TOWS-WG TT TWO: Status of Recommendations and Actions (February 2022)

ID#	Open Recommendations and Actions	Status	Responsible	Feb 22 Agenda Item
TOWS- WG Rec 2020	Integrate high resolution offshore bathymetry and land elevation data into a unified coastal terrain model and extend the data sharing for improved characterization of tsunami and other coastal hazards and risks; and also advocate this through International Hydrographic Organization and regional hydrographic commission;	Feb 21: Ongoing. Mr. Yuji Nishimae shared news on the Nippon Foundation – GEBCO Seabed 2030 Project, a 10-year project with goal of having 100% of the ocean floor mapped by 2030. This effort can feed into this particular recommendation of the TOWS-WG. Feb22: Needs further discussion on path forward on how to achieve	Secretariat	10
TOWS- WG Rec 2020	Register National Tsunami WarningCentres and Tsunami Warning Focal Points as alerting authorities in the "WMO Alerting Authority Register" via the WMO National Permanent Representative and in follow-up to WMO Circular Letters;	Feb 21: On hold. In the last meeting of the TOWS-WG, David Thomas of the WMO noted that registration is currently cumbersome, that there is no separate category for Tsunami Alerting Centres, but that WMO is in the process of improving the interface. Feb 22: Latest advice from WMO is there is an appropriate category to register under and NTWCs and TSPs should proceed.	ICG reps Secretariat	2

TOWS- WG Rec 2020	Request their National Tsunami Warning Centres to make public national tsunami warnings available in the Common Alerting Protocol (CAP) format as an addition to their current messages, as applicable. This would allow this warning information together with other coastal hazard warnings to be widely disseminated and available on multiple platforms such as the Global Meteo Alert System (GMAS) under development by World Meteorological Organization.	Feb 21: Ongoing / on hold. PTWS: this item was not discussed yet as their ICG meetings are biennial. NEAM region: NEAMWTS will host NEAMWave21 exercise from 8 to 10 March 2021. One of the TSPs will make use of CAP during the exercise. The IOTWMS is encouraging and assisting their Member States to implement CAP in theirnational service messages. Updates were not available on this issue from the CARIBE-EWS. Feb 22:	All ICG reps Secretariat	12

2020 Action 2:	Noting the importance of CAP for provision of harmonized tsunamiwarnings, requests IOTWMS to make a presentation to the next meeting of the Task Team on use of the Common Alerting Protocol (CAP).	Feb 21: Discussions ongoing. There had been a request in 2019 from a country with coasts in two different systems asking if TSP message formats and content could be harmonized. In last year's TTTWO meeting it was suggested that this could possibly be achieved by having all TSPs provide messages in the CAP format. Mr. Pattabhi Rama Rao Eluri briefed that CAP implementation for Indian Ocean was discussed extensively in the IOTWMS. As per the current arrangements, the 3 IOTWMS TSPs (Australia, India and Indonesia) are sending the notifications to Indian Ocean member states that contain a link to their password protected TSP websites. IOTWMS felt that CAP is more appropriate at the national level rather than at the regional TSP level and that adding a link to CAP in the TSP websites would not serve the intended purpose. Hence, it was recommended by the IOTWMS to encourage and assist the NTWC member states to implement CAP in their national service, including developing CAPguidance for NTWCs. Feb 22:	All	12
2020 Action 3:	IOC Secretariat to explore the possibility of providing links to TSP websites on the IOC TSU Webpage.	Feb 21: Ongoing. Will be shortly available. Feb 22: Access is available, but not easily found, as one level down under Global Coordination	Secretariat	3
2021 Action 2:	Prepare the final report on atypical tsunami sources for presentation the 2022TTTWO meeting.	Feb 22:	Francois Schindele	J2

2021 Action 3:	Update the Global Service Definition Document (GSDD) during the inter-sessional period and submit for approval at the 2022 TOWS-WG meeting.	Feb 22: NEAM threat-based and level of warnings recommended globally by TOWS-WG has not yet been adopted due to several issues such as definition of No Threat and translation of new terminology. TT TWO and TOWS-WG need to discuss the need to include warning for atypical tsunamis as part of global service and inclusion in GSDD	Francois Schindele Secretariat	14
2021 Action 4:	Consider methods and recommendations for routine calibration and testing of sea level gauges that are used for tsunami detection noting that regular calibrating is more difficult in remote regions.	Feb 22: Comment by Secretariat – need establish a Task Force to progress this	Nobody assigned	6
2021 Rec 1:	Local source tsunami standard operating procedures should be included as an important component of the UNESCO-IOC Tsunami Ready programme.	Feb 22: Outcome to be reviewed in joint session with TT DMP	Secretariat	J2, J5, J6
2021 Rec 2:	Develop standardized trainings that can be delivered online or in person, in particular through the Ocean Teacher Global Academy (OTGA).	Feb 22: See outcomes discussed in Agenda J6	Secretariat	J6

2021	The TTTWO recommends the Tsunami Programme include five focus areas related to tsunami warning	Feb 22:	Secretariat	10, J9
<i>Rec 3:</i>	capability:	Recommendation was endorsed and included in		
(to TOWS- WG)	 Expansion of existing observational systems including seismometers, coastal tide gauges, and deep ocean tsunameters to fill identified gaps. Develop and implement new technologies to address observational gaps that cannot becovered by existing networks. This would include the widespread deployment of scientific instrumentation on deep-ocean telecommunications cables as developed by the ITU/WMO/UNESCO-IOC Joint Task Force (JTF) SMART Subsea Cables, and GNSS-based applications including both ground motion and 	TOWS-WG recommendations to IOC Assembly		
	atmospheric perturbation detection. 3. Gain full access to real-time or near real-time, appropriately calibrated and sampled, sea level, seismic, and GNSS data from existing instruments as well as the relevant tools to utilize these data for the rapid detection and accurate forecasting of tsunamis from all source mechanisms.			
	4. Increase access and collection of coastal topographic and bathymetric data, in collaborationwith SEABED 2030, as well as high performance computational capabilities to enable more comprehensive tsunami and other coastal hazard forecasts to better advise community response.			
	5. Ensure all National Tsunami Warning Centers have access to data, tools and communication platforms, protocols and competencies to timely and effectively warn coastal and maritime communities			

2021 Rec 4:	In the light of an event impacting two ICGs, in particular the PTWS and the CARIBE-EWS, it is recommended to discuss this issue first within those ICGs.	Feb 22: Continuing events such as in the South Atlantic that may effect the Pacific, Atlantic and Indian oceans, and also atypical tsunamis that may occur outside current Areas of Service (AoS) for each ICG, necessitate the need to review GSDD and AoS.	Chip McCreery Secretariat	5
2021 Rec 5:	Review the GSDD at each TTTWO meeting with a view to publish a new version every 3 years, when necessary	Feb 22: This will be a standing agenda item at each meeting of the TT TWO	Secretariat	14
2021 Rec 6: (to TOWS- WG)	In regard to the next Tsunami Symposium, incorporate more diversity in the organising committee by inclusion of all regions; consider a venue that can accommodate a hybrid meeting that would enable the most people to successfully participate and engage; and explore funding opportunities.	Feb 22: Endorsed by TOWS-WG and reflected in their recommendations to the IOC Assembly, who endorsed the same.	Secretariat	J11