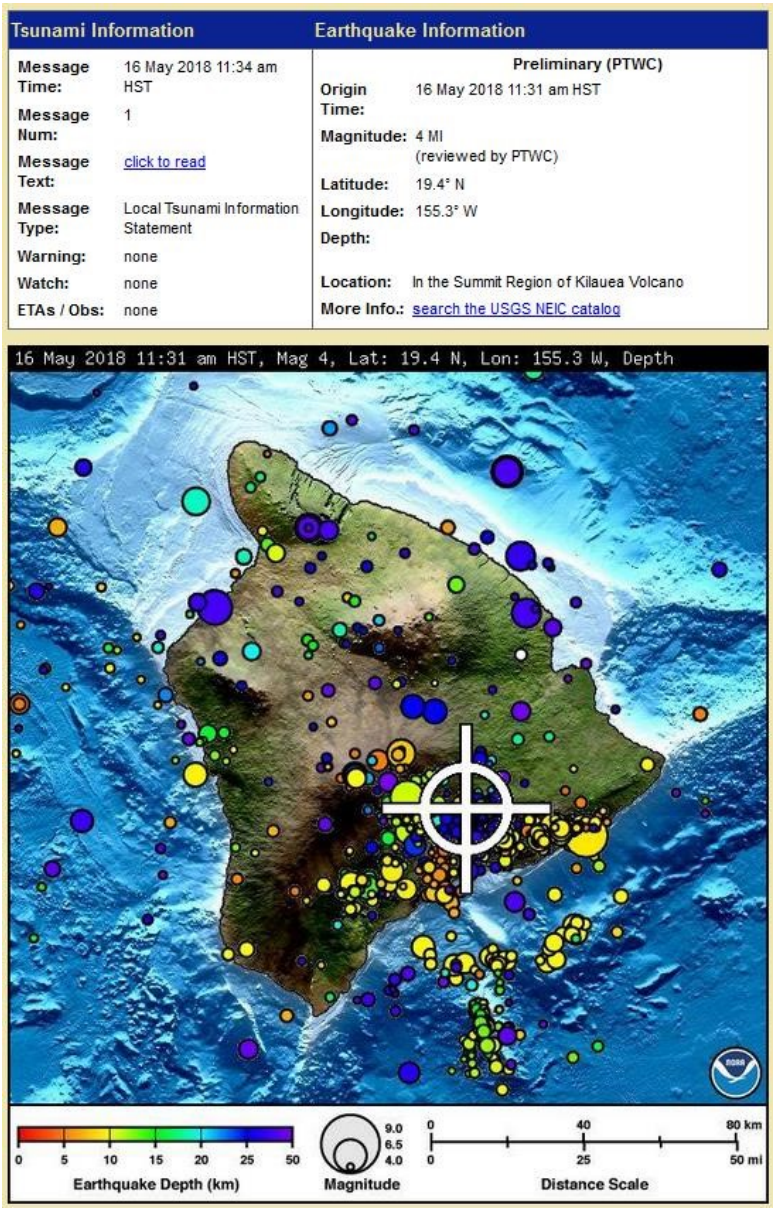
1.10 Pacific Tsunami Warning Center (USA)

OECD GP Activity	UN SF Activity	UN SD Goals / Targets
1. Natural hazards identification and communication, NH (early) warning systems	2. Strengthening disaster risk governance to manage disaster risk	3.D Strengthen the capacity of all countries … for early warning, risk reduction and management of national and global health risks

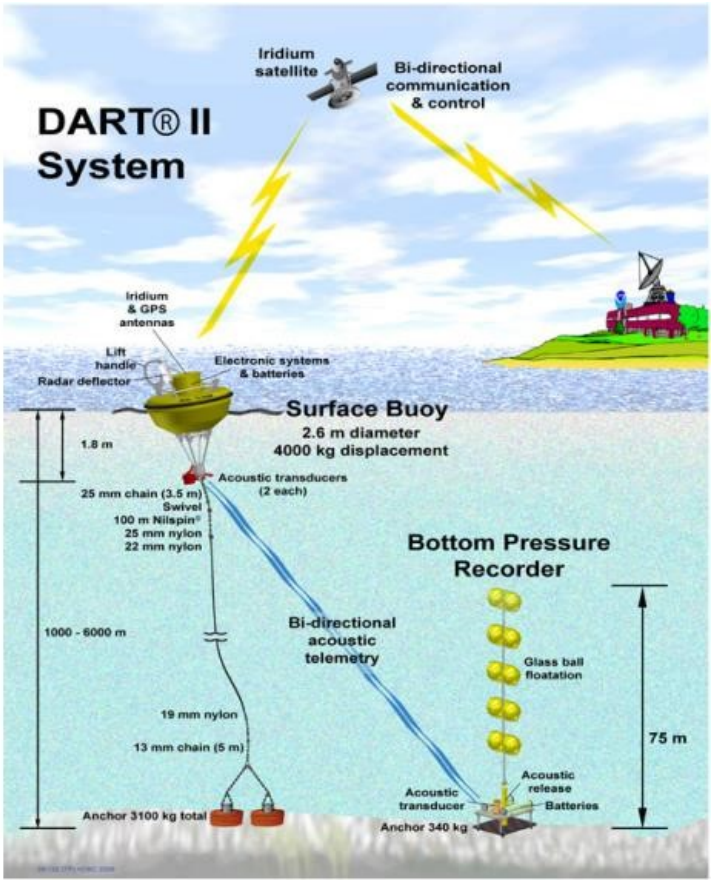
Classification according to OECD Guiding Principles, UN Sendai Framework Priorities/Activities, and UN SDGs and Targets

Figure 1: Example of a PTWC alert message for the Hawaii territory



Source: PTWC 2009 & National Data Buoy Center 2017 © National Oceanic and Atmospheric Administration

Figure 2: Example of a PTWC alert message for the Hawaii territory



Source: PTWC 2009 & National Data Buoy Center 2017

Short Facts:	Natural Hazard(s) Considered:
Governance approach: Hazard communication **Source:** NOAA (National Oceanic and Atmospheric Administration) **Entry into force:** 1949 **Targeted Stakeholders:** Pacific-adjacent state governments and responsible authorities, the public **Scope of applicability:** International	• Tsunamis **Climate change:** Not considered

Description

The Pacific Tsunami Warning Centre (PTWC) is one of two tsunami warning centres operated by the National Oceanic and Atmospheric Association (NOAA) in the United States. It serves as the operational centre of the Pacific for an international tsunami warning system program. As such, the PTWC issues bulletins and warnings to participating members and other relevant countries in the area of the Pacific Ocean.

For the prediction of possible threats by an upcoming tsunami, the PTWC uses seismic data as its initial point and includes oceanographic data. In case of an earthquake, tide gauges are screened in the affected area to find out if a tsunami has formed. At critical risk levels, the centre makes a forecast about the future of the tsunami and, if necessary, issues warnings to all areas at risk within the Pacific region.

Depending on the level of alert, the PTWC distinguishes between the following types of bulletins:

- **Tsunami Information Bulletin**: Though a threat exists, there is no indication that a tsunami has formed
- **Tsunami Watch**: The earthquake may likely have led to the formation of a tsunami and the PTWC recommends that members be alarmed as PTWC is waiting for tide data to confirm tsunami formation
- **Tsunami Advisory**: PTWC asserts that the earthquake has generated a tsunami which is danger-ous to areas around the coast
- **Tsunami Warning**: The situation is validated as serious and areas of concern are alerted immedi-ately, including specific information about approximated arrival time of the upcoming tsunami

For early detection, measurement and real-time reporting of tsunamis, the DART project's (Deep-ocean Assessment and Reporting of Tsunamis) deep-ocean tsunameters have been installed in the ocean. A DART system consists of a seafloor bottom pressure recorder (BPR) and a surface buoy for real-time communication. There are currently 39 DART buoys installed throughout the Pacific.

In the United States, local populations are alerted of an approaching tsunami through radio and television which are connected to the Emergency Alert System. In some areas (e.g. Hawaii), civil defence sirens and loudspeakers from police vehicles also help warn the population. In addition, citizens can subscribe to the RSS feed or email alerts from the PTWC website and the UNESCO site.

Link/Contact:

http://ptwc.weather.gov/

https://www.ngdc.noaa.gov/hazard/DARTData.shtml

Comments by the UN/OECD Natech-Steering Group:

This is an ideal example of a Tsunami warning system and all at-risk coastal areas should have one.

Imprint

Publisher

Umweltbundesamt
Wörlitzer Platz 1
06844 Dessau-Roßlau
Tel: +49 340-2103-0
Fax: +49 340-2103-2285

buergerservice@uba.de
Internet: www.umweltbundesamt.de
/ umweltbundesamt.de
/ umweltbundesamt

Completion: August/2019

Authors, Institutions

Lisa Maria Eckart
eckart(at)adelphi.de

adelphi research gGmbH
Alt-Moabit 91, D-10559 Berlin