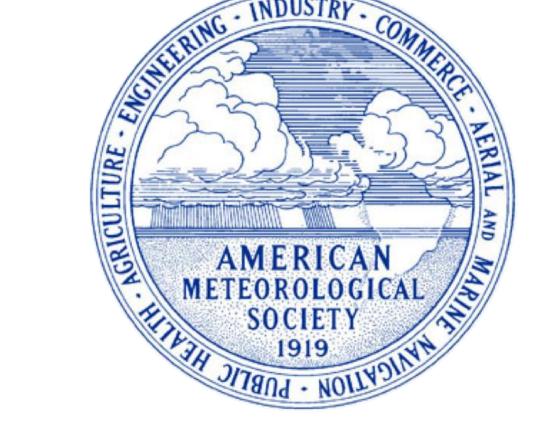


Evolving Tropical Impact-based Decision Support Services for Hawaii



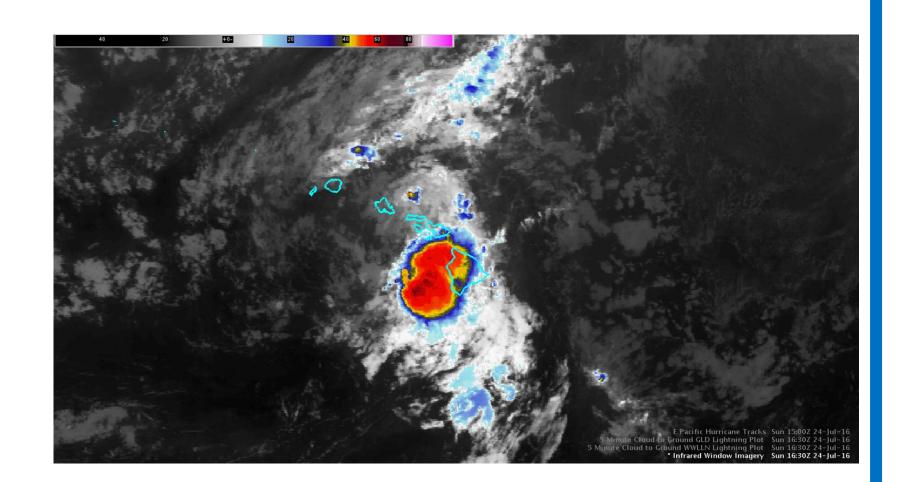
AMS 97th Annual Meeting Seattle, WA - 2017

Charlie Woodrum, NOAA/NWS, Pacific Region Headquarters, Honolulu, HI Chris Brenchley, Tom Evans, and John Bravender, NOAA/NWS/CPHC, Honolulu, HI Victor DeJesus, FEMA-HLT, Honolulu, HI

2016 Tropical IDSS

Darby

Tropical Storm Darby made landfall on the Big Island on July 23rd, 2016. It was the first tropical storm or hurricane to make a direct landfall on the Hawaiian Islands since Iselle made landfall in 2014.



Infrared satellite imagery from July 24th, 2016

Suomi NPP satellite on August 28th, 2016

Support to federal, state and local

agencies in Hawaii included video

teleconferences, PowerPoint briefings,

tailored forecasts to county civil defense,

broadcast media. Additional service was

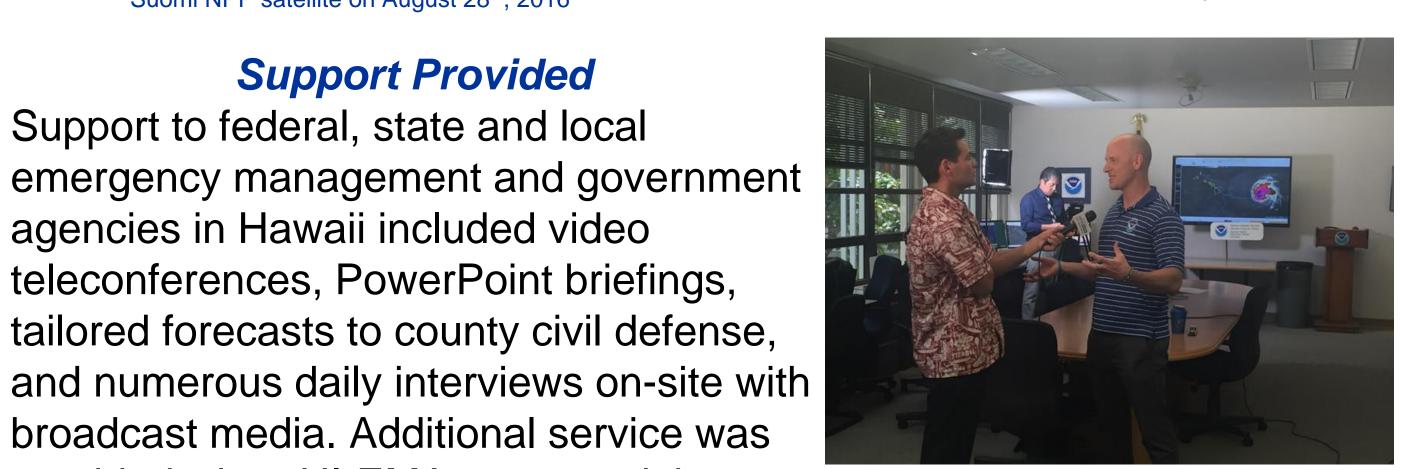
deployment of a meteorologist to the State

provided when HI-EMA requested the

Support Provided

Madeline and Lester

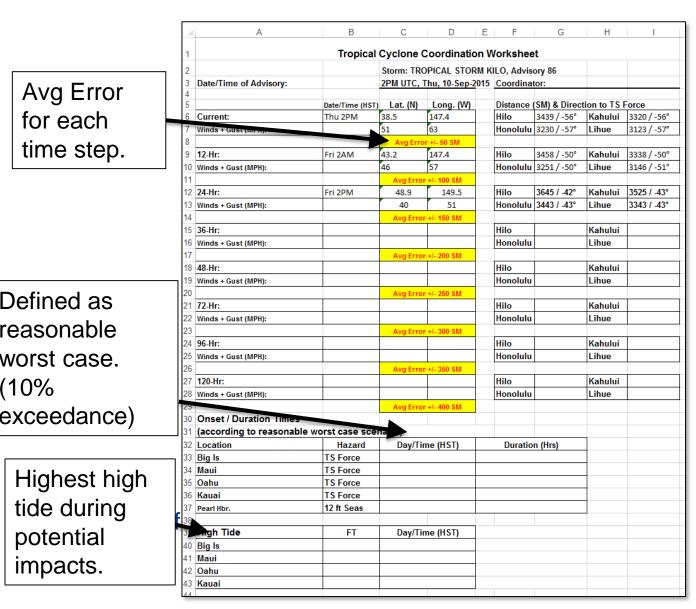
Hurricane Madeline and Hurricane Lester threatened the Hawaiian Islands as major hurricanes within days of each other in late August into early September of 2016. This offered a unique set of challenges communicating the threats of back-to-back systems.



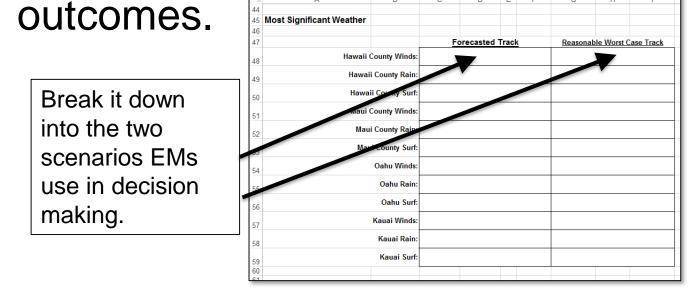
Central Pacific Hurricane Center Director, Chris

Emergency Operations Center (EOC).

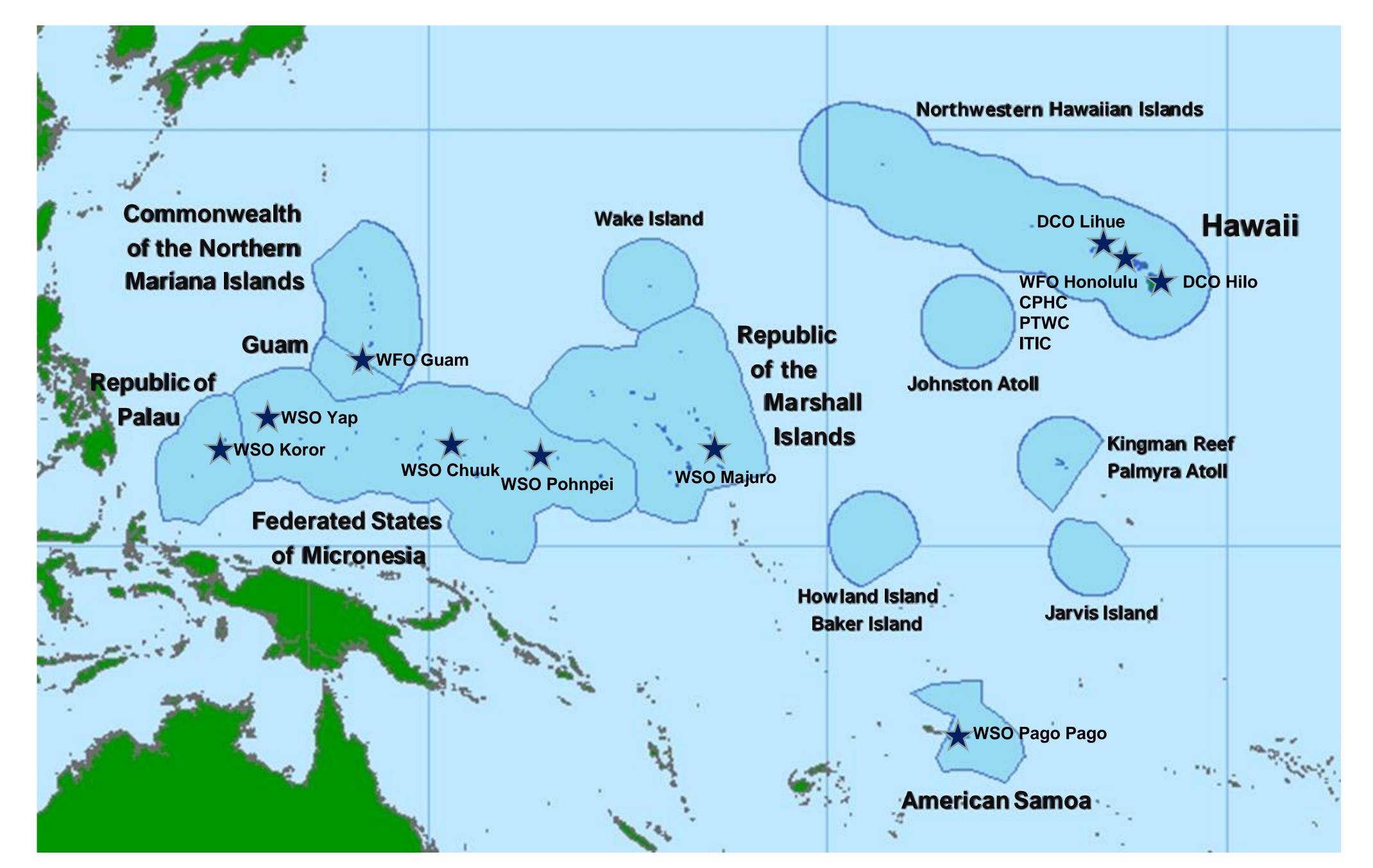
Tropical Cyclone Coordination Worksheet (TCCW)



The TCCW is a spreadsheet distributed to the Pacific Disaster Center (PDC) and emergency management. It is utilized to help NWS communicators and partners understand the range of possible



Pacific Region of the NWS



IDSS leads to Critical Partner Actions

- FEMA: Prepared for the possible deployment of an Incident Management Assistance Team (IMAT) team to assist with the recovery.
- **USCG:** The U.S. Coast Guard closed the ports on Oahu, Maui, and the Big Island proactively as a result of the forecasts for Darby.
- DOT: Crews staffed up over the weekend in preparation for possible road closures from flooding and downed trees. Crews were made aware of the flash flood threat from Darby on Oahu on Sunday, July 24th.
- NPS: Volcanoes National Park on the Big Island closed proactively due to the forecasts for Darby.
- State Emergency Management: Video teleconference (VTC) briefings began nearly a week in advance in anticipation of possible impacts by Darby, Madeline, and Lester on the Hawaiian Islands. An Incident Command System (ICS) was put in place at the Emergency Operations Center at Diamond Head Crater in Honolulu. This included having an NWS meteorologist on-site during the days leading up to the storms and during the subsequent flash flooding related to the moisture from Darby.
- County Civil Defense: Staffed up accordingly based off the systems' predicted impacts to the Hawaiian Island. Proactively opened up shelters on the Big Island, Maui, and Oahu in order to give tourists a place of refuge.

Key Weather Partnerships

NWS Honolulu / Central Pacific Hurricane Center (CPHC)

The Weather Forecast Office (WFO) in Honolulu is unique in that it consists of four routine forecast desks: public, satellite, aviation, and high seas. A fifth desk for the CPHC is spun up when tropical cyclones enter their area of responsibility. When multiple systems are in the central Pacific, like with Madeline and Lester, a sixth desk is needed for an additional CPHC forecaster. This integrated WFO/CPHC approach makes tropical messaging to the Hawaiian Islands consistent.

Pacific Region – Regional Operations Center (PR-ROC)

The PR-ROC provides significant event outlooks and situation reports to regional partners and the National Weather Service Operations Center (NWSOC). During these systems, two staff members from the PR-ROC deployed to CPHC and helped with coordination, generating reports, briefings to partners, and interfacing with the media.



FFMA Hurricane Liaison Team (HLT)

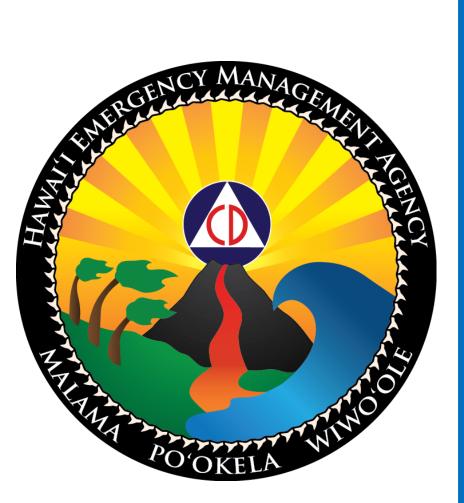
The FEMA Hurricane Liaison Team ensures rapid exchange of critical information between the Central Pacific Hurricane Center and the emergency management community. The HLT provides real-time interpretation, assessment, and guidance by integrating CPHC's forecast products with state, local, and federal response plans. The HLT maintains an office year-round at CPHC and activates in the central Pacific at the beginning of hurricane season to maintain situational awareness. Additional HLT members deploy to CPHC during potential threats.

Joint Typhoon Warning Center (JTWC)

Provides critical tropical forecasts to military assets across the world. During Darby, this included directing ships away from the tropical cyclone's path during the Rim of the Pacific (RIMPAC) international military exercise.

Hawaii State Emergency Management (HI-EMA)

The State of Hawaii is offered a unique challenge in emergency management because all four of its counties consist of islands. To keep lines of communication open during events, HI-EMA leads video teleconferences once or twice a day for all of its counties and government agencies.



Critical Decision-Makers













