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ICG/CARIBE EWS-XVII/3s

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INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION (Of UNESCO)

SEVENTEENTH SESSION OF THE INTERGOVERNMENTAL COORDINATION GROUP FOR THE TSUNAMI AND OTHER COASTAL HAZARDS WARNING SYSTEM FOR THE CARIBBEAN AND ADJACENT REGIONS

6–9 May 2024, Managua, Nicaragua

EXECUTIVE SUMMARY

In accordance with Rule 48.3 of the Rules of Procedure for the primary Subsidiary Bodies of the Commission, the Intergovernmental Coordination Group for the Tsunami and other Coastal Hazards Warning System for the Caribbean and Adjacent Regions is required to report to a governing body on its sessions.

The documentation and information for the session are available [online](#).

The IOC Executive Council at its Fifty-seventh session will be invited to consider this Executive Summary and the recommendations it contains.

1. The Seventeenth Session of the UNESCO-IOC Intergovernmental Coordination Group for the Tsunami and Other Coastal Hazards Warning System for the Caribbean and Adjacent Regions (ICG/CARIBE EWS-XVII) took place on 6–9 May 2024 in Managua, Nicaragua in a hybrid format. Eighty-three (83), of which 28 in-person and 55 virtual participants from 15 Member States and Territories and three observer organizations—the Puerto Rico Seismic Network (PRSN), the World Meteorological Organization (WMO) and UNDRR-Regional Office Regional Office for the Americas & the Caribbean attended the session. Representatives emphasized the significant value of conducting the work of the ICG face-to-face, especially noting the various upcoming 20th anniversaries of the ICG/CARIBE-EWS. Noting UNESCO's aim to reduce its carbon footprint to meet its set target of reducing its emissions by 31 per cent by 2030, in line with the goals of the 2015 'Paris Agreement', the session decided, however, to consider conducting its future sessions from 2026 onwards in-person only every second year, and online every other. The daily interaction of experts and the building of relations between Member States plays a key role in the success in the results achieved.

2. **The ICG noted** the cross-cutting elements of the ICG/CARIBE-EWS work programme closely connected with the UN Secretary-General's Early Warnings for All (EW4All) and guided by strategic elements such as the UN Ocean Decade Tsunami Programme (ODTP) and the UNESCO-IOC Tsunami Ready Recognition Programme (TRRP).

3. **The ICG recognized** the value of having a Steering Committee, similar to other ICGs, as an efficient instrument of results-based management, especially in providing an oversight in the execution of its decisions and recommendations.

4. **The ICG further recognized** that the establishment of an ICG/CARIBE-EWS Steering Committee will mark another step towards harmonization of global ICG governance structures and **decided** to establish an ICG/CARIBE-EWS Steering Committee to, among others:

- (i) maintain the ICG/CARIBE-EWS Organizational Structure and Governance,
- (ii) monitor, maintain and update the CARIBE-EWS Implementation Plan,
- (iii) oversee the execution of the Decisions and Recommendations of the ICG,
- (iv) develop a Strategy for funding CARIBE-EWS activities,
- (v) monitor performance and examine continuing compliance of Tsunami Service Providers (TSPs) with the adopted operational and organizational function and requirements,
- (vi) guide the work and direction of the CARIBE-EWS to help deliver the goals of the UN Ocean Decade Tsunami Programme (ODTP) in support of its 10-year Scientific Research Implementation and Development Plan (RDIP),
- (vii) report to ICG/CARIBE-EWS progress against the ODTP-RDIP Key Performance Indicators,
- (viii) develop a strategy for effective coordination with the IOC Sub-Commission for the Caribbean and Adjacent Regions (IOCARIBE), UNDRR, WMO, and other regional stakeholders,
- (ix) revamp the Group of Experts (GoE) work and implementation plan to enhance the warning system by including other coastal hazards during the intersessional period in coordination with of the IOCARIBE Secretariat considering WMO and UNDRR EW4ALL,
- (x) provide oversight and strategic guidance to the Caribbean Tsunami Information Centre (CTIC) on its implementation of tsunami awareness and capacity building activities,
- (xi) organize events and other actions and activities associated with the occasion of the 20th anniversaries of the ICG/CARIBE-EWS.

5. **The ICG congratulated** the Member States and communities that have been recognized as Tsunami Ready in the Intersessional Period: Saint George (Saint Vincent and the Grenadines); Christ Church West (Barbados); and Deshaies (Guadeloupe, France).

6. **The ICG noted** the need to further focus on the identification and employing corresponding strategies in the Caribbean and Adjacent Regions to reach the second objective of the ODTP that 100 percent of communities at risk to be prepared and resilient to tsunamis by 2030 through efforts like the UNESCO-IOC Tsunami Ready Recognition Programme (TRRP).

7. **The ICG acknowledged** the funding from United States Agency for International Development Bureau of Humanitarian Assistance (USAID/BHA), Australia, Norway, and European Commission Humanitarian Aid Department's Disaster Preparedness Programme (DIPECHO) for the implementation of the Tsunami Ready programme.

8. **The ICG invited** all Member States to implement or to support the implementation of Tsunami Ready in their communities or that of another Member State.

9. **The ICG decided** to establish Tsunami Ready Task Team.

10. **The ICG appreciated** the offer of International Tsunami Information Center Caribbean Office (ITIC-CAR) to provide an intern for 10 weeks to support the implementation of the Tsunami Ready survey in the ICG/CARIBE-EWS, and **noted** request of the Working Group on Tsunamis and Other Hazards related to Sea-Level Warning and Mitigation Systems (TOWS-WG) that “(xiii) TT-DMP consider the introduction of a Tsunami Ready Evaluation Form in the other ICGs than ICG/CARIBE EWS, its translation to Spanish and French and its administration by the IOC Tsunami Resilience Section”.
11. **The ICG recommended** its Steering Committee and the Secretariat to evaluate the implementation process in ICG/CARIBE-EWS and inform the ICG/CARIBE-EWS in the implementation of this effort in other ICGs in accordance with the TOWS-WG-XVII recommendation.
12. **The ICG further noted** the progress made in the implementation of the UN Ocean Decade endorsed SMART Cable initiative in the Pacific and Atlantic.
13. **The ICG** decided the formation of a sub-group under Working Group 2 to specifically address the implementation of such technology in the CARIBE-EWS.
14. **The ICG requested** the Steering Committee to revamp the initiative on the Group of Experts (GoE) on work and implementation plan to enhance the warning system by including other coastal hazards during the intersessional period in the coordination with of the IOCARIBE Secretariat and the regional offices of WMO and UNDRR, supported by the ICG/CARIBE-EWS Steering Committee and Technical Secretary.
15. **The ICG acknowledged** the conduct of the Workshop on Tsunami Evacuation held in Costa Rica in April 2024 with the participation of 7 ICG/CARIBE-EWS Member States—Dominican Republic; Mexico; Guatemala; Nicaragua; Costa Rica; Panama; Colombia; and USA (Puerto Rico)—**and appreciated** the leadership by the Extreme Events Institute of the Florida International University, the funding provided by United States Agency for International Development Bureau of Humanitarian Assistance (USAID-BHA) and ICG/CARIBE-EWS Secretariat, and the support of SINAMOT Program of the National University Costa Rica, ITIC-CAR and Puerto Rico Seismic Network (PRSN) to organize this workshop.
16. **The ICG acknowledged** the success of the Tides Training Course in Spanish on 13–17 November in 2023, Costa Rica, jointly organized and funded by the International Hydrographic Organization (IHO), the International Maritime Organization (IMO), the Intergovernmental Oceanographic Commission of UNESCO (UNESCO-IOC) and NOAA (USA).
17. **The ICG encouraged** the Secretariat, with Working Group 2, to organize sea level training courses in English and Spanish languages in alternating years with the support of NOAA and the Secretariat, and in close collaboration with the International Hydrographic Organization (IHO) and the International Maritime Organization (IMO).
18. **The ICG acknowledged** that a Joint Expert Meeting on Seismic Sources in the Northwest Caribbean and on Non-Seismic Sources of Tsunamis for the Caribbean and Adjacent Regions has been scheduled for 2–5 December 2024 in Heredia, Costa Rica.
19. **The ICG noted** that evacuation times are necessary to determine the feasibility of tsunami evacuation maps and plans and **recommended** the Secretariat with Working Group 4 to seek funding and organize a workshop on estimation of evacuation modelling.
20. **The ICG also noted** that in the intersessional period the Spanish version of the IOC Manual and Guides, [86](#) on Multi-Annual Community Tsunami Exercise Programme Guidelines for the ICG/CARIBE-EWS was finalized and published.

21. **The ICG further noted** the possibility that this workshop be held in Antigua and Barbuda with partial funding from United States Agency for International Development Bureau of Humanitarian Affairs (USAID/BHA) as part of Tsunami Ready projects and **recommended** CTIC and ITIC-CAR in coordination with Working Group 4 and CARIBE WAVE Task Team to organize a joint training on Manuals and Guides 86 and CARIBE WAVE Task Team meeting in Antigua and Barbuda during the following intersessional period.
22. **The ICG noted** the inventory of tsunami warning dissemination and communication methods for the Caribbean and adjacent regions, prepared by Working Group 3.
23. **The ICG appreciated** the support provided by the International Tsunami Information Center Caribbean Office (ITIC-CAR) in the preparation of this document, as well as the contributions of other stakeholders.
24. **The ICG recommended** Working Group 3 to finalize and submit the Inventory document including the results of the CARIBE WAVE 24 exercise and **also recommended** the UNESCO-IOC Tsunami Resilience Section to promote and make available the final document to ICG/CARIBE-EWS Member States and other stakeholders.
25. **The ICG appreciated** the NOAA ITIC-CAR and Pacific Tsunami Warning Center (PTWC) for improving the automated processing and continued reporting on the status of seismic and sea level stations.
26. **The ICG noted** that a high percentage of the stations in the CARIBE-EWS sea level network and seismic network are currently non-operational and therefore can delay the proper assessment of tsunami events and the issuance of timely and accurate tsunami alerts.
27. **The ICG urged** Member States and operators of seismic and sea-level stations contributing to CARIBE-EWS to maintain their stations in an operational status and regularly review and update the status of its stations, in the IOC Sea Level Monitoring Facility and in PTWC monthly maps posted on the ITIC website and inform ITIC-CAR and Secretariat on plans for repair.
28. **The ICG urged** Member States to have up-to-date Tsunami Response Plans and SOPs, including addressing local tsunamis, as well as designated and trained warning authorities.
29. **The ICG requested** Working Group 3 to review and revise Technical, Logistical and Administrative Requirements of a Regional Tsunami Service Provider for CARIBE-EWS and present at its 18th session at the latest.
30. **The ICG noted** the progress made by Central America Tsunami Advisory Centre (CATAC) on Earthquake Early Warning (EEW) and potential applications for tsunami warning and communication and **recommended** that CATAC study the integration of EEW applications for disseminating its tsunami services and products to its TWFP and NTWCs on this subject at the eighteenth session of the ICG/CARIBE-EWS.
31. **The ICG also noted** the renewal of the memorandum of understanding between the Government of Barbados and UNESCO-IOC regarding CTIC which has been strengthened by the extension of the duration from 3 to 5 years.
32. **The ICG further noted with appreciation** the close cooperation between CTIC, ITIC-CAR, Working Group 4, CARIBE WAVE Task Team and UNDRR in advancing preparedness, readiness and resilience to mitigate the impacts of tsunamis and other coastal hazards in the CARIBE-EWS region, in particular with regard to the implementation of the Tsunami Ready programme, the dissemination and development of educational and outreach resources, support to the United Nations Decade of Ocean Science for Sustainable Development including the work of the Tropical Americas and Caribbean Decade Safe Ocean Working Group.

33. **The ICG welcomed** the expansion of the CTIC mandate since its establishment due to the alignment with strategic policy frameworks and programmes such as the UN Sustainable Development Goals, the Sendai Framework for Disaster Risk Reduction, the UN Ocean Decade, UN EW4ALL Initiative, CDEMA-led Comprehensive Disaster Management Strategy & Framework, and the UNESCO-IOC Tsunami Ready Programme, resulting in an increased workload and opportunities to integrate the full role and functions of CTIC (including other coastal hazards) regionally and globally and **further appreciated** the emerging policy matters such as the need to integrate social science, behaviour change, disabled and vulnerable (youth, women, indigenous groups, poor).
34. **The ICG recommended** a strategic review by the CARIBE-EWS Steering Committee of the staffing resources needed to ensure adequate capacity at the CTIC to effectively execute and implement the programmatic and project activities to support the ICG/CARIBE-EWS and EW4All frameworks.
35. **The ICG recalled** that World Tsunami Awareness Day (WTAD) is observed annually on 5 November and **noted** the 2024 theme for the WTAD is “Empowering Children and Youth, ensuring the next generation is tsunami prepared”, which complemented CARIBE WAVE 2024 efforts.
36. **The ICG acknowledged** the leadership of CTIC in organizing activities leading to increased participation and visibility of WTAD in 2021, 2022 and 2023 and **encouraged** Member States to observe WTAD and to share their activities with CTIC.
37. **The ICG noted** the successful conduct of the CARIBE WAVE 24 Exercise with the participation of 100 percent of the Member States and over 475,000 people registered and **urged** Member States to complete CARIBE WAVE 24 survey evaluations in a timely manner.
38. **The ICG decided** that the CARIBE WAVE 25 exercise will take place on Thursday, March 20, 2025, commencing at 15:00 UTC with one dummy message for the communication test from PTWC and CATAC to the TWFPs and NTWCs, and **reconfirmed** that CARIBE WAVE 25 will use the two CARIBE WAVE 20 scenarios: 1) 1692 Jamaica scenario; and 2) the 1755 Lisbon scenario.
39. **The ICG also requested** that Member States consider conducting all or part of their exercise response activities during non-working hours, particularly at night, to be better prepared for tsunami events that are more likely to occur during non-working hours and additionally **reminded** Member States to consider including their selected CARIBE WAVE 25 scenario within a multi-hazard framework wherever possible.
40. **The ICG suggested** that Task Team CARIBE WAVE explores opportunities to further involve tourists and tourism organizations such as the Caribbean Tourism Organisation (CTO), in CARIBE WAVE exercises, with the aim to develop multi-lingual guidelines/resources for the involvement of tourists in CARIBE WAVE Exercises, and **further** suggested that Task Team CARIBE WAVE explores opportunities to further involve national and regional maritime and port authorities so they may exercise their plans and procedures.
41. **The ICG appreciated** the report and the progress made by CATAC during the intersessional period as well as CATAC’s continued efforts to further improve its seismological system and to be able to identify the source and send timely and actionable tsunami products in the event of slow earthquakes (tsunami earthquakes), which occur in Central America, and to enhance the capacity of its users, and inform them of these possible events.
42. **The ICG recommended** that CATAC continue to implement EEW methods to accelerate and improve tsunami warning for Central America and **noted** that CATAC had presented and discussed at the Congress “Cities on Volcanoes” in Antigua, Guatemala, on 11–17 February 2024, a concept for a tsunami warning system for volcanic events in the large lakes of Nicaragua.

43. **The ICG noted** the challenges of CATAC during CARIBE WAVE 24 and **further noted** that CATAC will provide the updated users guide by March 2025 for the consideration of ICG/CARIBE EWS at its eighteenth session.

44. **The ICG recommended** that CATAC continues full functionality in an interim manner to be able to support the National Tsunami Warning Centres (NTWCs), Tsunami Warning Focal Points (TWFPs), and emergency management authorities of Central America in addressing those challenges, and **further recommended** the consideration of CATAC as a TSP at its eighteenth session in 2025 to enable the IOC Assembly to consider the final admission of CATAC as TSP in June 2025.

45. **The ICG acknowledged** UNESCO recommendation reported by the Secretariat to hold statutory meetings and recurring conferences in-person only every second time, and online every other, in order to reduce UNESCO's carbon footprint to meet its set target of reducing its emissions by 31 percent by 2030, in line with the goals of the Paris Agreement.

46. **The ICG noted** the various 20th anniversaries of the ICG/CARIBE-EWS, namely the 20th anniversary of the establishment of the ICG/CARIBE-EWS (2025), the 20th anniversary of the first ICG/CARIBE-EWS session (2026) and the 20th Session of the ICG/CARIBE-EWS (2027).

47. **The ICG further noted** that these anniversaries had already been noted as an important opportunity for raising awareness on the achievements and remaining challenges in ensuring tsunami resilience in the Caribbean and its Adjacent regions within the broader context of Multi-Hazard Early Warning Systems (MHEWS) framework and UNSG's EW4All initiative and the post-pandemic resumption of tsunami preparedness activities.

48. **The ICG especially noted** the importance of in-person meetings providing opportunities for informal exchange outside of formal meeting sessions to address issues that facilitate the work of the ICG.

49. **The ICG decided** to hold the ICG/CARIBE-EWS-XVIII in-person in the week of 5 May 2025 and to consider organizing a back-to-back Tsunami Ready Summit to review the benefits and lessons learned and to establish a road map towards 100 percent communities prepared for and resilient to tsunamis through efforts like Tsunami Ready.

50. **The ICG noted with appreciation** the considerations expressed by France (Martinique) or Panama to host ICG/CARIBE-EWS-XVIII.

51. **The ICG decided** to conduct ICG/CARIBE-EWS-XVIII virtually if no official communication from neither France (Martinique), Panama or any other Member State interested in hosting ICG/CARIBE-EWS-XVIII is officially communicated to the Secretariat by 9 August 2024.

52. **The ICG recommended** conducting the ICG/CARIBE-EWS-XIX in-person tentatively in the week of 20 April 2026.

53. **The ICG also noted with appreciation** the possibility of Barbados to host the ICG/CARIBE-EWS-XIX.

54. **The ICG decided** to consider conducting its future sessions from 2026 onwards in-person only every second year, and online every other.

[For details refer to Recommendations of the ICG/CARIBE-EWS-XVII.](#)