



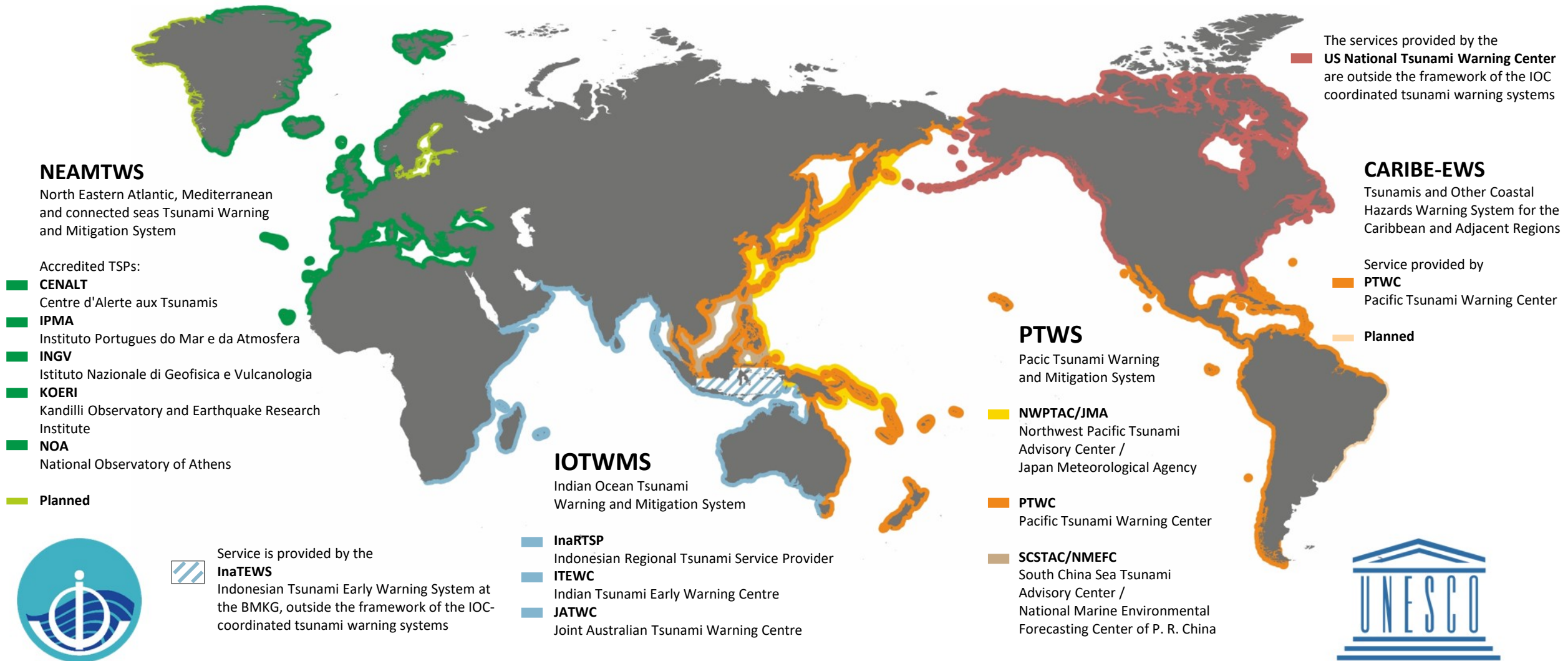
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Intergovernmental
Oceanographic
Commission

THE UN OCEAN
DECADE **SAFE**
OCEAN OUTCOME
AND TSUNAMI
EARLY
WARNING
SYSTEMS

EXISTING SERVICES OF THE GLOBAL TSUNAMI WARNING SYSTEM

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





2021 United Nations Decade
2030 of Ocean Science
for Sustainable Development



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Intergovernmental
Oceanographic
Commission

The **Thirty-first Session** of the Intergovernmental Oceanographic Commission (of UNESCO) Assembly (14-25 June 2021) approved the establishment of the **Ocean Decade Tsunami Programme**, a Scientific Committee to prepare the Draft 10-Year Research, Development and Implementation Plan and Tsunami Ready Coalition

“...this programme will seek to ensure that a country's ability to prepare for, defend against and recover from the tsunami threat is not dependent on what it can afford.”

Alexander Frolov, Jul 2021

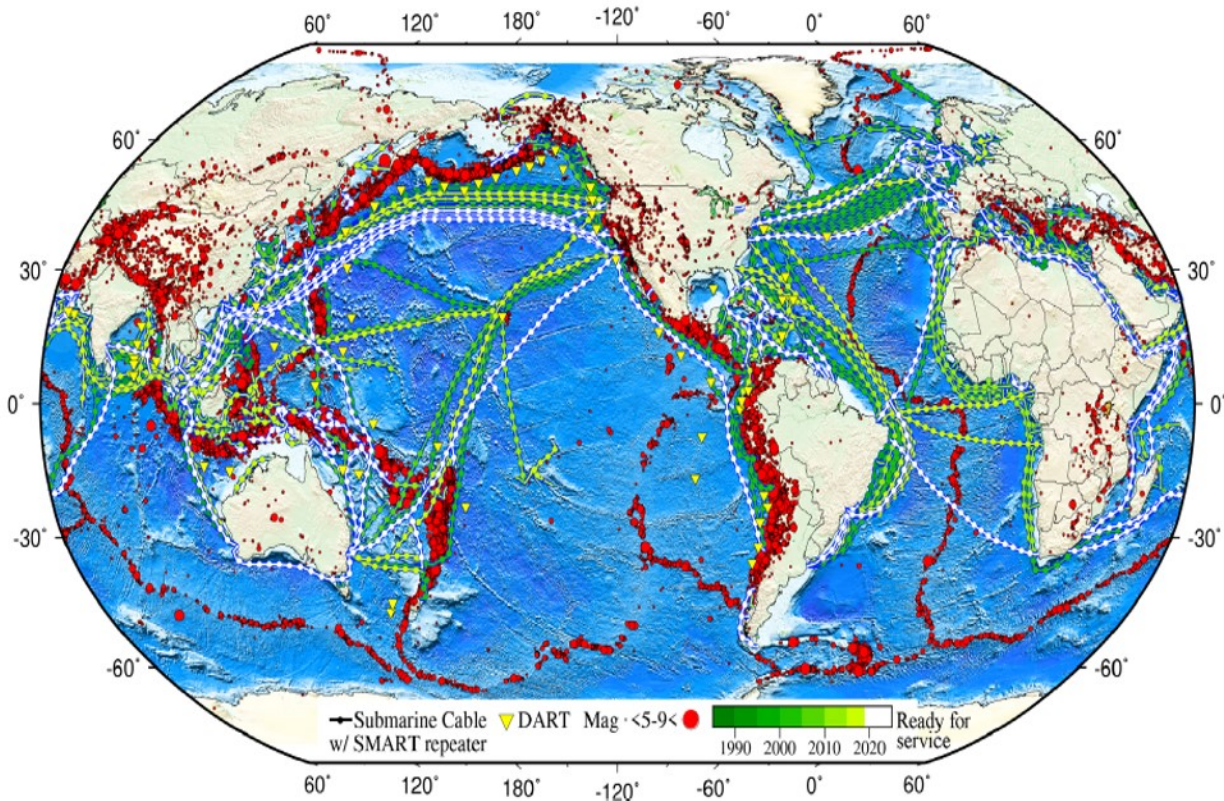
CHALLENGES AND OPPORTUNITIES FOR THE DEVELOPMENT OF THE GLOBAL TSUNAMI WARNING SYSTEM

- Improve data exchange:
 - bathymetry,
 - seismic,
 - sea level,
 - GNSS,
 - Digital Earth Elevation data
- Improve speed of tsunami detection and measurement system on the basis of new technologies (including near-field and non-seismic tsunamis)
- Scaling the IOC Tsunami Ready programme
- Increase capacities for tsunami warning and mitigation within SIDS/LDS
- Ensuring interoperability with other components of a global coastal Multi-Hazard Early Warning System (MHEWS)



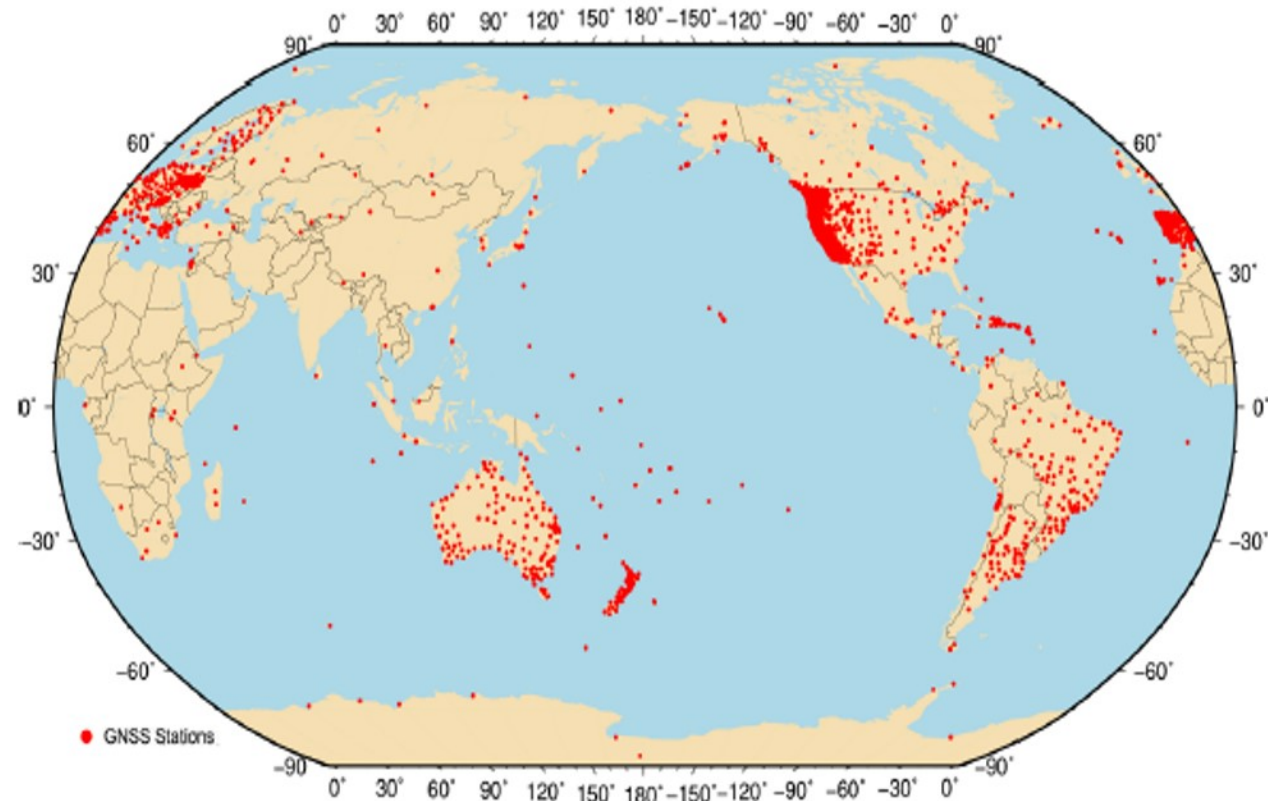
NEW POTENTIAL SOURCES OF SEISMIC OBSERVATIONS FOR TSUNAMI WARNING SYSTEMS

Locations and magnitudes of historical seismic events (red), DART tsunami buoys (yellow triangles) and current (green) and planned (white) submarine cables, SMART repeaters shown every 300 km



Angove, M. et. al, 2019

The location of 2,260 real-time GNSS stations from public networks around the world



Pacific Northwest Geodetic Array/Central Washington University

OCEAN DECADE TSUNAMI PROGRAMME:

Seeking Major Advances in SCIENCE and PREPAREDNESS

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

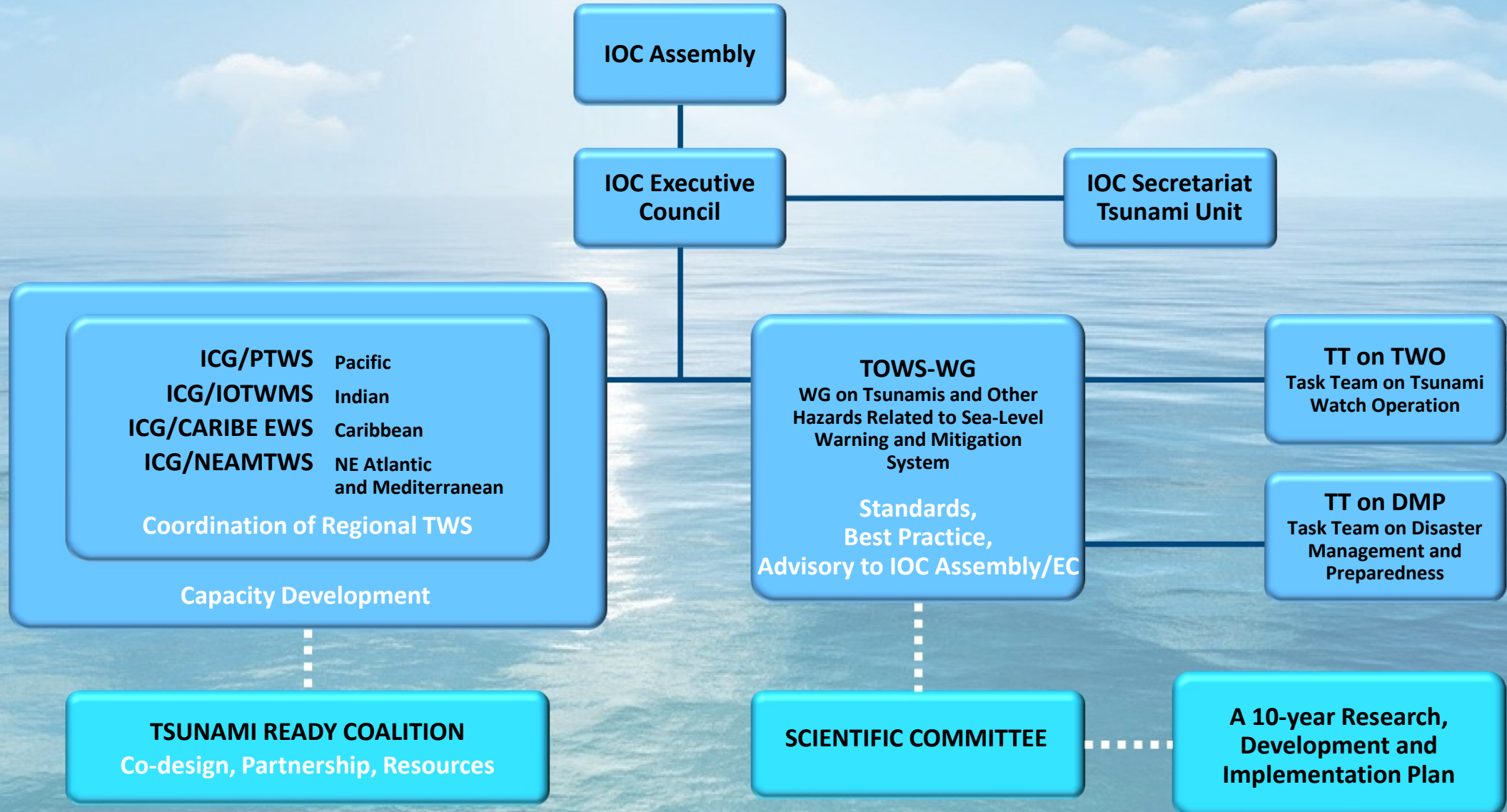
RESILIENCE!

Communities respond to tsunami threats by combining accurate **real-time impact forecasts** with **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



OVERVIEW OF THE OCEAN DECADE TSUNAMI PROGRAMME PLANNINGS



OVERVIEW OF THE OCEAN DECADE TSUNAMI PROGRAMME PLANNINGS (CON'ED)

The TOWS-WG will perform Global Steering Committee functions for the programme



A Scientific Committee with an advisory role for the duration of the programme will be established



The Scientific Committee will be tasked to develop a Draft 10-Year Research, Development and Implementation Plan for the programme for endorsement by the TOWS-WG at its next session



The four ICGs will perform regional Steering Committee functions



A special Coalition for Tsunami Ready will be established in collaboration with other critical stakeholders across the UN structure and national civil protection agencies

OCEAN DECADE TSUNAMI PROGRAMME:

THE MAIN SOCIAL OUTCOME

TO MAKE
100%

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

BY
2030