

NATIONAL WEATHER SERVICE INSTRUCTION 10-603

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Operations and Services

Tropical Cyclone Weather Services Program, NWSPD 10-6

***NATIONAL HURRICANE CENTER AND CENTRAL PACIFIC HURRICANE
CENTER HURRICANE LIAISON TEAM***

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SUMMARY OF REVISIONS: This directive supersedes NWSI 10-603, *National Hurricane Center and Central Pacific Hurricane Center Hurricane Liaison Team*, dated August 16, 2018.

Major revisions were necessary to accurately reflect the evolution of the Hurricane Liaison Team (HLT) since the last update. Content changes include:

1. Updates to the scope of the HLT are provided in Sections 1.1 and 2.1.
2. Updates to the National Weather Service's responsibilities to the Federal Emergency Management Agency's HLT are provided in Sections 1.2, 1.3, 2.2, and 2.3.
3. Minor changes to the recommended training for NWS staff supporting the HLT are provided in Sections 1.4 and 2.4.

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**National Hurricane Center and Central Pacific Hurricane Center
Hurricane Liaison Team**

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1 Hurricane Liaison Team (HLT) at the National Hurricane Center

1.1 Overview and Mission

When the potential for an Atlantic or eastern North Pacific hurricane to threaten the United States or its territories exists, emergency managers rely on timely weather information for decision support. The primary source for tropical weather forecasts and analysis is the National Oceanic and Atmospheric Administration’s (NOAA) National Hurricane Center (NHC) in Miami, Florida. To facilitate the rapid exchange of information between the NHC and emergency managers, the Federal Emergency Management Agency (FEMA) maintains a permanent Hurricane Liaison Team (HLT) Office embedded at the NHC.

The HLT mission is to improve the Nation’s capability to respond to hurricanes through the rapid exchange of critical information between the NHC and Federal, state, local, tribal, and territorial (SLTT) emergency managers.

Co-location at the NHC ensures the HLT is integrated with operations and maintains direct access to the hurricane forecasters. This promotes the necessary relationships to share critical information between the NHC and the emergency management community. The success of the HLT depends upon an ability to integrate emergency management planning with NHC hurricane forecasts. This provides a capability to anticipate how changing forecasts may impact the timing of pre-impact emergency operations decisions (e.g., evacuation, sheltering, and resource pre-positioning). This also allows partners at all levels to understand and apply the forecast products, evaluate their risk, and leverage their planning and analysis tools, such as hurricane evacuations studies and HURREVAC, for better decision support during a response. HURREVAC is an online interface for emergency managers that combines real-time NHC forecast products and storm surge modeling with evacuation clearance times from Hurricane Evacuation Studies.

The FEMA Regions are critical to the success of the HLT. FEMA Regions support their SLTT emergency managers by deploying Regional Team Leaders (RTL) to NHC when their region is threatened. RTLs possess local knowledge and expertise, which allows them to provide tailored information and technical assistance back to their regions and states. The number of RTLs deployed to the NHC is scalable based on the number of regions affected and situational requirements. Additionally, each FEMA Region works with their respective National Weather Service (NWS) Regional Operations Centers (ROCs), River Forecast Centers (RFCs), and Weather Forecast Offices (WFOs) as the FEMA Region deems necessary.

1.2 Operations

On June 1 annually, or earlier if necessary, the FEMA Administrator (via the National Watch Center at FEMA Headquarters) will issue an Operational Order to activate the HLT for the duration of the Atlantic and eastern North Pacific hurricane season. The HLT will remain active throughout the season. Outside of the hurricane season, the HLT continues to monitor conditions and may activate on an as-needed basis. In coordination with FEMA, the Director or Deputy Director of NHC may request NWS meteorological and/or hydrological support by contacting the appropriate NWS Regional Director and ROC(s). If RTLs are deployed, they will notify the corresponding ROC(s) of the deployment and provide a point of contact.

The HLT will remain operational, working with NWS personnel until the tropical cyclone threat has passed. If a significant rainfall threat is expected to persist after landfall, the HLT will coordinate with the Weather Prediction Center (WPC) and the National Water Center (NWC) who will assume briefing responsibilities until the inland threat has passed.

1.3 NWS Responsibilities

The NWS supports the FEMA HLT through coordination with personnel from NHC and other national centers, ROCs, RFCs, and WFOs. This support may occur in-person and/or remotely to the NHC, FEMA Headquarters and FEMA Regions as necessary. Additionally, NWS supports the FEMA HLT through use of NHC and WPC facilities, providing dedicated office space and network access for FEMA HLT personnel.

The HLT coordinates throughout the hurricane incident with NHC, WPC, NWC, the NOAA Liaison Officer (LNO) to FEMA, the NWS Decision Support Services (DSS) Coordinator and/or the appropriate ROCs, RFCs, and WFOs on messaging and briefings.

A list of HLT responsibilities for each NWS office is provided below:

1. NHC - Provides the HLT video and teleconference briefings for States and Federal Agencies on the tropical cyclone track and intensity forecast, including storm surge. Additionally, NHC has a dedicated HLT office with full-time FEMA staff that coordinates face-to-face with HLT staff during tropical threats.
2. WPC – Provides the HLT video teleconference briefings for States and Federal Agencies on the tropical cyclone rainfall forecast that informs flood messaging and tactical decision-making. Additionally, WPC serves as the HLT devolution site, and

maintains a dedicated HLT office for this purpose which is outfitted with FEMA network and video teleconference equipment.

3. NWC – HLT coordination with the NWC will primarily occur via the full-time FEMA LNO to the NWC. NWC provides the HLT incident-driven freshwater modeling and analysis in support of flood messaging and tactical decision-making.
4. DSS Coordinator – When on-site at the NHC, may assist the HLT with ROC and WFO coordination, including visibility of state-specific briefings, as needed.
5. NOAA LNO to FEMA – Coordinates with the HLT on NWS support for the FEMA National Response Coordination Center and FEMA National Watch Center, both at FEMA Headquarters.
6. NWS Regions (including ROCs) – Provide support to the HLT RTLs, including but not limited to, coordinating deployment of NWS personnel to the FEMA Regional Response Coordination Centers (RRCCs).
7. RFCs and WFOs – Provide localized expertise to the HLT RTLs, with formal briefings coordinated through the ROCs.
8. NWS Personnel deployed to RRCCs – Assist the HLT with providing meteorological or hydrological support to RRCC staff.

1.4 Training

NWS personnel who are likely to support the HLT are strongly encouraged to complete the following Cooperative Program for Meteorology, Education and Training (COMET[®]) modules, accessible via the Internet at: <https://www.meted.ucar.edu>:

Introduction to Tropical Cyclone Storm Surge
Forecasting Tropical Cyclone Storm Surge
Determining the Onset and Risk of Tropical Cyclone Winds
Tropical Cyclone Forecast Uncertainty

In addition, the NWS Tropical Impact-Based DSS (IDSS) Bootcamp course is highly recommended. This course is planned to be held annually by the Office of the Chief Learning Officer (OCLO). The former NWS Effective Hurricane Messaging course can serve as an alternative to Tropical IDSS Bootcamp for NWS personnel.

2 HLT at the Central Pacific Hurricane Center (CPHC)

2.1 Overview and Mission

Similar to the HLT at NHC, the HLT at CPHC facilitates the rapid exchange of information between NWS Pacific Region offices and emergency managers. Co-location at NWS Pacific Region offices, including CPHC, ensures the HLT is integrated with operations. This promotes the necessary relationships to share critical information between the NWS and the emergency

management community.

2.2 Operations

As there is no formally designated tropical cyclone season in the western Pacific, the FEMA HLT remains active throughout the year. When a tropical cyclone in the central North Pacific basin threatens the United States or its territories, the Director of CPHC may request additional NWS meteorological and/or hydrological support by contacting the NWS Pacific Region ROC. When a tropical cyclone in the western North Pacific basin or South Pacific threatens the United States or its territories and affiliates, the affected NWS Weather Service Office/WFO MIC may request additional support through the Pacific Region ROC.

NWS personnel will remain deployed until no longer needed for assistance. If a significant rainfall threat is expected to persist for any length of time, the FEMA HLT will remain staffed to facilitate continued coordination with the affected WFO or WSO and FEMA.

2.3 NWS Responsibilities

The NWS supports the HLT through use of CPHC and Pacific Region Headquarters facilities and by providing security, network, and NOAA email access for FEMA HLT personnel. CPHC hurricane specialists, local WFO Honolulu forecasters and Pacific Region ROC personnel are available for coordination and information sharing with the FEMA HLT. Occasionally, the Regional Director or designee will brief the FEMA leadership as requested by the FEMA HLT. WFO Guam and WSO Pago Pago will provide guidance and information to the FEMA HLT on tropical cyclone threats in their areas.

2.4 Training

NWS personnel who are likely to support the HLT are strongly encouraged to complete the following Cooperative Program for Meteorology, Education and Training (COMET[®]) modules, accessible via the Internet at: <https://www.meted.ucar.edu>:

Introduction to Tropical Cyclone Storm Surge
Forecasting Tropical Cyclone Storm Surge
Determining the Onset and Risk of Tropical Cyclone Winds
Tropical Cyclone Forecast Uncertainty

In addition, an NWS IDSS Bootcamp course is highly recommended. These courses are planned to be held annually by the OCLO. The former Effective Hurricane Messaging course can serve as an alternative to an IDSS Bootcamp for NWS personnel. Occasionally, NWS Pacific Region hosts their own DSS training, which is also highly recommended. Other training opportunities are FEMA's "Hurricane Preparedness for Decision Makers" conducted as needed (approximately every 2 years) at CPHC for emergency managers and NWS personnel, and CPHC's annual tropical training session held each spring.