACH	FL-PB-81	2.82
3 WSW LANTANA 26.57 -80.10	PALM BEACH	AR978	2.79
1 S FLORIDA GARDENS 26.61 -80.17	PALM BEACH	FL-PB-12	2.63

1 N HYPOLUXO PALM BEACH FL-PB-36 2.57
26.58 -80.05

1 NE LAKE WORTH PALM BEACH FL-PB-19 2.45
26.63 -80.06

1 N LAKE WORTH PALM BEACH FL-PB-13 2.30
26.63 -80.07

3 WSW DELRAY BEACH PALM BEACH FL-PB-82 2.28
26.45 -80.13

4 W BOYNTON BEACH PALM BEACH CW0029 2.26
26.52 -80.15

1 S LANTANA PALM BEACH CW4042 2.26
26.58 -80.06

1 E BOYNTON BEACH PALM BEACH CW4740 2.23
26.53 -80.08

3 NE DELRAY BEACH PALM BEACH FL-PB-101 2.11
26.49 -80.06

1 NNW GREENACRES CITY PALM BEACH FT003 2.11
26.65 -80.14

3 NNW SOUTH PALM BEACH PALM BEACH FW1702 2.03
26.66 -80.05

1 SSW JUNO BEACH PALM BEACH JUBF1 2.01
26.86 -80.06

D. INLAND FLOODING...

PALM BEACH...NO WORSE THAN MINOR.

BROWARD...NO WORSE THAN MINOR.

MIAMI-DADE...NO WORSE THAN MINOR.

E. MAXIMUM OBSERVED WATER LEVEL (WL)...

ID	CITY/TOWN OR LOCATION	COUNTY	STATE	WL (FT)	DATUM	DATE/ TIME	SOURCE
LKWF1	LAKE WORTH PIER	PALM BEACH	FL	2.15	MHHW	03/1600	NOS
26.6128 -80.0342							
VAKF1	VIRGINIA KEY	MIAMI-DADE	FL	1.85	MHHW	03/1706	NOS
25.7314 -80.1618							

PVGF1 SOUTH PORT EVER BROWARD FL 2.00 MHHW 03/1636 NOS
26.0700 -80.1200

REMARKS: PEAK DEPARTURES FROM PREDICTED ASTRONOMICAL TIDES WERE:
LAKE WORTH PIER - 1.93 FEET, SOUTH PORT EVERGLADES - 1.62 FEET,
VIRGINIA KEY - 1.55 FEET. MAIN IMPACTS FROM THE STORM SURGE WAS
COASTAL FLOODING ALONG THE INTRACOASTAL WATERWAYS. WATER OVERTOPPED
SEAWALLS IN MANY AREAS OF PALM BEACH AND BROWARD COUNTIES NEAR THE
TIMES OF HIGH TIDE, CAUSING GENERALLY LESS THAN 2 FEET OF INUNDATION
OF ADJACENT STREETS, PARKING LOTS, AS DOCKS. A FEW DOCKSIDE
STRUCTURES HAD MINOR WATER INTRUSION. SOME OVERTOPPING OF SEAWALLS
WAS ALSO OBSERVED IN MIAMI-DADE COUNTY, WITH SOME STREETS AND DOCKS
FLOODED ON MIAMI BEACH AS WELL AS NEAR THE BISCAYNE BAY SHORELINE IN
THE CITY OF MIAMI.

F. TORNADOES...

(DIST)CITY/TOWN LAT LON (DEG DECIMAL)	COUNTY	DATE/ TIME(UTC)	EF SCALE (IF KNOWN)	DESCRIPTION

G. STORM IMPACTS BY COUNTY...

COUNTY	DEATHS	INJURIES	EVACUATIONS	DESCRIPTION
PALM BEACH	0	0	0	

EVACUATION DATA INCOMPLETE. A TOTAL OF 2,224 CUSTOMERS WERE WITHOUT
POWER IN PALM BEACH COUNTY AS OF THE AFTERNOON OF SEPTEMBER 3RD.

BROWARD	0	0	0	

A TOTAL OF 808 CUSTOMERS WERE REPORTED WITHOUT POWER IN BROWARD
COUNTY AS OF THE AFTERNOON OF SEPTEMBER 3RD.

GLADES	0	0	0	

NO REPORTED IMPACTS.

MIAMI-DADE	0	0	0	

A TOTAL OF 779 CUSTOMERS WERE REPORTED WITHOUT POWER IN MIAMI-DADE
COUNTY AS OF THE AFTERNOON OF SEPTEMBER 3RD.

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LEGEND:
I-INCOMPLETE DATA
E-ESTIMATED

MOLLEDA

APPENDIX B - Tropical Cyclone Assessment and Warning Product Identifiers

PRODUCT TITLE	WMO HEADER	AWIPS PRODUCT IDENTIFIER (NNNXXX)
Hurricane Local Statement (HLS)		
Atlantic	WTUS/81-84/ KCCC**	HLSNNN**
Brownsville, TX	WTUS84 KBRO	HLSBRO
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 and Micronesia)	WTPQ/81-85/ PGUM	HLSPQ/1-5/
South Pacific (Pago Pago, American Samoa)	WTZS/81-85/ NSTU	HLSZS/1-5/

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

PRODUCT TITLE	WMO HEADER	AWIPS PRODUCT IDENTIFIER (NNNXXX)
Tropical Cyclone Local Watch/Warning (TCV)		
Atlantic	WTUS/81-84/ KCCC**	TCVNNN**
Brownsville, TX	WTUS84 KBRO	TCVBRO
Central Pacific (All Hawaiian Islands)	WTHW80 PHFO	TCVHFO

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

PRODUCT TITLE	WMO HEADER	AWIPS PRODUCT IDENTIFIER (NNNXXX)
Extreme Wind Warning (EWW)		
Atlantic	WFUS/51-55/ KCCC**	EWWNNN**
Brownsville, TX	WFUS54 KBRO	EWWBRO
Honolulu, HI	WFHW50 PHFO	EWWHFO
San Juan, PR	WFCA52 TJSJ	EWWSJU

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