EXECUTIVE SUMMARY

In accordance with Rule of Procedure 48.3, ICG/CARIBE-EWS, as a Primary Subsidiary Body of IOC, is required to report to a Governing Body on its sessions.

The IOC Executive Council at its 45th Session will be invited to consider this Executive Summary.

1. The Seventh Session of the Intergovernmental Coordination Group for the Tsunami and Other Coastal Hazards Warning System for the Caribbean and Adjacent Regions (ICG/CARIBE EWS-VII) was held in Willemstad, Curacao, from 2 to 4 April 2012. The meeting was attended by 56 participants from 18 Caribbean countries and four observer organizations (United Nations Development Programme - UNDP, Seismic Research Center - SRC, World Meteorological Organization - WMO and Puerto Rico Seismic Network – PRSN). Main topics discussed during the meeting were the establishment of the Caribbean Tsunami Information Center (CTIC) in Barbados and the plans for the CARIBE WAVE 13 exercise.

2. The ICG strongly urged Member States to make pledges and provide direct and in-kind contributions to the execution of the CTIC Work Plan activities through: (i) Memoranda of understanding; (ii) Voluntary contributions to the IOC Special Account; and (iii) Support for specific activities.

3. The ICG approved a CTIC a business plan that includes: (i) an annual work plan; (ii) a five-year strategy; (iii) a four-year budget and fund-raising plan; (iv) a partnership strategy; (v) a communications plan; and (vi) an annual report. It noted that the 2012 operational budget of US$ 312,500 is being provided by the Project “Enhancing Resilience to Reduce Vulnerability in the Caribbean” coordinated by the UNDP in Barbados and OECS.

4. The ICG recognized the challenges of very large tsunamis/earthquakes and the need for integrating the lessons learned from Tohoku Japan Tsunami into the CARIBE-EWS with special
attention to the determination and reporting of very large magnitude events, redundancy of website communication systems for focal points of earthquake and tsunami information (Tsunami and Earthquake Centres).

5. The ICG further recognized the need for some off-shore tsunami measurements (DART) and the rapid dissemination to the public of the warnings. It further recognized the need for forecast impacts for all areas at risk and that techniques to forecast tsunami duration must also be developed. It urged the expansion of DART networks near tsunamigenic sources.

6. The ICG urged the planning and execution of technical training for seismic and sea-level network operators, as well as the emergency management community on the proper installation, maintenance and usage of instruments. It was suggested to explore alternatives for on-line training in addition to the traditional onsite training.

7. The ICG recommended conducting a joint CARIBE-WAVE 2013 and LANTEX 2013 exercise in the Western Atlantic, Caribbean and Adjacent Regions on 20 March 2013 and endorsed the establishment of a Task Team which includes the ICG Officers, Technical Secretary of ICG/CARIBE-EWS, Manager of Caribbean Tsunami Warning Programme (CTWP), Director of CTIC, Director of ITIC, Directors of PTWC and WCATWC and representatives of CEPREDECENAC and CDEMA to oversee the exercise. This Task Team will be chaired by the Manager of the CTWP. The ICG urged Member States to establish their own national task teams to determine the scope of their national participation, testing, and objectives.

8. The ICG further recommended that the new products proposed by the PTWC be tested during the exercise in addition to the existing products, in a timely manner, using different mailing lists, and that the products limit themselves to information that would be included in a real event. It also decided to collaborate with regional seismic institutions, the Global Earthquake Model (GEM) and USGS on the scenario, so as to provide shake maps and intensity estimates for the Caribbean region.

9. The ICG decided to suggest to the IOC Executive Council that its Area of Responsibility (AOR) be revisited to include all coasts of the western Atlantic not currently covered as part of an ICG or otherwise covered by a tsunami warning centre.

10. The ICG acknowledged the offer from Trinidad and Tobago and Saint Martin to host the Eight Session of ICG/CARIBE-EWS, as well as the offer from Saint Martin and Virgin Islands (USA) to host the Ninth Session of ICG/CARIBE-EWS in 2014.

11. The ICG elected by acclamation Ms Christa von Hillebrandt-Andrade (USA) as Chairperson and Mr Philippe Sarron (France), Ms Dawn French (Saint Lucia) and Mr Victor Hugo Cano Pacheco (Bolivarian Republic of Venezuela) as Vice-Chairs of the ICG/CARIBE-EWS for the period 2012–2014.
ADOPTED RECOMMENDATIONS

Recommendation ICG/CARIBE EWS-VII.1

Monitoring and Detection Systems, Warning Guidance

The Intergovernmental Coordinating Group for the Establishment of a Tsunami and other Coastal Hazards Warning System for the Caribbean Sea and Adjacent Regions,

Noting the report of Working Group 1 Monitoring and Detection Systems, Warning Guidance,

Recalling the Recommendation ICG/CARIBE EWS-IV.1 on Monitoring and Detection Systems, Warning Guidance which urged Member States and other stakeholders to provide funding for observational networks and communication systems,

Having reviewed the status and capabilities of the seismic, sea-level and DART stations in the region contributing data to the CARIBE-EWS,

Recognizes again the importance of the local and regional seismic networks sharing high-quality data with other countries and to the Tsunami Warning Centre and IRIS DMC to enhance the national regional warning and research capabilities for the Caribbean;

Acknowledges the COCONet Project funded by the US and its plan to install 50 new continuous Global Navigation Satellite System (cGNSS) and meteorology stations in the Caribbean and Central America, refurbish an additional 15 stations, and archive data from 62 cGNSS stations for free and open data access;

Urges Member States to support the COCOnet project in their corresponding jurisdictions and their integration in support of regional research and monitoring;

Recognizes the challenges of very large tsunamis/earthquakes and the need for integrating the lessons learned from Tohoku Japan Tsunami into the CARIBE-EWS with special attention to the determination and reporting of very large magnitude events, redundancy of website communication systems for focal points of earthquake and tsunami information (Tsunami and Earthquake Centres);

Further recognises the need for some off-shore tsunami measurements (DART) and the rapid dissemination to the public of the warnings and need for forecast impacts for all areas at risk, including tsunami event duration;

Urges the expansion of the DART network near tsunamigenic sources;

Requests that the CARIBE-EWS Communications Plan be updated to reflect the current status of the sea-level and seismic stations, as well as the forecast points;

Urges the planning and execution of technical training for seismic and sea-level network operators, as well as the emergency management community on the proper installation, maintenance and usage of instruments;

Suggests exploring alternatives for on-line training in addition to the traditional onsite training;
Urges Member States to:

(i) support Haiti and Dominican Republic in the transition of temporary/portable seismic stations to permanent status and installation of new stations for improvement of long-term earthquakes and tsunami monitoring,

(ii) complete the CORE sea-level and DART station network;

Recommends the revision of the implementation plan to reflect achievable sea-level station requirements;

Encouraged Member States to enhance the seismic and sea-level network in order to continue the construction and operation of a robust earthquake and tsunami monitoring network;

Continues to encourage Member States to support and maintain seismic and sea-level stations with routine data and meta-data verification in order to increase station performance and data availability for tsunami monitoring;

Urges Member States to support research and development of monitoring tsunamigenic events from non-earthquake sources such as submarine landslides and volcanic activity;

Encourages Member States to improve participation and involvement from the sea-level community in Working Group I by hosting more regular meetings using virtual-internet based methods.

Financial implications: None

Recommendation ICG/CARIBE EWS-VII.2

Caribbean Tsunami Information Centre (CTIC)

The Intergovernmental Coordination Group for Tsunami and Other Coastal Hazards Warning System for the Caribbean and Adjacent Regions,

Recalling:

(i) Recommendation ICG/CARIBE EWS-IV.6 on the establishment of a Caribbean Tsunami Information Centre, and the acceptance by the ICG/CARIBE-EWS of the offer by Barbados to host the Centre,

(ii) Recommendation ICG/CARIBE EWS-VI.1 that instructed the Working Group IV to begin developing CTIC first business plan and to present the 2012 work plan at the Seventh Session of the ICG,

Recognizing:

(i) the work carried out by the Government of Barbados and the Interim CTIC staff in responding to requests from Member States,
(ii) the work of the CTIC Consultant in developing the draft business plan for the permanent CTIC and the Draft TOR for the CTIC Board,

**Acknowledging** the support of Working Group IV and the Interim CTIC Board in providing guidance and feedback on the draft documents,

**Instructs** the CTIC to formalise a memorandum of understanding (MOU) with the General Council of Martinique outlining their contributions to CTIC and its corresponding work plan;

**Strongly urges** Member States to make pledges and provide direct and in-kind contributions to the execution of the CTIC Work Plan activities through the following:

- Memoranda of understanding
- Voluntary contributions to the IOC Special Account
- Support for specific activities;

**Noting** that such contributions will be accounted for in reporting and invoicing as required,

**Requests** the CTIC and Working Group IV to seek additional resources to fulfil the needs of all Member States for initiatives identified by the ICG;

**Approves** the Draft CTIC Business Plan with amendments, noting that the 2012 operational budget of US$ 312,500 is being provided by the ERC Project;

**Also approves** the Terms of Reference for the CTIC Board, with amendments as in Annex III of the session report (IOC/ICG/CARIBE EWS-VII/3).

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Financial implications: USD 20,000 from the UNESCO Emergency Fund

**Recommendation ICG/CARIBE EWS-VII.3**

**Preparedness, Readiness and Resilience**

The Intergovernmental Coordinating Group for Tsunamis and Coastal Hazards Warning System for the Caribbean and Adjacent Regions,

**Recalling** Recommendation ICG/CARIBE EWS-IV.4 on Preparedness, Readiness and Resilience,

**Acknowledging** the efforts of Working Group IV, Preparedness Readiness and Resilience,

**Recognising** the on-going establishment process for the CTIC and the planned activities to be executed by the CTIC during 2012,

**Requests:**

(i) Working Groups III and IV and the CTIC to develop a training strategy and schedule by ICG/CARIBE EWS-VIII,

(ii) Working Group IV and the CTIC to convene a meeting as soon as possible to develop the training strategy and schedule with input from Working Group III;
Instructs:

(i) Working Group IV and the CTIC to develop a strategy for promoting and implementing a community-based recognition programme for tsunami preparedness by the ICG/CARIBE- EWS at its Eighth Session,

(ii) the Secretariat, in consultation with the ICG/CARIBE- EWS Officers, to draft new Terms of Reference for WG IV, having due regard to the responsibilities of the CTIC Board, and submit to Member States for comment during the intersessional period with a view to ratification at the Eighth Session of the ICG.

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Financial Implications: None

Recommendation ICG/CARIBE EWS-VII.4

CARIBE WAVE EXERCISE 2013

The Intergovernmental Coordination Group for Tsunami and Other Coastal Hazards Warning System for the Caribbean and Adjacent Regions,

Recalling the successful planning and execution of the CARIBE-WAVE 2011 and LANTEX 2009, 2010, 2011 and 2012 US Western Atlantic exercises,

Acknowledging the frequency of seismic and tsunami events at the global and regional levels, and the devastating impacts following the Haiti, Chile and Japan earthquakes and tsunamis,

Recognizing the tremendous vulnerability to life and livelihoods from tsunamis in the region,

Acknowledging further the opportunities for partnerships with other bodies that coordinate and execute region-wide exercises,

Understanding the importance of testing and refinement of warning systems and national protocols,

Recommends conducting a joint CARIBE-WAVE 2013 and LANTEX 2013 exercise in the Western Atlantic, Caribbean and Adjacent Regions on 20 March 2013;

Endorses the establishment of a Task Team which includes the ICG Officers, Technical Secretary of ICG/CARIBE- EWS, Manager of Caribbean Tsunami Warning Programme (CTWP), Director of CTIC, Director of ITIC, Directors of PTWC and WCATWC and representatives of CEPREDENAC and CDEMA to oversee the exercise. This Task Team will be chaired by the Manager of the CTWP;

Urges Member States to establish their own national task teams to determine the scope of their national participation, testing, and objectives;

Agrees to the scenario, objectives and reviewed timelines for the exercise as prescribed in the Annex IV of the session report (IOC/ICG/CARIBE EWS-VII/3), including the preparation of the CARIBE-WAVE 2013 Manual in Spanish, English and French;
Recommends:

(i) that the new products proposed by the PTWC be tested during the exercise in addition to the existing products, in a timely manner, using different mailing lists, and that the products limit themselves to information that would be included in a real event,

(ii) to collaborate with regional seismic institutions, the Global Earthquake Model (GEM) and USGS on the scenario, so as to provide shake maps and intensity estimates for the Caribbean region,

(iii) the adoption of quantitative objectives and per participants objectives in order to have more precise evaluation,

(iv) that the 8th Session of the ICG/CARIBE-EWS be held on a date following the exercise and conclusion of the preliminary report.

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Financial Implications: None
AGENDA

1. WELCOME AND OPENING
   1.1. REPRESENTATIVE OF THE INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION OF UNESCO
   1.2. Dr. LORNA INNISS: DEPUTY DIRECTOR, COASTAL ZONE MANAGEMENT UNIT CZMU - BARBADOS, ICG/CARIBE-EWS CHAIR
   1.3. WELCOME ADDRESS BY NATIONAL AUTHORITIES

2. ORGANIZATION OF THE SESSION
   2.1. 2.1 ADOPTION OF AGENDA
   2.2. 2.2 DESIGNATION OF THE RAPPORTEUR
   2.3. 2.3. CONDUCT OF THE SESSION, TIMETABLE AND DOCUMENTATION

3. REPORT ON INTERSESSIONAL ACTIVITIES
   3.1. IOC EXECUTIVE SECRETARY’S REPORT
   3.2. CHAIR’S REPORT
   3.3. CARIBE-EWS SECRETARIAT REPORT
   3.4. REPORT OF THE CARIBBEAN TSUNAMI INFORMATION CENTER (CTIC)
   3.5. REPORTS FROM UN AND NON UN ORGANISATIONS
   3.6. STATUS OF OTHER ICGS
   3.7. NATIONAL PROGRESS REPORTS
   3.8. INTERIM ADVISORY SERVICES REPORT (PTWC)

4. WORKING GROUP PROGRESS REPORTS
   4.1. WORKING GROUP 1 PROGRESS REPORT: MONITORING AND DETECTION SYSTEMS, WARNING GUIDANCE
   4.2. WORKING GROUP 2 PROGRESS REPORT: HAZARD ASSESSMENT
   4.3. WORKING GROUP 3 PROGRESS REPORT: WARNING, DISSEMINATION AND COMMUNICATION
   4.4. WORKING GROUP 4 PROGRESS REPORT: PREPAREDNESS, READINESS AND RESILIENCE

5. SPECIAL INVITED LECTURES: COMMUNITY-BASED TSUNAMI WARNING SYSTEM
   5.1. ACCION TSUNAMI, DOMINICAN REPUBLIC
   5.2. FIRS NON US TSUNAMI READY COMMUNITY

6. POLICY MATTERS
   6.1. ESTABLISHMENT OF A CARIBBEAN TSUNAMI WARNING CENTER
   6.2. SECOND CARIBBEAN TSUNAMI EXERCISE (CARIBE WAVE 13)
7. UPDATES TO THE CARIBE EWS IMPLEMENTATION PLAN


9. NEXT MEETING
   9.1. CONFIRMATION OF DATE AND PLACE OF ICG/CARIBE EWS-VIII
   9.2. TARGET DATE FOR ICG/CARIBE EWS-IX

10. OFFICERS ELECTION

11. ANY OTHER BUSINESS

12. ADOPTION OF DECISIONS AND RECOMMENDATIONS

13. CLOSE OF THE MEETING