

Draft Science Plan Outline

Important to consider for all: current status of knowledge, future perspectives, gaps, challenges, ongoing initiatives to address some of those gaps.

1. Risk Assessment and Reduction

1.1. Advance Risk Knowledge

- Understanding and improving our knowledge of global tsunami hazard and risk, including non-seismic generated tsunami events, PTHAs, and use of paleotsunami studies
- Aerial landslide and submarine landslide generated tsunamis
- Volcano generated tsunamis
- Meteotsunamis

1.2 Cascading Risk

- Understanding the impact and the socio-economic cost of tsunamis on livelihood, critical infrastructure and marine assets, including in the context of cascading risk such as including climate change

2. Detection, Warning and Dissemination

2.1 Detection and Monitoring

- Existing tsunami observational systems coverage
- Expansion of monitoring systems to meet improved warning requirements through expansion of existing systems and innovation through new technologies
 - GNSS
 - Tsunameter Buoys
 - Sea Level Coastal Stations
 - Sensors on undersea telecommunication (SMART) cables
 - Cabled observatories S-DONET networks
 - Infrasound measurements
 - Bathymetry Data – the role of Seabed 2030

2.2 Warning

- Tsunami forecasts (data access, availability and collection, identification of critical tsunami generation parameters)
- Enhanced Monitoring, Forecasting and Warning Requirements to improve timeliness and accuracy of warnings
- Tsunami Probabilistic Forecast and Integration in Decision Making Tools
- Tsunami Inundation and Impact Based Forecasting
- Rapid tsunami detection and measurement
- New and emerging methodologies
- Effective operationalization-Interoperability
- Competency training for NTWC and DMO staff

2.3 Warning Dissemination and Communication

- Integration in multi hazard early warning (MHEW) framework (NTWCs and DMOs roles...)
- National tsunami warning chains and SOPs
- Warning Dissemination and Communication Options
- Common Alert Protocols
- New/emerging technologies (Digital and Communication)
- Role of Broadcast and Social Media

3. Awareness and Response

3.1 Response Capability

- Regional and national capacity assessment of each ICG and Member State
- Strategy to achieve 100% at-risk communities Tsunami Ready
- Implementation of the UNESCO-IOC Tsunami Ready Recognition Programme and enhanced access and capacity for Tsunami Ready communities
- Enhanced integration of communities at risk
- Plans to minimize impacts to critical infrastructure and marine assets

3.2 Capacity Development and Attention to SIDS and LDCs

- Dedicated capacity development effort
- Capacity development for Local Communities
- Tsunami education curriculum
- SIDS and LDC full integration
- Bridging science, policy and development through multidisciplinary approach

4. Governance: Cooperation, Participation: Inclusiveness, Legal, Institutional policy and regulatory frameworks

- Cooperation
- Inclusiveness, gender diversity, youth involvement
- Legal, Institutional policy and regulatory aspects
- Accountability

5. Monitoring / Reporting on the Global Sendai Target G

- Global tsunami warning & mitigation system KPIs
- UN Ocean Decade Tsunami Programme milestones and progress reporting

6. Recommendations

7. Implementation Plan

- Circular Letter + update survey
- Milestones, performance indicators
- Regular UN Ocean Decade calls focused on advice from TOWS working group and its TT
- Regular biennial scientific symposiums starting 2023