



UNESCO/IOC – NOAA ITIC Training Program in Hawaii (ITP-Hawaii)  
TSUNAMI EARLY WARNING SYSTEMS  
AND THE PACIFIC TSUNAMI WARNING CENTER (PTWC) ENHANCED PRODUCTS  
TSUNAMI EVACUATION PLANNING AND UNESCO IOC TSUNAMI READY PROGRAMME  
7-18 August 2023, Honolulu, Hawaii USA

# UNESCO IOC Global Tsunami System

## ICGs, Roles of Tsunami National Contacts, Regional Tsunami Service Providers and Tsunami Information Centers, Tsunami Warning Focal Points, National Tsunami Warning Centers, TICs

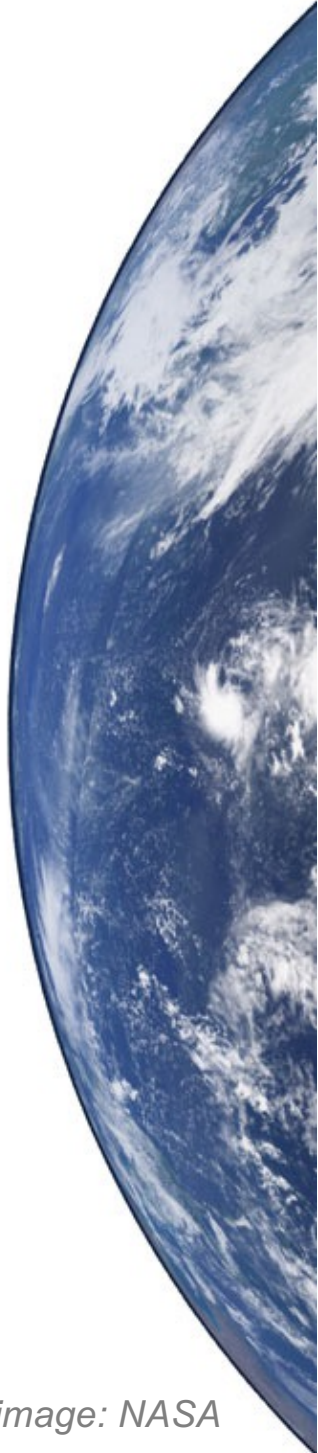
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Dr. Charles McCreery  
Director, PTWC



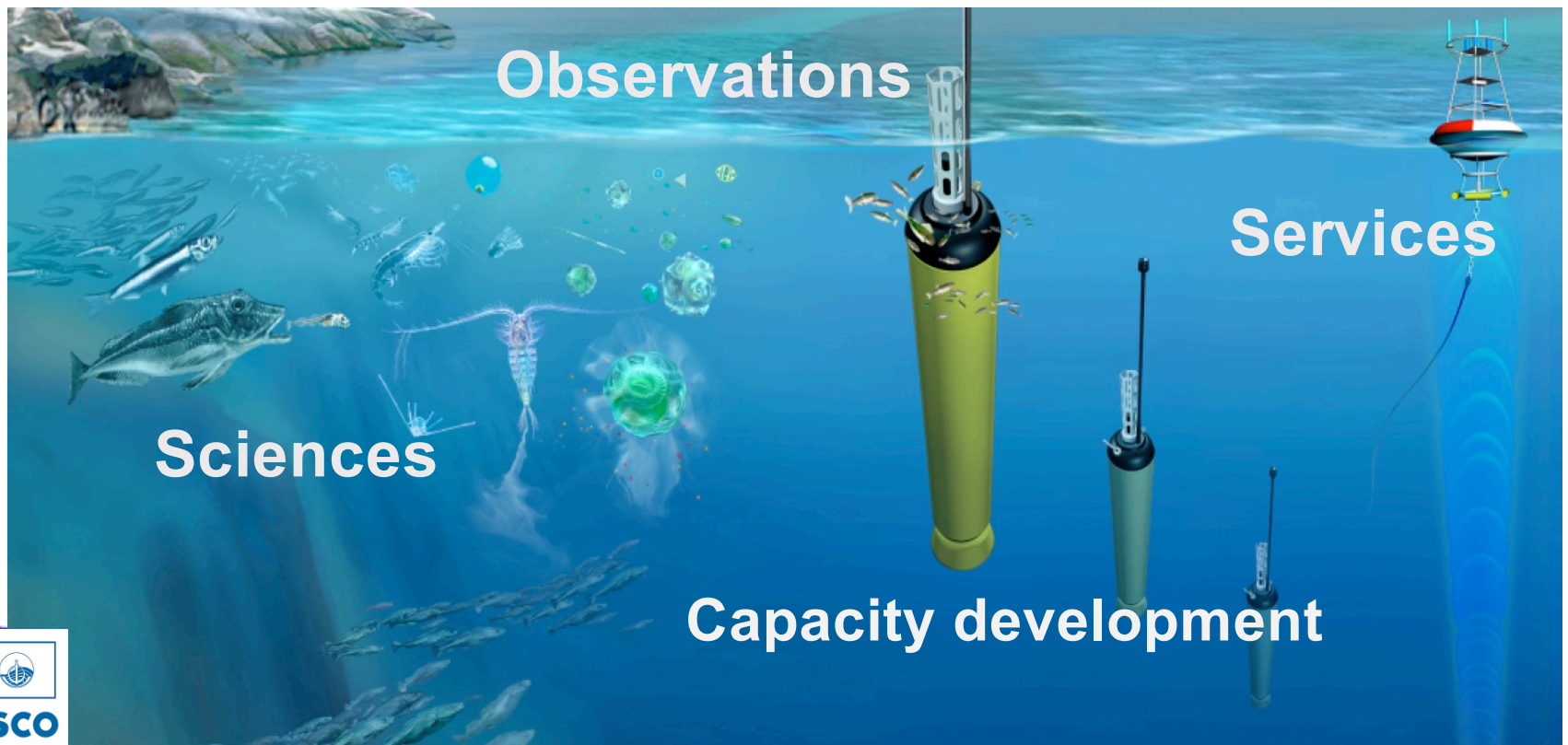
# Intergovernmental Oceanographic Commission

- Focal point in UN for ocean observations, ocean science, ocean services and data exchange
- Competent international organization for marine science
- Marine and Coastal hazards**
- Climate change and variability
- Health of ocean ecosystems
- Sustainability of coastal and ocean environment and resources



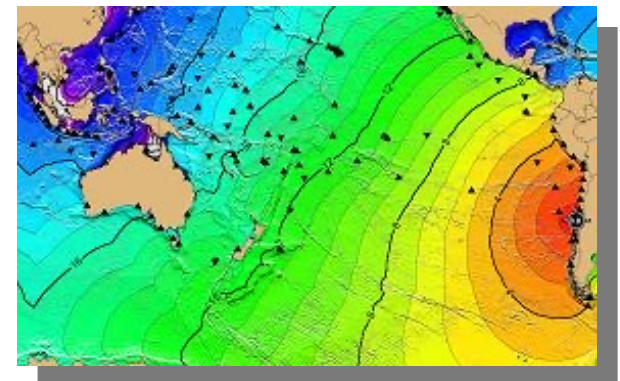
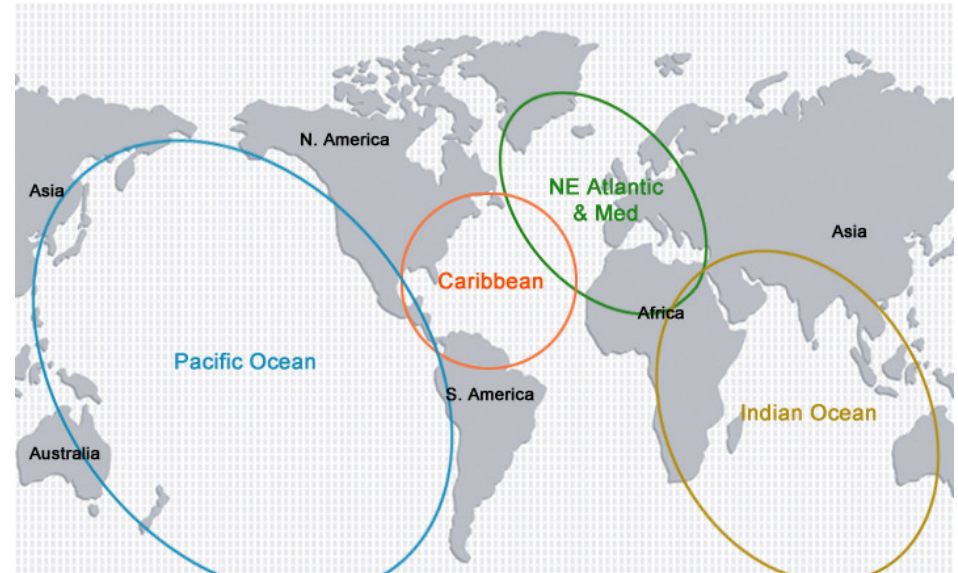
# Intergovernmental Oceanographic Commission

- Promote international cooperation and coordinate programmes
- Apply knowledge for improvement

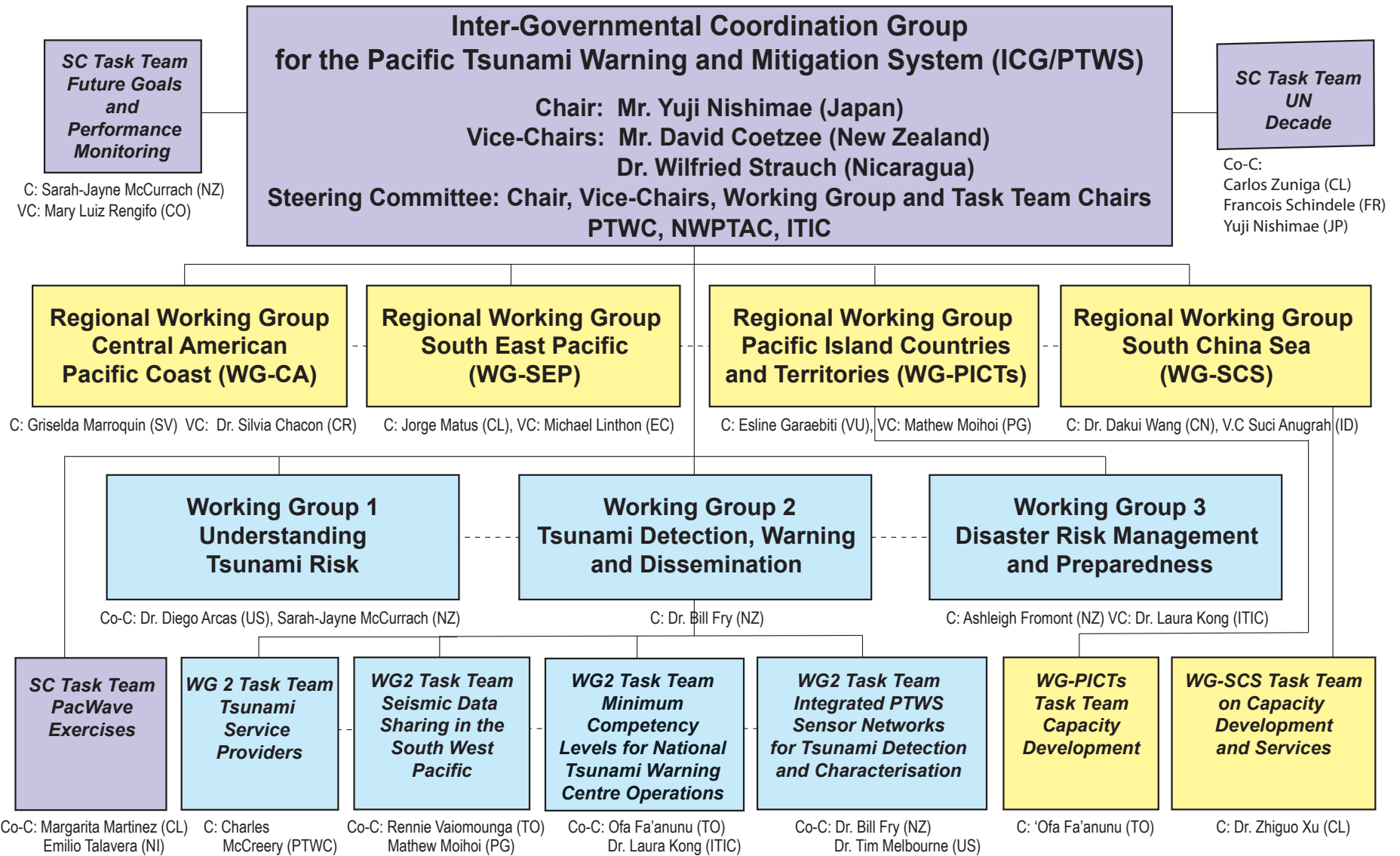


# Tsunami Warning Systems

- Pacific since 1965
- 2004 tsunami in Indian Ocean illustrated need for more
- IOC established three more TWS
  - ICG IOTWS
  - ICG CARIBE EWS and
  - ICG NEAMTWS



# IOC ICG/PTWS STRUCTURE - WORKING GROUPS AND TASK TEAMS 2021-2023



Approved ICG/PTWS-XXIX Dec 2021, update Dec 2022

# Tsunami Warning Centers – Two Types

## Tsunami Service Provider (TSP)

- A center like PTWC and NWPTAC (JMA) with the capability to detect and assess tsunami threats over a large region, and that has been accepted by the ICG to disseminate their threat assessment to other Member States



# IOC Tsunami Information Centres

**PTWS**  
**USA NOAA – IOC**  
**Partnership**  
**1965**



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

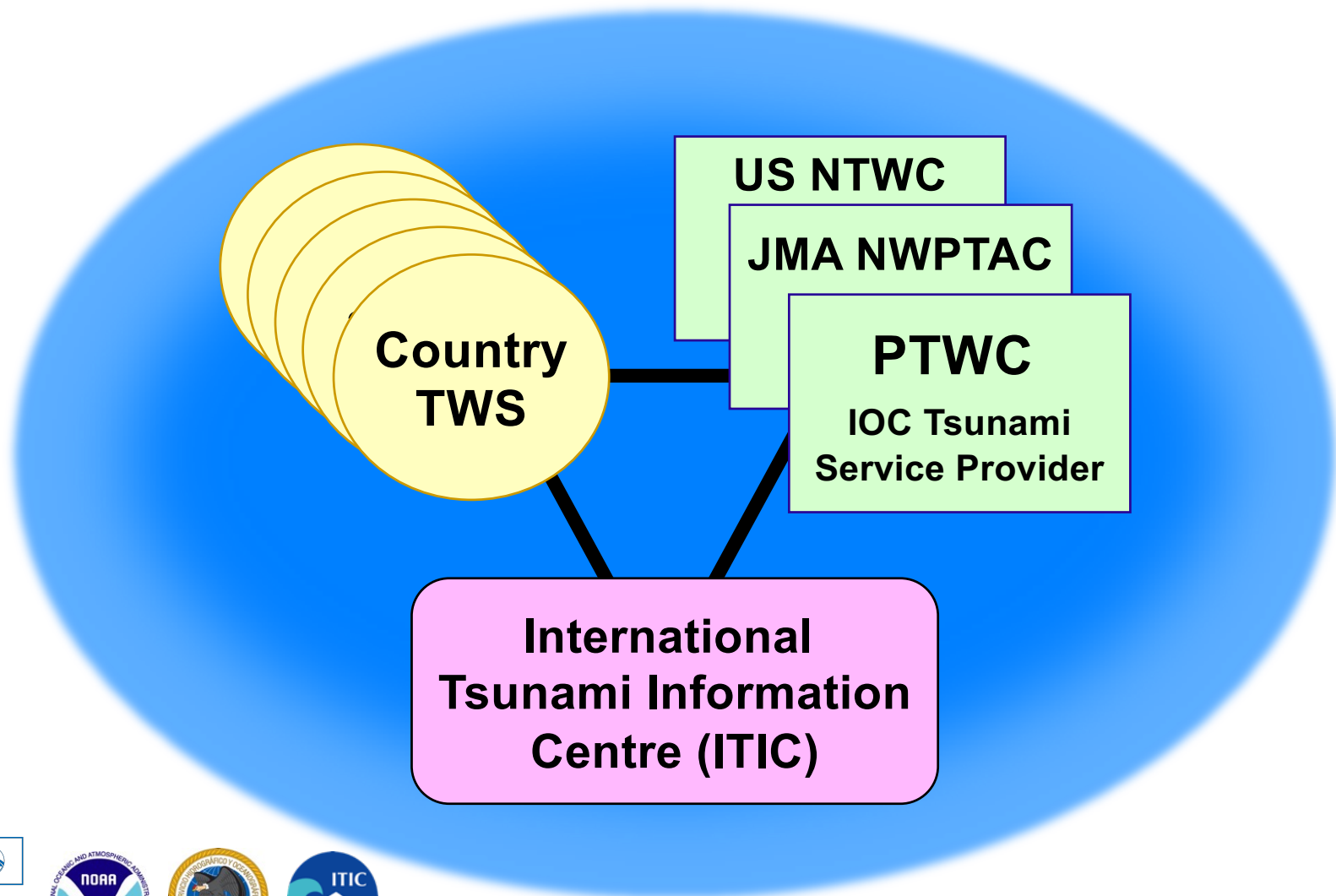


**IOTWS**  
Indonesia – IOC Partnership 2012  
(formerly JTIC since 2006)



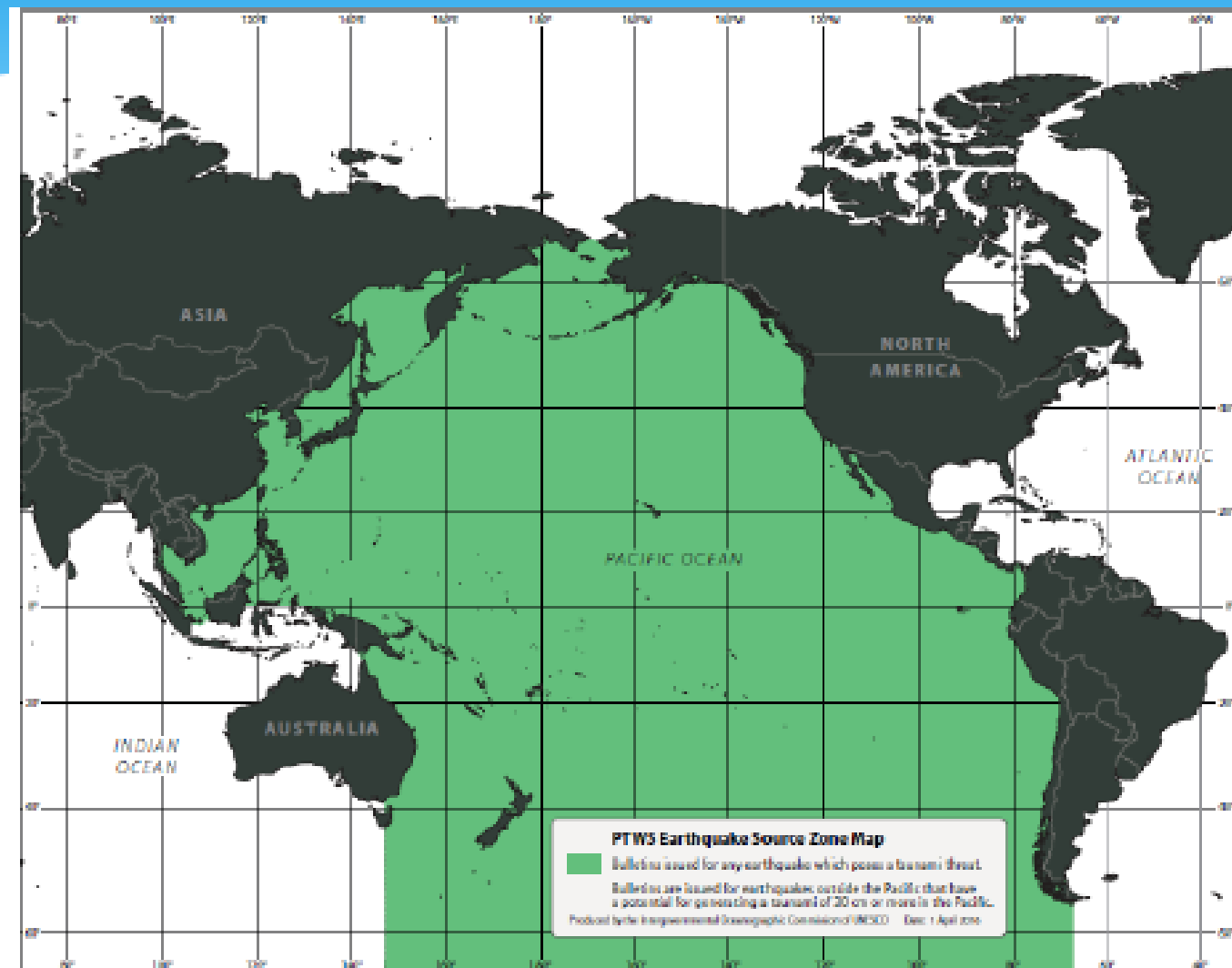
**CARIBE-EWS**  
Barbados– IOC Partnership  
2015 (approved 2007)

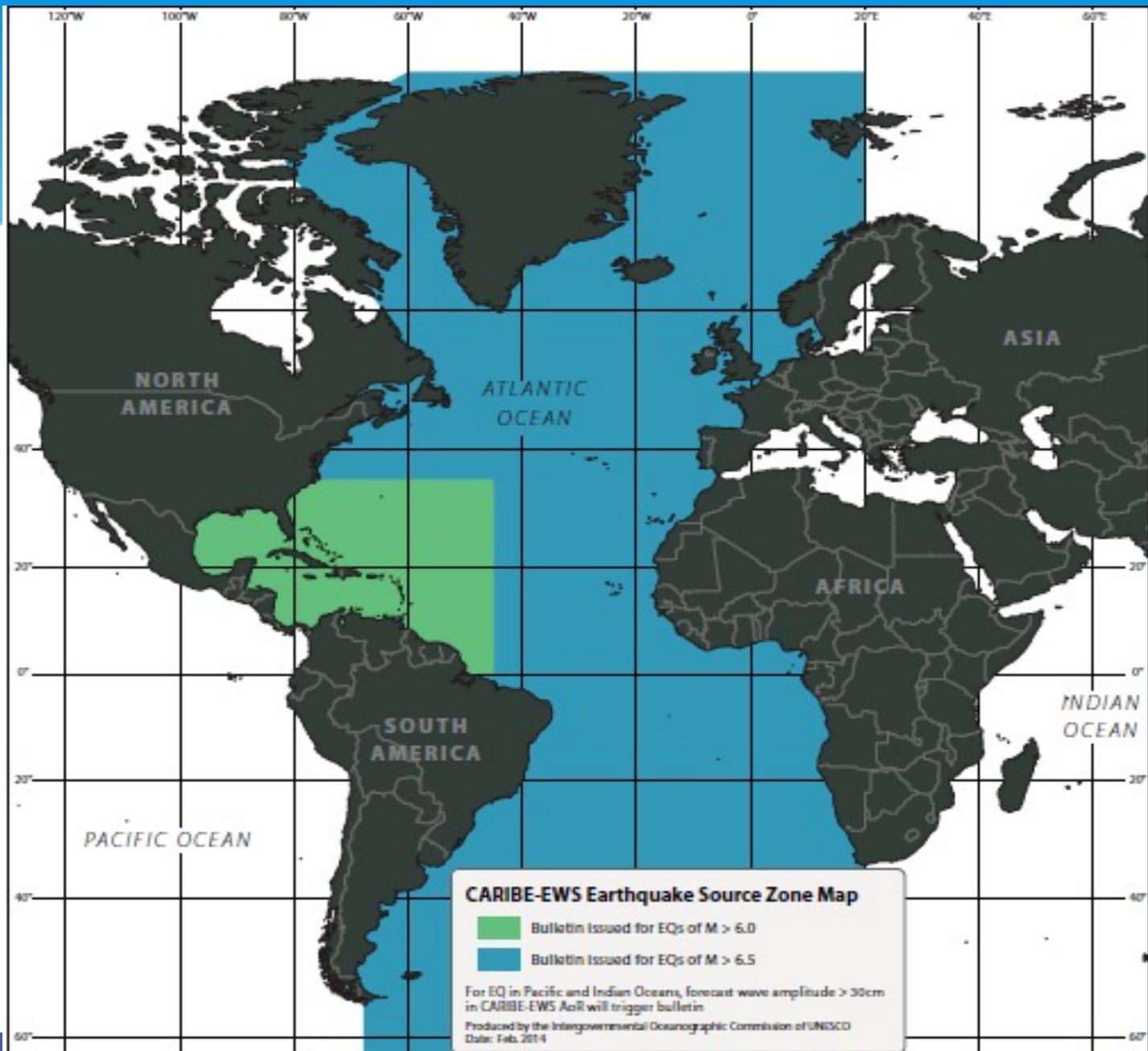
# PACIFIC TSUNAMI WARNING & MITIGATION SYSTEM FOUNDATIONAL ELEMENTS





# PTWS Earthquake Source Zone





# Tsunami Warning Centers – Two Types

## National Tsunami Warning Center (NTWC)

- A center operated by a Member State that has the authority by law or otherwise to issue tsunami warnings for the coasts of that Member State.
- Ideally, an NTWC should have some technical capability to aid in decisions.



Fiji



Yap



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# Thank You

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