



ICG/PTWS Tsunami Ready Recognition Programme



Dr. Laura Kong

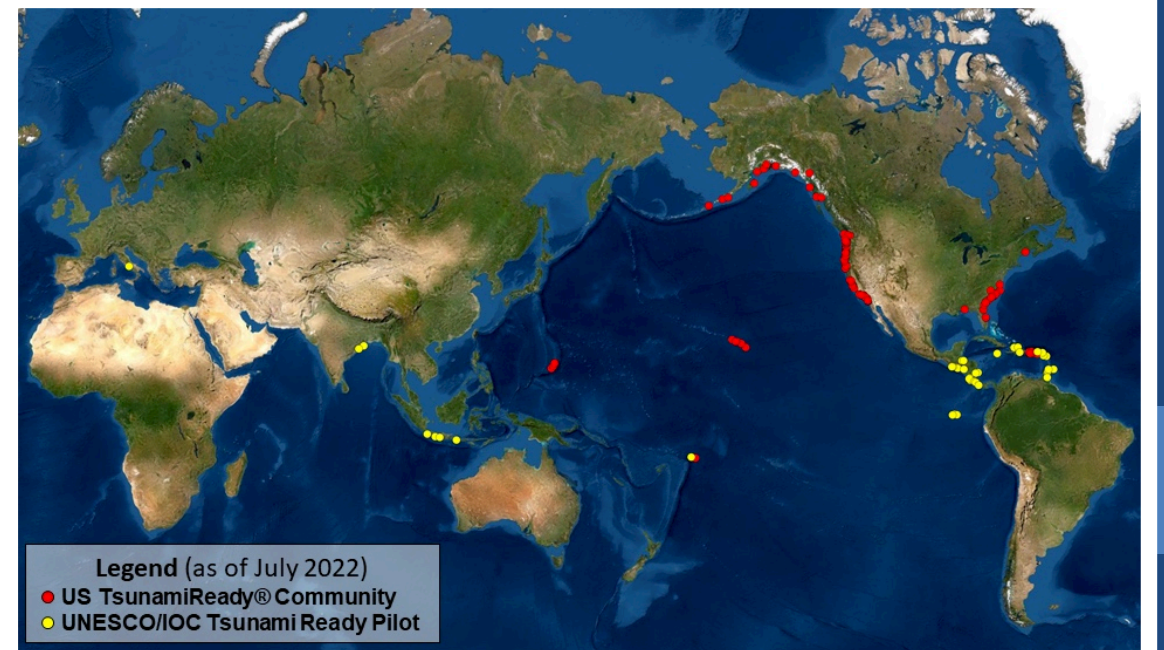
Director, International Tsunami Information Centre,
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ICG/PTWS Technical Secretary

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Sendai Framework
for Disaster Risk Reduction
2015 - 2030

Goals

Adopt and implement national and local disaster risk reduction strategies and plans...aimed at preventing... [reducing] existing risk...strengthening... resilience

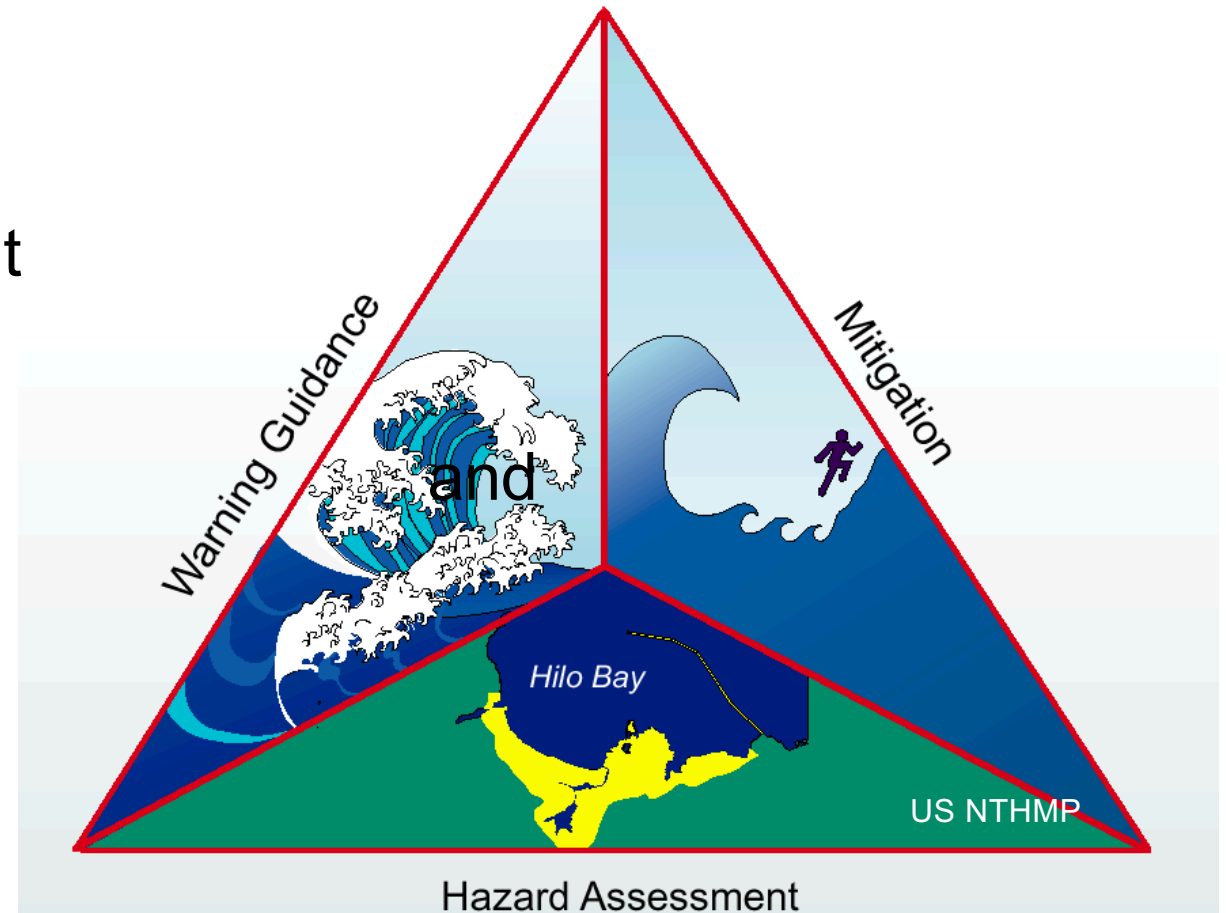
- Prevent new and **reduce existing disaster risk through the implementation of integrated and inclusive** economic, structural, legal, social, health, cultural, educational, environmental, technological, political and institutional **measures that prevent and reduce hazard exposure and vulnerability to disaster, increase preparedness for response** and recovery, and thus strengthen resilience
- The pursuance of this goal requires the **enhancement of the implementation capacity and capability** of developing countries, in particular the least developed countries, small island developing States, landlocked developing countries and African countries, as well as middle-income countries facing specific challenges, including the mobilization of support through international cooperation for the provision of means of implementation in accordance with their national priorities.

TEWS Strategic Pillars

Tsunami Early Warning and Mitigation Systems (TEWS): Progress, gaps, challenges, and opportunities for strengthening

- Tsunami Hazard & Risk Assessment
- Warning System Development
- Mitigation, Preparedness
Awareness

**TEWS design is end-to-end, inclusive
and people-centred in design.**





**EQ
Tsunami**

End-to-End Tsunami Warning

Monitoring station with multiple screens showing data and a forecast map.

Country Alert System

Emergency Alert System & Mass Media

Public

TWC - Science

DMO / EMA - Safety

Intl / Natl

Natl / Prov / Local Govt

Community

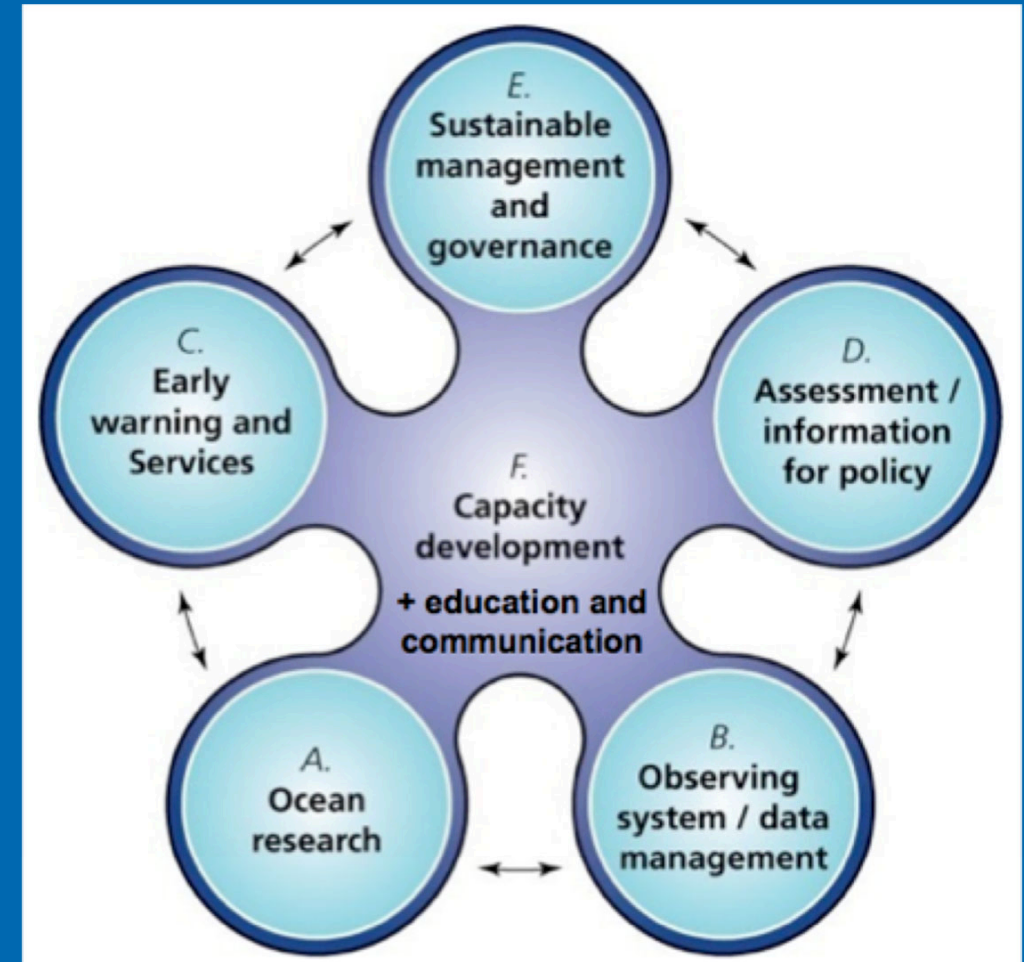
**EQ
T=0**

Race against Time → **LIVES SAVED**

**WAVE
T=20 min**

Intergovernmental Oceanographic Commission (IOC) of UNESCO

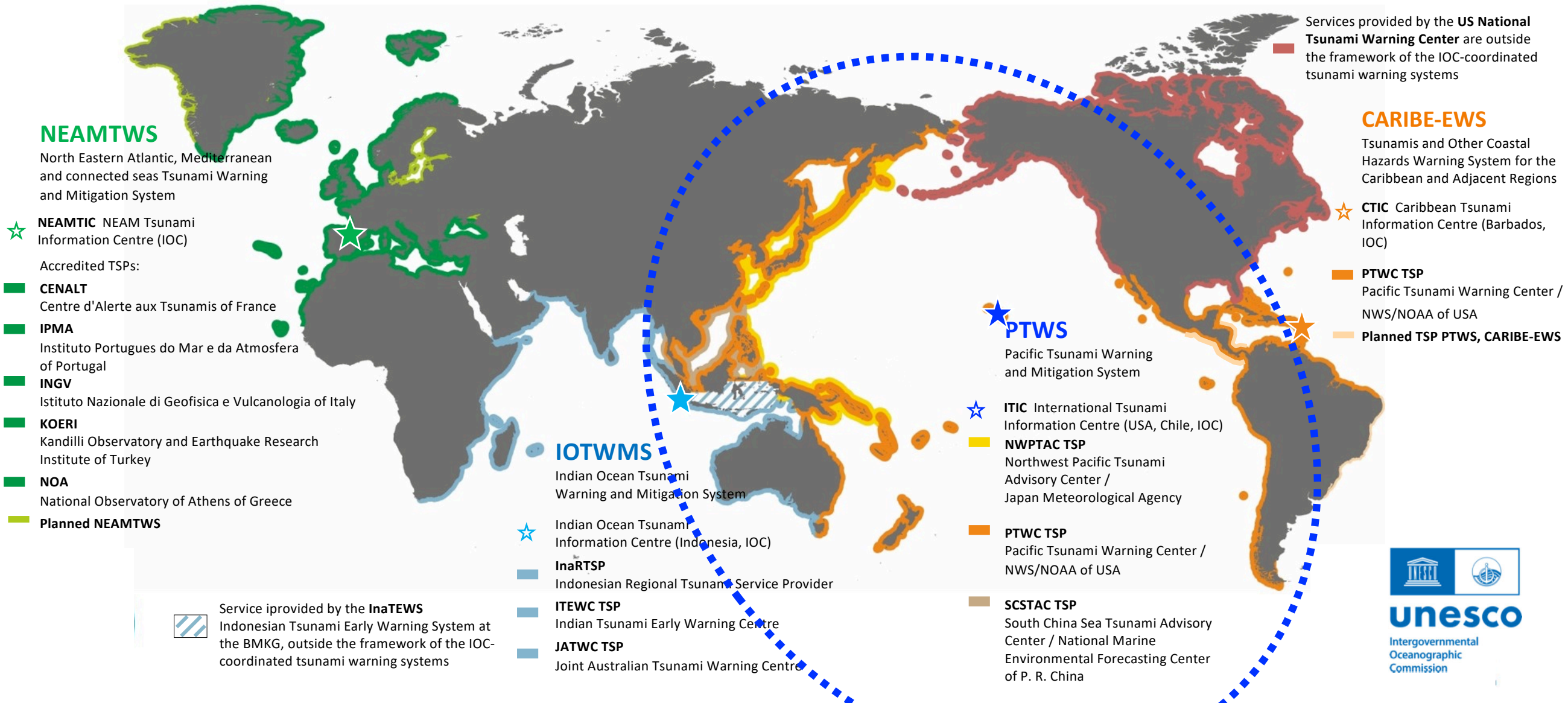
- Only intergovernmental body of the United Nations (UN) system for ocean science
- Established 1960, 150 Member States



GLOBAL TSUNAMI WARNING AND MITIGATION SYSTEMS

Intergovernmental Oceanographic Commission of UNESCO

2021 www.ioc-tsunami.org



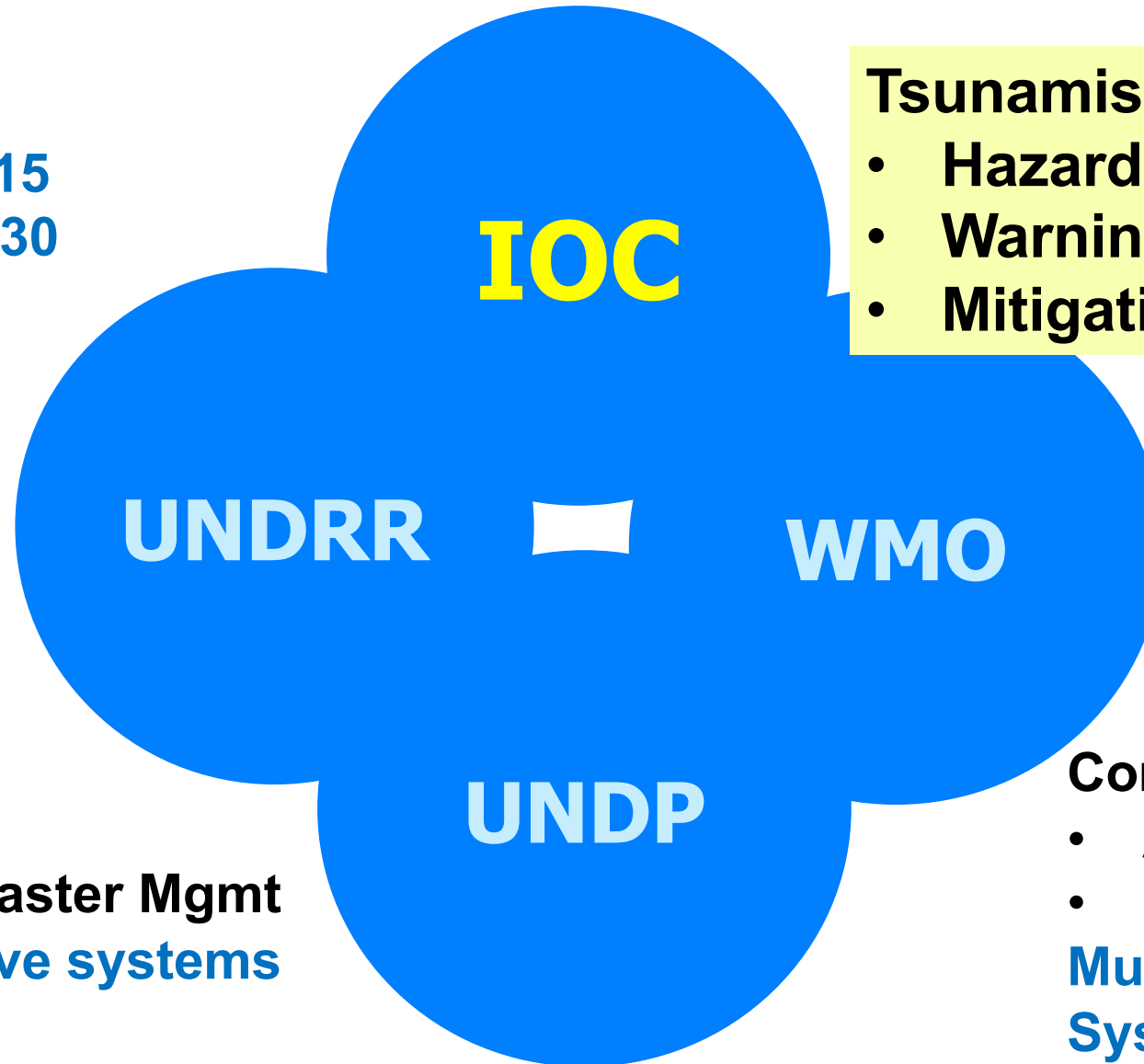
UN – Global Partnerships

DRR platforms

- Hyogo 2005-2015
- Sendai 2015-2030

Awareness

- DRR Oct 13
- WTAD Nov 5



Tsunamis:

- Hazard Risk
- Warning guidance
- Mitigation, Preparedness

Disaster Mgmt

Institutional / Legislative systems

Communication (GTS)

- Alerts
 - Sea Level Data
- Multi-hazard Early Warning Systems (MHEWS)

UN – How Does it Function?

- Providing timely, accurate Tsunami Warning advice by Tsunami Service Providers (TSP)
- Is based on the joint operation of international networks of detection connected with national tsunami warning centres
- Governance under UNESCO/IOC
- Each nation is responsible for issuing warnings in their territory and protect its own population.
- National warning centres must have strong links with emergency preparedness authorities (national, provincial and local)

IOC Tsunami Information Centers

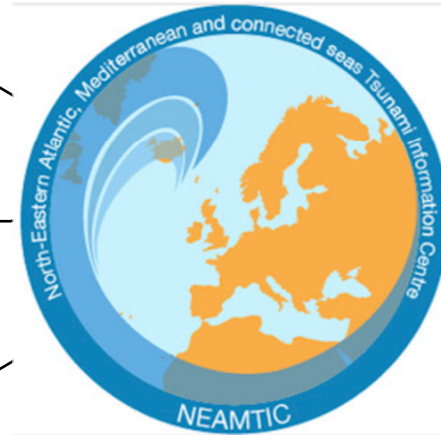
PTWS
USA NOAA – IOC Partnership
1965
Chili SHOA Associate Director
1998



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)

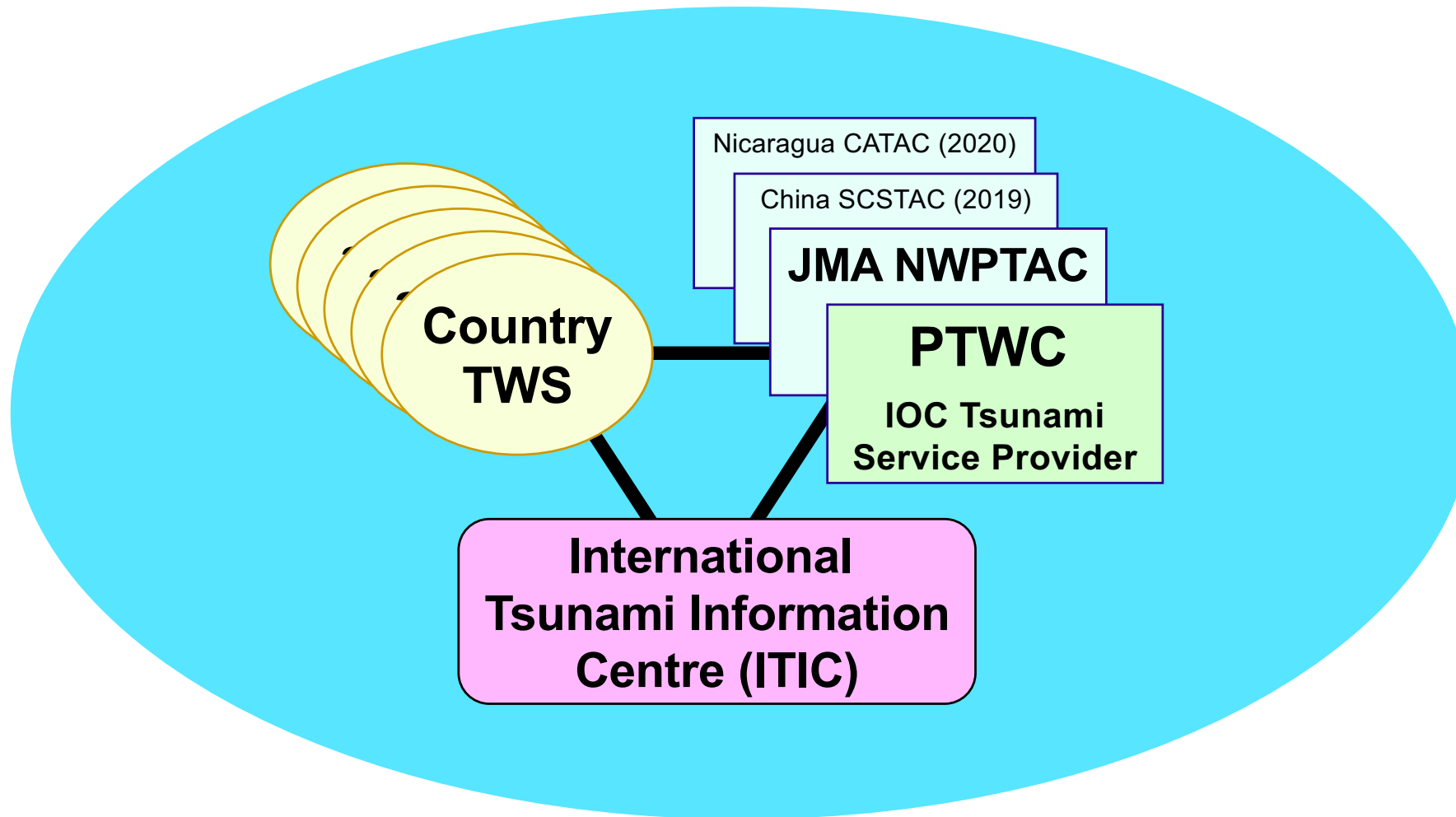
ITIC – INTERNATIONAL IOC Mandate & Functions (1977)

- ❑ **Monitor / Recommend Improvements** to PTWS and other tsunami warning systems – communications, data networks, evaluations, dissemination
- ❑ **Assist in establishing** regional and national tsunami systems – comprehensive risk reduction
- ❑ Serve as **technology transfer** resource;
Encourage research to improve evaluations;
Conduct **trainings to build capacity**
- ❑ Serve as an information resource for **preparedness / education; Develop, publish, distribute materials**
- ❑ Serve as an information resource on **historical tsunamis – database, post-event surveys**

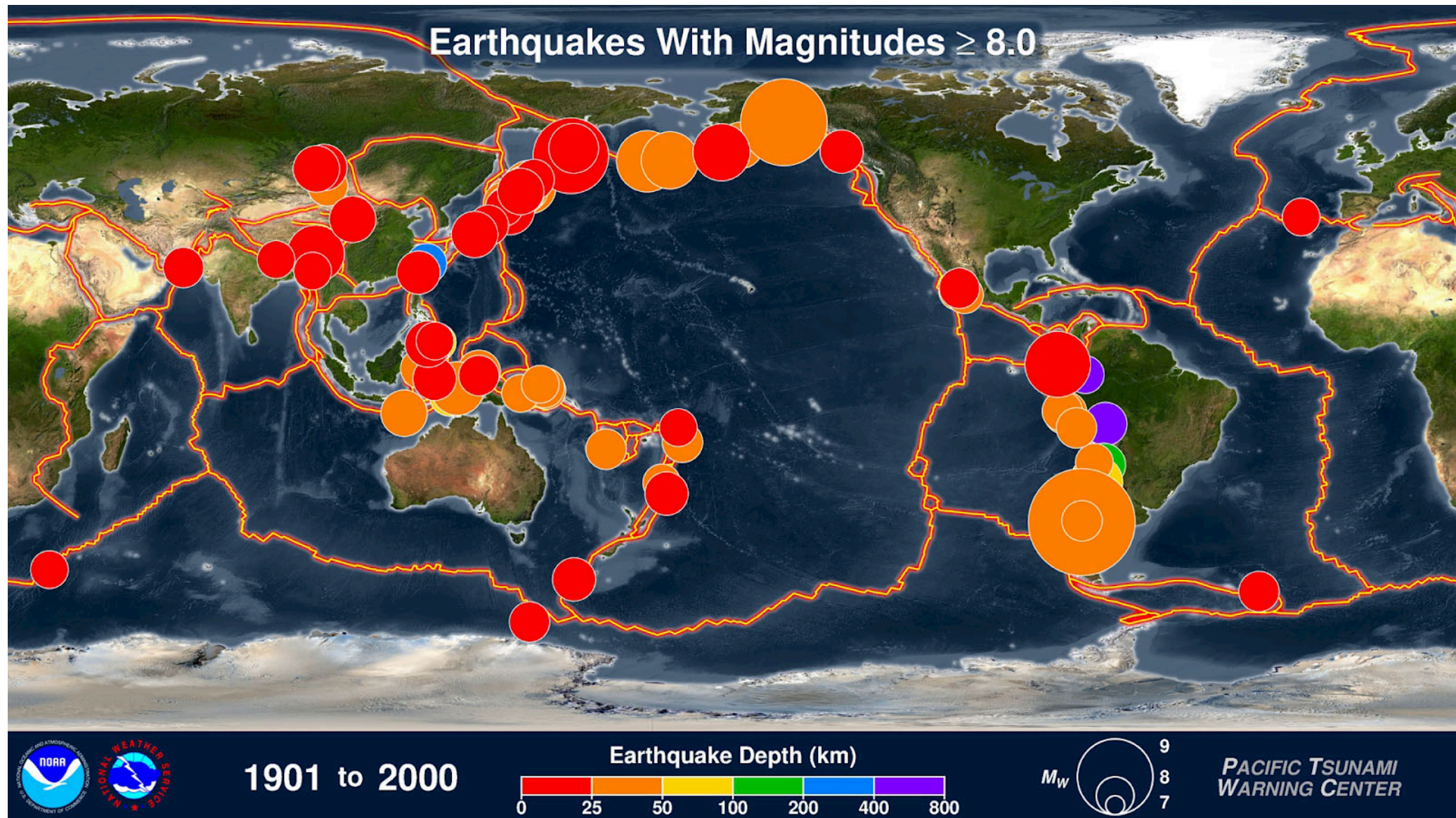


PACIFIC TSUNAMI WARNING & MITIGATION SYSTEM

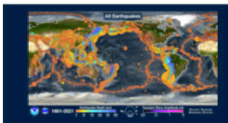
ICG/PTWS: FOUNDATIONAL ELEMENTS



DANGEROUS EARTHQUAKES - GLOBAL

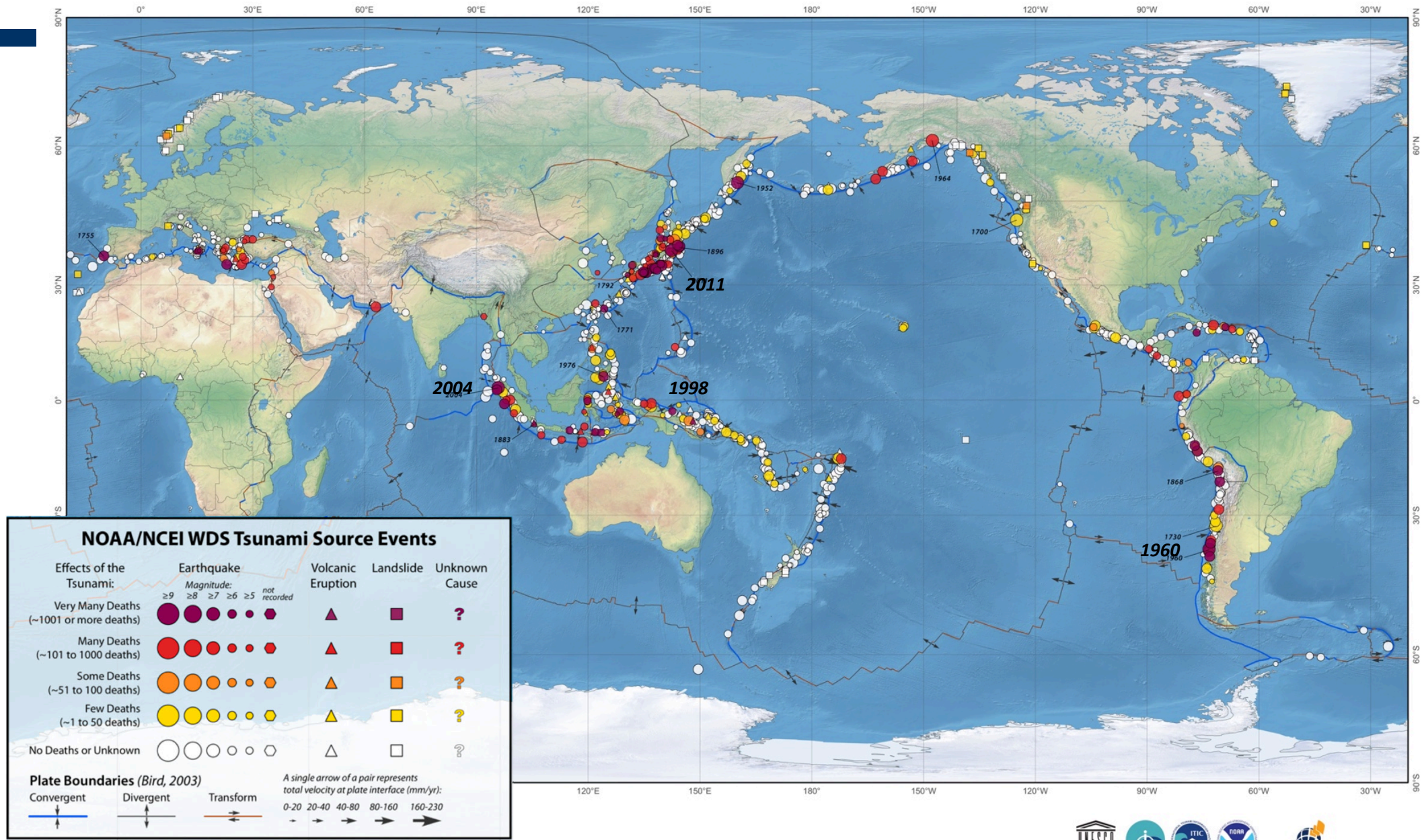


Click below
for video
EQ-Tsunami
1901-2021



1901 to 2000

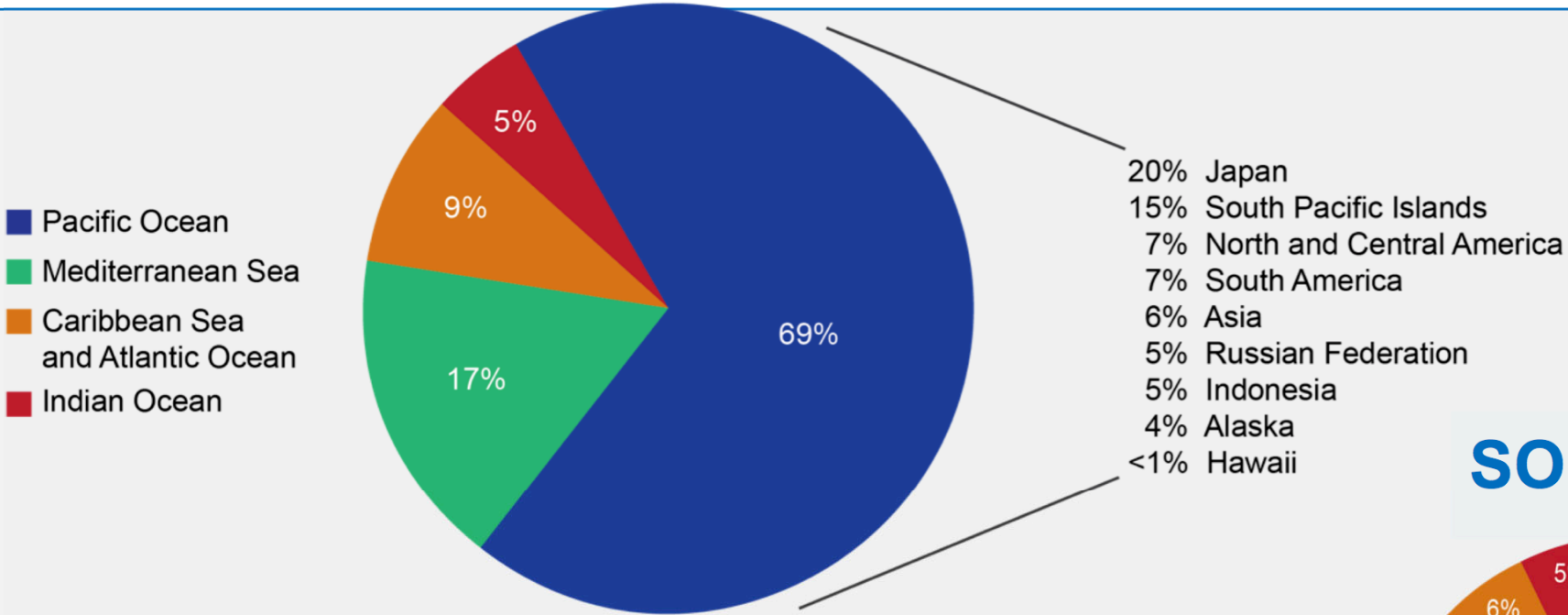
DEADLY TSUNAMIS – GLOBAL (1620 B.C to A.D. 2022)



March 2022

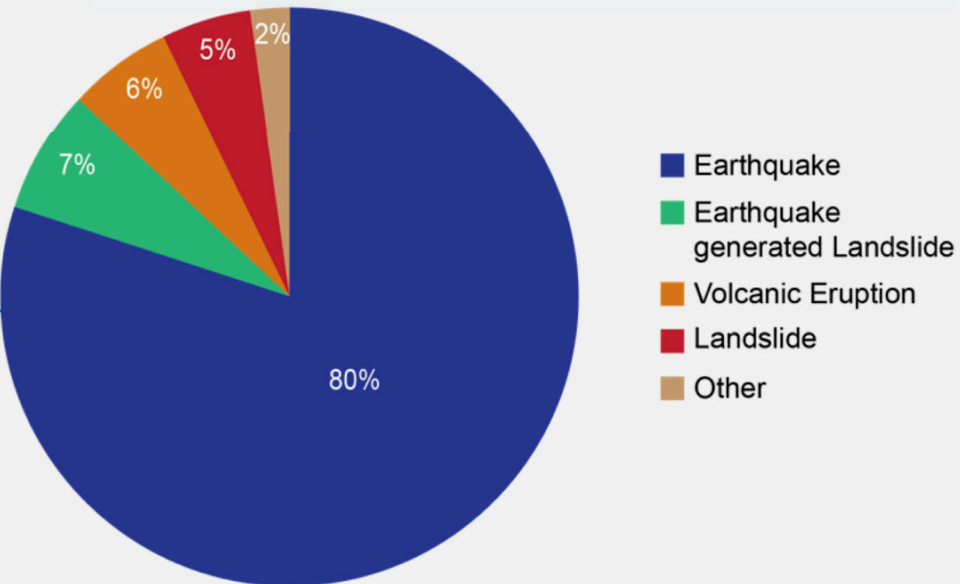
DEADLY TSUNAMIS – GLOBAL (1620 B.C to A.D. 2022)

SOURCE LOCATION



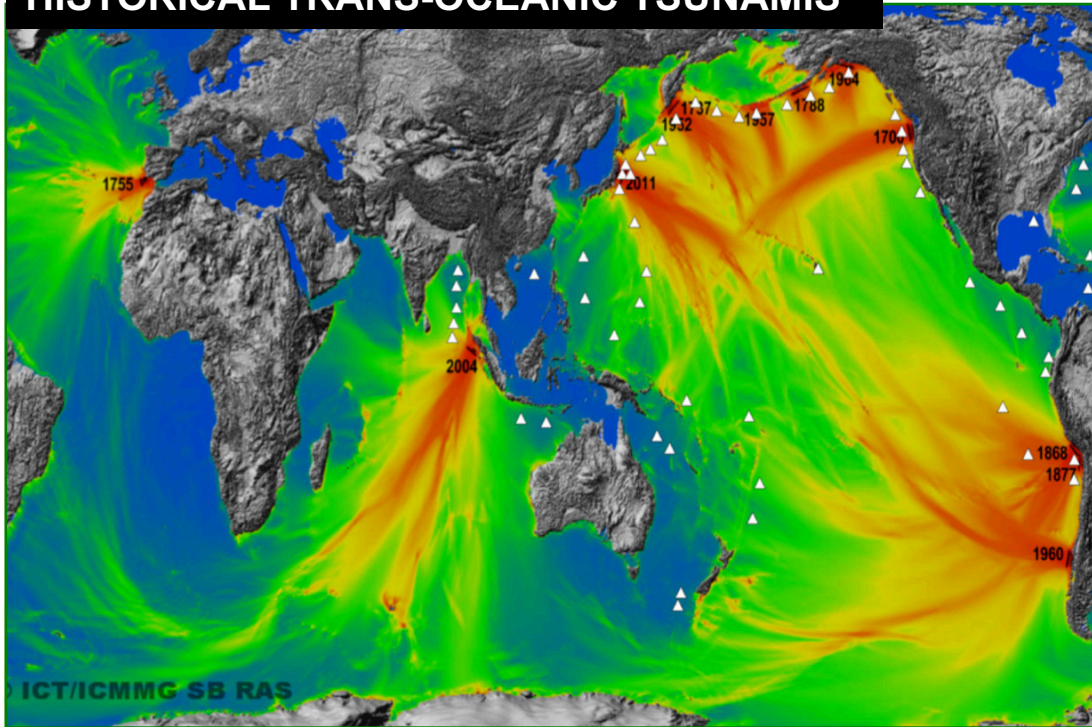
- 20% Japan
- 15% South Pacific Islands
- 7% North and Central America
- 7% South America
- 6% Asia
- 5% Russian Federation
- 5% Indonesia
- 4% Alaska
- <1% Hawaii

SOURCE GENERATION

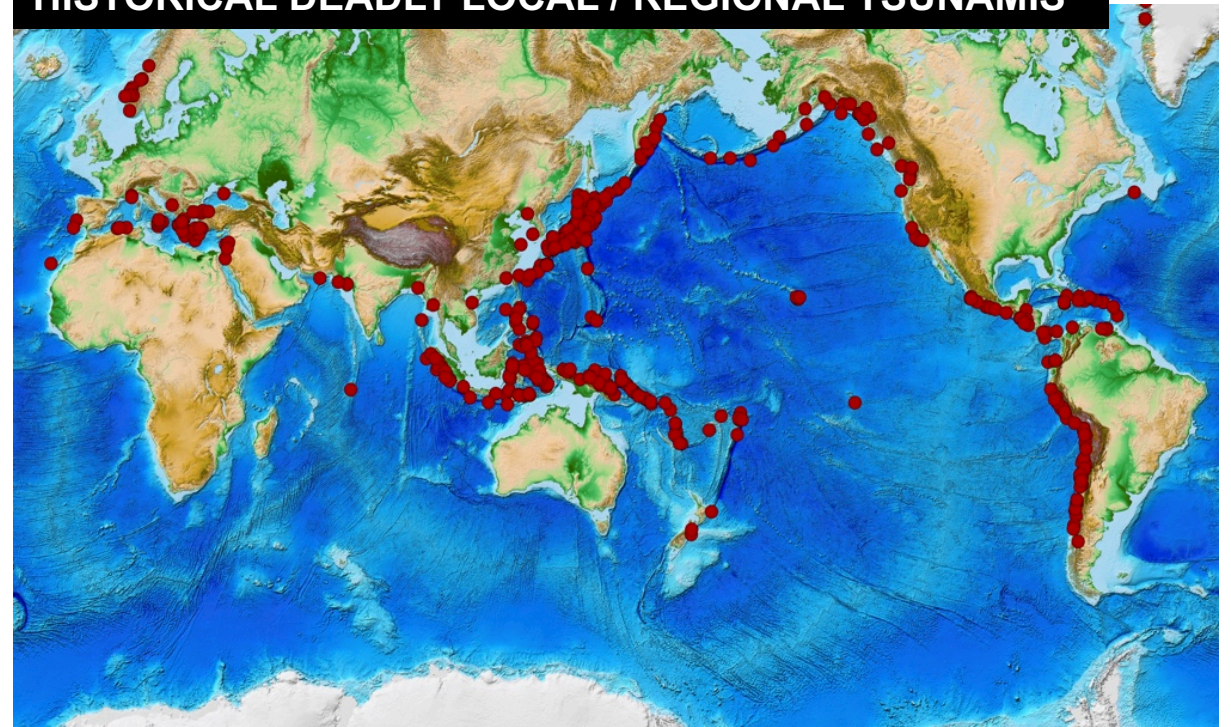


PACIFIC TSUNAMIS

HISTORICAL TRANS-OCEANIC TSUNAMIS



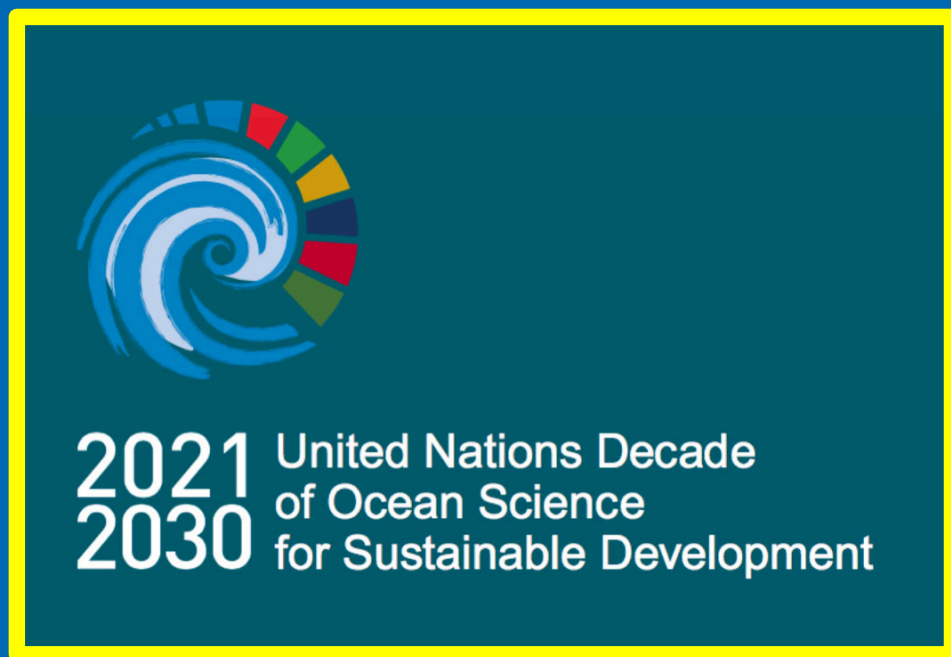
HISTORICAL DEADLY LOCAL / REGIONAL TSUNAMIS



- ❑ 69% of world's tsunamis in Pacific and marginal seas
- ❑ 99% of deaths in Pacific from Local or Regional Tsunamis (90% globally)



2021 United Nations Decade
2030 of Ocean Science
for Sustainable Development

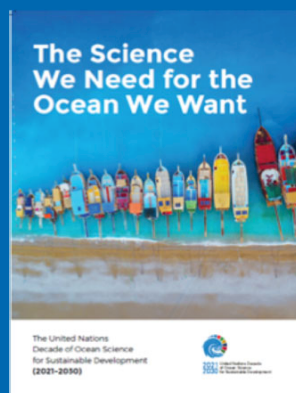


Vision:
*“The science we need
for the ocean we want”*

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



2016-2017



2018-2019



2019-2020



unesco
Intergovernmental
Oceanographic
Commission

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.



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

Communities respond to tsunami threats by combining accurate

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

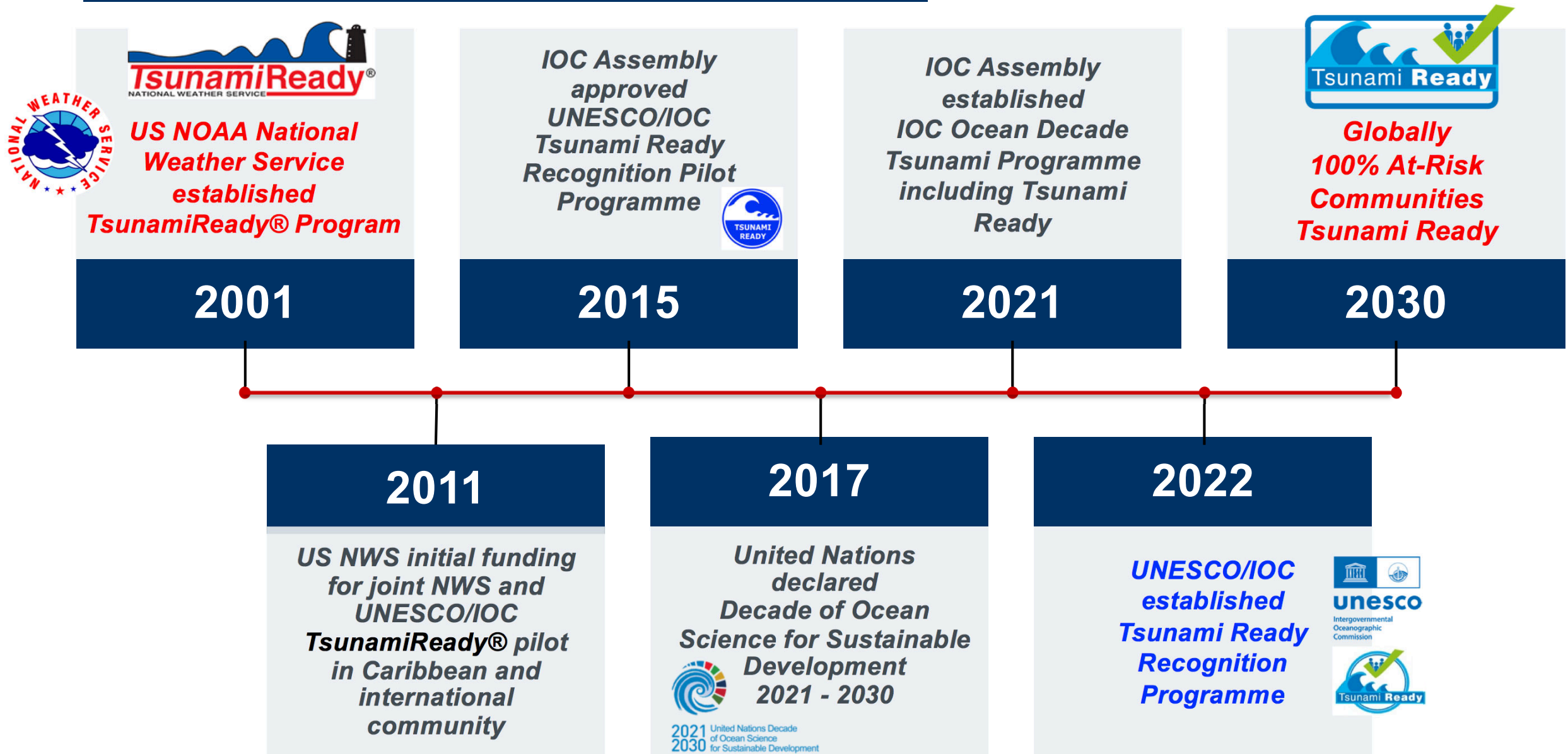
TO MAKE
100%

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

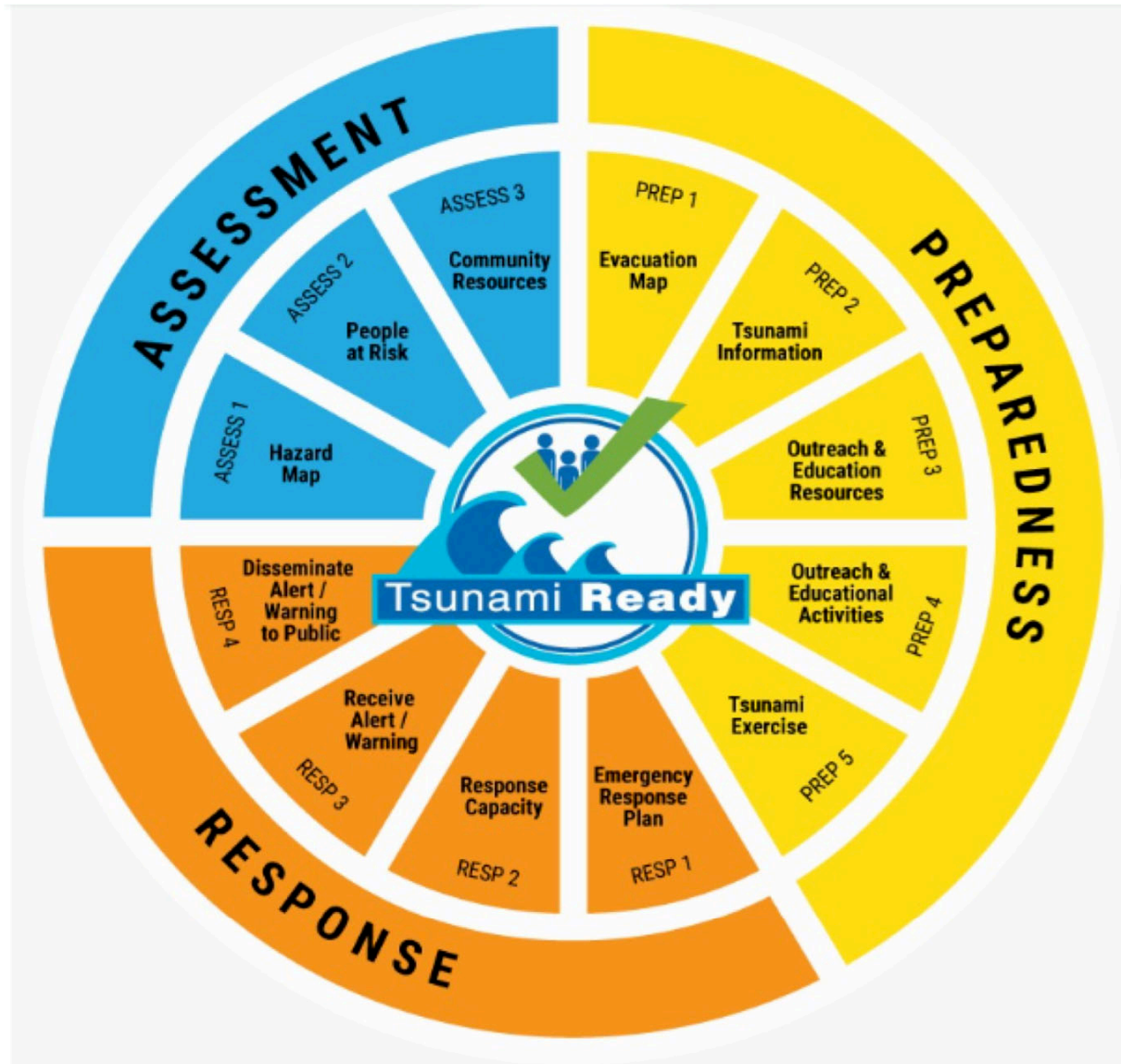
BY
2030

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

History of the Implementation of Tsunami Ready



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

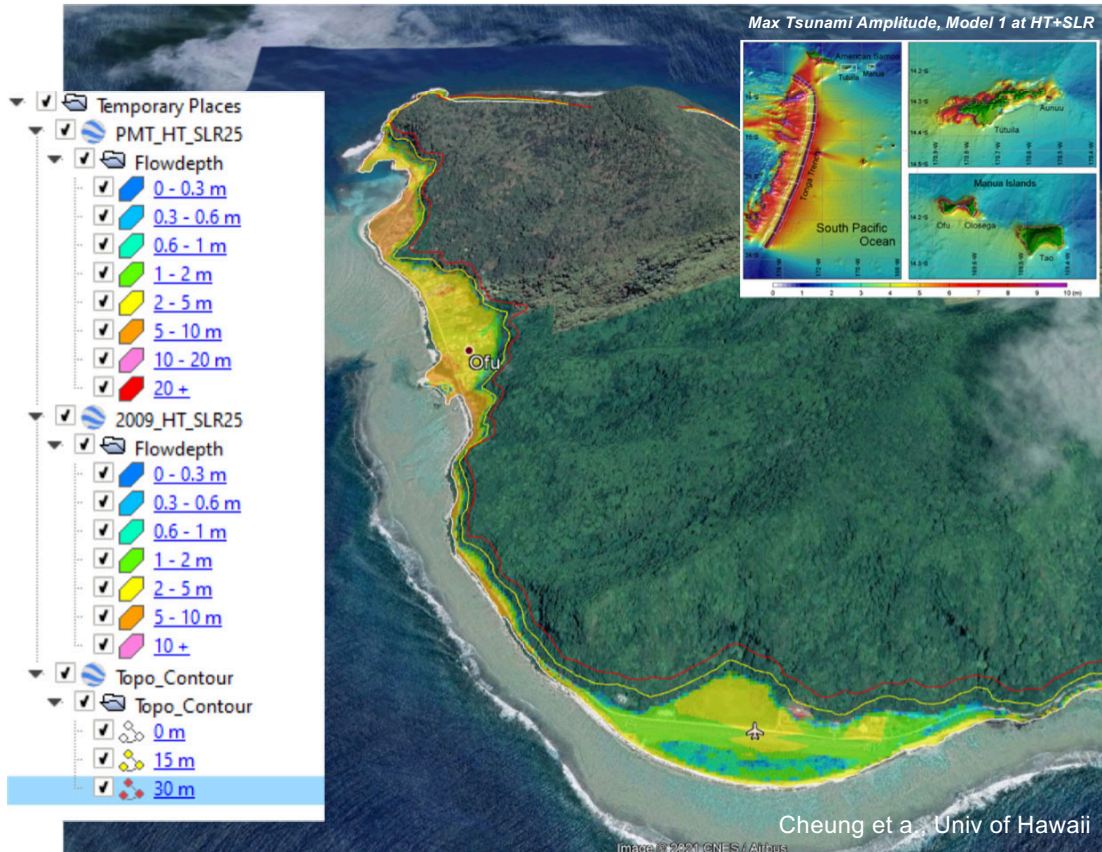


- ❑ **STRATEGY:**
Be Aware, Be Prepared
- ❑ **FRAMEWORK:**
 - Harmonized global guidelines UNESCO IOC Tsunami Ready
 - Performance-based Community Recognition
- ❑ **ACTION:**
 - National programs empower Communities,
 - Communities demand national actions
- ❑ **GLOBAL MEASURE**

UNESCO IOC Tsunami Ready Recognition Guidelines

ASSESS-1. INUNDATION MAP.

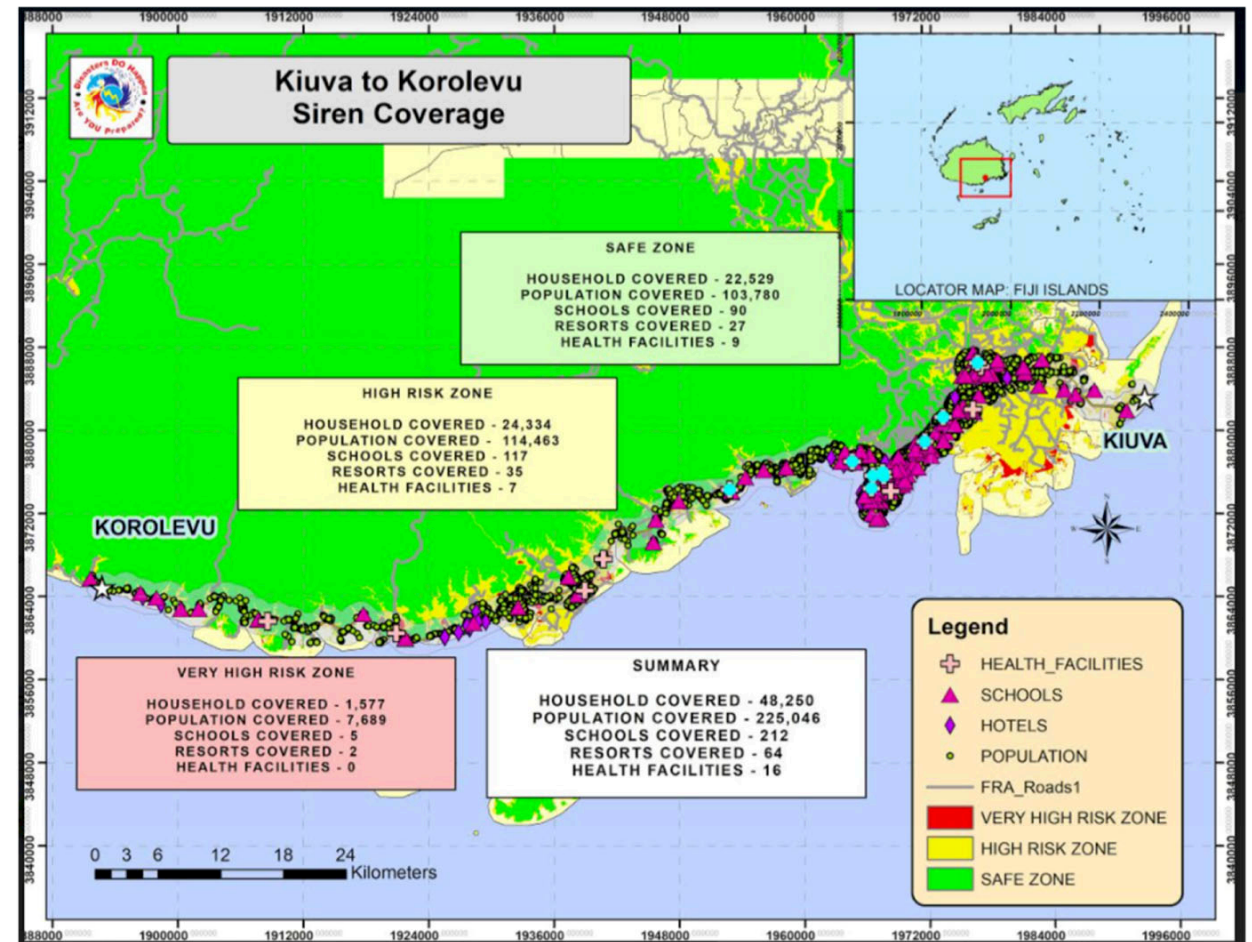
Tsunami Hazard Zones mapped and designated



Inundation Map - Ofu, Manu'a Islands, American Samoa

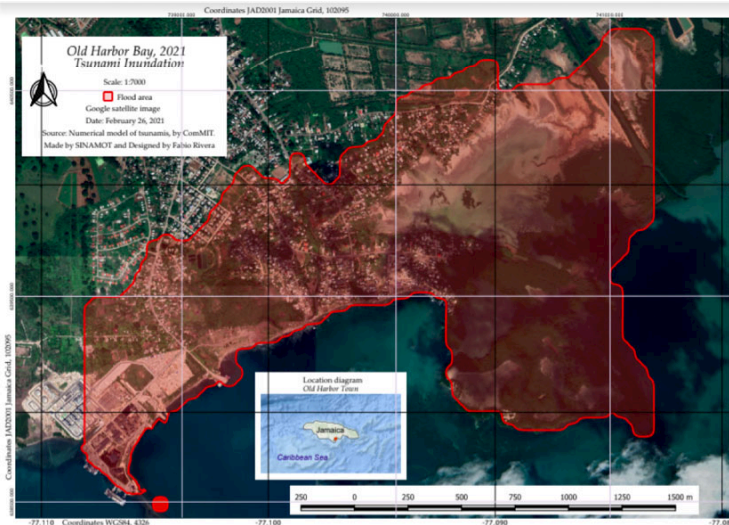
ASSESS-2. PEOPLE AT RISK.

Number of people in Tsunami Hazard Zone Estimated



Assessment – Inundation Map

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



Inundation map developed for Old Harbour Bay, Jamaica

Identification of Tsunami Sources - For Eastern Caribbean, Expert Group Meeting have identified the seismic sources. Volcano and Landslide sources are currently not considered in most modeling.

Minimum bathymetric requirements for modeling of coastal hazards:

- Full data coverage within the Area of Interest (determined by tsunami/surge modeling group).
- Substantial part of the digital elevation model (DEM) domain should be interpolated from underlying data of equal or higher resolution than the nominal resolution of the DEM.
- High accuracy and recently collected data at the coast, nearshore, and in regions of low topography are essential. Particularly in populated and/or facilities (harbors, emergency facilities, etc.).
- Source data used to generate DEMs for tsunami inundation modeling must be of at least 90 m resolution to satisfy the minimum level of acceptable modeling results, although higher resolution is strongly recommended.

UNESCO IOC Tsunami Ready Recognition Guidelines

AESS-3. COMMUNITY RESOURCES.

Economic, infrastructural, political and social resources identified

*Economic, Infrastructural, political and social resources survey
and consultation (participatory approach) conducted*



UNESCO IOC Tsunami Ready Recognition Guidelines

PREP-1. EVACUATION MAP

Easily understood tsunami evacuation maps



Nuku'alofa, Tonga

PREP-2. TSUNAMI INFORMATION

Information including Signage Displayed



UNESCO IOC Tsunami Ready Recognition Guidelines

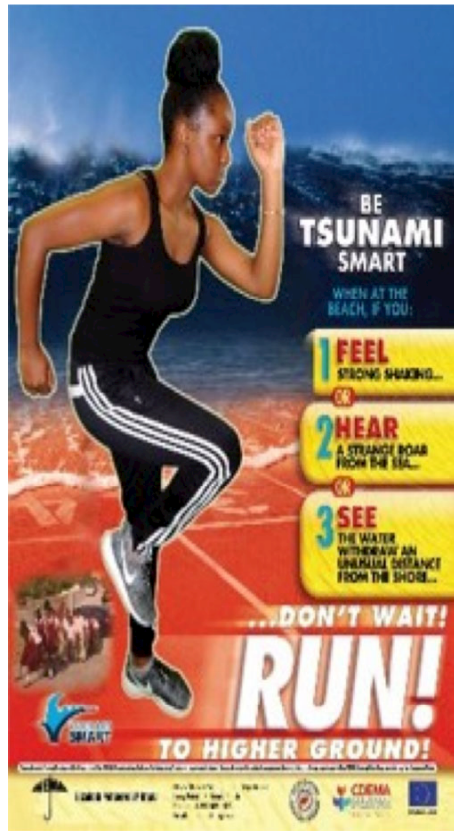


PREP-3. OUTREACH AND EDUCATION RESOURCES

Outreach, public awareness and education resources available and distributed

PREP-4. OUTREACH AND EDUCATION ACTIVITIES.

Held at least 3 times a year



Samoa



UNESCO IOC Tsunami Ready Recognition Guidelines



PREP-5. TSUNAMI EXERCISE. Annual Community Tsunami Exercise



Exercise Pacific Wave 2022 PICT Regional Exercise



Preparedness



Evacuation map developed for Kingstown, SVG

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



Tsunami Hazard Zone sign in Grenada



Community tsunami exercise in BVI



Educational activity in Trinidad and Tobago

UNESCO IOC Tsunami Ready Recognition Guidelines



RESP-1. EMERGENCY RESPONSE PLAN

Community tsunami emergency response plan approved



Cedeño, Honduras
Emergency Response Plan, 2017

RESP-2. RESPONSE CAPACITY

Capacity to manage emergency response operations during tsunami in place



St. Kitts Emergency Operations Center

UNESCO IOC Tsunami Ready Recognition Guidelines



RESP-3. RECEIVE ALERT / WARNING
Redundant and reliable means to receive
official tsunami warnings 24x7 are in place

**RESP-4. DISSEMINATE ALERT/WARNING
TO PUBLIC.** Redundant and reliable means to
disseminate official tsunami warnings and information
to public 24x7 in place



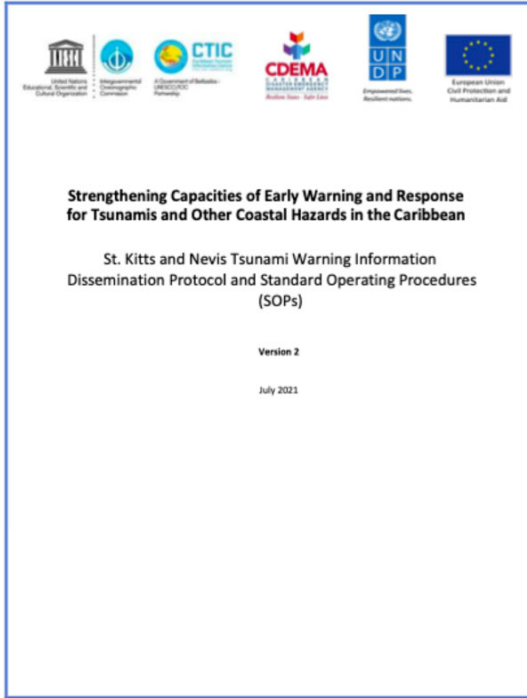
Samoa

Honduras



Response

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



SOP for SKN (For the case of a community within a country, there must be a National SOP as well as the local SOP)

TSP Notification	Earthquake	Wave forecast	ETA	NTWC Level	Alert	Emergency Response Action
Tsunami Threat Message	Magnitude: >7.0 Depth: <100km	≥ 1 m	<3 hrs	WARNING		Evacuate xxx zones
			3 - 6 hrs	WATCH		Prepare to evacuate
			>6 hrs	INFORMATION		Monitor for subsequent forecasts
		0.3 to 1 m	<3 hrs	ADVISORY		Evacuate beaches and harbours
			3 - 6 hrs	WATCH		Prepare to evacuate
			>6 hrs	INFORMATION		Monitor for subsequent forecasts
		< 0.3 m	-	INFORMATION		Monitor for subsequent forecasts

Criteria for tsunami alerts and emergency response actions



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



Community Selection

- Recognition level is community that has capacity and authority (not too big or too small)**
- Voluntary – need to have interest**
- Ability to receive and disseminate warnings**
- Government Authority to apply for recognition**
- Champions**
- EOC or location to manage tsunami emergency**

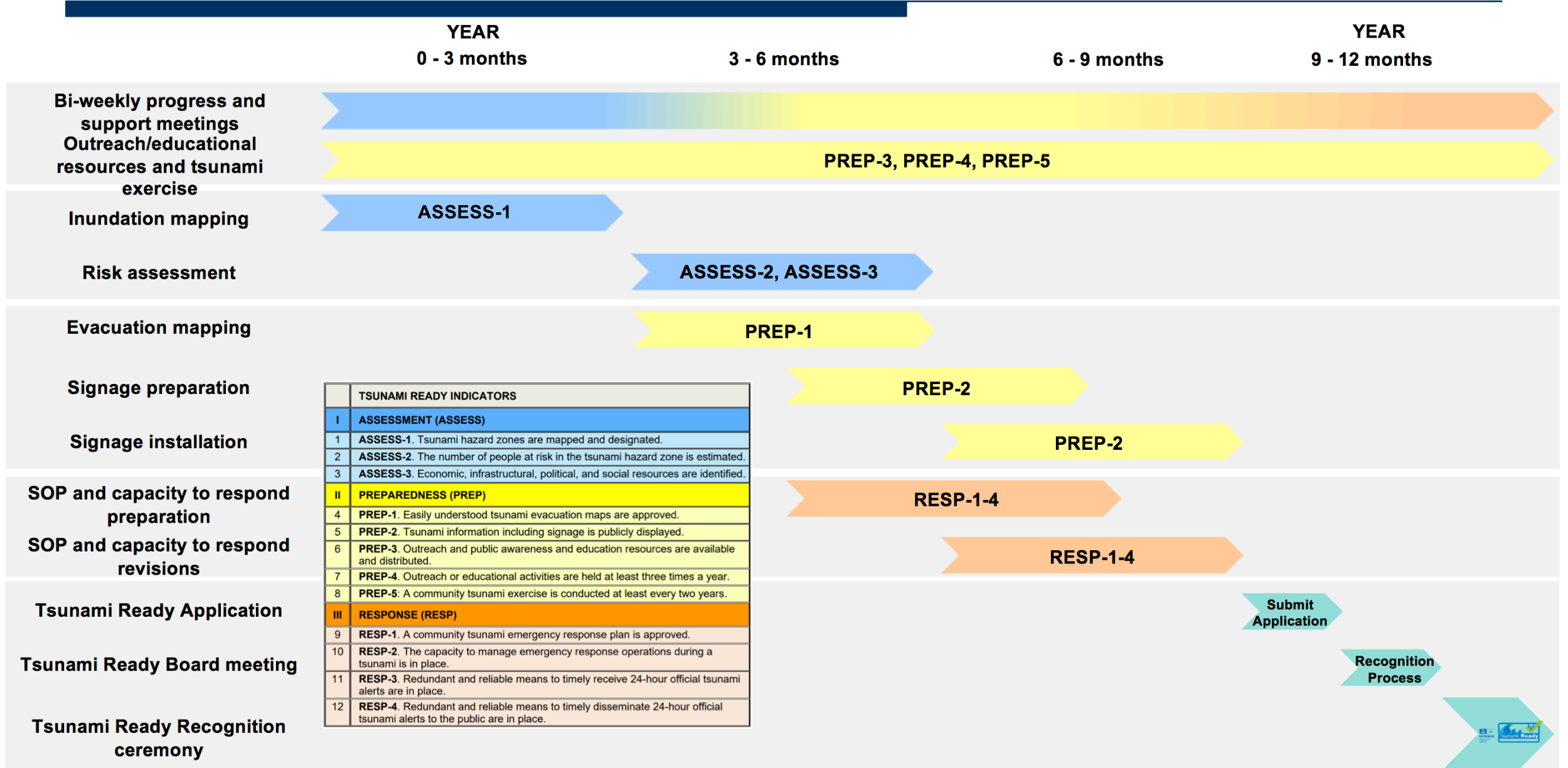
Verification, Recognition, Renewal Processes



- **Verification Process – site visit by IOC Tsunami Information Centre representative (ITIC for Pacific) to confirm community has met requirements**
- **Tsunami Ready Recognition Ceremony**
- **Recognition for 4 years, after which it needs to be renewed**
- **Over the 4 years, there should be maintenance, advancement and improvements. Include in**
 - National Reports to ICG/PTWS
 - PTWS Regional Working Group (PICT) reports
 - PTWS WG 3 (Disaster Risk Reduction and Preparedness) report
 - EXERCISE PACIFIC WAVE (PacWave) post-exercise surveys



Tsunami Ready Recognition 1 year timeline



UNESCO IOC Tsunami Ready web site

www.tsunamiready.org



UNESCO IOC Tsunami Ready Programme

- Caribbean
- Pacific
- Indian Ocean
- North Atlantic and Mediterranean
- Background
- Pilot Programme

UNESCO IOC Tsunami Ready Recognition Programme

The Tsunami Ready Recognition Programme is an international community-based recognition programme developed by Intergovernmental Oceanographic Commission (IOC) of UNESCO. It aims to build resilient communities through awareness and preparedness strategies that will protect life, livelihoods and property from tsunamis in different regions.

On 5 December 2017, the United Nations declared that a Decade of Ocean Science for Sustainable Development would be held from 2021 to 2030 (Ocean Decade). In June 2022, the IOC Assembly approved the establishment of the IOC Ocean Decade Tsunami Programme. The implementation of the Tsunami Ready Recognition Programme will be a key contribution to achieving the societal outcome 'A Safe Ocean' of the Ocean Decade.

United Nations Decade of Ocean Science for Sustainable Development

with the aim of making 100% of communities at risk of tsunamis prepared for and resilient to tsunamis by 2030 through the implementation of the UNESCO/IOC Tsunami Ready Programme

Tsunami Ready Viewer

The main goal of the Programme is to improve coastal community preparedness for tsunamis and to minimize the loss of life, livelihoods and property. This is achieved through a collaborative effort to evaluate and mitigate the risk of, prepare for, and respond to tsunamis.

The indicators facilitate the establishment of a consistent standard to evaluate and mitigate the risk of, prepare for, and respond to tsunamis.

Communities must meet all 12 indicators, which cover Assessment, Preparedness, and Response, will be recognized as 'Tsunami Ready' by the UNESCO/IOC. The recognition is renewable every four years.

The Tsunami Ready Recognition Programme is implemented as 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.

Although communities can be recognized as being 'Tsunami Ready', this recognition does not imply approval or confirmation that a community can or will perform at a certain level in the event of an actual tsunami. Tsunami Ready recognition does not mean that a community is tsunami proof; rather, it is an acknowledgement and recognition that a community has adopted mitigation measures to cope with their tsunami risk.

For more information, contact the IOC's Tsunami Information Centres in the Caribbean (CTIC, ctic@unesco.org), Indian Ocean (IOTIC, iotic@unesco.org), Northeastern Atlantic and Mediterranean (NEAMTIC, neamtim@unesco.org), and the Pacific (ITIC, itic@unesco.org).

Tsunami Ready Recognition Documents

Document	Format
Standard Guidelines for the Tsunami Ready Recognition Programme (UNESCO IOC Manuals and Guides 74, 2022)	English (PDF, DOCX)
Tsunami Ready Graphical Standards and Logo Kit (UNESCO IOC Information Doc 1409 Rev., 2021)	English (PDF)

Global & Regional Hazard Maps

Tsunami Sources, Significant Earthquakes and Significant Volcanic Eruptions. Also Tsunami Sources Icosahedron Globe.

Available in English, Spanish, French and Chinese.

Tsunami, The Great Waves

Available in English, Spanish, French and Chinese.

Tsunami Glossary 2019

Available in English, Arabic, Spanish, French and Bahasa.

Surviving a Tsunami - Lessons From Chile, Hawaii, and Japan

Available in English, Spanish.

Caribbean

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Contact ITIC
General Info
World
Tsunami Day
Hawaii
Information
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Tsunamis
Am I in Danger?
What to Do?
Aware, Educate, Prepare
Photo, Video, Graphic
Quick Info - Media
FAQs
About ITIC

Caribbean

- St. Kitts and Nevis
- Anguilla
- British Virgin Islands
- Grenada
- Haiti
- Antigua and Barbuda
- Barbados
- St. Vincent and the Grenadines
- Trinidad and Tobago
- Honduras
- Nicaragua
- Jamaica
- Dominican Republic

Tsunami Ready Communities in the Caribbean & Adjacent Regions

GET YOUR COMMUNITY TSUNAMI READY

Tsunami Ready in The Caribbean

Tsunami Ready Member States, Territories and Communities in the Caribbean, Central America, Mexico and Adjacent Regions

Technical Info
Current Warnings
About Warnings
Tsunami Events
Earthquake Monitors
Sea Level Monitors
Research Meetings
Tools & Products
Library
ITST Tsunami Survey
Marine Ports Guide
Vertical Evac. Guide

Intergovernmental System Pacific (PTWS) Info Centers
ITIC Training Tsunami Exercises
UNESCO/IOC Tsunami Ready Programme

Preparing communities to be ready for the next tsunami

UNESCO IOC Tsunami Ready

Preparing communities to be ready for the next tsunami

Tsunami Awareness Poster

Available in English, Chinese, French, Japanese, Korean.

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About ITIC

St. Kitts and Nevis

Installation of Tsunami Hazard Zone sign and Preschool evacuation.

On February 4, 2022, the Federation of Saint Kitts and Nevis renewed its recognition as Tsunami Ready under the Pilot Community Performance Based Tsunami Recognition Programme being implemented by the United Nations Educational, Scientific and Cultural Organization Intergovernmental Oceanographic Commission (UNESCO/IOC) Intergovernmental Coordination Group for the Tsunami and Other Coastal Hazard Warning Systems for the Caribbean and Adjacent Regions (ICG/CARIBEWS). The Federation had originally received recognition on October 17, 2016. As part of the regional efforts to develop an end-to-end tsunami early warning system, Saint Kitts and Nevis fulfilled the Programme's guidelines at the country level; thus empowering its vulnerable coastal communities to take effective action in the event of a potential tsunami and save lives. Outputs included the creation of inundation maps and evacuation maps for each community, as well as signage for evacuation routes, assembly points and tsunami hazard zones, murals and an animated public awareness video. The National Emergency Management Agency and Nevis Disaster Management Department also undertook also undertook extensive public education, conducted drills, and formulated an emergency operations plan (EOP). Artists, media, businesses, students and the public also actively participated in a number of activities. The renewal of the recognition of Saint Kitts and Nevis as 'Tsunami Ready' was supported by the International Tsunami Information Center Caribbean Office (ITIC-CAR) and the UNESCO/IOC Caribbean Tsunami Information Centre (CTIC). The USAID Bureau of Humanitarian Affairs through ITIC-CAR provided the funding to support many of the activities. The Tsunami Ready Programme incorporates risk knowledge assessment, preparedness actions and response planning with recognition being granted upon the satisfactory completion of a verification process confirming fulfillment of the guidelines.

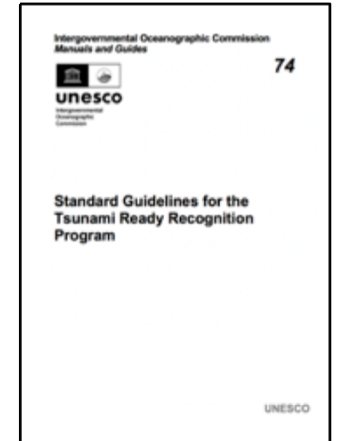
Saint Kitts and Nevis Documents

Documents	Format/Size
Fulfillment of the Indicators	
Tsunami Ready Application	
• Document 1	PDF (4.1 MB)
• Document 2	JPG (1.1 MB)
Assessment Indicators	
Inundation Map	
Estimated number of people at risk	
Resources	
Preparedness Indicators	
Evacuation Map	
• Saint Kitts	PDF (2.4 MB)
• Basseterre, Saint Kitts	PDF (3.3 MB)
• Nevis	PDF (2.8 MB)
• Charlestown, Nevis	PDF (2.8 MB)
• Charlestown, Nevis	DOC (165 KB)
Signage	
Educational Materials	
• Saint Kitts Map Text	PDF (1.1 MB)
• Nevis Map Text	PDF (996 KB)
Outreach Activities	
Tsunami Exercise	

Tsunami Awareness Poster

Available in English, Chinese, French, Japanese, Korean, Portuguese, Singalese.

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](#)



Tsunami Ready Training – TEMPP

- ❑ **Tsunami Evacuation Maps, Plans, and Procedures (TEMPP) –** IOC MG 82 *Preparing for Community Tsunami Evacuations: from inundation to evacuation maps, response plans and exercises (2020)*
- ❑ Manual (English, Spanish)
- ❑ Supplement 1 (Detail Module Explanations, Guidance) (English)
- ❑ Specialized Documents

http://itic.ioc-unesco.org/index.php?option=com_content&view=category&layout=blog&id=2166&Itemid=2640



Preparing for Community Tsunami Evacuations
From Inundation to Evacuation Maps, Response Plans,
and Exercises ... communities knowing what to do and where to go

IOC ITIC Tsunami Evacuation Maps, Plans, and Procedures (TEMPP) Pilot
Capacity Building, Honduras and Central America, 2015-17

IOC Manual and Guide 82 (2019) - TEMPP

PREPARING FOR COMMUNITY TSUNAMI EVACUATIONS: FROM INUNDATION TO EVACUATION MAP, RESPONSE PLANS, AND EXERCISES



4 Foundation Blocks

- *Key element of tsunami response involves evacuation, including self-evacuation of exposed people & key assets to safer areas*
- *Effective and successful evacuations require proper planning by relevant authorities.*



Ostional, Costa Rica (May 2017)



**ENTRANDO
A UNA COMUNIDAD
TSUNAMI READY**

**EN CASO DE TERREMOTO O ALERTA DE TSUNAMI
SALGA DE LA ZONA DE EVACUACIÓN**

Tsunamis

1 Antes
Esté siempre preparado(a), un tsunami puede ocurrir en cualquier momento

- a) Prepare un plan familiar de emergencia
- b) Tenga a mano un maletín de seguridad
- c) Conozca las zonas de evacuación y los lugares de Asambleas
- d) Identifique las rutas de evacuación

2 Señales
Esté atento(a) a cualquiera de estas señales

- a) Terremoto muy fuerte (se hace difícil caminar, se caen objetos)
- b) Terremoto de larga duración
- c) Mensaje oficial de la CNE
- d) Cambio repentino en el nivel del mar
- e) Ruido fuerte del mar

3 Terremoto
Protéjase en caso de terremoto

- a) Agáchese
- b) Cúbrase
- c) Apriñese

4 Evacuación
Salga de la zona de evacuación (En orden de preferencia:)

- a) Vaya a un lugar alto y alejado de la costa
- b) Súbese a un segundo piso o más alto
- c) Súbese a un árbol
- d) Vaya a un lugar de reunión (refugio)
- e) Si hay tiempo, lleve las embarcaciones costa afuera a 100m de profundidad

5 Regreso
Quédese fuera de la zona de evacuación hasta que las autoridades le indiquen que ha pasado el peligro. Esto puede llevar varias horas

CNE: Tel. +506-2210-2828, Fax +506-2220-3977, Facebook: CNECostaRica
Programa RONMAC-UNA y SINAMOT Universidad Nacional: Tel. +506-2277-3594, Fax +506-2277-3616, Correo: ronmac@una.cr, sinamot@una.cr, Facebook: ronmacuna, sinamot.cr



at ICG/CARIBE-XII





Savaia, Lefaga, Samoa (June 2017)



O LE A E ULUFALE

LE NUU UA LAVA TAPENA MO SUNAMI

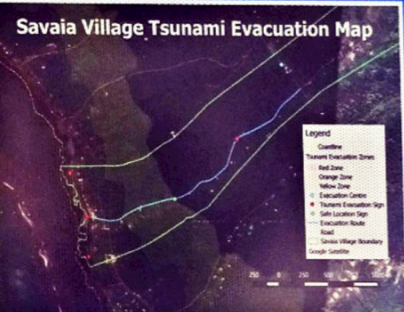
TSUNAMI READY



AFAI UA LAPATAIA I SE SUNAMI, IA AGAI LOA MA FAAVAVE I LE NOFOAGA SAOGALEMU

SUNAMI

Savaia Village Tsunami Evacuation Map



'A MAE'A ONA LULU SE MAFUI'E MALOSI MATUIA, IA FA'ATELEVAVE ESE LOA I NOFOAGA SAOGALEMU

O FA'AILOILO E TE ONO VAAIA

O LE A E SUNAMI



UNESCO IOC Intergovernmental Coordination Group for the Pacific Tsunami Warning and Mitigation System ICG/PTWS

Certificate of Recognition

Alii ma Faipule of Savaia, Lefaga
Village Climate and Disaster Management Committee

For successfully implementing the UNESCO IOC Tsunami Ready Pilot Project in SAVAIA, LEFAGA, INDEPENDENT STATE OF SAMOA

June 19, 2017

Vladimir Ryabinin, PhD
Assistant Director General and Executive Secretary, UNESCO

Ulu Bismarck Crawley
Chief Executive Officer
MNRE, SAMOA

Filomena Nelson
Chair
UNESCO IOC ICG/PTWS



NOFOAGA SAOGALEMU SAFE LOCATION

Fa'amautu i Nofoga Saogalemu ma fa'atali le logoina atu e le Malo ua saogalemu le toe fo'i i nofoaga mauualalao tu lata i le sami

SUNAMI TSUNAMI





Thank You. Questions?

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