



3.1 STATUS OF IMPLEMENTATION OF IOC Decision EC-57/3.2.1

IOC Decision EC-57/3.2.1	Status report
<p>Working Group on Tsunamis and Other Hazards Related to Sea-Level Warning and Mitigation Systems (TOWS-WG) <u>Decides</u> that IOC should collaborate more closely with the WMO to connect tsunami activities with the Multi Hazard Early Warning Systems (MHEWS) and UN Secretary General Early Warning for All Initiative (EW4All), such as the WMO Coastal Inundation Forecasting Initiative (CIFI) that is an example of a multi-activity addressing coastal inundation, no matter the source of the coastal inundation</p>	<p>Not implemented</p>
<p><u>Encourages Member States to:</u> (i) provide voluntary financial contributions to the IOC special account and in-kind contributions to support the Ocean Decade Tsunami Programme and UNESCO-IOC Tsunami Ready Recognition Programme;</p>	<p>Funding contributed by NORAD (Norway) and USAID (USA) towards Tsunami Ready initiatives in the Caribbean, Pacific Islands Countries and Territories. Renewal of voluntary contributions for IOTWMS by Australia for 4 years (2024-2027) and Indonesia (6 years, 2022-2027), European Union and UN ESCAP renewal of projects Costawave2 and Phase c of the ESCAP project</p>
<p>Working Group on Tsunamis and Other Hazards Related to Sea-Level Warning and Mitigation Systems (TOWS-WG) <u>Instructs ICGs to:</u> (i) consider performing exercises outside of working hours, in particular during the night, but being careful to take into consideration difficulties and possible issues of involving the public in night-time drills;</p>	<p>(i) Ongoing;</p>



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<p>(ii) consider whether Tsunami Service Providers (TSPs) may also need to provide services where volcano generated tsunamis may impact several Member States;</p> <p>(iii) utilise exercises and communication tests as an opportunity to simultaneously monitor data availability and quality;</p> <p>(iv) utilise and promote the use of multi-purpose sea level monitoring stations in support of MHEWS to enhance data coverage and reduce costs;</p> <p>(v) share information and procedures on deployments of new technologies to monitor sea level variations used for tsunami warning purposes, such as the ongoing project of the CAM SMART cable off Portugal, TAM TAM SMART cable between New Caledonia and Vanuatu, undersea cable installations being deployed by Indonesia and India, and the InSEA Wet Demo smart cable in the Ionian Sea offshore Sicily;</p> <p>(vi) TSPs identified for each ICG to trial dissemination of maritime bulletins to respective NAVAREA operators in their Area of Service (AoS) in the second half of 2024 for full operational implementation where possible in 2025;</p> <p>(vii) ICG/PTWS Task Team Tsunami Ready to share the ICG/PTWS guidance on Tsunami Ready Equivalency for further consideration by TT-DMP, as a potential mechanism for reporting toward this goal;</p> <p>(viii) ICG/IOTWMS WG1 and WG3 to develop and share guidelines for Tsunami Ready Critical Infrastructure;</p>	<p>(ii) Ongoing – see TT TWO report;</p> <p>(iii) Ongoing</p> <p>(iv) Ongoing.</p> <p>(v) Ongoing.</p> <p>(vi) Ongoing, see report TT-TWO.</p> <p>(vii) Ongoing, see report TT-DMP</p> <p>(viii) Ongoing;</p>
<p><u>Requests the IOC Secretariat to:</u></p> <p>(i) advise all Member States via Circular Letter (CL) that TSP fax transmissions of tsunami information products will cease from 6 months of CL date, unless Member States advise within three months that fax transmissions of tsunami information products is essential for National Tsunami Warning Centre (NTWC) functions and there is no other back-up;</p>	<p>(i) Done – CL-3006</p>



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<p>(ii) develop a reporting mechanism to allow ICGs to report progress on related projects within the Ocean Decade and against the ODTP-RDIP KPIs, aligning this with the proposed Global KPI Framework for the UNESCO-IOC Tsunami Programme;</p> <p>(iii) distribute the report on Monitoring and warning for tsunamis generated by volcanoes (IOC/2024/TS/183), including the List of Tsunamigenic Volcanoes, to Volcano Observatories and UNESCO-IOC Member States;</p> <p>(iv) organise online webinars for each ICG involving relevant Volcano Observatories and Volcanic Ash Advisory Centers (VAACs) to:</p> <ul style="list-style-type: none"> • brief on the report on Monitoring and warning for tsunamis generated by volcanoes (IOC/2024/TS/183) and its recommendations, • highlight the hazard and vulnerable Member States, • initiate the required partnerships between NTWCs and Volcano Observatories and VAACs, • Initiate consideration of whether TSPs may also need to provide services where tsunami generated by volcanoes may impact several Member States; <p>(v) organise in 2024 webinars in coordination with IHO for the NAVAREA operators and back-up METAREA operators to introduce the new service and products for the maritime community, and obtain and advise TSPs of the contact information for their respective NAVAREA and METAREA operators to disseminate the new maritime bulletins;</p> <p>(vi) with TICs' lead, develop and share a Tsunami Ready Toolkit to assist Member States in implementing the TRRP. The toolkit may include a standard and clear procedure, format, and method for submitting the Tsunami Ready application and its supporting documentation, including clarification on the definition of community in the frame of the UNESCO-IOC Tsunami Ready Recognition Programme;</p>	<p>(ii) Ongoing</p> <p>(iii) Done CL-3029</p> <p>(iv) scheduled on 16 and 23 April 2025</p> <p>(v) Partially done, started with PacWAVE24</p> <p>(vi) Done – M&G 74 to be updated – see report TT DMP</p>



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(vii) inform Member States on the Tsunami Ready Toolkit’s availability via IOC Circular Letter to the Tsunami National Contacts, National Tsunami Ready Boards, and widely through attaching this as an appendix of the Standard guidelines for the Tsunami Ready Recognition Programme (IOC/2022/MG/74);	(vii) To be done

3.1 STATUS OF IMPLEMENTATION OF IOC Decision A-32/4.3.1. (update)

IOC Decision A-31/3.4.1	Status report
<p>Working Group on Tsunamis and Other Hazards Related to Sea-Level Warning and Mitigation Systems (TOWS-WG) Decides to endorse the 10-Year Research, Development and Implementation Plan of the Ocean Decade Tsunami Programme as presented in document IOC/A-32/3.4.1.2.Doc(1);</p>	<p>UNESCO-IOC. 2023. Research, Development and Implementation Plan for the Ocean Decade Tsunami Programme. IOC Technical Series No 180. Paris, UNESCO (English only)</p> <p>Research, development, implementation plan for the Ocean Decade Tsunami Programme: executive summary, IOC/BRO/2023/4</p>
<p>Working Group on Tsunamis and Other Hazards Related to Sea-Level Warning and Mitigation Systems (TOWS-WG) <u>Encourages Member States to:</u> (ii) provide voluntary financial contributions to the IOC special account and in-kind contributions to support the Ocean Decade Tsunami Programme and UNESCO/IOC Tsunami Ready Recognition Programme;</p>	<p>Funding contributed by NORAD (Norway) and USAID (USA) towards Tsunami Ready initiatives in the Caribbean, Pacific Islands Countries and Territories. Renewal of voluntary contributions for IOTWMS by Australia for 4 years (2024-2027) and Indonesia (6 years, 2022-2027)</p>



IOC Decision A-31/3.4.1	Status report
<p>Working Group on Tsunamis and Other Hazards Related to Sea-Level Warning and Mitigation Systems (TOWS-WG)</p> <p><u>Instructs ICGs to:</u></p> <ul style="list-style-type: none"> (i) encourage sea level data is sampled at one second intervals and with the highest available accuracy and transmitted in real-time as a matter of priority, given the critical need to resolve and understand the near-field threat to high at-risk communities where a tsunami generated by non-subduction earthquake sources as well as non-seismic sources (e.g. generated by volcanoes) may arrive in minutes; (ii) encourage sea-level network operators to undertake regular and routine calibration of their sea-level monitoring instrumentation, following recommendations of IOC Manuals & Guides 3 and 14 (Volumes I–V); (iii) routinely monitor the status of seismic and sea level related observing networks to identify and better help rectify gaps in coverage and free and open data exchange; (iv) Consider and implement the recommendations of the Ad Hoc Team on Tsunamis Generated by Volcanoes with respect to the hazard assessment, monitoring and warning requirements, including costs of deploying and maintaining such systems. Where identified tsunamis generated by volcanoes may impact multiple Member States, TSPs for the relevant ocean basin tsunami warning and mitigation systems should consider if they need to be involved in monitoring and provision of threat advice; (v) TSPs in collaboration with NAVAREA operators of the International Hydrographic Organization (IHO) test the tsunami maritime safety products in 2023/24, with a view to operationally implementing them in 2024-2025; 	<ul style="list-style-type: none"> (i) Ongoing action by sea level networks and ICGs; \ (ii) Ongoing action by sea level networks with training support by GLOSS; (iii) ICG working groups in charge of monitoring and TSPs routinely monitor the status of seismic and sea level observing networks; (iv) Under analysis in some ICGs (to be reported by ICGs); (v) TSPs ongoing plans (PTWS, IOTWMS) to test/implement pilots and full operational services by 2024-2025;



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<p>(vi) add the task to the Terms of Reference of the ICGs and TICs to facilitate the implementation and functioning of the UNESCO/IOC Tsunami Ready Recognition Programme;</p> <p>(vii) add the role of ICGs as regional Steering Committees for the ODTP in their Terms of Reference;</p> <p>(viii) undertake sub-regional exercises as part of WAVE Exercises as an efficient way to further engage Member States on exercises as appropriate;</p> <p>(ix) follow the initiative of ICG/PTWS to enable sub-regional live information sharing during tsunami events to inform neighbouring country decision-making;</p> <p>(x) investigate mechanisms for recognition of standards mechanisms similar to UNESCO/IOC Tsunami Ready Recognition Programme already in place in some countries and inform the TOWS-WG TT-DMP;</p> <p>(xi) Caribbean Tsunami Information Center (CTIC) to share UNESCO/IOC Tsunami Ready survey questionnaire and feedback forms on implementation process to receive information from the UNESCO/IOC Tsunami Ready communities;</p> <p>(xii) encourage the standard text in the UNESCO/IOC Tsunami Ready signage for vertical evacuation, such as “Go to the designated building for vertical evacuation”;</p> <p>(xiii) properly inform the public on the validity of the recognition, as indicated on the UNESCO/IOC Tsunami Ready signage and certificate under the UNESCO/IOC Tsunami Ready logo;</p> <p>(xiv) ITIC to pilot the draft PTWS National Tsunami Warning Centre (NTWC) Competency Framework (2019) for endorsement by ICG/PTWS with the goal to develop a global framework for all ICGs to use;</p>	<p>(vi) Ongoing</p> <p>(vii) Ongoing;</p> <p>(viii) Ongoing (PTWS);</p> <p>(ix) Ongoing;</p> <p>(x) To be reported by TT DMP;</p> <p>(xi) Done;</p> <p>(xii) Done (approved at EC-57;</p> <p>(xiii) Done;</p> <p>(xiv) Ongoing; - see report TT DMP</p>
<p><u>Requests the IOC Secretariat:</u></p> <p>(i) provide a timelier update of the UNESCO/IOC Tsunami Ready database;</p>	<p>(i) Done;</p>



IOC Decision A-31/3.4.1	Status report
(ii) explore how to develop an automated application system for UNESCO/IOC Tsunami Ready application and renewal;	(ii) Not implemented;
(iii) enhance the renewal process of UNESCO/IOC Tsunami Ready and learning about the renewal experience in the United States TsunamiReady® program;	(iii) Not Implemented
(iv) facilitate the finalization of the OTGA basic tsunami training materials as soon as possible to support the UNESCO/IOC Tsunami Ready Recognition Programme;	(iv) Done, 2 OTGA trainings released: Tsunami Awareness and Tsunami Ready
(v) develop a paper on the tsunami threat on coasts along the Southern Atlantic Ocean to assist concerned Member States of IOC on the decision to be part of the global Tsunami Warning and Mitigation System;	(v) Pending
(vi) help inform Member States widely on the potential tsunami hazard from volcanoes by distributing the Tsunamis Generated by Volcanoes Report, including the List of Tsunamigenic Volcanoes, to: <ul style="list-style-type: none"> - Volcano Observatories; - UNESCO/IOC Member States. 	(vi) Done CL-3029

IOC Decision A-33/3.4.1	Status report
<p><u>Instructs</u> the regional ICGs:</p> <ul style="list-style-type: none"> (i) to establish arrangements among Tsunami Service Providers (TSP) within each ICG to ensure that service provision is ensured at all times for the full Area of Service of the ICG; (ii) to develop SOPs for any volcanoes with a tsunamigenic potential affecting the Area of Service of Tsunami Service Providers within the ICGs; (iii) that dissemination of the specialized TSP bulletins for the maritime community is tested in CARIBE-EWS, IOTWMS and NEAMTWS by at least 	<ul style="list-style-type: none"> (i) Pending. See Report of TTTWO (ii) Ongoing. See Report of TTTWO (iii) Ongoing. See Report of TTTWO



<p>one TSP either through the planned communication tests or tsunami exercises;</p> <p>(iv) that full operational implementation of TSP bulletins for the maritime community by at least one TSP in each ICG takes place in 2025;</p>	<p>(iv) Ongoing. See Report of TTTWO</p>
<p><u>Requests</u> the ICG/PTWS to invite Argentina, as well as the ICG/CARIBE-EWS, to actively participate in all organizational and implementation stages of any scientific workshop carried out to assess the potential tsunamigenic risk of the Scotia Arc;</p>	
<p><u>Recommends</u> the regional ICGs:</p> <p>(i) to create relationships between National Meteorological and Hydrological Services (NMHS) and TSPs/NTWCs in order to ensure that tsunami-specific instrumentation including Tsunameters/DART® and ocean cable systems are correctly monitored and utilized for detection of meteotsunami;</p> <p>(ii) continuation of the investigation and the possibility to adopt tsunami forecasting methods, including probabilistic methodologies, toward impact-based forecasting, that could also assist post-disaster response, recovery and needs assessment processes;</p> <p>(iii) to prioritize regional Tsunami Ready workshops or summits in 2025 and conduct further workshops or summits before 2030;</p>	<p>(i) Pending</p> <p>(ii) Ongoing</p> <p>(iii) Ongoing. See Report of TTDMP</p>
<p><u>Requests</u> the IOC Secretariat to:</p> <p>(i) inform Member States of the availability of the Tsunami Ready Toolkit through an IOC circular letter addressed to the Tsunami National Contacts, National Tsunami Ready Boards, and more widely by the attaching it as an appendix to the UNESCO-IOC Standard Guidelines for</p>	<p>(i) Ongoing. See Report of TTDMP</p>



<p>the Tsunami Ready Recognition Programme (IOC Manuals and guides, 74);</p> <ul style="list-style-type: none"> (ii) disseminate the final version of the basic tsunami warning product/template for use by the radio amateurs, as a guidance; (iii) finalize the Tsunami Ready Coalition Implementation Plan in consultation with the Tsunami Ready Coalition Chair the Coalition Partners, 'Ambassadors' or similar namesake, and Coalition Co-Chair; (iv) extend invitations to the proposed Coalition Partners and 'Ambassadors' or similar namesake, and a Coalition Co-chair, and urgently address needed resources; <p>Decides to extend the tenure of the Inter-ICG TT-DMP and TT-TWO and with updated Terms of Reference for the Task Team on Tsunami Disaster Management and Preparedness as included in Annex 1.</p>	<ul style="list-style-type: none"> (ii) Done CL 3049 (iii) Done. See Report of the TTDMP (iv) Pending. See Report of the TTDMP
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