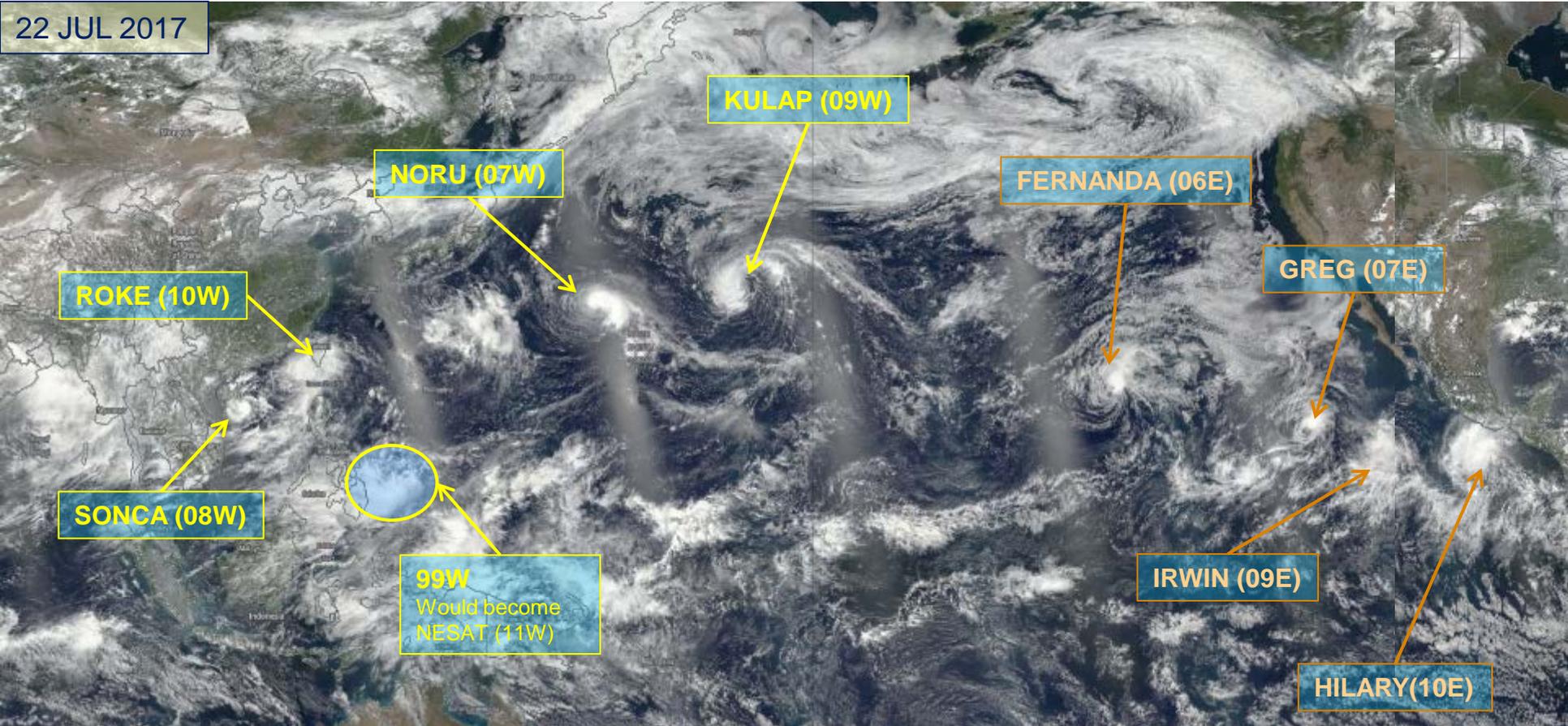




Joint Typhoon Warning Center



22 JUL 2017



Presented to NTHMP
 August 21, 2019
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Mission, Vision and Focus Areas

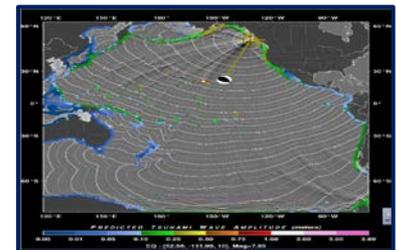
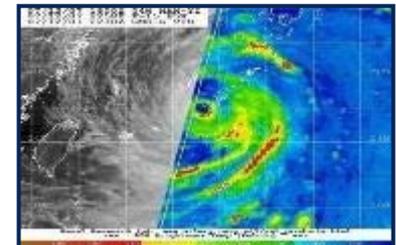


Mission: Provide analysis, forecast and decision support to enable DoD and other decision makers to plan, prepare and protect against the threat of tropical cyclones, *tsunamis* and other weather impacts.

Vision: Better decisions through effective forecasts.

Focus Areas

- Reconnaissance and Data Collection
- Analysis and Forecast
- Infrastructure and Technology
- Product Dissemination and Enhancement
- Interagency and International Outreach





Watch Team Construct



- **24/7/365 Watch Presence**

- **Command Duty Officer (USN Officer/E6-E7)**
 - Bldg Security, **Tsunami Response**, Tropical Production (Bulletins, TCFAs, Pre-Invests) & TCCOR Conference Calls
- **Typhoon Duty Officer (USN Officer/USAF Civ)**
 - TC Warnings, Invest Areas, Best Tracking
- **Forecast Duty Officer (USN E5-E6)**
 - PACFLT Forecast Support
- **Satellite Analyst (USAF E4+)**
 - TC Recon, UA Streamlines
- **Geophysical Technician (USN E1-E5)**
 - Product dissemination, **Tsunami Response**, Sfc Streamlines, LMH Worksheet



Tsunami Decision Support

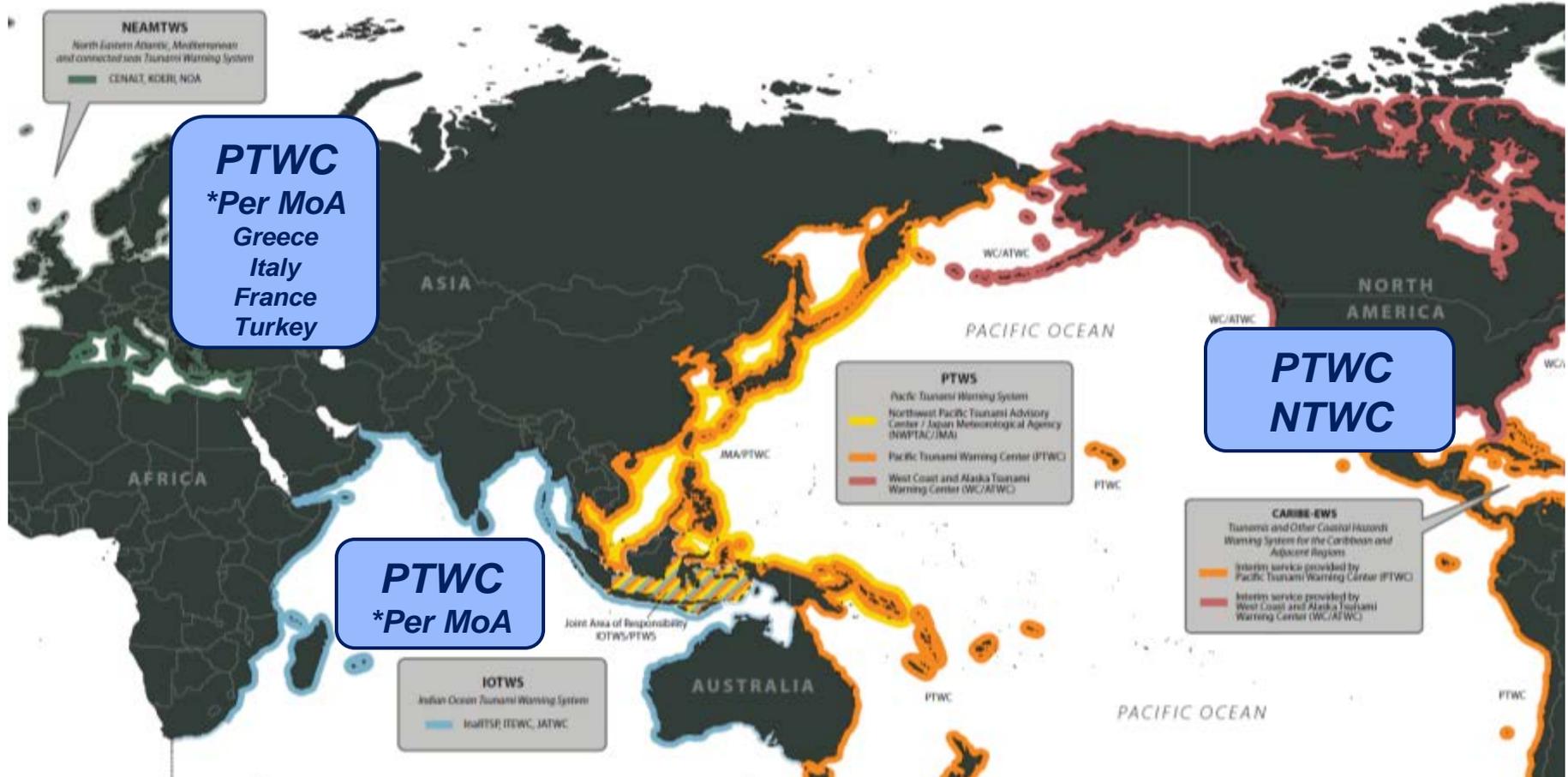


- JTWC provides *tsunami decision support* to enable rapid resource protection decisions by DoD commanders worldwide.
- Focus on maximizing lead time and minimizing confusion in the time-critical decision making process during tsunami events.
- JTWC works directly with NOAA Tsunami Warning Centers (TWCs) to repackage and distribute forecast guidance as well as provide real-time hazard assessments for DoD installations and assets at risk.
 - Pacific Tsunami Warning Center (PTWC) in Pearl Harbor, HI
 - National Tsunami Warning Center (NTWC) in Palmer, AK

JTWC does not run organic tsunami forecast models or generate tsunami forecasts but provides clarity to DoD Stakeholders



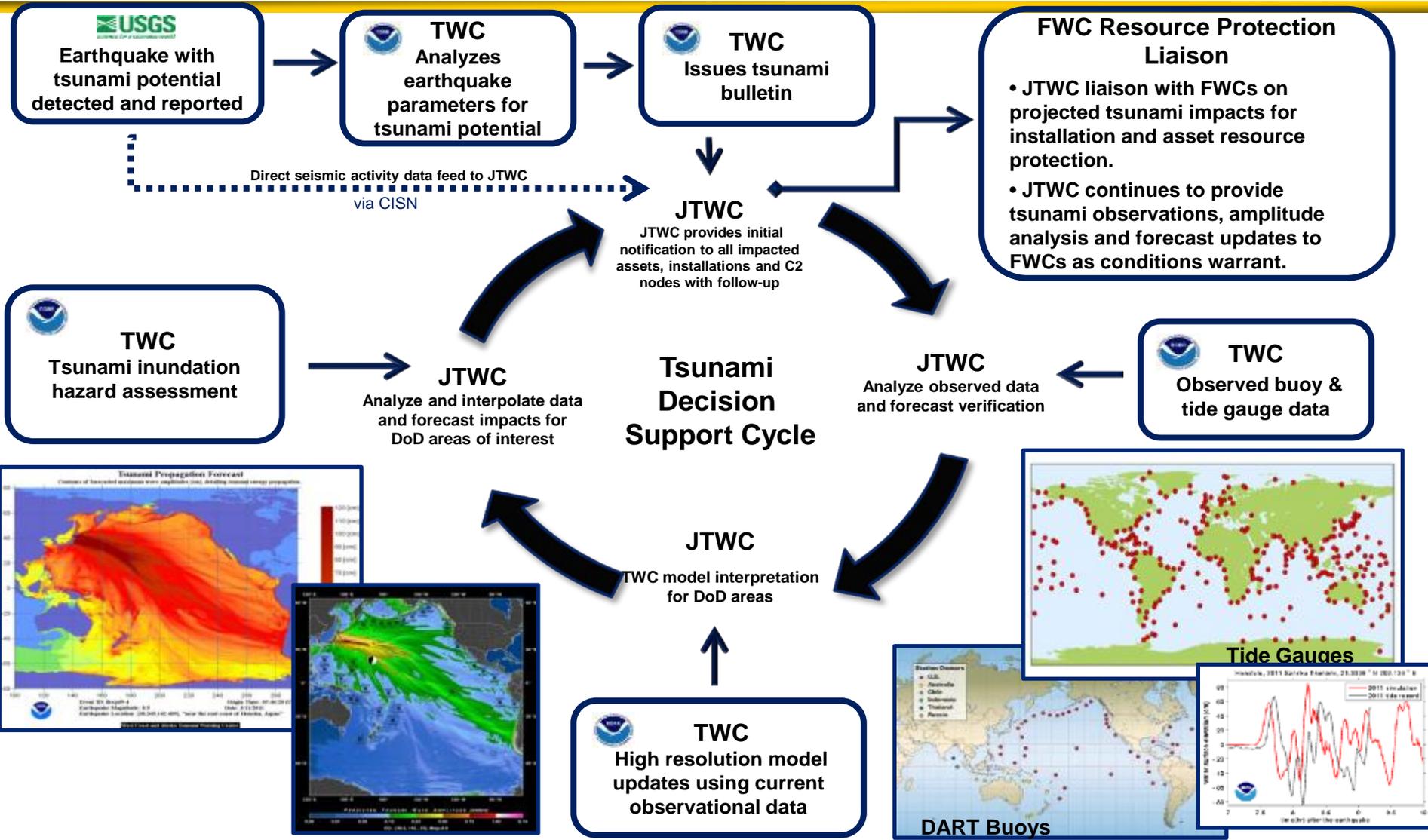
JTWC/TWC Agency Resources



Worldwide mission set requires near real-time access to information from multiple countries, and agencies

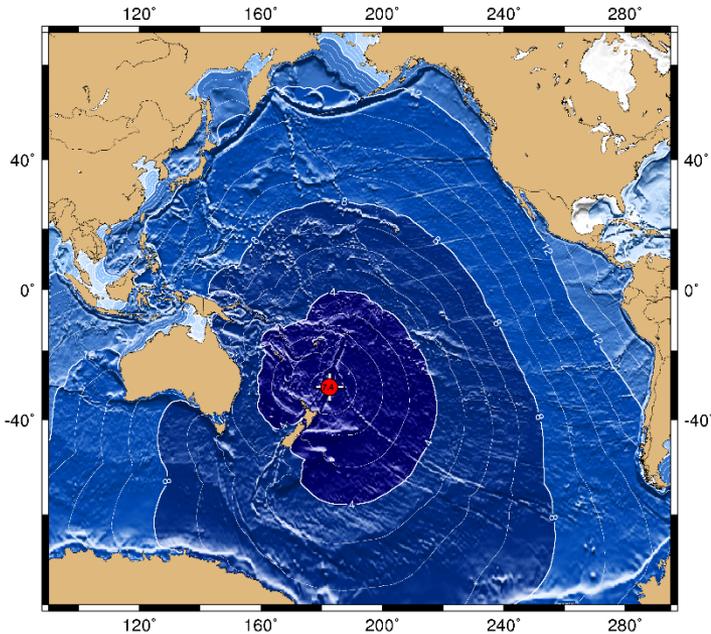


Tsunami Decision Support Process





Tsunami Initial Assessment & Asset Impact Table



Earthquake Depth	Earthquake Location	Earthquake Magnitude Mw or Mwp	Description of Tsunami Potential	Bulletin Type
< 100 km	Under or very near the sea	≥ 7.9	Potential for a destructive ocean-wide tsunami	Tsunami Watch /Warning
		7.6 to 7.8	Potential for a destructive regional tsunami	Tsunami Watch /Warning
		7.0 to 7.5	Potential for a destructive local tsunami	Tsunami Watch /Warning
		6.5 to 7.0 or inland	Very small potential for a destructive local tsunami	Tsunami Information Bulletin
	Inland	≥ 6.5	No tsunami potential	Tsunami Information Bulletin
≥ 100 km		≥ 6.5	No tsunami potential	Tsunami Information Bulletin

JTWC Asset Impact Table

Note: columns can be sorted by clicking on the column headers.
 Direction qualifiers for N/S/E/W: + for N and E, - for S and W.

Location	Lat	Lon	Forecast Arrival Time (Z)	Forecast Height (ft)	Observed Arrival Time (Z)	Observed Height (ft)
PAPEETE	-17.24	-149.73	Apr 04 2012 03:36		Apr 13 2012 03:38	3.0
51426 DART	-22.99	-168.1	Apr 04 2012 05:30			0.8
51406 DART	-8.49	-125.01	Apr 04 2012 06:10			
PEARL HARBOR	21.3	-157.98	Apr 04 2012 07:07	1.2		
KANEOHE	21.47	-157.7	Apr 04 2012 07:13	1.5		



Battle Watch Captain Product



- Started production MAY18
- Slide-based product summarizes info contained in TWC messages
- Updated as new TWC messages arrive
 - *Posted to cross-domain websites (Unclassified/Secret/TS)*
 - *Email distribution*
- Eliminates need for JTWC to retransmit TWC messages via email and provides single source of relevant information

Tsunami Event Update #2

Earthquake Parameters

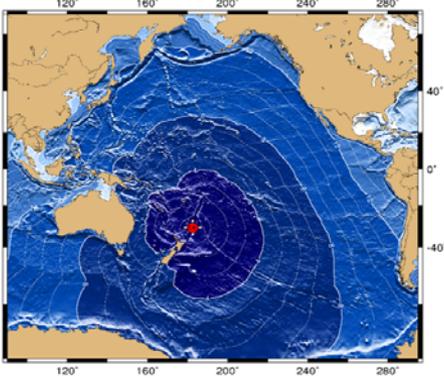
Origin Time: 2254Z 15 JUN 19
 Coordinates: 31.0S 177.4W
 Depth: 10KM
 Location: KERMADEC ISLANDS
 Magnitude: 7.4

*Changes since last notification in blue

Potential Impacts

TSUNAMI WAVES ARE FORECAST TO BE LESS THAN 0.3 METERS ABOVE THE TIDE LEVEL FOR THE COASTS OF AMERICAN SAMOA... COOK ISLANDS... FIJI... KERMADEC ISLANDS... NEW CALEDONIA... NEW ZEALAND... NIUE... SAMOA... SOLOMON ISLANDS... TONGA... VANUATU... AND WALLIS AND FUTUNA.

TSUNAMI WARNING	TSUNAMI ADVISORY	TSUNAMI WATCH
		AMERICAN SAMOA COOK ISLANDS FIJI KERMADEC ISLANDS NEW ZEALAND SAMOA SOLOMON ISLANDS VANUATU



See JTWC's webpages for up to date tsunami information. Asset Impact Table and Tsunami Warning Center messages are updated on the website as they become available.

NIPR - <http://www.metoc.navy.mil/jtwc/tsunami>
 - <https://ozal.nmci.navy.mil/jtwc/twc.html?tsunami> (CAC Enabled)
 SIPR - <https://metocph.nmci.navy.smil.mil/jtwc/?page=tsunami> (CAC Enabled)

Warning: >1m tsunami with the potential to generate widespread inundation is imminent, expected, or occurring.
Advisory: 0.3 - 1m tsunami with the potential to generate strong currents or waves dangerous to those in or very near the water is imminent, expected, or occurring.
Watch: A tsunami may impact the watch area at a future time.
Information Statement: An earthquake or tsunami has occurred but there is no threat of a destructive tsunami and to prevent unnecessary evacuations.

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 Naval Oceanography

Observe-Predict → Fight-Win

Clear, concise and mission-focused impacts assessment, eliminates need to read messages



JTWC Public Webpage



- Fully accessible source for JTWC products with no password, CAC or other security requirements for access
- Pulldown Links for tsunami decision support
 - BWC impacts assessment slide
 - Asset Impact Table
 - Travel Time Map
 - Region-Specific Agency Bulletins
- Dynamic content:
 - Tsunami event notification banner
 - Basin specific TC warning products
 - Storm centered satellite imagery
 - Significant Tropical Wx Advisories

Naval Oceanography Portal

Tropical Cyclone Support - Tsunami Support -

ALERT: THERE ARE ACTIVE SEISMIC EVENTS!
 *** EXERCISE EXERCISE EXERCISE ***
 Date: 2019-08-21 1400 UTC Magnitude: 7 Coordinates: 13N 100E Location: Thailand

JOINT TYPHOON WARNING CENTER

ABIO ABPW CPHC
 (https://www.nhc.noaa.gov/cphc/)

JTWC Tropical Warnings
 Current Northwest Pacific/North Indian Ocean* Tropical Systems
 Tropical Depression 12W (Bailu) Warning #01
 Issued at 21/0900Z

- TC Warning Text
- TC Warning Graphic
- Prognostic Reasoning
- JMW 3.0 Data
- Google Earth Overlay [KML](#)
- IR Satellite Imagery
- Satellite Fix Bulletin

* Includes Bay of Bengal and Arabian Sea
 Current Central/Eastern Pacific Tropical Systems



JTWC Contact Info



- **JTWC Command Duty Officer (CDO)**

- Email: cdo.jtwc.fct@navy.mil
- DSN: 315-471-0004
- Comm: (808) 471-0004

- **Websites:**

<http://www.metoc.navy.mil/jtwc/jtwc.html> (Public)

<https://pzal.nmci.navy.mil/jtwc/jtwc.html> (CAC-Enabled)

<https://pzal.ndbc.noaa.gov/collab/login.php> (Collab Site)



Questions



This Brief is Unclassified