



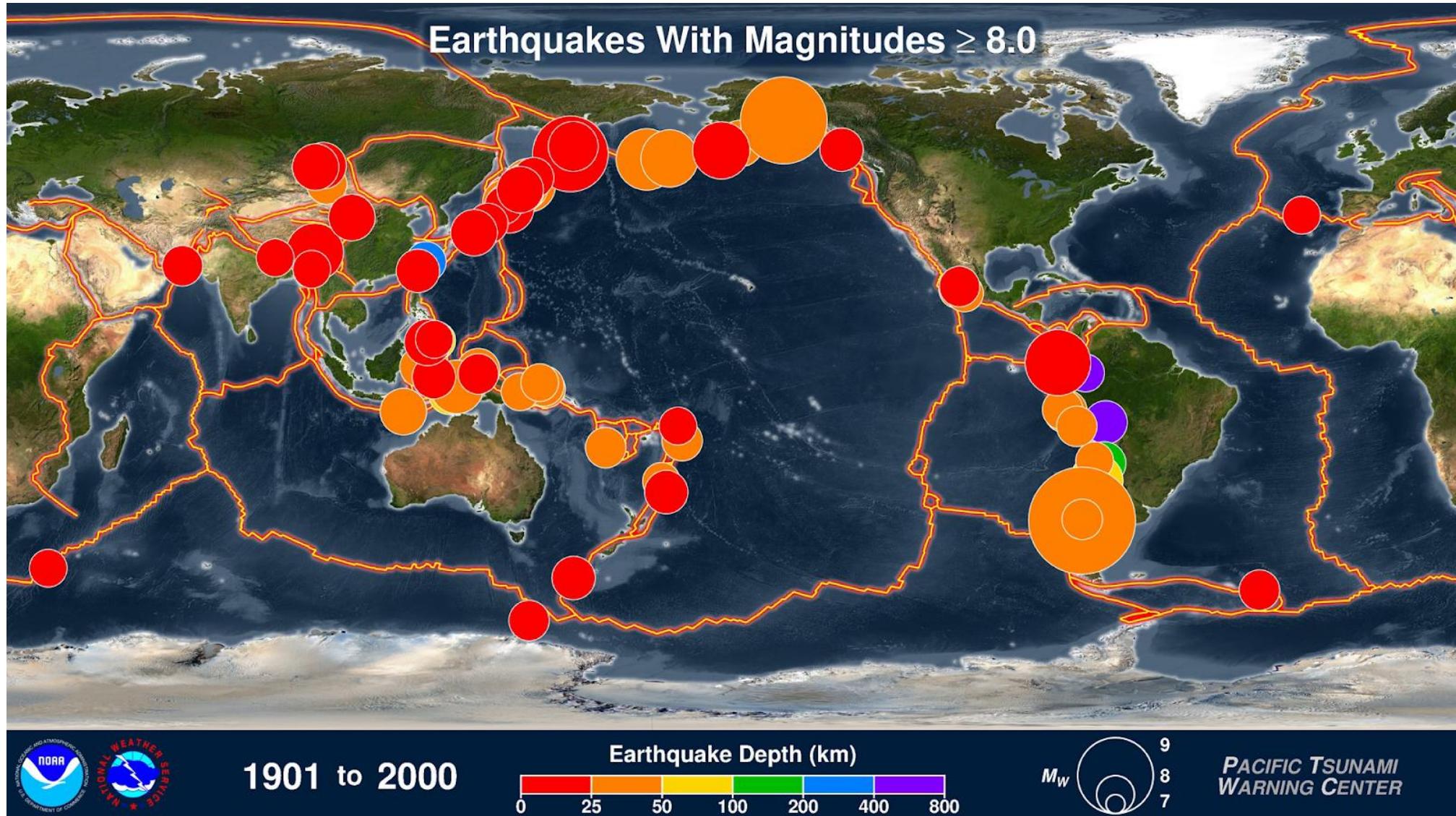
Why a UNESCO-IOC Tsunami Ready Recognition Programme?

2.4 Motivation Programme and its Indicators

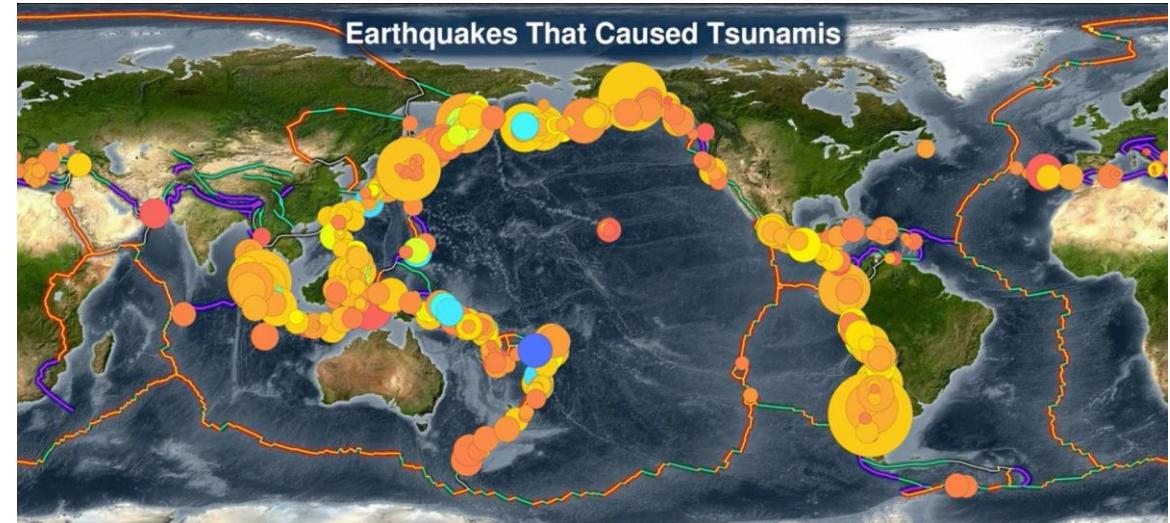
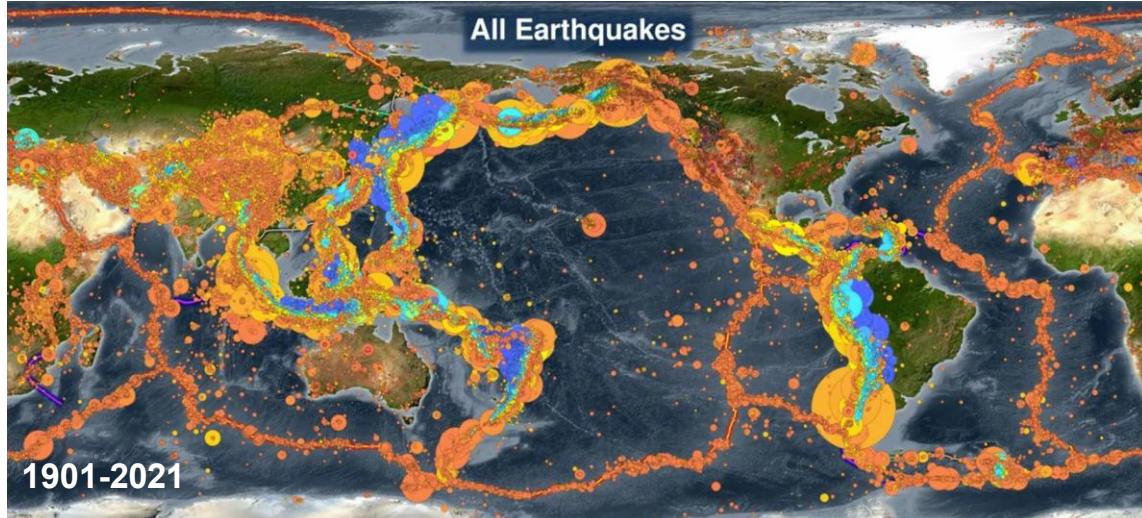
*Dr. Laura Kong
International Tsunami Information Centre (ITIC)*

laura.kong@noaa.gov

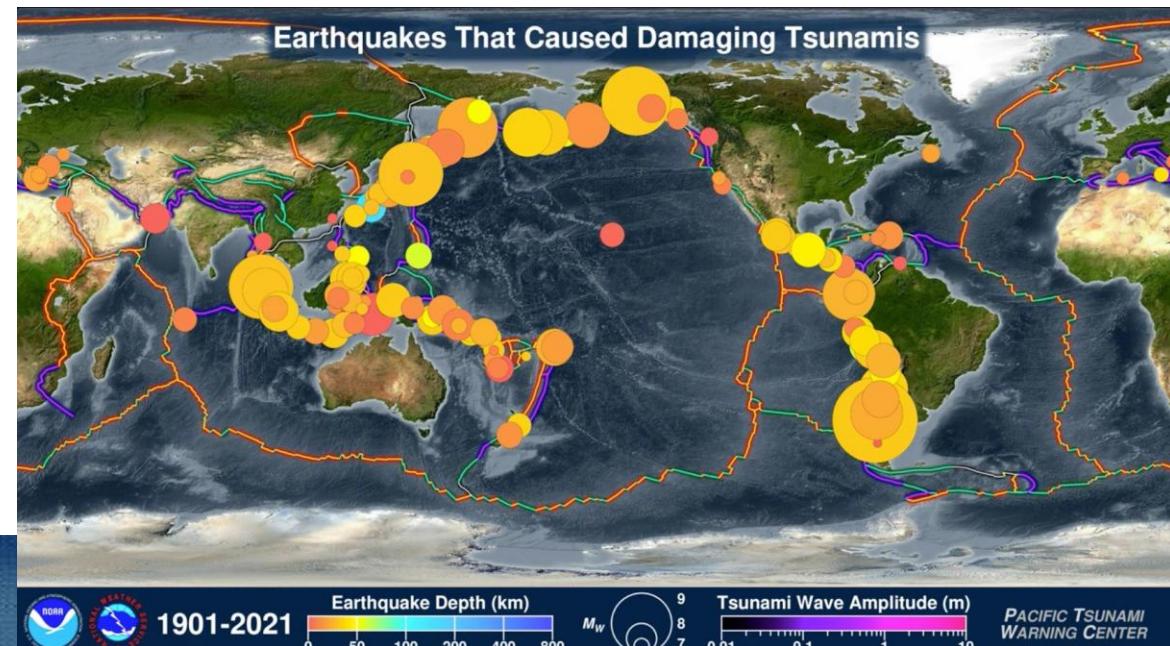
FACT 1: Dangerous Earthquakes & Tsunamis



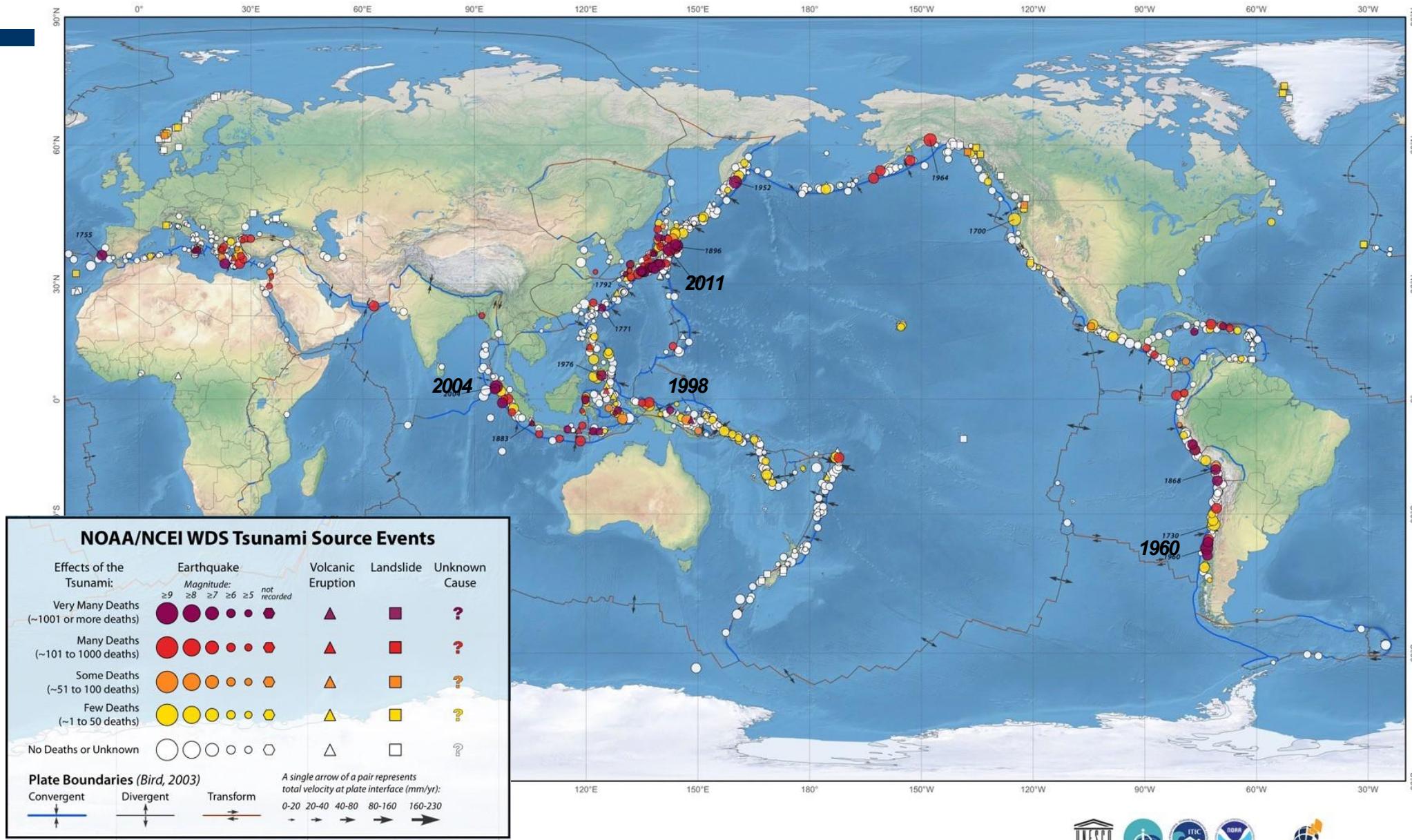
Dangerous Earthquakes & Tsunamis



- 80% caused by earthquakes
- Shallow, undersea/near coast
- Magnitude 8+ (M7+)

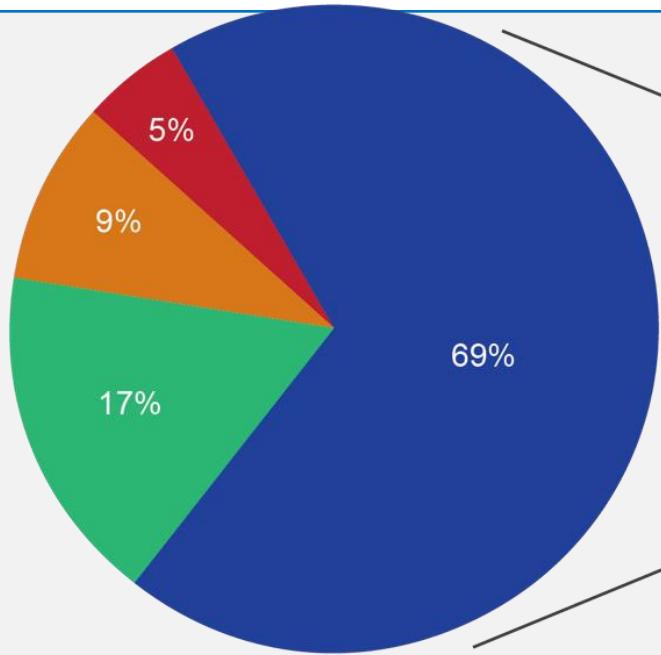


DEADLY TSUNAMIS – GLOBAL (1620 B.C to A.D. 2022)



DEADLY TSUNAMIS – GLOBAL (1620 B.C to A.D. 2022)

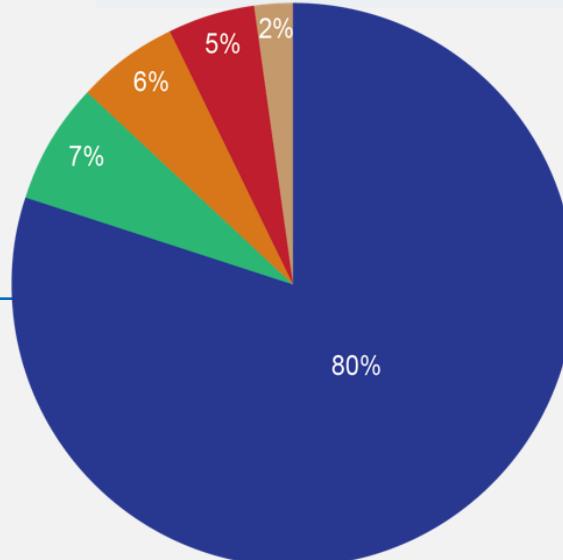
- Pacific Ocean
- Mediterranean Sea
- Caribbean Sea and Atlantic Ocean
- Indian Ocean



SOURCE LOCATION

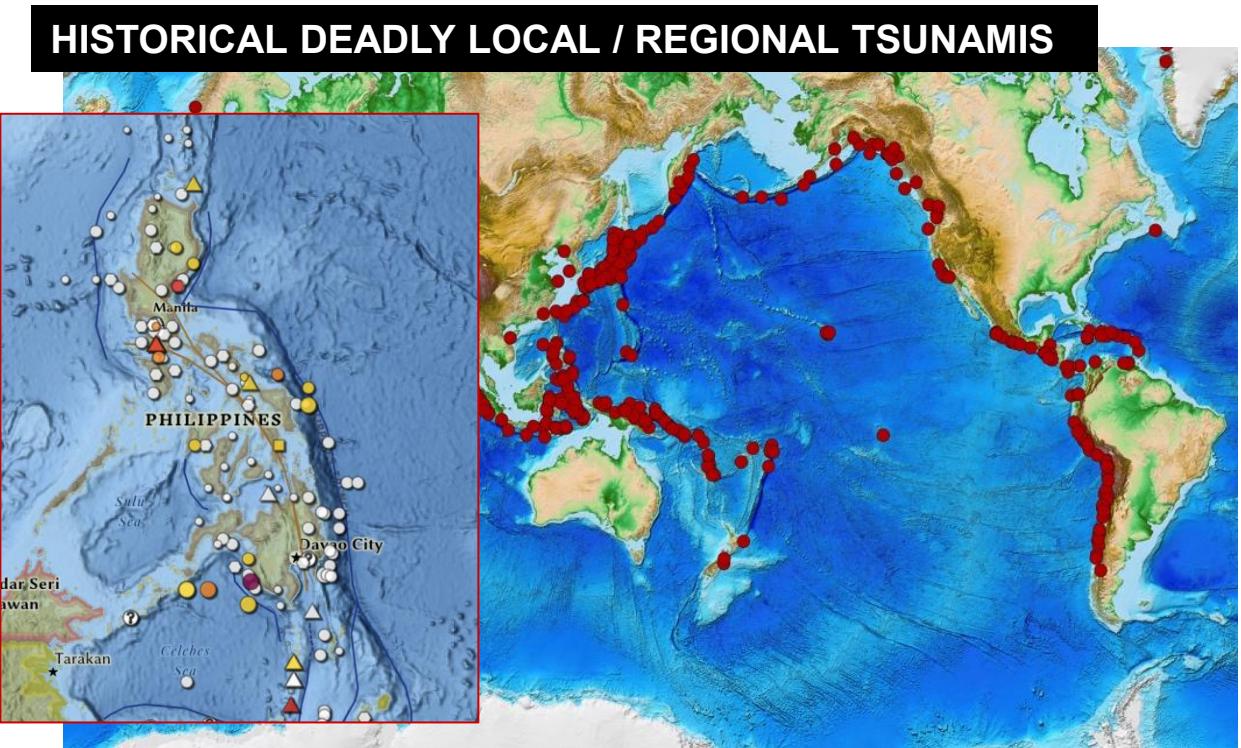
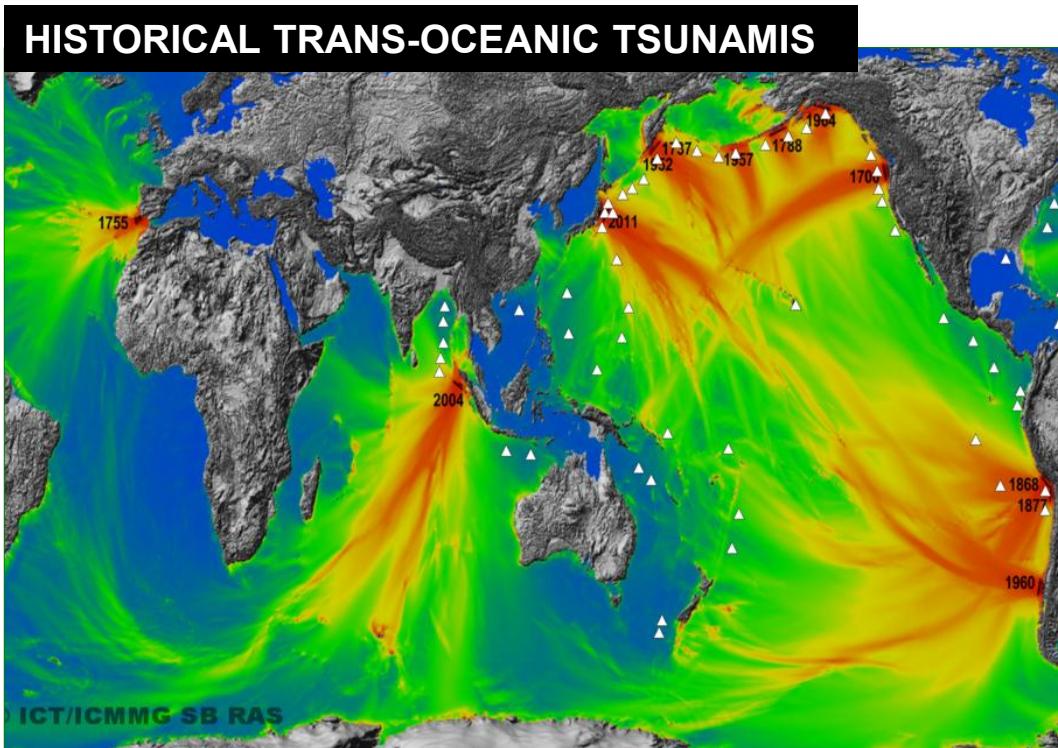
- 20% Japan
- 15% South Pacific Islands
- 7% North and Central America
- 7% South America
- 6% Asia
- 5% Russian Federation
- 5% Indonesia
- 4% Alaska
- <1% Hawaii

SOURCE GENERATION



- Earthquake
- Earthquake generated Landslide
- Volcanic Eruption
- Landslide
- Other

FACT 2: Deadly Tsunamis – Distant to Local

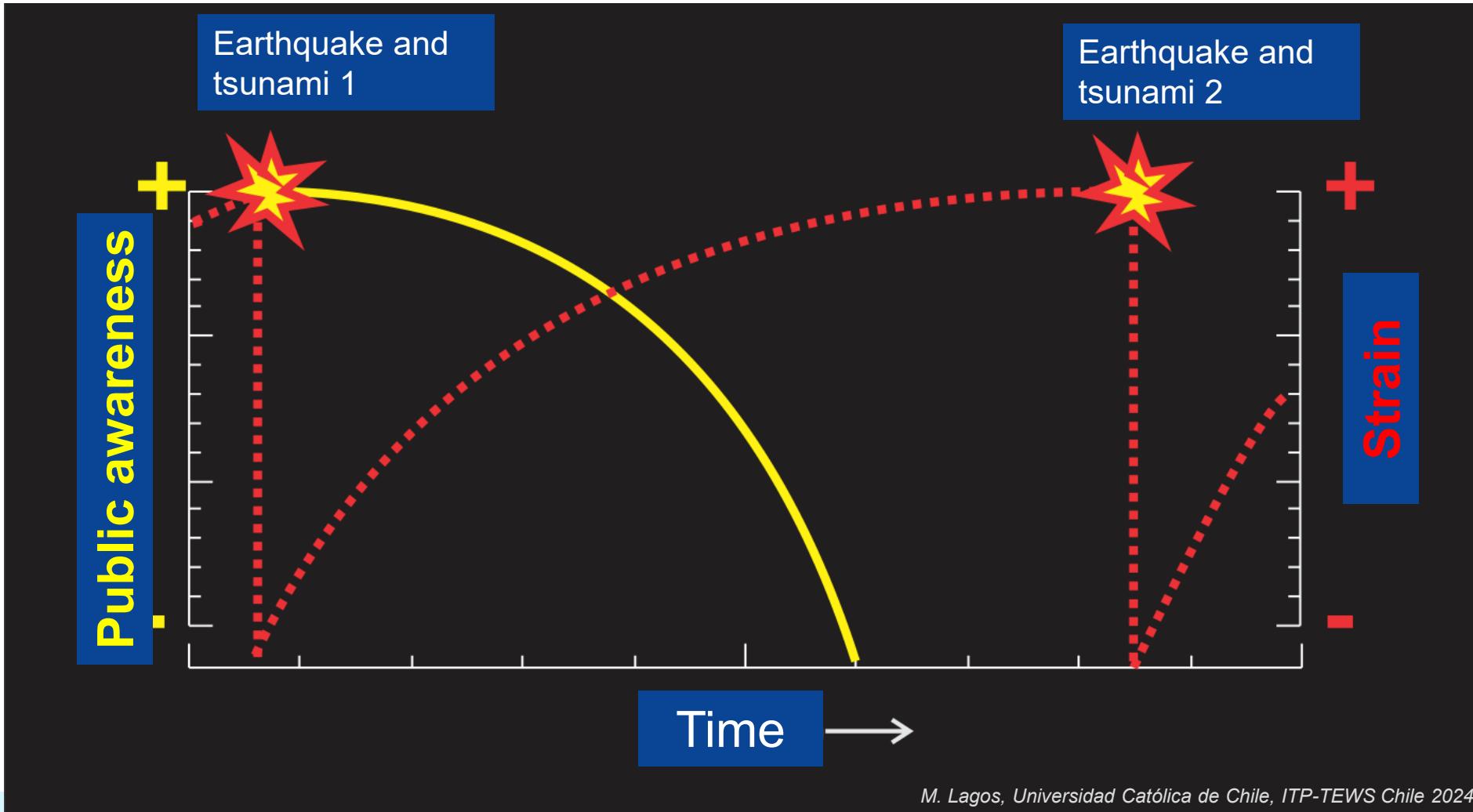


- ❑ ~70% in Pacific Ocean and Marginal Seas, 80% caused by earthquakes
- ❑ Most tsunami are local (< 1 hr) or regional (1-3 hrs). Cause 90% of deaths)
- Communities: Prepare beforehand. Self-evacuate on natural warnings

FACT 3: Tsunamis infrequent – people forget

Inverse relationship between awareness and strain accumulation (causing earthquake)

2004 IO (500-800 yrs); 2011 Japan (1100 yrs); Chile (300-500 yrs), Cascadia (300 yrs)

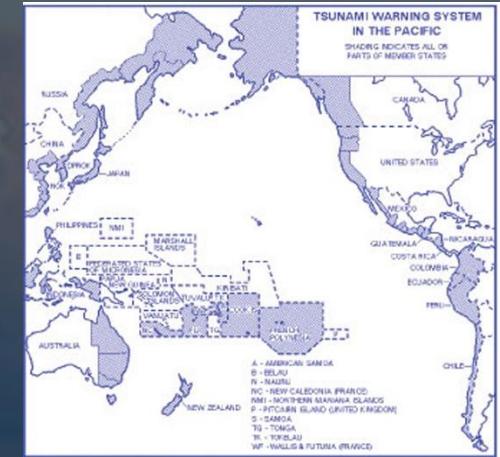


M. Lagos, Universidad Católica de Chile, ITP-TEWS Chile 2024

Department of Commerce // National Oceanic and Atmospheric Administration // 7

1960 Deadly Basin-wide Tsunami

1960 9.5 Mw Chile earthquake generated a tsunami killed 2000 in Chile, then 100s in Hawaii, Japan, and Philippines => No international warning

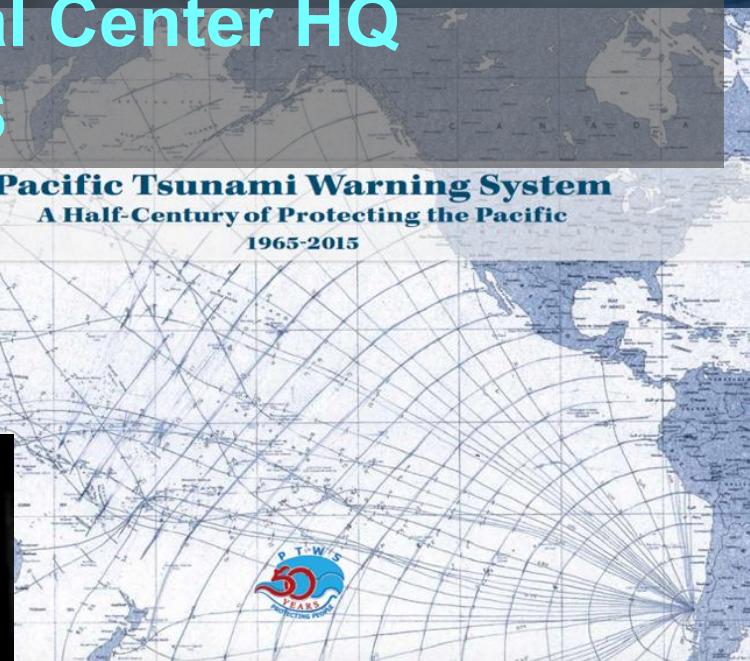


=> 1965 Pacific Tsunami Warning System (PTWS) est (UNESCO IOC)

- PTWC (US NOAA) – 1965 - PTWS Operational Center HQ
- ITIC (IOC, US NOAA hosted) - Support PTWS



Pacific Tsunami Warning System
A Half-Century of Protecting the Pacific
1965-2015



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



[Click
for
video](#)

UN Decade of Ocean Science for Sustainable Development

IOC Ocean Decade Tsunami Programme - Tsunami Ready



Click
for
video



2021
2030
United Nations Decade
of Ocean Science
for Sustainable Development



OCEAN DECADE TSUNAMI PROGRAMME A SAFE OCEAN

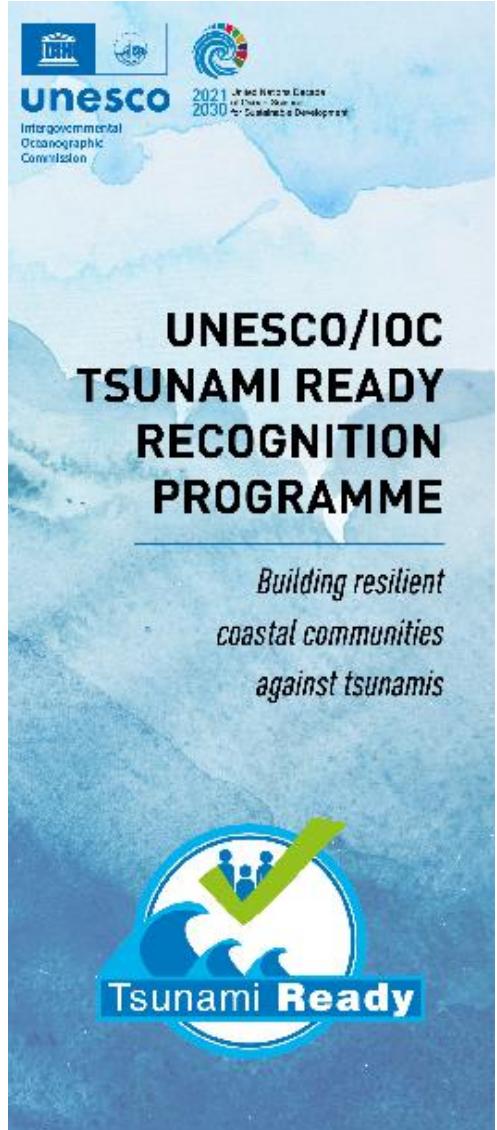
TO MAKE
100%

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: “Tsunami Ready” training, augmented by online IOC Ocean Teacher Global Academy (OTGA) ==> Global reach, deep curricula*

Tsunami Ready Tri-fold brochure



UNESCO/IOC TSUNAMI READY RECOGNITION PROGRAMME

Building resilient coastal communities against tsunamis

Tsunami Ready

UNESCO
Intergovernmental
Oceanographic
Commission

IOC
United Nations Educational, Scientific and Cultural Organization

2030 Agenda for Sustainable Development

The Tsunami Ready Recognition Programme (TRRP) of UNESCO/IOC is an international community-based initiative designed to mitigate tsunami-related risks.

It is a voluntary, performance-based community recognition programme that promotes an understanding of the concept of readiness as an active collaboration among national and local warning and emergency management agencies, and government authorities, scientists, community leaders and the public.

The main objective is to improve coastal community preparedness for tsunamis and to minimize the loss of life, livelihoods and property.

Coastal communities seeking the UNESCO/IOC Tsunami Ready Recognition, should follow the guidelines and meet all 12 indicators.

The recognition is renewable every four years.

To effectively implement the Tsunami Ready Recognition Programme, refer to:

- IOC Manuals and Guide 74 [Standard Guidelines for the Tsunami Ready Recognition Programme](#)
- IOC Manuals and Guide 82, [Preparing for community tsunami evacuations: from inundation to evacuation maps, response plans and exercises](#)

Published in 2024 by the United Nations Educational, Scientific and Cultural Organization, 7, place de Fontenoy, 75352 Paris (75) CE, France under CC-BY-SA 3.0 IGO license

IOC Brochure 2024-2 IIOC/BRO/2024/2, April 2024:
UNESCO/IOC Tsunami Ready Recognition Programme
Building resilient coastal communities against tsunamis
English only

© UNESCO 2024

UNESCO/IOC TSUNAMI READY RECOGNITION

The Tsunami Ready Recognition Programme (TRRP) of UNESCO/IOC is an international community-based initiative designed to mitigate tsunami-related risks.

It is a voluntary, performance-based community recognition programme that promotes an understanding of the concept of readiness as an active collaboration among national and local warning and emergency management agencies, and government authorities, scientists, community leaders and the public.

The main objective is to improve coastal community preparedness for tsunamis and to minimize the loss of life, livelihoods and property.

Coastal communities seeking the UNESCO/IOC Tsunami Ready Recognition, should follow the guidelines and meet all 12 indicators.

The recognition is renewable every four years.

To effectively implement the Tsunami Ready Recognition Programme, refer to:

- IOC Manuals and Guide 74 [Standard Guidelines for the Tsunami Ready Recognition Programme](#)
- IOC Manuals and Guide 82, [Preparing for community tsunami evacuations: from inundation to evacuation maps, response plans and exercises](#)

Published in 2024 by the United Nations Educational, Scientific and Cultural Organization, 7, place de Fontenoy, 75352 Paris (75) CE, France under CC-BY-SA 3.0 IGO license

IOC Brochure 2024-2 IIOC/BRO/2024/2, April 2024:
UNESCO/IOC Tsunami Ready Recognition Programme
Building resilient coastal communities against tsunamis
English only

© UNESCO 2024

TO INITIATE THE IMPLEMENTATION OF TSUNAMI READY, CONTACT TSUNAMI INFORMATION CENTERS (TICS):

CARIBBEAN AND ADJACENT REGIONS TIC (CTIC)
ctic@unesco.org

INDIAN OCEAN TIC (ITIC)
itic@unesco.org

PACIFIC OCEAN INTERNATIONAL TIC (ITIC)
itic@unesco.org

NORTH-EASTERN ATLANTIC, MEDITERRANEAN AND CONNECTED SEAS (NEAMTIC)
neamtic@unesco.org



SCAN
Here

TSUNAMIREADY.ORG

PACIFIC OCEAN (ITIC)
Email: itic@unesco.org
Web: www.tsunamiready.org



TSUNAMI READY INDICATORS

I ASSESSMENT (ASSESS)

- ASSESS-1. TSUNAMI HAZARD ZONES ARE MAPPED AND DESIGNATED**
The community has mapped potential tsunami hazard zones, which outline the probable flooding areas by modeling tsunamis or by other acceptable methods such as "baseline tsunami zone". Additional guidance: MG 82
- ASSESS-2. THE NUMBER OF PEOPLE AT RISK IN THE TSUNAMI HAZARD ZONE IS ESTIMATED**
The emergency responders have the day and nighttime population data of local residents as well as non-residents that are at risk.
- ASSESS-3. ECONOMIC, INFRASTRUCTURAL, POLITICAL, AND SOCIAL RESOURCES ARE IDENTIFIED**
The community is aware of available local resources and capacities to mitigate its tsunami risk.

II PREPAREDNESS (PREP)

- PREP-1. EASILY UNDERSTOOD TSUNAMI EVACUATION MAPS ARE APPROVED**
The community-approved tsunami evacuation maps incorporating local knowledge and illustrating tsunami evacuation routes, assembly areas and critical facilities are prepared. Maps should be based on tsunami hazard zone mapping and consistent with the community's Tsunami Emergency Response Plan.
- PREP-2. TSUNAMI INFORMATION INCLUDING SIGNAGE IS PUBLICLY DISPLAYED**
There is public display of signage for evacuation and public education on how to respond in the event of a tsunami, including but not limited to [1] tsunami danger area and hazard zones (entering and leaving signs), [2] evacuation routes, [3] assembly areas, [4] tsunami response education (e.g. go to high ground, alert levels, and [5] tsunami evacuation maps).
- PREP-3. OUTREACH AND PUBLIC AWARENESS AND EDUCATION RESOURCES ARE AVAILABLE AND DISTRIBUTED**
The outreach and public education materials such as [1] tsunami evacuation maps, [2] evacuation routes, [3] safety tips and [4] information about when and how to respond to warnings, prepared and tailored according to local needs and location-specific tsunami threats, and distributed through at least three different methods.
- PREP-4. OUTREACH OR EDUCATIONAL ACTIVITIES ARE HELD AT LEAST THREE TIMES A YEAR**
At least three outreach educational activities are organized each year. Among these, one event should include the community and focus particularly on those residing in the tsunami hazard zone. The primary topics include familiarizing public with the evacuation map and routes, the methods of alert notifications, safety measures and appropriate responses.
- PREP-5. A COMMUNITY TSUNAMI EXERCISE IS CONDUCTED AT LEAST EVERY TWO YEARS**
The exercise can focus solely on the tsunami hazard or can be part of a multi-hazard exercise. The exercise could be [1] tabletop, [2] functional, or [3] full-scale. It should also include a communications test. Additional guidance : MG 82

III RESPONSE (RESP)

- RESP-1. A COMMUNITY TSUNAMI EMERGENCY RESPONSE PLAN (TERP) IS APPROVED**
The emergency responders have an approved and dedicated TERP, either standalone or as part of a multi-hazard emergency response plan that includes a specific plan for tsunami. If a community-level plan does not exist, other acceptable plans include a countywide TERP or a state or local comprehensive emergency management plan. Additional guidance : MG 82
- RESP-2. THE CAPACITY TO MANAGE EMERGENCY RESPONSE OPERATIONS DURING A TSUNAMI IS IN PLACE**
The emergency responders are capable of ensuring that community officials can execute tsunami warning functions (public notifications) and response functions (evacuation) based on predetermined procedures that are part of the tsunami warning information and tsunami emergency response operations during a tsunami event.
- RESP-3. REDUNDANT AND RELIABLE MEANS TO TIMELY RECEIVE 24-HOUR OFFICIAL TSUNAMI ALERTS ARE IN PLACE**
The community has redundant and reliable means to receive tsunami alerts at any time of the day from the National Tsunami Warning Centers (INTWCs), the Emergency or Disaster Management Offices (EDMO), or other officially-recognized alerting authorities through at least three different methods.
- RESP-4. REDUNDANT AND RELIABLE MEANS TO TIMELY DISSEMINATE 24-HOUR OFFICIAL TSUNAMI ALERTS TO THE PUBLIC ARE IN PLACE**
The community has redundant and reliable means to disseminate tsunami alerts to the public at any time of the day from the 24-hour warning point and/or Emergency Operations Centre (EOC) through at least three different methods.

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

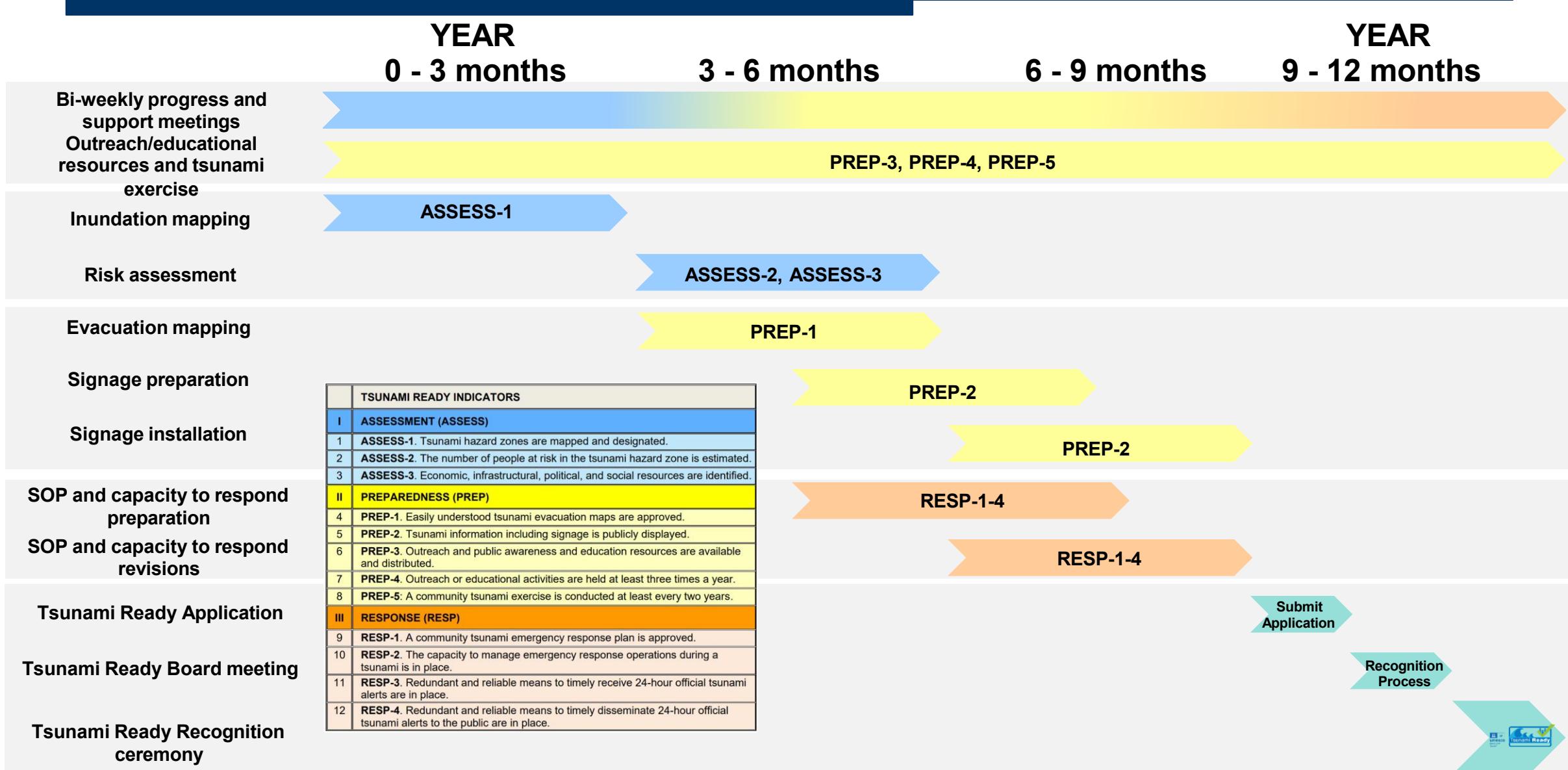


UNESCO IOC TSUNAMI READY INDICATORS	
I	ASSESSMENT (ASSESS)
1	ASSESS-1. Tsunami hazard zones are mapped and designated
2	ASSESS-2. The number of people at risk in the tsunami hazard zone is estimated
3	ASSESS-3. Economic, infrastructural, political, and social resources are identified
II	PREPAREDNESS (PREP)
4	PREP-1. Easily understood tsunami evacuation maps are approved
5	PREP-2. Tsunami information is publicly displayed
6	PREP-2. Outreach and public awareness and education resources are available and distributed
7	PREP-3. Outreach or educational activities <u>are held at least three times a year</u>
8	PREP-4: A community tsunami exercise is conducted at least every two years
III	RESPONSE (RESP)
9	RESP-1. A community tsunami emergency response plan (ERP) 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**

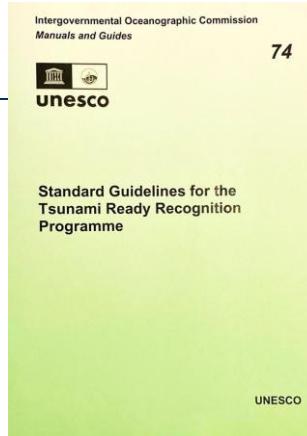


Tsunami Ready Recognition 1 year timeline



How to get Tsunami Ready

- **Standard Guidelines for the Tsunami Ready Recognition Program**
(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](#)



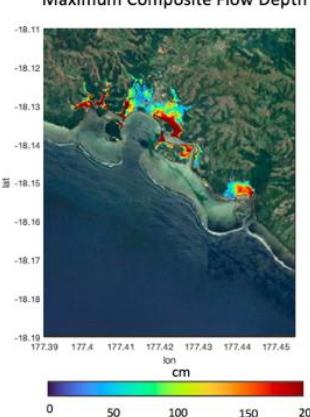
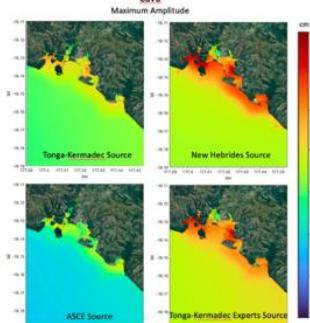
Click below
for video
PICT



Fiji Coral Coast: Navuevu and Sila Villages

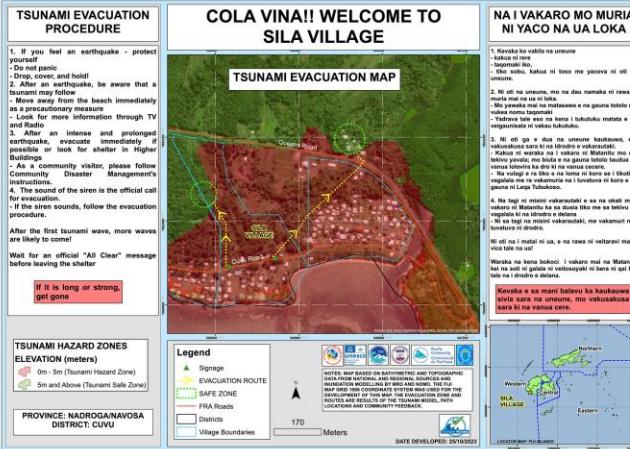


➤ TR Recognition Ceremony: Nov 3, 2023

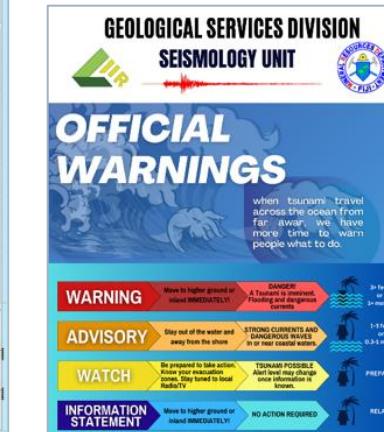


Hazard Assessment:
Tsunami Sources and Inundation

Preparedness:
Hazard and Evacuation



Community participatory training
18-22 Sep 2023



Warning, Response, Awareness



IF YOU FEEL AN EARTHQUAKE THAT IS LONG AND STRONG, A TSUNAMI MAY FOLLOW

WHAT TO DO IN CASE OF A TSUNAMI

1. Drop, cover & hold during an earthquake
2. Move inland or to a higher ground quickly, or use local evacuation route
3. Wait for official ALL CLEAR before returning to the beach



Implementation Approach - Stakeholders

Mineral Resources Dept, National Disaster Management Office, Ministry of Lands, Provincial Administrator, iTaukei Affairs, Plan International, Partners in Community Development (Fiji), People Living with Disability Organization



2023 - 2027

**Sila Village
Nadroga Province, Fiji
is Tsunami Ready**



IN CASE OF STRONG OR LONG EARTHQUAKE OR ANY OFFICIAL MESSAGE, GO TO HIGHER GROUND OR FURTHER INLAND



The recognition does not imply approval or promise that a community can or will perform at a certain level in case of tsunami. Tsunami Ready recognition does not mean that a community is tsunami proof. UNESCO-IOC recognizes that the community have built their capacity and implemented measures in accordance to the agreed indicators of UNESCO-IOC Tsunami Ready Programme, and that they will continue to maintain and ensure the sustainability of this preparedness level.

English

- Tsunami Hazard Zone
- Tsunami Evacuation Route
- Tsunami Safe Zone
- Wait for Official All Clear
- Na Vanua oqo e rawa ni cabeta na Ualoka
- Na sala mo ni muria kina i drodro ni Ualoka
- Nai drodro ni Ualoka
- Waraka me soli nai vakaro ni veisukayaki

iTaukei (Fijian)

Thank you Salamat po

Dr. Laura Kong
International Tsunami Information Centre (ITIC)
laura.kong@noaa.gov