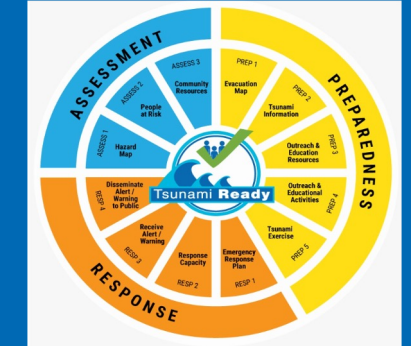




unesco
Intergovernmental
Oceanographic
Commission

What is UNESCO/IOC Tsunami Ready Recognition Programme?



3.1 Programme and its Indicators



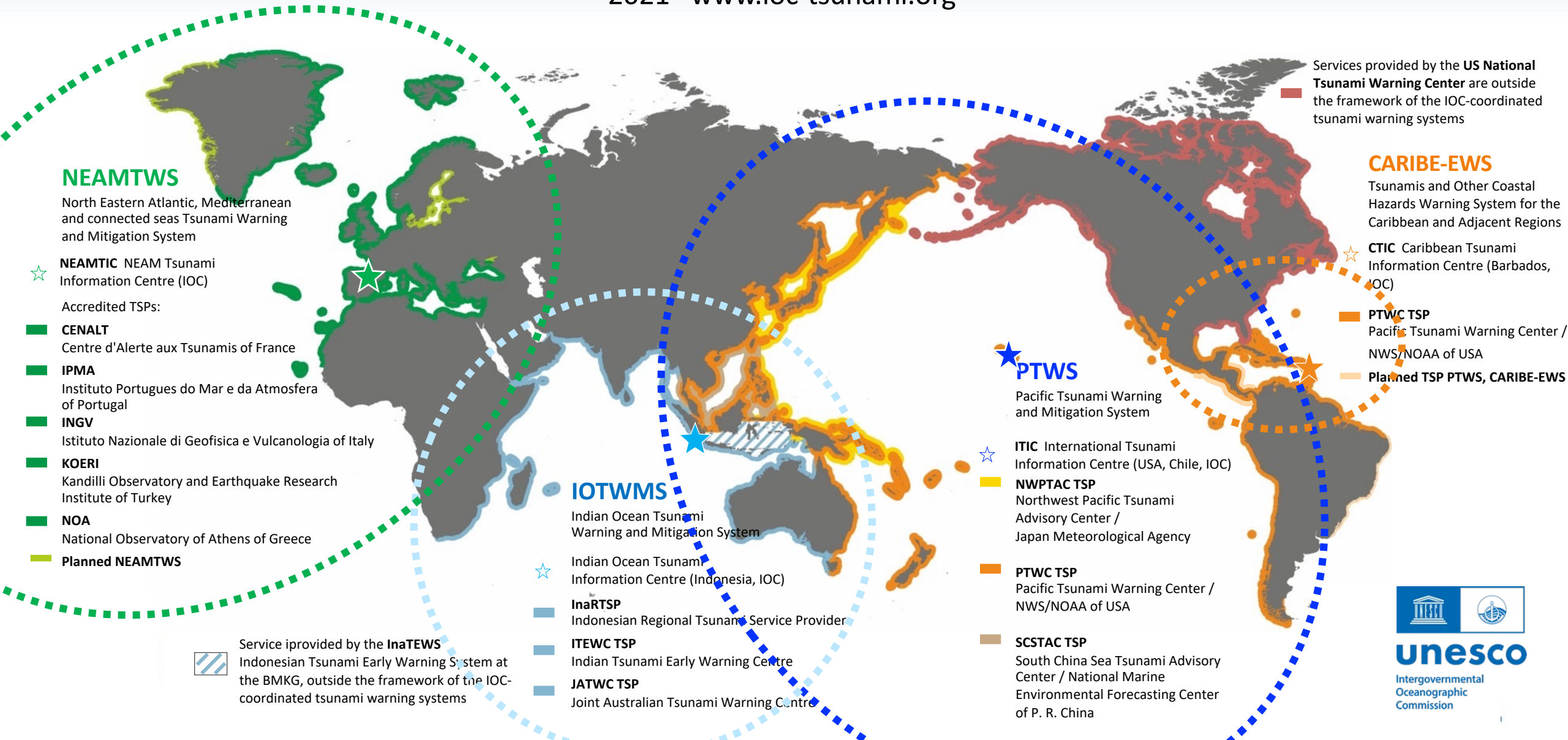
Dr. Laura Kong
International Tsunami Information Centre (ITIC)



GLOBAL TSUNAMI WARNING AND MITIGATION SYSTEMS

Intergovernmental Oceanographic Commission of UNESCO

2021 www.ioc-tsunami.org



NEAMTWS

North Eastern Atlantic, Mediterranean and connected seas Tsunami Warning and Mitigation System

☆ **NEAMTIC** NEAM Tsunami Information Centre (IOC)

Accredited TSPs:

- **CENALT**
Centre d'Alerte aux Tsunamis of France
- **IPMA**
Instituto Portugues do Mar e da Atmosfera of Portugal
- **INGV**
Istituto Nazionale di Geofisica e Vulcanologia of Italy
- **KOERI**
Kandilli Observatory and Earthquake Research Institute of Turkey
- **NOA**
National Observatory of Athens of Greece
- **Planned NEAMTWS**

Service provided by the **InaTEWS** Indonesian Tsunami Early Warning System at the BMKG, outside the framework of the IOC-coordinated tsunami warning systems

IOTWMS

Indian Ocean Tsunami Warning and Mitigation System

☆ Indian Ocean Tsunami Information Centre (Indonesia, IOC)

- **InaRTSP**
Indonesian Regional Tsunami Service Provider
- **ITEWC TSP**
Indian Tsunami Early Warning Centre
- **JATWC TSP**
Joint Australian Tsunami Warning Centre

PTWS

Pacific Tsunami Warning and Mitigation System

☆ **ITIC** International Tsunami Information Centre (USA, Chile, IOC)

■ **NWPTAC TSP**
Northwest Pacific Tsunami Advisory Center / Japan Meteorological Agency

■ **PTWC TSP**
Pacific Tsunami Warning Center / NWS/NOAA of USA

■ **SCSTAC TSP**
South China Sea Tsunami Advisory Center / National Marine Environmental Forecasting Center of P. R. China

Services provided by the **US National Tsunami Warning Center** are outside the framework of the IOC-coordinated tsunami warning systems

CARIBE-EWS

Tsunamis and Other Coastal Hazards Warning System for the Caribbean and Adjacent Regions

☆ **CTIC** Caribbean Tsunami Information Centre (Barbados, IOC)

■ **PTWC TSP**
Pacific Tsunami Warning Center / NWS/NOAA of USA

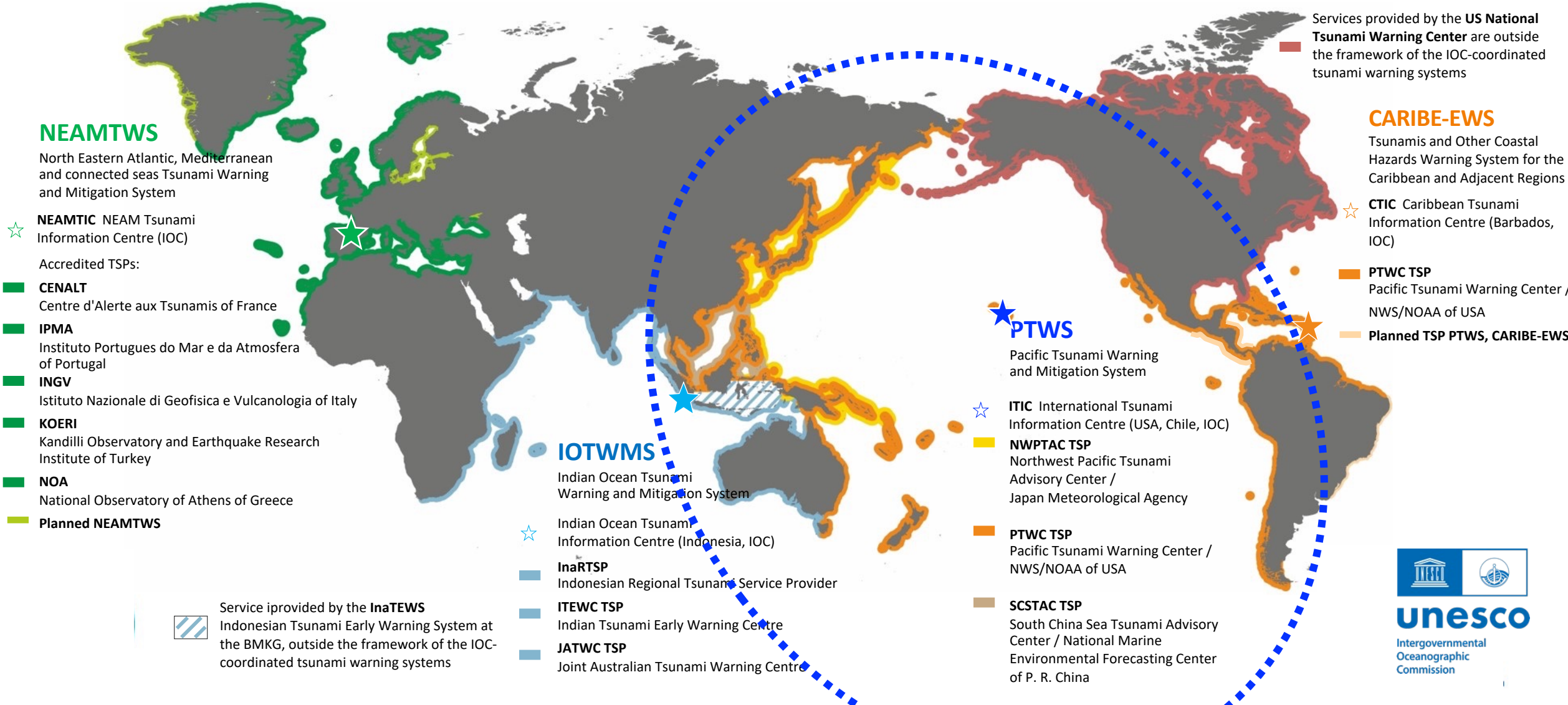
■ **Planned TSP PTWS, CARIBE-EWS**



unesco
Intergovernmental Oceanographic Commission

PACIFIC TSUNAMI WARNING AND MITIGATION SYSTEM (PTWS)

Intergovernmental Oceanographic Commission of UNESCO
2021 www.ioc-tsunami.org



NEAMTWS

North Eastern Atlantic, Mediterranean and connected seas Tsunami Warning and Mitigation System

☆ **NEAMTIC** NEAM Tsunami Information Centre (IOC)

Accredited TSPs:

- **CENALT**
Centre d'Alerte aux Tsunamis of France
- **IPMA**
Instituto Portugues do Mar e da Atmosfera of Portugal
- **INGV**
Istituto Nazionale di Geofisica e Vulcanologia of Italy
- **KOERI**
Kandilli Observatory and Earthquake Research Institute of Turkey
- **NOA**
National Observatory of Athens of Greece
- **Planned NEAMTWS**

Service provided by the **InaTEWS** Indonesian Tsunami Early Warning System at the BMKG, outside the framework of the IOC-coordinated tsunami warning systems

IOTWMS

Indian Ocean Tsunami Warning and Mitigation System

- ☆ **Indian Ocean Tsunami Information Centre** (Indonesia, IOC)
- **InaRTSP**
Indonesian Regional Tsunami Service Provider
- **ITEWC TSP**
Indian Tsunami Early Warning Centre
- **JATWC TSP**
Joint Australian Tsunami Warning Centre

PTWS

Pacific Tsunami Warning and Mitigation System

- ☆ **ITIC** International Tsunami Information Centre (USA, Chile, IOC)
- **NWPTAC TSP**
Northwest Pacific Tsunami Advisory Center / Japan Meteorological Agency
- **PTWC TSP**
Pacific Tsunami Warning Center / NWS/NOAA of USA
- **SCSTAC TSP**
South China Sea Tsunami Advisory Center / National Marine Environmental Forecasting Center of P. R. China

Services provided by the **US National Tsunami Warning Center** are outside the framework of the IOC-coordinated tsunami warning systems

CARIBE-EWS

Tsunamis and Other Coastal Hazards Warning System for the Caribbean and Adjacent Regions


☆ **CTIC** Caribbean Tsunami Information Centre (Barbados, IOC)

- **PTWC TSP**
Pacific Tsunami Warning Center / NWS/NOAA of USA
- **Planned TSP PTWS, CARIBE-EWS**



unesco
Intergovernmental Oceanographic Commission

IOC Tsunami Information Centers



PTWS : ITIC
USA NOAA – IOC Partnership
1965
Chili SHOA Associate Director
1998

tsunamiwave.org



NEAMTWS
EC DG ECHO
France, Greece, Italy, Portugal
2011-13



IOTWS
Indonesia – IOC Partnership 2012
(formerly JTIC since 2006)



CARIBE-EWS
Barbados– IOC Partnership
2015 (approved 2007)

**EQ
Tsunami**

End-to-End Tsunami Warning Chain

Science and data visualization components including a control room, seismic waveforms, and a forecast map.

TWC - Science

Intl / Natl

Country Alert System

Emergency Alert System & Mass Media

DMO / EMA – Safety

Natl / Prov / Local Govt

Public

Community

Community



TSUNAMI WARNING CHAIN (M9.5 Chile)

Global to National to Local

Pacific Tsunami Warning & Mitigation System

Tsunami Warning!



English: <https://vimeo.com/124650777>
Spanish: <https://vimeo.com/125109150>
French: <https://vimeo.com/125109148>



Pacific Tsunami Warning & Mitigation System

Tsunami Warning!

When a major undersea earthquake occurs near the coast, a destructive tsunami can result that will hit near-by coasts in minutes and also travel across entire oceans causing damage 1000's of kilometers away and up to 24 hours later. To alert far-away coasts, internationally coordinated tsunami early warning systems such as the Pacific Tsunami Warning and Mitigation System (PTWS), have been established to quickly provide tsunami threat information to countries.

2015 marks the 50th year of the PTWS. The System was established in 1965 in response to the 1960 M9.5 earthquake off South-central Chile that generated a tsunami which crossed the Pacific killing hundreds in Hawaii, Japan, and the Philippines. The PTWS has been built up over the decades through international cooperation and the contributions of countries and organizations under the UNESCO IOC framework.

To sustain awareness on the dangers of tsunamis, and to educate the public on how the PTWS works to disseminate alerts on approaching tsunamis, the IOC, in collaboration with Chile, has produced a 6-minute outreach video. The aim of the video is to strengthen public and stakeholder agency knowledge of and confidence in tsunami alerts that save lives and reduce property damage.

This video chronicles the tsunami warning chain for a M9.5 earthquake off Northern Chile as Pacific Tsunami Warning Center (PTWC) staff quickly analyze seismic and sea level data, forecast tsunami wave heights, and disseminate their threat assessments to country National Tsunami Warning Centers around the Pacific. Woven into this fast-paced video are vignettes highlighting tsunami warning and emergency response actions by centers and communities starting immediately after the earthquake in Chile and Peru, and after receiving the PTWC alerts in Samoa and Hawaii, and in Australia, Japan, Indonesia, and the Philippines.

www.tsunamivive.info

Produced by International Tsunami Information Center (ITIC) in collaboration with the US NOAA Tsunami Program, Servicio Hidrográfico y Oceanográfico de la Armada de Chile (SHOA), and Intergovernmental Oceanographic Commission IOC of UNESCO. E-mail: itc.tsunami@noaa.gov Web: <http://www.tsunamivive.info>

OCEAN DECADE TSUNAMI PROGRAMME

A SAFE OCEAN

THE MAIN SOCIETAL OUTCOME

TO MAKE
100%

OF COMMUNITIES AT RISK
OF TSUNAMI PREPARED FOR
AND RESILIENT TO TSUNAMIS

BY
2030

- *Tsunami Coalition: collaborative with critical UN stakeholders, civil protection, others ==> Raise profile. Facilitate resourcing*
- *Capacity Development: augmented through IOC Ocean Teacher Global Academy (OTGA) ==> Global reach, deep curricula*

UN Decade of Ocean Science for Sustainable Development IOC Ocean Decade Tsunami Programme – Tsunami Ready

Solomon Islands – ‘I survived’



**The ground was shaking,
the houses, everything.**



*Click
for
video*

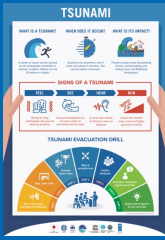
UN OCEAN DECADE TSUNAMI PROGRAMME: 100% AT-RISK COMMUNITIES TSUNAMI READY



TSUNAMI READY INDICATORS	
I	ASSESSMENT (ASSESS)
1	ASSESS-1. Tsunami hazard zones are mapped and designated.
2	ASSESS-2. The number of people at risk in the tsunami hazard zone is estimated.
3	ASSESS-3. Economic, infrastructural, political, and social resources are identified.
II	PREPAREDNESS (PREP)
4	PREP-1. Easily understood tsunami evacuation maps are approved.
5	PREP-2. Tsunami information including signage is publicly displayed.
6	PREP-3. Outreach and public awareness and education resources are available and distributed.
7	PREP-4. Outreach or educational activities are held at least 3 times a year.
8	PREP-5. A community tsunami exercise is conducted at least every two years.
III	RESPONSE (RESP)
9	RESP-1. A community tsunami emergency response plan is approved.
10	RESP-2. The capacity to manage emergency response operations during a tsunami is in place.
11	RESP-3. Redundant and reliable means to timely receive 24-hour official tsunami alerts are in place.
12	RESP-4. Redundant and reliable means to timely disseminate 24-hour official tsunami alerts to the public are in place.

- ❑ **STRATEGY:**
Be Aware, Be Prepared
- ❑ **FRAMEWORK:**
 - Harmonized global guidelines UNESCO IOC Tsunami Ready
 - Performance-based Community Recognition
- ❑ **ACTION:**
National programs empower Communities
- ❑ **GLOBAL MEASURE**





unesco

Intergovernmental
Oceanographic
Commission



2022 - 2026

WHAT IS A TSUNAMI?



A series of ocean waves caused by an earthquake, landslide or volcanic eruption. Waves can be 10 metres or higher.

WHEN DOES IT OCCUR?



Anytime and anywhere, and if local, can attack in minutes. You cannot outrun a tsunami.

WHAT IS ITS IMPACT?



Floods coastal areas devastating homes, contaminating soil, killing coral, and flattening landscapes.



From
the People of Japan



LIPI



IRIDES



ITIC



United Nations
Educational, Scientific and
Cultural Organization



Intergovernmental
Oceanographic
Commission

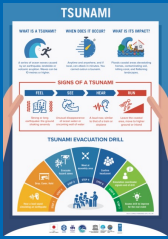


Indian Ocean
Tsunami Information
Centre



UNDP

Empowering
Resilient Nations



unesco

Intergovernmental
Oceanographic
Commission



2022 - 2026

SIGNS OF A TSUNAMI

FEEL



Strong or long
earthquake: the ground
shaking severely

SEE



Unusual disappearance
of ocean water or
oncoming wall of water

HEAR



A loud roar, similar
to that of a train or
airplane

RUN



Leave the coastal
area, move to higher
ground or inland



From
the People of Japan



LIPI



IRIDES



ITIC



United Nations
Educational, Scientific and
Cultural Organization



Intergovernmental
Oceanographic
Commission

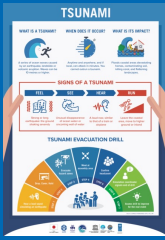


Indian Ocean
Tsunami Information
Centre



UNDP

Empowered
Resilient Nations



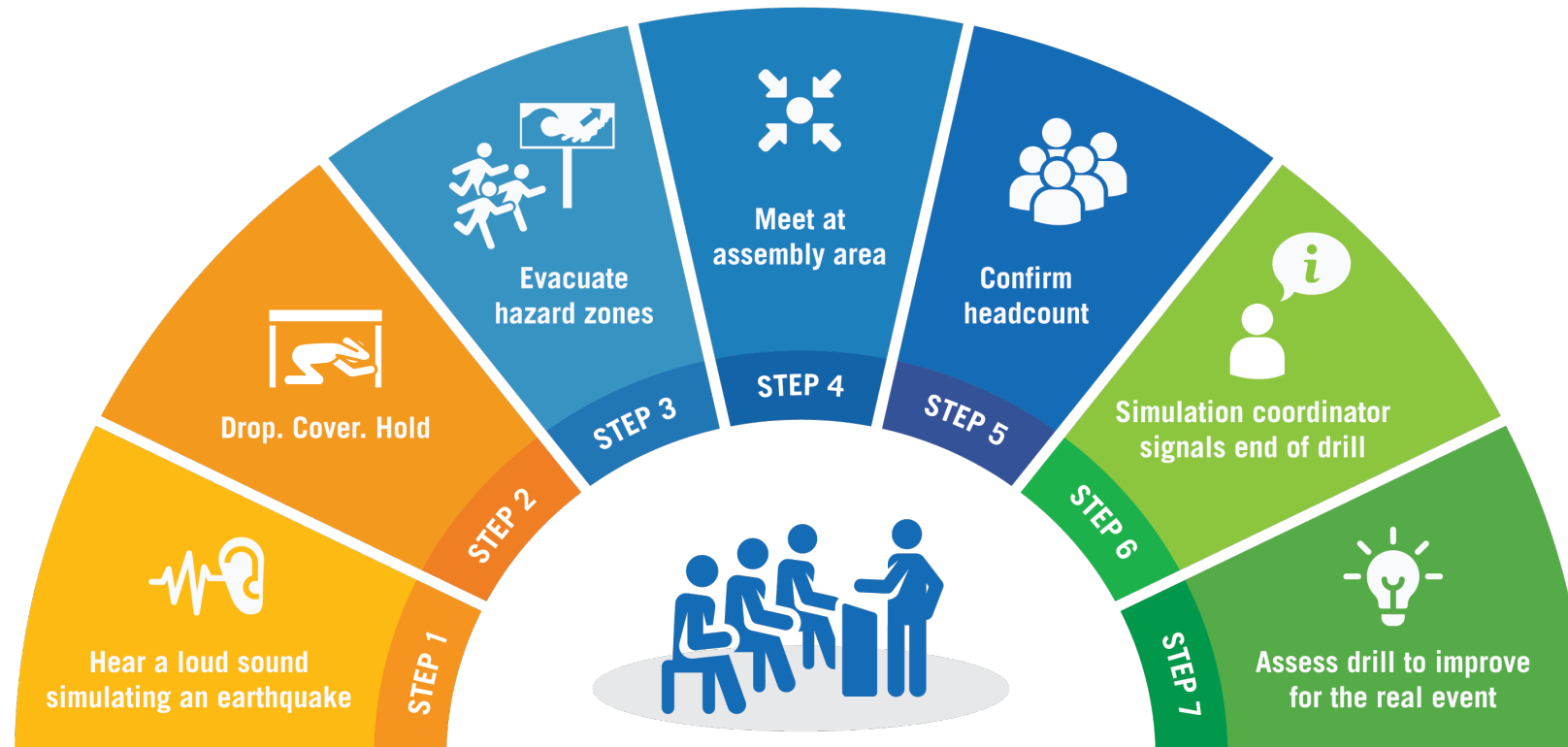
unesco

Intergovernmental
Oceanographic



2022 - 2026

TSUNAMI EVACUATION DRILL



Source: COPECO HONDURAS, IOTIC, ITIC, LIPI



From
the People of Japan



LIPI



IRIDES



ITIC



United Nations
Educational, Scientific and
Cultural Organization



Intergovernmental
Oceanographic
Commission

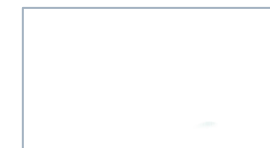


Indian Ocean
Tsunami Information
Centre



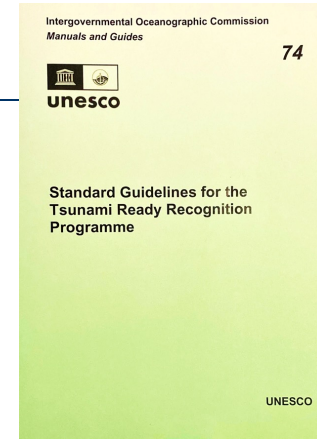
UNDP
Empowering
Resilient Nations

Community is Tsunami Ready - Exercise



*Click
for video*

How to get Tsunami Ready



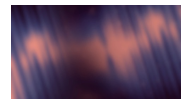
- ❑ **Standard Guidelines for the Tsunami Ready Recognition Programme** (IOC Technical Series 74, 2022)
- ❑ **Facilitated by IOC Tsunami Information Centres**
Contact International Tsunami Information Centre (ITIC, itic@unesco.org, laura.kong@noaa.gov)
- ❑ **Tsunami Ready web site – information, resources**
www.tsunamiready.org



Be Safe. Be Prepared. Get Pacific Tsunami Ready!
LINKS: [Pacific Islands](#) [Western Pacific](#) [Eastern Pacific](#)



Click below
for video
PICT





unesco

Intergovernmental
Oceanographic
Commission



2022 - 2026

THANK YOU

Vinaka VakaLevu

For more information:

web: tsunamiready.org

e-mail: itic@unesco.org



Dr. Laura Kong
International Tsunami Information Centre (ITIC)



USAID
FROM THE AMERICAN PEOPLE