



United Nations  
Educational, Scientific and  
Cultural Organization



Intergovernmental  
Oceanographic  
Commission

**Steering Group of the Intergovernmental Coordination Group for the  
Indian Ocean Tsunami Warning and Mitigation System (ICG/IOTWMS)**

**Online Meeting of 14-15 July 2022**

## ***WG2 Report & Recommendations***

**Chair: Dr Yuelong Miao (Australia)**

**Vice-Chair: Mr Patanjali Kumar Chodavarapu (India)**

**Vice-Chair: Dr Karyono (Indonesia)**

# 1. Progress on Activities as set out in the Work Plan 2019 - 2021



1. Maintain the NTWC User Guide and TSP Service Definition Document and assist TSPs to implement the requirements of the TSP Service Definition Document
  - ✓ Add an explicit statement about TSPs can issue a Level 2 bulletin if a threat to the Indian Ocean even if earthquake is outside the Indian Ocean and less than M8.0
  - ✓ Any earthquake magnitude change will be marked as "Updated" instead of "Revised"
  - ✓ Add requirements and format of a new TSP product for NAVAREA Maritime Community
  - ✓ KPIs reporting now requires Mag 6.8 or above, also defined thresholds of each KPI for assigning traffic light of **on target/near target/missing target**
  - ☐ Expand the TSP services to non-seismic tsunami (best effort only)
2. Review and harmonise TSP products and websites for NTWC users including NTWC reporting (**ongoing**)
3. Conduct 6 monthly IOTWMS Communication Tests and prepare reports of each test in conjunction with the Secretariat. Also assist the Secretariat in maintaining a log of issues arising from the tests, and in following up the issues with Member States.
  - ✓ 6 comms tests and one IOWave20 conducted with issues captured in each report.
4. Contribute to the planning and running of SOP Training workshops for Indian Ocean NTWCs, DMOs and Media, IOWave20 Exercise and to the Post IOWave20 Workshop. Follow up the Working Group 2 related recommendations in the IOWave18 Report.
  - ✓ Contributed to the IOTWMS - IOTIC - BMKG Indian Ocean Regional Workshop on Strengthening Tsunami Warning Chain to Critical Infrastructure, 20-22 Nov 2019
  - ✓ Supported the Pre-IOWave20 Webinar 28-30 Sep 2020, and the Post-IOWave20 Webinar 11-12 Nov 2020

# 1. Progress on Activities as set out in the Work Plan 2019 - 2021



5. Review and support operationalising the comprehensive system developed by TSP India for archiving and auto generating KPIs for the IOTWMS ([in progress](#)).
6. Assist the Secretariat in maintaining the database of seismic and sea-level reporting stations for the IOTWMS ([yes](#)).
7. Assist the TSPs in planning for the later introduction of Service Level 3 coastal inundation services, in collaboration with Working Group 1 and the NTWCs ([TSP India piloting](#)).
8. Assist the TSPs in implementing CAP, mobile applications and social media for effective dissemination of tsunami information ([Task Team on CAP formed, WRS being successfully tested in recent comms tests](#))
9. Assist the TSPs for initiating tsunami bulletins for the Maritime community based on formats finalised by the TOWS-WG ([TSP Australia implemented, other TSPs planned](#))
10. Assist the TSPs on service enhancements for atypical and near-field tsunami sources by utilising new techniques and enhanced observational networks as GNSS, SMART Cables, etc. ([Ongoing](#))
11. Coordinate with WG-NWIO and the Task Teams for strengthening tsunami early warning in the North West Indian Ocean region ([Contributed and collaborated between teams](#))

## 2. Challenges

- Maintaining sustainable funding either for maintaining existing and implementing new observing systems, or for R&D on supporting the effort in implementing new technologies
- Working in Silos, within and between the upstream and downstream agencies
- Integrated Multi-hazard warning
- Improve the timeliness and certainty of tsunami detection and warning particularly to near-field tsunami

# 3. Pathways Forward & Opportunities

## 1. Expansion of existing and deployment of new technologies addressing observational gaps

- Identify fit-for-purpose integrated observational systems
- Detect and warn for non-seismic and complex tsunamis and timely warn for near-field tsunami
- Advocate for SMART Cable
- Pursue strategic partnerships with relevant national and international data and information providers e.g. IUGG, ITU

## 2. Wide expansion of real and near-real time data access and availability

- Strongly advocate the importance of data sharing by monitoring and highlighting data gaps
- Develop agreement (at the right level and with the right organisation) to enable data sharing
- Pursue strategic partnerships with relevant national and international data and information providers

## 3. Access to data, tools and communication platforms, protocols and training to timely and effectively warn coastal and maritime communities

- Demonstrations of the effectiveness of enhanced warnings reaching the level of local community
- Regular training on SOPs for early warning to demonstrate value adding of data, tools and training itself
- Engage and integrate with other agencies, institutions, organization working on early warning as part of the multi-hazard approach
- Actively pursue strategic partnerships with other relevant and potential national and international groups involved in R&D, data and warning tool development, e.g. maritime authorities, community leaders, NGOs, WMO, IUGG, Youth and young professional platforms

# 4. Pending WG2 Recommendations and Actions

15.2	WG2 2019.01R WG2 to develop a discussion paper on whether TSPs should send actual threat information bulletins directly to NTWCs, and not just notifications to obtain information from registered TSP web sites, as per present practice	WG2	May 2022 (ICG XIII)
15.2	WG2 2019.02R WG2 to update the ICG/IOTWMS Service Definition Document for Tsunami Service Providers (TSPs)	WG2	May 2022 (ICG XIII)
15.2	WG2 2019.07 WG2 to prepare advice and guidelines on how to monitor and warn for <del>atypical</del> non-seismic tsunami events, taking into account the work of the TOWS-WG on Tsunami Watch Operations.	WG2	May 2022 (ICG XIII)
15.2	WG2 2021 Secretariat in conjunction with IOTIC to implement two NTWC/DMO/Media SOP workshops in the 2 <sup>nd</sup> half of 2022 (western IO and eastern IO), taking into account lessons learnt from the UNESCAP project in the NWIO, and considering the fact the next IOWAVE Exercise is in 2023.	Secretariat IOTIC	Jul - Dec 2022

Thanks!