

## UNESCO Intergovernmental Oceanographic Commission (IOC) – Global Tsunami Performance Monitoring Framework

This assessment table details the criteria for monitoring the performance of TSP's, NTWC's and overall tsunami risk management activities of the ICG/PTWS, ICG/IOTWMS, ICG/CARIBE-EWS, and ICG/NEAMTWS.

There are five main goals that align with the strategic plans of the four ICG's. Each goal has targets that need to be achieved and associated activities and measures.

This framework is aligned with the Pacific Tsunami Warning and Mitigation System (PTWS) strategy 2022-2030, the United Nations Ocean Decade of Ocean Science for Sustainable Development (2021-2030), and IOC Strategy that identifies early warning systems as an important part of its strategic vision – 'Framework for Global Tsunami and Other Ocean Hazards Warning and Mitigation Systems' In addition the framework is closely aligned with the priorities for action and global targets of the [Sendai Framework for Disaster Risk Reduction \(SFDRR\) 2015-2030](#), to ensure international alignment with best practice tsunami risk management, to measure the status against requirements and assist with obtaining resources for continued improvement. Specifically, these measures aim to align with Global Target (g) to substantially increase the availability of and access to multi-hazard early warning systems and disaster risk information and assessments by 2030.

**MISSION:** *To operate a modern and effective global tsunami warning and mitigation system based on global ICG and Member State participation. A key focus is to substantially improve community access to tsunami hazard and risk information, resulting in prepared, aware and resilient countries at risk of tsunamis. Subsequently, we agree to work together, to reduce risk and build resilience to tsunami hazards.*

### GOAL 1: Understanding and Managing Tsunami Hazard and Risk

All Member States understand their tsunami risk in all its dimensions including vulnerability, exposure of persons and assets, the many possible and/or likely tsunami hazard scenario and their characteristics, event frequency, uncertainties, and associated consequences. Such knowledge should be translated into prevention, mitigation, preparedness and response planning activities.

#### GOAL 1 TARGETS

*The aim is to be 100% compliant with each target below*

1.1	<b>Develop</b> methodology and supporting guidance for the modelling of and designation of tsunami inundation and evacuation zones.
1.2	<b>Complete</b> tsunami inundation and evacuation zone mapping
1.3	<b>Implement and designate</b> tsunami evacuation zones.
1.4	<b>Develop methodologies</b> for tsunami hazard risk assessments developed including multi-scenario, location-based risk assessment of tsunami hazard characteristics vulnerability, exposure, likelihood and consequences.
1.5	<b>Conduct</b> and periodically review tsunami hazard risk assessments, using agreed methodologies.
1.6	<b>Translate</b> risk assessment findings to the appropriate stakeholders and sectors.
1.7	<b>Strengthen</b> technical and scientific capability to support locally informed risk assessments.
1.8	<b>Improve</b> the translation of scientific information and data into hazard risk assessments to inform and build on existing knowledge and identify gaps.
1.9	<b>Identify and plan</b> for ways to reduce tsunami risk in the short, medium, and long term, including, for example, through the development of measures such as land use, maritime planning, critical facilities/infrastructure, and structural standards.
1.10	<b>Ensure</b> national and local tsunami response plans have a risk-based approach and relate to the risk assessments.
1.11	<b>Assess</b> ways to reduce, transfer, avoid, control, or accept tsunami hazard risk



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**GOAL 2: Tsunami Detection, Warning & Dissemination**

All Member States with at risk coastal communities receive timely, accurate, reliable, and effective warnings for all tsunami sources

**GOAL 2 TARGETS**

2.1	<b>Build</b> and sustain seismic and other observational network coverage necessary to rapidly detect and analyse all potential tsunami sources.
2.2	<b>Enhance</b> , where appropriate, observational networks to rapidly detect and analyse all potential tsunami sources.
2.3	<b>Ensure</b> monitoring and detection networks are founded on robust scientific information
2.4	<b>Make seismic (real-time)</b> and other observational seismic data needed for rapid tsunami source detection and evaluation, available freely from seismic monitoring networks, accurately and timely to TSPs and NTWCs available from seismic monitoring networks.
2.5	<b>Make sea level (real-time)</b> and other observational data needed for rapid confirmation, characterization, and monitoring of tsunami waves available freely from monitoring networks, accurately and timely to TSPs and NTWCs from monitoring networks.
2.6	<b>Promote</b> the application of simple and low-cost early warning equipment and facilities and broaden release channels for tsunami early warning information
2.7	<b>Invest in, develop, and maintain</b> tsunami hazard, multi-sectoral forecasting, and early warning systems.
2.8	<b>Provide</b> tsunami threat information to Tsunami Warning Focal Points (TWFPs) and NTWCs for each Member State with coastal communities at risk by TSPs.
2.9	<b>Build</b> the capability and capacity to analyse seismic and other appropriate data to quickly detect, locate, and determine the magnitude and focal mechanism of potentially tsunami-genic earthquakes.
2.10	<b>Perform</b> analyses based on seismic, sea-level, and other appropriate data to forecast tsunami impacts within their respective coastal areas of responsibility.
2.11	<b>Compose</b> and issue timely and accurate products to TWFPs and NTWCs of Member States by TSPs.
2.12	<b>Issue</b> timely, accurate, reliable, and effective products regarding potential and confirmed tsunami threats to at risk coastal communities, by TWFPs and NTWCs.
2.13	<b>Perform</b> analyses to rapidly detect and then accurately characterize potential tsunami sources.
2.14	<b>Develop</b> national 24/7 capability to receive or generate tsunami threat information and issue tsunami warnings to coastal communities at risk.
2.15	<b>Establish</b> multiple channels to receive tsunami warnings for coastal communities at risk
2.16	<b>Developing</b> and investing in multi-channel, public alerting systems for effective dissemination of threat advice
2.17	<b>Stay</b> abreast of emerging science regarding tsunami early warning
2.18	<b>Ensure</b> local source tsunami is considered and effectively managed given reduced warning times
2.19	<b>Develop</b> open source and open platforms for detection systems to remove barriers or interdependencies.

**GOAL 3: Enhancing tsunami preparedness for effective community response**

All Member States strengthen tsunami preparedness and awareness for more effective response and recovery.

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GOAL 3 TARGETS	
3.1	<b>Develop</b> , promote, and use national, regional, and local public education strategies and campaigns
3.2	<b>Develop</b> specific guidance developed for local source natural warning signs and associated preparedness plans
3.3	<b>Collaborate</b> with all relevant stakeholders through the involvement of national/local government, the private sector, community-based organizations and non-governmental organizations in tsunami planning and preparedness activities.
3.4	<b>Develop and establish</b> tsunami evacuation zones, signs, routes, and maps in conjunction with community engagement.
3.5	<b>Develop and establish</b> supporting documents to identify and promote tsunami inundation areas, evacuation zones, signs, routes, and maps.
3.6	<b>Ensure</b> all cultures and ethnicities are considered when creating evacuation maps, safe routes, and sign locations, developed in appropriate country specific formats (bi-/multi-languages considered)
3.7	<b>Establish</b> monitoring and evaluation instruments/documents for member states regarding the development and implementation of preparedness, awareness, and response strategies
3.8	<b>Provide</b> support to countries with local source tsunami risk, to complete local source tsunami drills/exercises
3.9	<b>Conduct</b> tsunami evacuation drills and exercises using a multi-stakeholder approach at all levels
3.10	<b>Facilitate</b> ocean basin-wide exercises by ICG Systems and support ICG-Countries to engage and 'play'.
3.11	<b>Consider</b> bespoke risk management tools for at risk communities of local source tsunami e.g., vertical evacuation structures

GOAL 4: Tsunami Event Response and Recovery	
All Member States strengthen and align with emergency management authorities/service providers to ensure effective and efficient response and recovery.	
GOAL 4 TARGETS	
4.1	<b>Test</b> response systems regularly including all responding agencies and stakeholders - <i>Regularly improve</i> and assess adequacy of response systems
4.2	<b>Establish</b> functions and procedures for responding agencies
4.3	<b>Build</b> adequately trained response functions
4.4	<b>Build</b> strong relationships for improved response and recovery
4.5	<b>Develop, manage, and function</b> Emergency Operation Centres (EOC's)
4.6	<b>Undertake post event analysis</b> by evaluating, recording, and integrating tsunami related impacts and losses into assessments to improve knowledge of tsunami hazard frequency and impacts and response functions.
4.7	<b>Use</b> post event analysis to improve response functions, relationships, and collaboration
4.8	<b>Develop</b> and embed tsunami recovery plans at the national, regional, and local level

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**GOAL 5: Global Ocean Coordination, Cooperation and Partnerships**

All Member States work together to detect tsunami threat and build capacity and capability to respond

**GOAL 5 TARGETS**

5.1	<b>Develop</b> strategies, plans and relationships to enhance capacity and capability to respond to tsunami threat and ensure coherence with the Ocean Decade tsunami theme
5.2	<b>Ensure</b> the pillars of the IOC Tsunami Programme are embedded and demonstrated in local and regional tsunami risk management strategies and plans
5.3	<b>Develop</b> programmes and initiatives for the transfer and exchange of science, technology, and innovation for tsunami hazard risk management (response, reduction, readiness, recovery etc)
5.4	<b>Develop</b> , through co-ordinated in country approaches, global progress reports for UNESCO-IOC
5.5	<b>Measure</b> and analyse the progress of global agendas, strategies, and work programmes. This will lead to new and improved initiatives.
5.6	<b>Share</b> learnings and insights from Tsunami Evacuation Maps, Plans and Procedures (TEMPP) and Tsunami Ready (or other in country initiative that has the same activities and intentions as Tsunami Ready)