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# UNESCO/IOC Tsunami Ready Recognition Programme

## PTWS Pacific Island Countries and Territories (PICT) Status

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**Dr. Laura Kong**

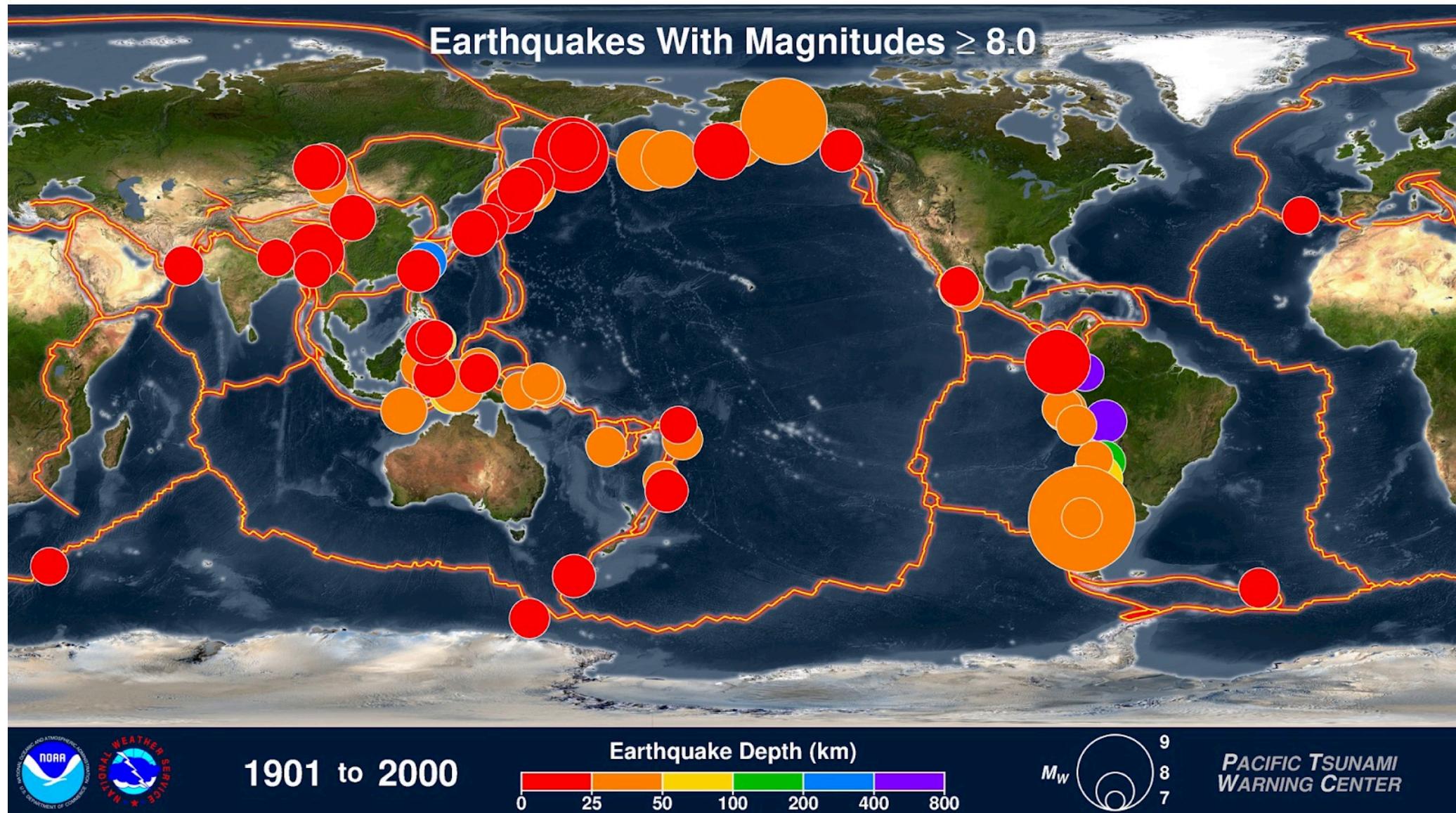
*Chair, Tsunami Ready Coalition*

*International Tsunami Information Centre (ITIC), Honolulu*

**Bernardo Aliaga**

*Head, UNESCO/IOC/Tsunami Resilience Section, Paris*

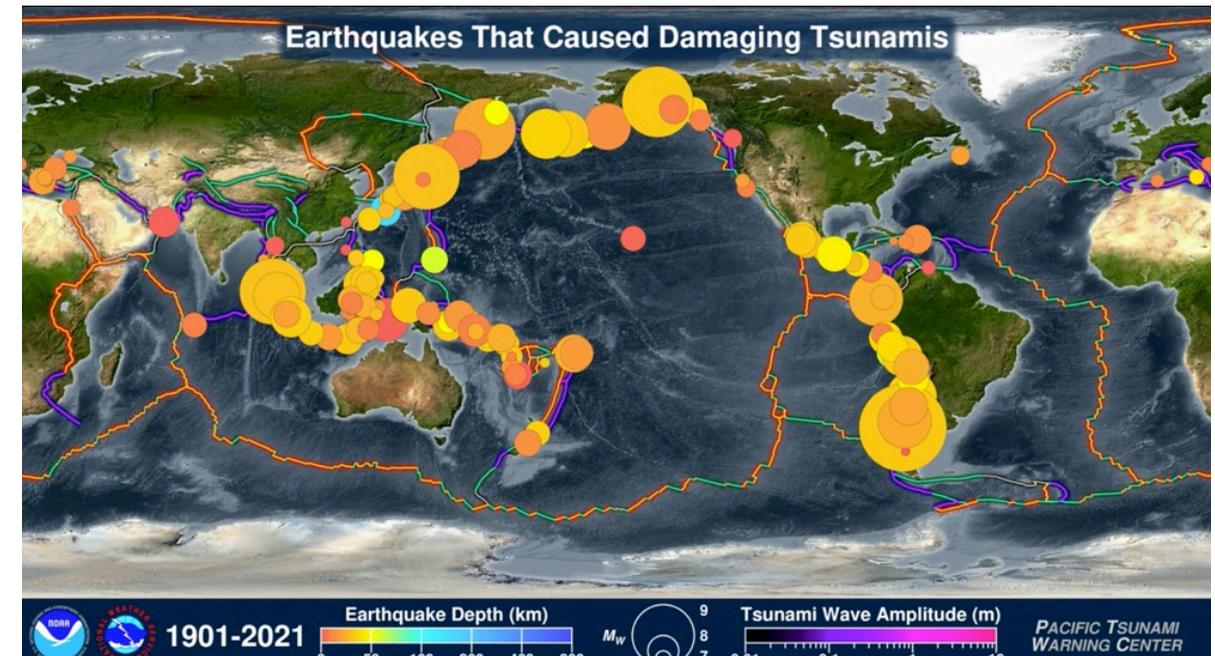
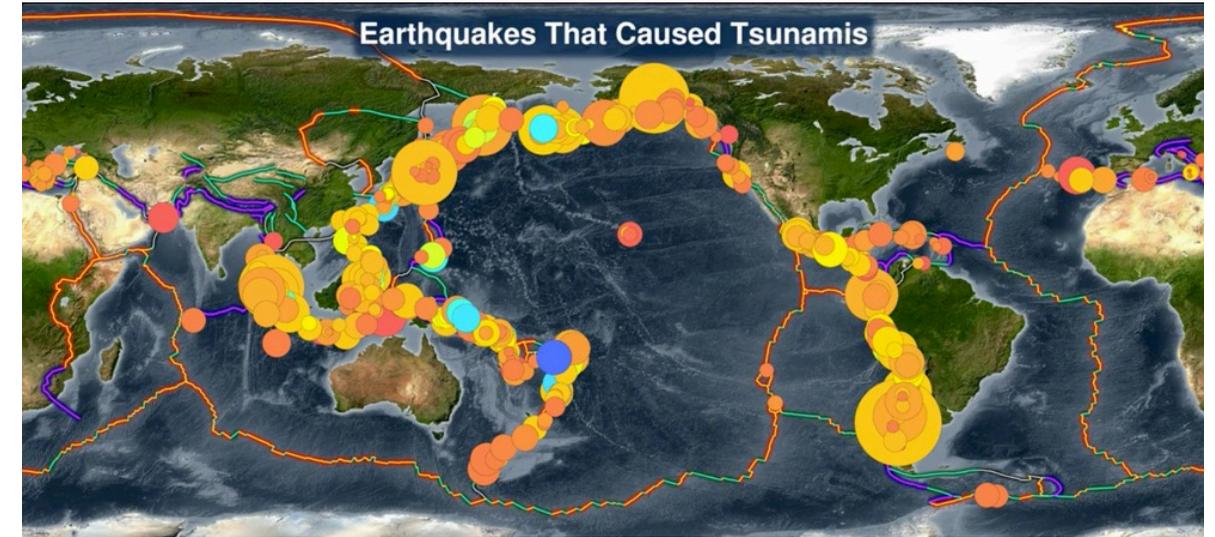
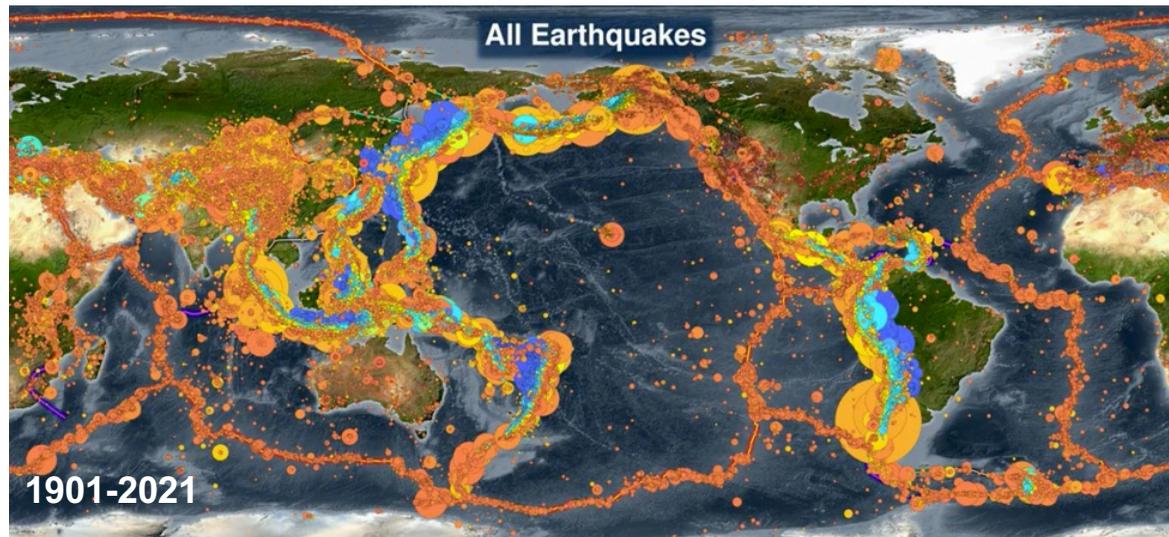
# DANGEROUS EARTHQUAKES & TSUNAMIS



Click below  
for video  
EQ-Tsunami  
1901-2021

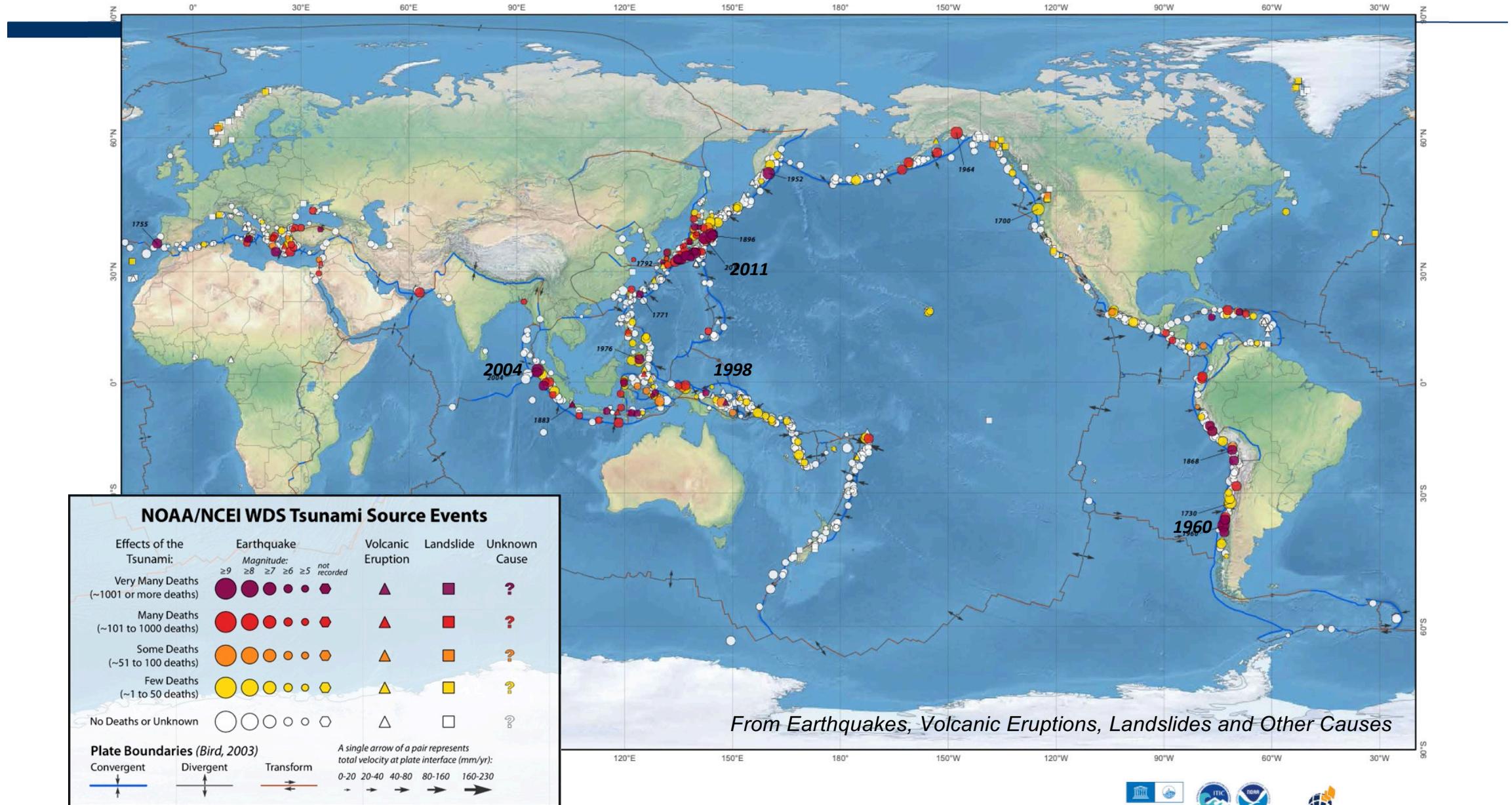


# DANGEROUS EARTHQUAKES & TSUNAMIS

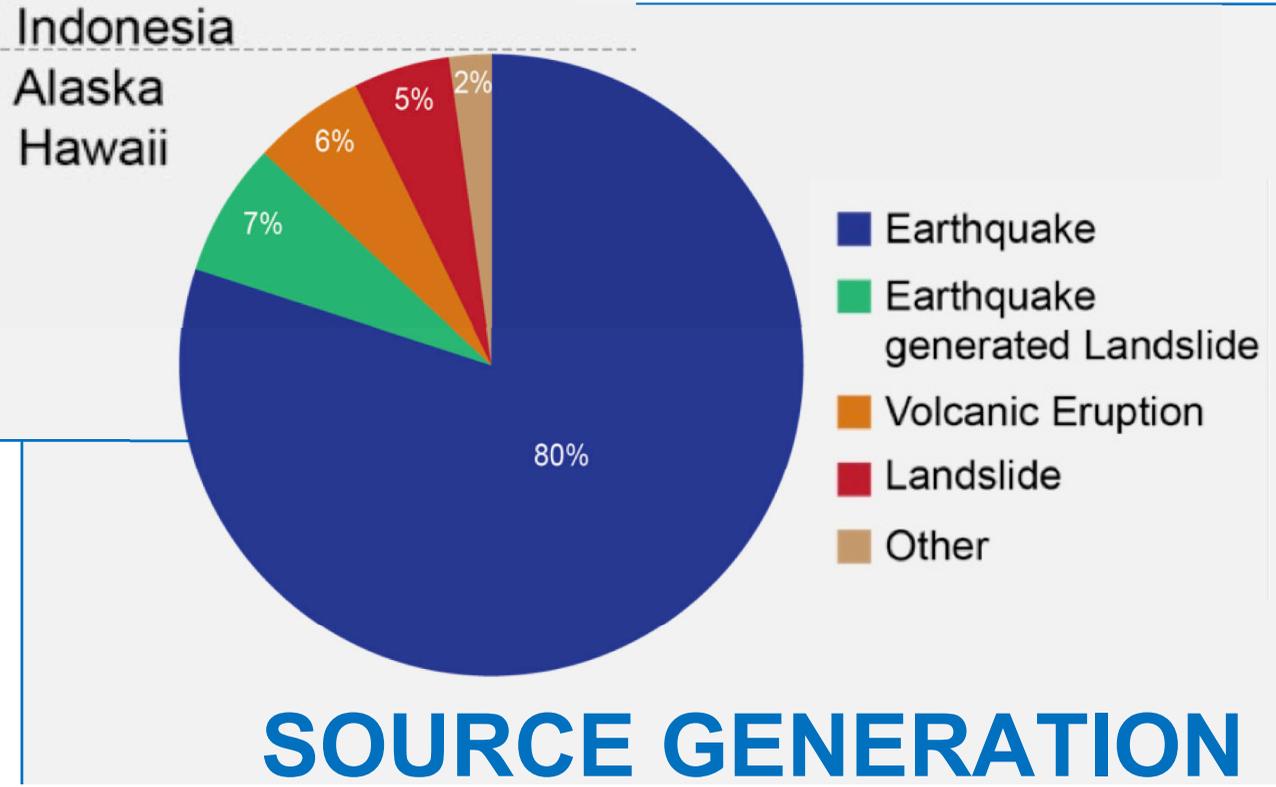
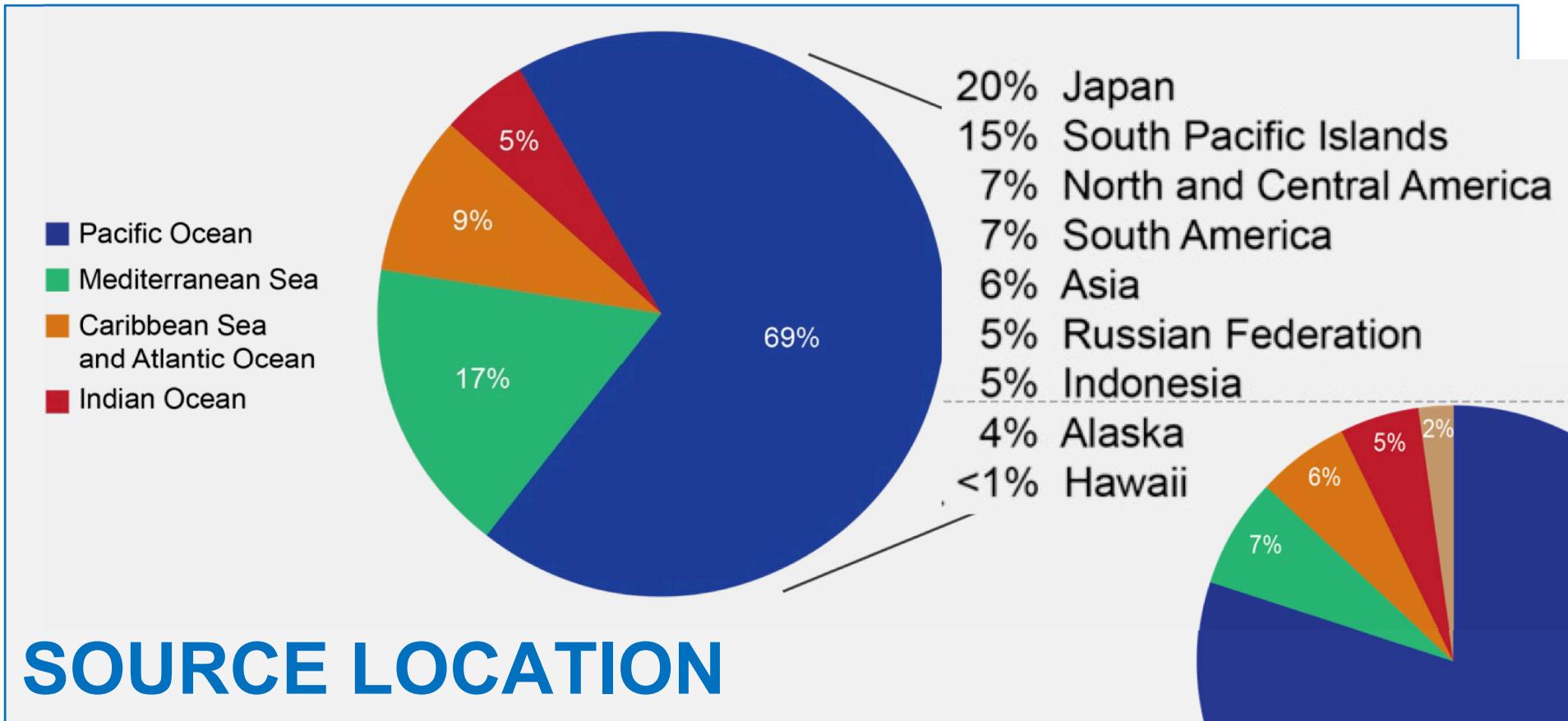


- ❑ 80% caused by earthquakes
- ❑ Shallow, undersea/near coast
- ❑ Magnitude 8+ (M7+)

# DEADLY TSUNAMIS (1620 B.C to A.D. 2023)

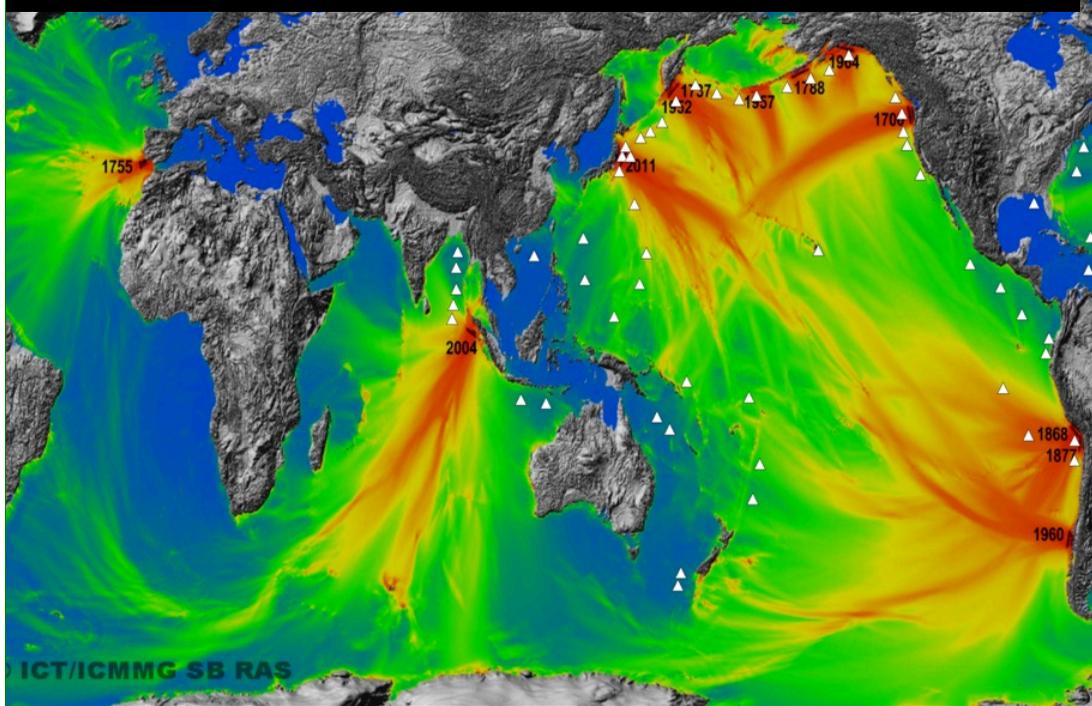


# DEADLY TSUNAMIS (1620 B.C to A.D. 2023)

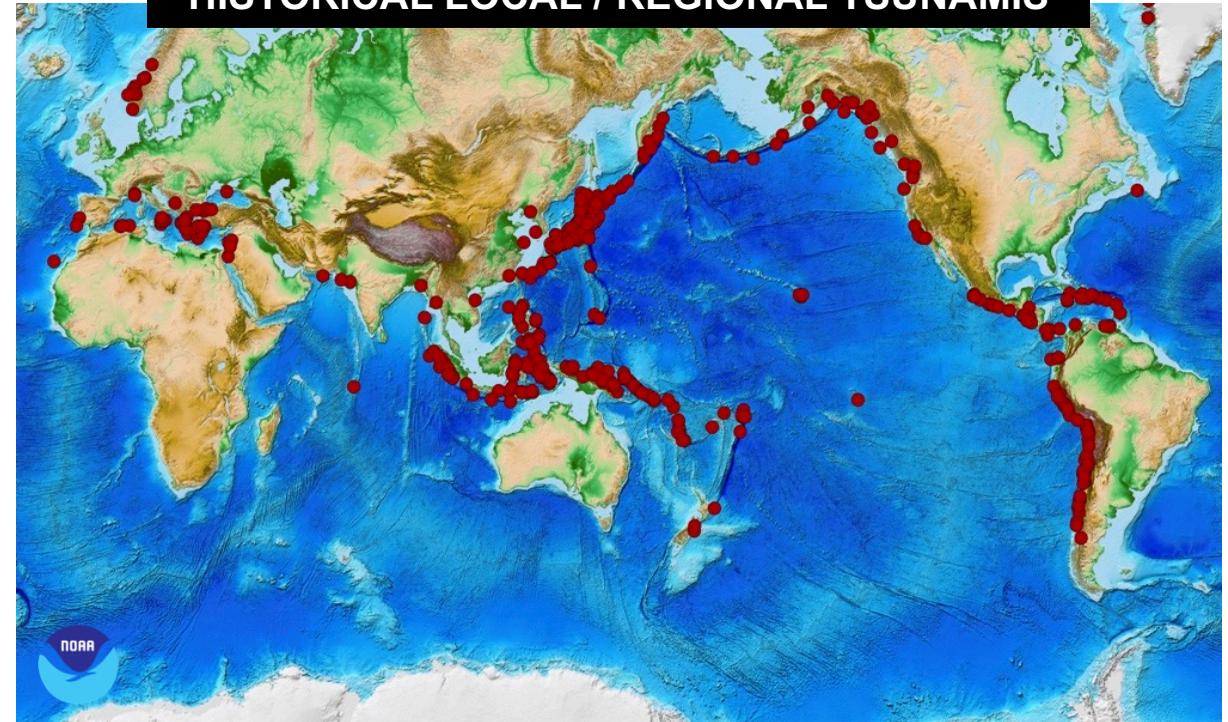


# DEADLY TSUNAMIS – DISTANT to LOCAL

HISTORICAL TRANS-OCEANIC DISTANT TSUNAMIS



HISTORICAL LOCAL / REGIONAL TSUNAMIS



- ❑ Most tsunamis are local (< 1 hr) or regional (1-3 hrs)
- ❑ Globally, 90% of deaths from local or regional tsunamis (in Pacific, 99% of deaths)



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## *Call to Action*

**Be Aware, Be Prepared  
Be Tsunami Ready !**

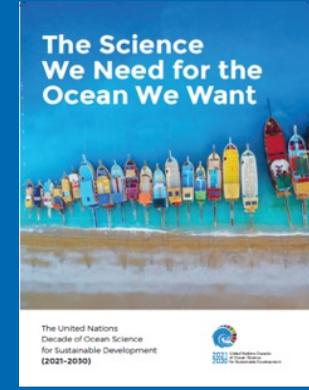


**Vision:**  
*“The science we need  
for the ocean we want”*

**Mission:**  
*Transformative Ocean Science  
solutions for sustainable  
development, connecting  
people and our ocean*



2016-2017



2018-2019



2019-2020

# Ocean Decade Goals: Societal Outcomes



## 1. A Clean Ocean

Sources of pollution are identified and reduced Or removed.



## 2. A Healthy and Resilient Ocean

Marine ecosystems are understood, protected, restored and managed.



## 3. A Productive Ocean

Supporting sustainable food supply and a sustainable ocean economy.



# Ocean Decade Goals: Societal Outcomes



## 4. A Predicted Ocean

Society understands and can respond to changing ocean conditions.



## 5. A Safe Ocean

Life and livelihoods are protected from ocean-related hazards.



## 6. An Accessible Ocean

Open and equitable access to data, information and technology and innovation.

## Capacity Development

Cross-cutting. No one left behind.

UNESCO IOC





# OCEAN DECADE TSUNAMI PROGRAMME

Seeking Major Advances in SCIENCE and PREPAREDNESS

## RESILIENCE!

New observational and analysis technologies to move from a **high-uncertainty** assumption-based capability to a **low-uncertainty** dynamic-based capability

1. Real-time impact forecasts

with

2. Deep community preparedness

Tsunami disaster impacts are minimized, enabling rapid restoration of critical infrastructure and services

Comprehensive institutional & community preparedness and capacity building efforts aimed at achieving **IOC Tsunami Ready** designation across all socio-economic categories





# 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**

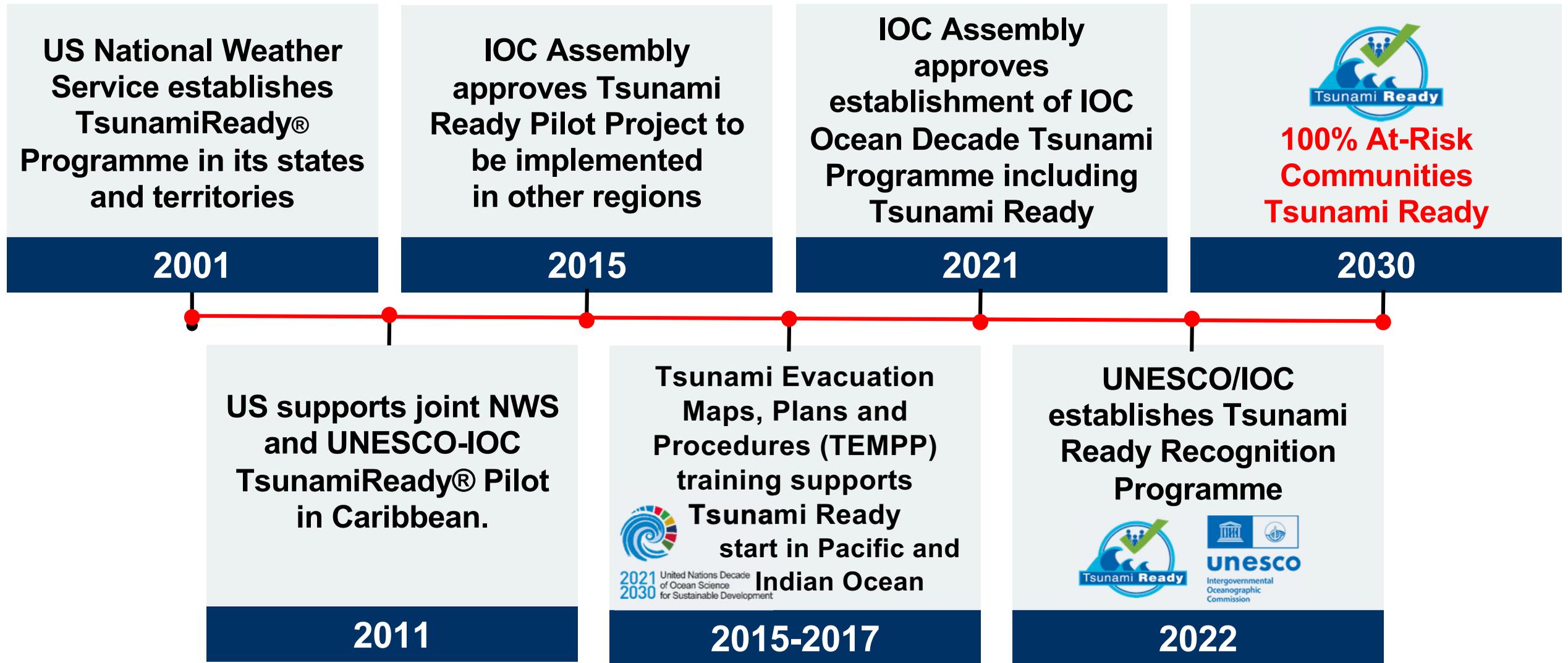
➤ *Tsunami Coalition: collaborative with critical UN stakeholders, civil protection, others ==> Raise profile. Facilitate resourcing*

CHAIR is LAURA KONG

➤ *Capacity Development: "Tsunami Ready" training, augmented by online IOC Ocean Teacher Global Academy (OTGA) ==> Global reach, deep curricula*

ITIC is OTGA STC

# History of Tsunami Ready Programme



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



UNESCO IOC TSUNAMI READY INDICATORS	
<b>I</b>	<b>MITIGATION (MIT)</b>
1	MIT-1. Tsunami hazard zones are mapped and designated
2	MIT-2. The number of people at risk in the tsunami hazard zone is estimated
3	MIT-3. Available economic, infrastructural, political, and social resources are identified
4	MIT-4. Tsunami information is publicly displayed.
<b>II</b>	<b>PREPAREDNESS (PREP)</b>
5	PREP-1. Easily understood tsunami evacuation maps are developed.
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 3 times a year.</u>
8	PREP-4: A Tsunami community exercise is conducted at least every two years
<b>III</b>	<b>RESPONSE (RESP)</b>
9	RESP-1. A community tsunami emergency operations plan (EOP) has been prepared
10	RESP-2. The capacity to manage emergency response operations during a tsunami has been established.
11	RESP-3. Redundant and reliable means to timely receive 24-hour official tsunami alerts have been identified.
12	RESP-4. Redundant and reliable means to timely disseminate 24-hour official tsunami alerts to the public have been identified.

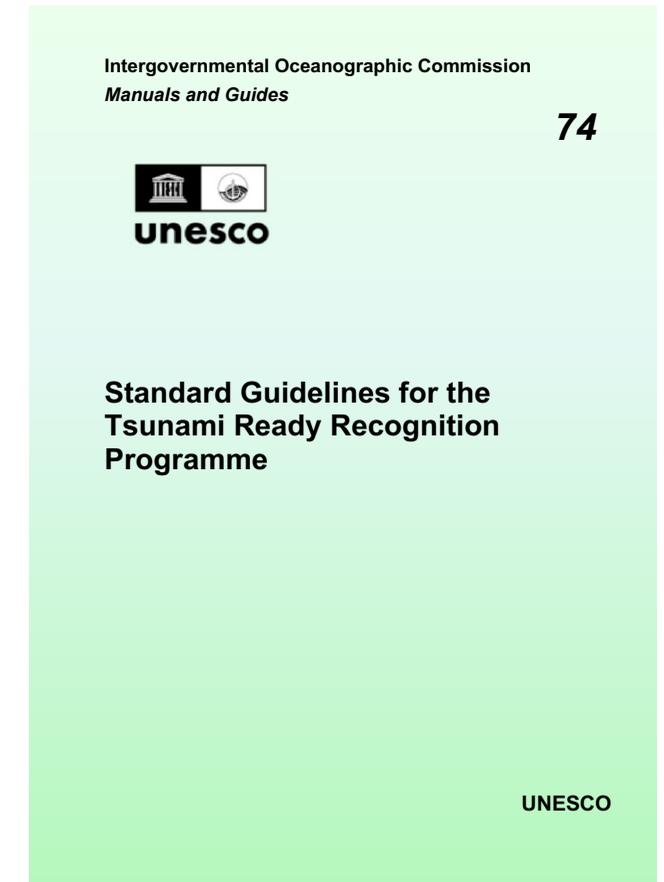
- **STRATEGY:**  
**Be Aware, Be Prepared**
- **FRAMEWORK:**
  - Harmonized global guidelines UNESCO IOC Tsunami Ready
  - Performance-based Community Recognition
- **ACTION:**  
**National programs empower Communities**
- **GLOBAL MEASURE**
  - 12 Indicators – Assessment, Preparedness, Response

# Tsunami Ready



## UNESCO-IOC Tsunami Ready Recognition Programme is:

- Voluntary international performance-based community programme.
- Facilitated by UNESCO-IOC Tsunami Information Centres\* (CTIC, IOTIC, ITIC, and NEAMTIC) of each region
- Formal recognition process follows standard guidelines (UNESCO-IOC Manual and Guide 74).



UNESCO-IOC Tsunami Information Centres





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## *Call to Action*

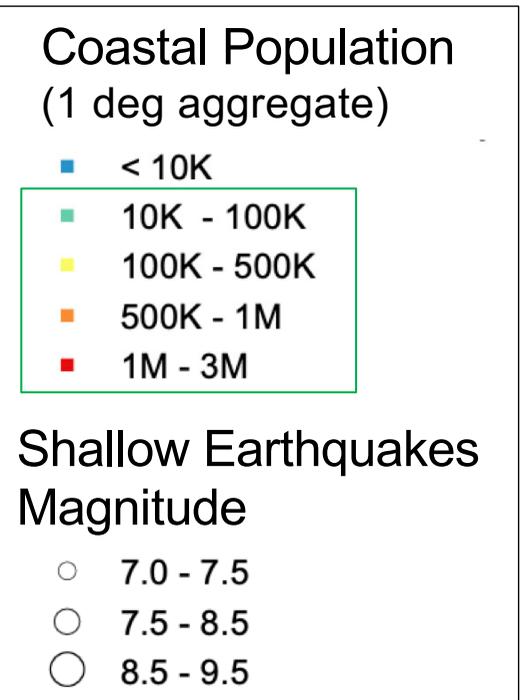
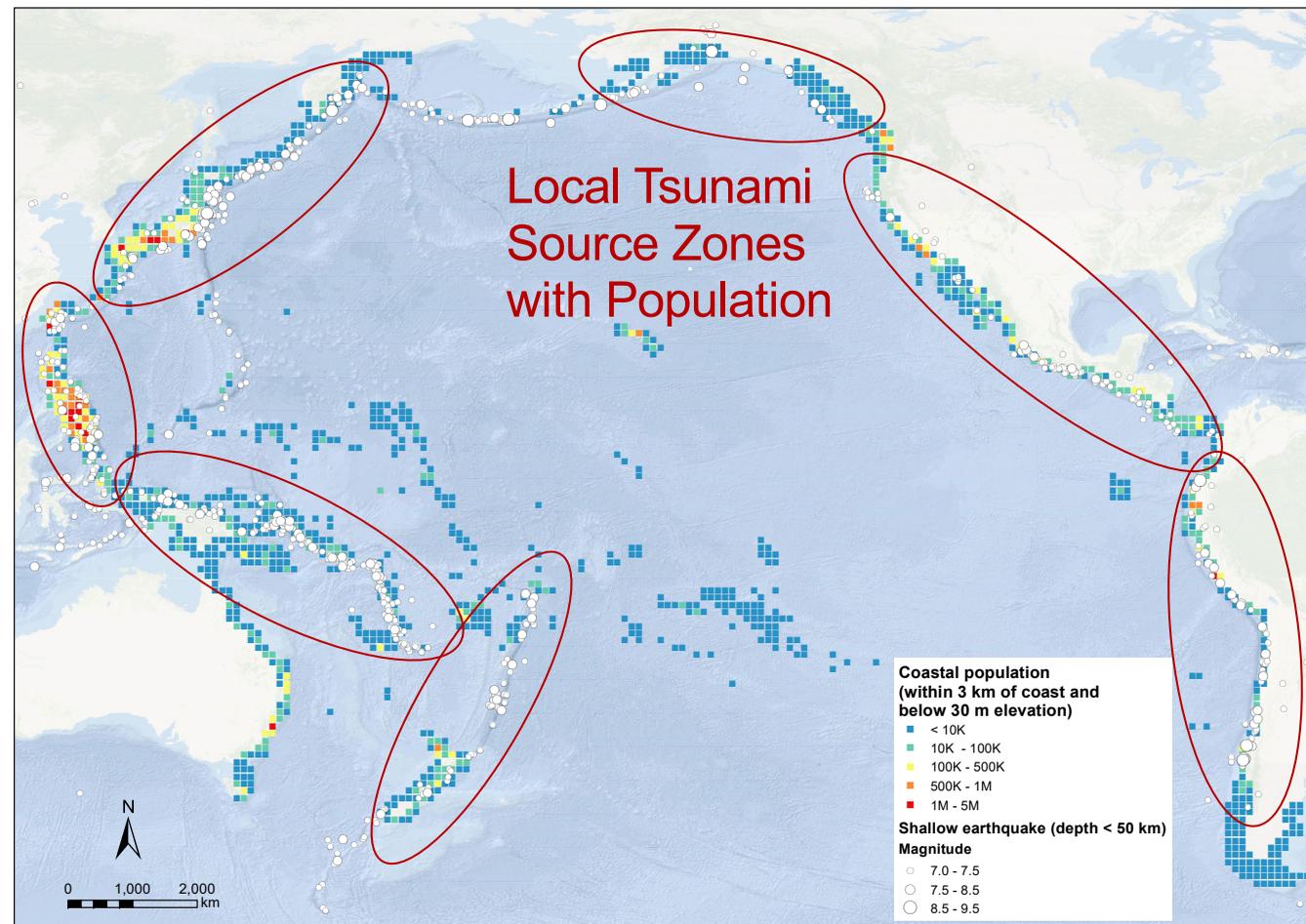
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# At-risk population - Pacific



Tsunami evacuation zone	Population to evacuate
Less than 30 m elevation and within 3 km of coast	83,413,677



Gridded Population of the World, Version 4 (GPWv4) (<https://sedac.ciesin.columbia.edu/binaries/web/sedac/collections/gpw-v4/gpw-v4-documentation-rev11.pdf>).  
30 sec resolution aggregated to 1 deg  
B. Fry, GNS Science, NZ

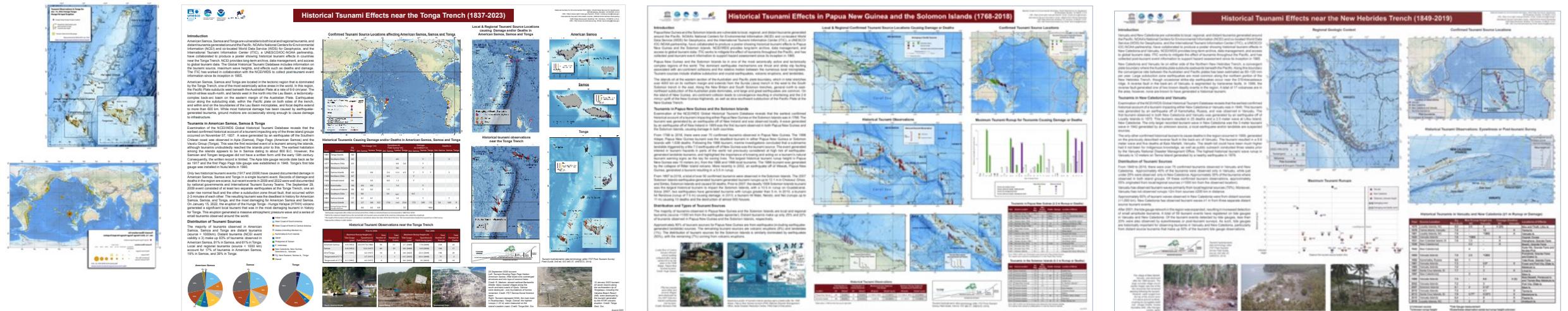
# Regional Historical Tsunami Effects (NCEI-ITIC)

[http://itic.ioc-unesco.org/index.php?option=com\\_content&view=category&layout=blog&id=1075&Itemid=1075](http://itic.ioc-unesco.org/index.php?option=com_content&view=category&layout=blog&id=1075&Itemid=1075)



- **American Samoa, Samoa, Tonga 1837-2023**  
(update HTHH 2023)
- **Papua New Guinea / Solomons 1768-2018 (2019)**
- **Vanuatu / New Caledonia, 1949-2019 (2021)**

15% Pacific Deadly Tsunami in Southwest Pacific. 99% Pacific deaths from Local/Regional Tsunamis



# UNESCO/IOC TSUNAMI READY RECOGNITION PROGRAMME (TRRP)

**51**  
**TSUNAMI READY COMMUNITIES**

11 – **IOTWMS**  
 19 – **PTWS (15/46 countries)**  
 19 – **CARIBE-EWS**  
 2 – **NEAMTWS**

○ – in progress (next yr)

- ### MAJOR ACTIVITIES IN 2021-2024
- **ITIC Ramp-up for PICT Tsunami Ready**
  - **Development of a global Tsunami Ready Interactive Map Viewer**
  - **Hosting by ITIC of the Tsunami Ready web site**
  - **Development of a new Tsunami Ready Board Game**
  - **Publication of the IOC Manuals and Guides 74 «Standard Guidelines for Tsunami Ready Recognition Programme»**

Spain, France, Italy, Türkiye, Greece, Israel





UNDRR

UN Office for Disaster Risk Reduction



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*Call to Action!*

Making **100%**

of at-risk communities

**Tsunami Ready** by **2030.**