INTER-ICG TASK TEAM ON DISASTER MANAGEMENT AND PREPAREDNESS
REPORT TO THE TOWS-WG-VIII MEETING
12-13 March 2015, Morioka, Japan

INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION
UNESCO

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Note: At this meeting of the Task Team the CARIBE-EWS was represented by Christa von Hillebrandt-Andrade, Chair CARIBE-EWS. The Task team expressed its appreciation to Ms von Hillebrandt-Andrade for her very useful input and participation.

1. BACKGROUND AND TERMS OF REFERENCE
The Terms of Reference (TOR) of the Inter-ICG Task Team on Disaster Management and Preparedness (the TT) is to:

   (i) Facilitate in collaboration with organization such as UNISDR, the exchange of experiences and information on preparedness actions, education-awareness raising campaigns and other matters related to disaster management and preparedness;
   (ii) Promote preparedness in coastal communities through education and awareness products and campaigns;
   (iii) Facilitate SOP training across ICGs to strengthen emergency response capabilities of Member States and their Disaster Management Offices;
   (iv) Promote preparedness programs and assessment tools that have been successful in one regional Tsunami Warning and Mitigation System in the others as appropriate;
   (v) Facilitate the coordination of the TICs of the ICGs;
   (vi) Report to the TOWS–WG.

The representatives to the TT are nominated by their respective ICG Chairpersons. The membership consists of two representatives from each ICG, one of which should represent the ICG’s Tsunami Information Center. The IOC Chair appoints the Chair of the Task Team.

Following the first meeting of the TT in Seattle, 2010, the TT was only able to reconvene in February 2014 in Paris due to funding limitations on the part of both the IOC and TT members’ agencies or
countries. The Task Team met again on 11 March 2015 in Morioka, Japan however the funding problem again prevented the majority of ICGs to be represented. The TT subsequently continues most of its activities through electronic communication which prove less ideal.

This report covers the period 2014-2015.

2. UPDATES FROM ICG WORKING GROUPS RELEVANT TO DISASTER MANAGEMENT AND PREPAREDNESS

The task team collected updates on Disaster Management and Preparedness activities across basins over the last year. This information is important to reflect the progress and identification of collective relevant issues to be addressed at global level.

2.1 ICG-IOTWS – WG 3 on Preparedness and Response

Preparedness and Response form as one of the pillars of the IOTWS, along with Risk Assessment, and Tsunami Detection, Monitoring and Dissemination. These three pillars are determining the role and tasks of working groups. They are inter-linked to accomplish a better strategy in reducing potential loss of lives toward natural hazards particularly tsunamis, a lesson which the Indian Ocean tsunami 2004 will always reflect. Working Group 3 in particular, holds responsibility to ensure the appropriate tsunami preparedness and response measures are taken by member states of the ICG IOTWS and to coordinate and share the best practices of tsunami awareness and response initiatives with working groups from the other ocean basins through the TOWS TT on Disaster Management and Preparedness.

UNDP APRC (Asia Pacific Regional Program) conducted a tracer study to determine the change in capacities of Member States as a result of workshops and trainings in an end-to-end perspective, including strengthening the last mile of the system held right after establishment of the IOTWS. The study conducted in the first semester of 2012 in coordination with Chair of WG 3 and ICG IOTWS Secretariat to assess the usefulness of knowledge and skills imparted through the capacity building events and to identify future capacity development needs.

Mainstreaming the tsunami warning and mitigation system into development planning is a key issue for WG 3 and need to be consistently carried out. The Working Group identifies the understanding of member states about their risks, including the capacity and capability to assess their risks as the foundation of their development planning. To this purpose, the Working Group closely collaborates with Working Group 1 on Risk Assessment and IOTIC under the funding scheme of UNESCAP to look at how tsunami risk assessment is encouraged or mainstreamed in the planning of the member states. Other key issues include whether a national SOP on tsunami early warning has been in place among the member states, and the IO Wave 2014 Exercise was sued to observe the effectiveness of capacity building in encouraging the member states to develop a policy statement on tsunami risk assessment and tsunami early warning. The two-year work has been conducted in Myanmar, Bangladesh and Timor Leste during 2012-2014, and managed by the ICG IOTWS Secretariat and IOTIC. In 2013, through this project, Working Group 3 with IOTIC have conducted a stock taking survey in three countries. The stock taking survey used survey tools to learn about the country’s documents, program and activities on policies supporting tsunami risk assessment and tsunami
exercises in the country. Through this project, Working Group 3 also developed training modules on how to strengthen disaster risk reduction policy to support tsunami exercises and on how to plan and implement tsunami exercises. The first training focused on encouraging the policy statement development on tsunami risk assessment and has been implemented in Bangladesh in 2013, Timor Leste and Myanmar in 2014. The second training/workshop emphasized on Tsunami Early Warning SOPs and have been conducted in Myanmar, Bangladesh and Timor Leste in 2014. Local consultants were appointed to provide technical advocacy to each member state during the development process. The final outcome will be shared during the regional workshop, which will be conducted in May 2015.

IOTWS pays specific attention to engaging media to be familiarized with the warning services in SOP training. A guideline for media in warning dissemination was developed by Indonesia and introduced in the SOP training/workshop 2011, adapting NHK, US and ABU experiences. Member states had adapted the guideline and continue with local media workshops with their NTWCs. In the future, it is expected the media group could also join the WG 3 of IOTWS. Several activities engaging media have been conducted along with ICG IOTWS’ SOP trainings and WG3 activities.

A document has been compiled related to good practices on the Last Mile of the Warning System to provide insights and good practices to strengthen community preparedness in the ICG IOTWS member countries. A substantial support from The Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) German Society for International Cooperation and UNESCO in this effort has been contributed to roll out the initiative. Highly respected authors - resource persons, practitioners and experts from the ICG IOTWS member states and observers have contributed their experience and best practices within the IOTWS region, especially since the establishment of the ICG IOTWS. The target groups of the publication are professional officials, related organizations and civil societies involved in the tsunami early warning and disaster management.

During 2013, there were several opportunities for WG 3 for strengthening capacity. Besides the UNESCAP project described above, the activities of ICG-IOTEWS SOP Training Workshop conducted in October 2013 in Jakarta under collaboration with BMKG has been able to synergize the standard operation procedures between NTWC - National Tsunami Warning Center with NDMO – National Disaster Management Office and media from member states. Through the workshop, several new focal points from NDMO of member states were identified for strengthening the capacity of WG3. Other opportunities for WG3 in regional and international perspectives was under collaboration with IOI – International Ocean Institute during 34th PACEM IN MARIBUS International Forum on Sustainable Governance of the Ocean, IOI, 3rd – 8th September 2013, Bangkok, THAILAND for promoting the IOTEWS preparedness and response program, sharing knowledge on tsunami preparedness, learning from others on tsunami science state of the art, tsunami preparedness, and learning from other region such as Pacific, Mediterranean and South China Sea. During SSSMS 2013 – Symposium on Social Management System in Sydney December 2013 under collaboration with Society of Social Management System, there was opportunity in sharing knowledge and gaining perspective for extending capacity building on preparedness and response from psychology, legal, economic and social management point of view. Further international opportunity in 2014 conducted under collaboration with GIZ and GFZ to conduct International Seminar and Field Trip on
“Tsunami Early Warning & Community Preparedness” in Jakarta and Bali in March 2014. This was good opportunity for strengthening the WG3 members. Other opportunities were from university networks, such as participating in DRC – Disaster Resilient Countries in exchange faculties and conducting disaster resilient credit earning courses with 5 universities Kyoto Uni, ITB, Chulalongkrong, AIT, Katsesart, and National Vietnam University other perspective of increasing response and preparedness.

There are several good practices of WG3 Chair to collaborate with Indonesia NDMO (BNPB) in the development of technical guidelines for design and planning of tsunami evacuation map, signage and vertical evacuation shelter in Indonesia that are necessary to be upscale to Indian Ocean region as well as to other basins. These technical guidelines has been endorsed in 2013 and exercised during the design and construction of several vertical evacuation shelters in Padang City, which were completed in early 2015. An on-going process of vertical evacuation shelter design have been in place in several coastal cities in Indonesia. The strong support of the Indonesian national government to fund the construction of these shelters has helped the readiness of local government in saving more lives toward tsunami event in the future.

Besides these works and progress, for WG3 the most difficult challenge is perhaps to assess whether the system had worked properly and contributed to saving lives. At the end, for the last mile, it is important to look at different levels of government response and also communities and how they understand the natural warnings and make the best judgments to conduct self-evacuation. Several best practices from Indonesia on self-evacuation SOP developed by community can be shared to the region and other basin. Also lessons from most recent tsunami events are perhaps the best way to reflect the status of community preparedness, also in the cases where an earthquake did not generate a tsunami. It is also important to understand that all events are entirely unique, and there is a danger in treating countries with the same approach in assessing risks, developing education materials and evacuation strategies.

2.2 ICG-PTWS – WG 3 on Disaster management and Preparedness

The PTWS/ICG-XXV agreed in September 2013 to align the previous terms of reference of its Working Group 3 on Awareness and Response (as determined in the PTWS Medium Term Strategy 2009-2013), with the terms of reference of the TOWS task team as well changing its title from the “Awareness and Response Working Group” to the “Disaster Management and Preparedness Working Group” so that the PTWS reflects the TOWS direction. It was noted that “Response” is a broad concept that spans wider than the original intent for PTWS WG3, and it was hoped that this change would also solicit better involvement of countries’ Disaster Management agencies in the ICG-PTWS.

The primary focus of WG3 in the report period remained assisting member states to prepare for the new enhanced PTWC products that were implemented in October 2014.

Liaison with Working Groups of other ocean basins and within PTWS

The PTWS WG3 vice-chair, ITIC and the Caribbean Tsunami Warning Program supported the CTIC and ICG/CARIBE-EWS chair of WG4 in to organize and conduct ITP-CAR3 in Mexico City, Mexico in April 2014.
Training
A Regional training workshop for Pacific Island Countries was held in Fiji from 22-24 May 2014.

An IOC-ITIC Regional training workshop on Strengthening Tsunami Warning and Emergency Response Standard Operating Procedures and the Development of the ICG/CARIBE-EWS Pacific Tsunami Warning Center (PTWC) New Enhanced Products, was held from 1-5 April 2014 in Mexico City, Mexico. This basic SOP training was the third following trainings in 2013 and 2014 in order to reach all CARIBE-EWS countries. The training provided simultaneous translation into Spanish and English for participants and trainers. Twenty-nine participants took part in the training, of which over half were from PTWS Member countries - including from Colombia (Dirección General Maritima, Unidad Nacional de Gestión de Riesgos de Desastres), Costa Rica (RONMAC/Universidad Nacional, Comisión Nacional de Emergencias), El Salvador (Ministerio de Ambiente y Recursos Naturales/DGOA), Honduras (Comisión Permanente de Contingencias), Mexico (Protección Civil y Bomberos de Jalisco, Centro de Alerta de Tsunami), Nicaragua (Instituto Nicaraguense de Estudios Territoriales, Defensa Civil), Panama (Universidad de Panama/Instituto de Geociencias, Sistema Nacional de Protección Civil).

A Regional training: “ICG/PTWS Pacific Tsunami Warning Center (PTWC) New Enhanced Tsunami Products” was also held from 2-4 June 2014 in Guayaquil, Ecuador. The training was attended by all South American and Central American member countries, generally representing both TER and TWFP centers with the exception of Nicaragua (due to logistical problems). Nicaragua then was a priority country to receive support and attended the ITP-Hawaii 2014 in August on the Enhanced Products.

The ITP-Hawaii 2014 was attended by 30 participants from 14 PTWS countries and Oman representing Tsunami Warning Center or Emergency Management Agencies. The focus was on preparations for the PTWS enhanced products changeover.

The ITIC also provided training on the new products to Micronesia, Palau, Marshall Islands.

Exercise Pacific Wave 15
Following the regional training sessions, the focus was on Exercise Pacific Wave 15 that provided an opportunity to test the new products as well as member States’ preparedness in this regard. The exercise was held during the week of 2-6 February, with 41 Member States returning post-exercise evaluations.

Supporting regional working groups
An Extraordinary Meeting of the “Strengthening Regional Coordination Mechanisms for Tsunami Early Warning Systems” was held in Guayaquil, Ecuador from 5-6 of June 2014, coordinated by the South East Pacific Working Group (SEP-WG) and hosted by Ecuador (INOCAR). Themes discussed were: Review of Chile’s April EQs and Tsunamis; Advances and projects of Tsunami warning in Chile, Colombia, Ecuador and Peru; Opportunities for cooperation; standardizing information bulletins; use
of regional information platforms; Exercises: lessons learned and future activities; SEP-WG as a global reference point. The PTWS WG3 Vice-Chair, ITIC and PTWC supported and attended the first day of the meeting.

The Central America Regional Working Group was supported by the WG3 Vice-Chair and ITIC.

**Guidelines**
New Zealand has developed a technical standard for the use of sirens in tsunami warnings. While this standard is not an official endorsement of the use of sirens for tsunami warnings, the work has been conducted in view of the reality that sirens are being used by local authorities for this purpose. The standard describes the required signal, the meaning of sirens, the public education required, the maintenance requirements and other important considerations. New Zealand is also in the process of reviewing its 2008 publication on public alerting options and the related decision making tool for public alerting options. These publications will be made available to other member states.

**New Preparedness focus**
The Steering Group of the ICG agreed in July 2014 that that the next priority of the PTWS after the implementation of the PTWC New Products in October 2014, should be on Preparedness, e.g., that in the End-to-End tsunami warning chain, once a forecast is provided and a warning alert issued, communities must know what to do and where to go. The ‘where to’ answer would be a tsunami evacuation map that has been developed by, and therefore, owned by the community.

The Steering Committee subsequently agreed that the ITIC would lead the development of a standardized process and training course to enable the production of reliable and practical community-level tsunami evacuation maps. The new course will include processes for preparing tsunami evacuation maps and associated response plans that are based on international practices and guidelines developed by IOC, TOWS WG, and ICG Working Groups and Task Teams. The outcome (a general course curriculum and methodology that is usable in all ICGs) is expected to have global applicability and impact.

The intent is to cover planning, maps, and response procedures for evacuation will be covered through a series of training workshops and community engagements over a 1 to 2-year time period. The process will consider cases where modeling is and is not available, demonstrate the application of different levels of tsunami modelling to construct scenario worst case inundation maps, work through the process of creating a community-owned evacuation map, with appropriate routing, safe area assembly, signage, and finally, use an exercise to test emergency response operational readiness of communities. Where applicable, tsunami inundation modelling training can be conducted to enable the science studies needed to support evacuation mapping. Community training-of-trainers approaches for evacuation map creation will be built into the final course considering the needs exceed by far the capacity of a single institution or group. Targeted course trainees will include Tsunami National Contacts and Tsunami Warning Focal Points, other governmental institutions staff (local and national), NGOs members and civil society organizations leaders. Tsunami modeling training will target physical scientists and oceanographers in governmental institutions and universities.
The ITIC will pilot the course and process in the period 2015-2016. Upon the pilot’s completion the course and process will be formalized and offered widely. The IOC will issue a pilot announcement letter inviting interested Central America countries to complete a questionnaire – the results will be used to identify a host country for the pilot course to be conducted in 2015 and 2016.

This initiative will directly support one of the TT’s objective agreed in February 2014, which is to compile a reference list of tsunami evacuation mapping material, and develop a template for comprehensive mapping guidelines.

2.3 ICG NEAMTWS – WG 4 Public Awareness, Preparedness and Mitigation

No update was received from NEAMTWS WG4. The information below represents the 2014 report:

A guideline to national civil protection and disaster management organizations in countries of the North-Eastern Atlantic, the Mediterranean and Connected Seas region for their assessment and management of risks to coastal populations has been produced and published as IOC Manuals and Guides on 7 December 2011. The guidance is specific to the tsunami hazard but within a multi-hazard context. It presents case study contributions from Member States, it has been reviewed by UN-ISDR and revised after the 8th session of the ICG/NEAMTWS. It is available at the address: http://unesdoc.unesco.org/images/0021/002147/214734e.pdf.

A workshop on “Tsunami emergency preparedness in Mediterranean coastal zones” took place in the Stromboli Island, Italy, from 28 May to 4 June 2012. It was organized together with the Euro-Mediterranean Programme for the Prevention Preparedness and Response to Natural and Man-Made Disasters coordinated by the Italian Civil Protection Department and the NEAMTIC project. Contributions to the workshop were made by the ICG/NEAMTWS Chairperson, by the co-chairs of the Task Team on Communication Test and Tsunami Exercise, by the IOC Secretariat. A presentation on Tsunami Hazard and Social Perception in the Euro-Mediterranean Region was prepared by WG4.

Moreover, the WG4 has been requested by the ICG to provide guidance on messaging between NTWCs/TWFPs and Emergency Response Managers. It has been observed that, since the alert messages adopted by the ICG and used by the candidate TWPs need to be properly understood and interpreted by the NTWCs/TWFPs of the Member States, the TWPs not only should include in the SOP specific training on messaging for the TWP staff, but also should encourage and be ready to participate upon request in training of the NTWC staff and of personnel involved in the Emergency Response structure of the Member States. It has been underlined that the format, content and structure of the TWP alert messages have to be appropriate not only for TWPs, but also for the NTWC/TWFPs of the Member States, that in case of an alert are expected to make prompt decisions.

It has been further stressed that the experience on messaging gained by Member States participating in NEAMWAVE12 had to be used to evaluate if the messages fully match the Member States’ needs, and, in case inadequacies are identified, possible amendments should be proposed to the ICG. It has been remarked that for NTWC/TWFPs receiving messages from more TWPs can be problematic in case of contradicting information and that providing guidelines on dealing with multiple messages could be quite useful for Members States. Stressing that discrepancies in messages can be reduced if the monitoring systems (seismic and especially sea level networks) are sufficiently dense and efficient, and if the processing software is adequately validated, it is
suggested that one possible option for the Member States in case of contradicting level of alert is to consider the worst case scenario. It has been stressed that the awareness of tsunami risk for the national institutions and also for the local authorities and population is a major work for a substantial improvement of the TWS in the NEAMTWs region.

It has been recognized that there is a large spectrum of the NEAMTIC activities on preparedness and mitigation that are of fundamental interest for the WG4. As a consequence it is considered essential that the NEAMTIC can continue to work on these subjects even in the future, and a more strict cooperation between NEAMTIC and WG4 is encouraged. A number of educational materials have been produced by NEAMTIC and in particular, a poster for elementary school kids on safe behavior to be adopted in case of a tsunami event and an online course for middle school kids on sea-level related hazards. Moreover, guidelines for coastal managers and civil protection authorities and hotel managers have been developed as well. The material is available in English, Italian, Greek and Arabic.

It has been observed that the Directive 2007/60/EC on the assessment and management of flood risks that entered into force on 26 November 2007 (and that requires the EU Member States to assess if all water courses and coastlines are at risk from flooding, to map the flood extent and assets and humans at risk in these areas and to take adequate and coordinated measures to reduce this flood risk) can be a tool to exploit by several ICG Member States in the context of tsunami preparedness and of tsunami risk mitigation.

2.4 ICG CARIBE-EWS

Steady progress for the tsunami programme was evident during the February 2014 – 2015 period within the Caribbean and its adjacent regions, despite the strained financial situation. Some extra-budgetary financial resources were secured for the operations of the CTIC, the installation of additional detection devices and the enhancement of national level preparedness activities in Haiti and the Dominican Republic in particular. Additional PAE tools were advanced and distributed by the CTIC, national and regional tsunami warning exercises were convened, enhanced capacities for early warning at the community and national levels continue to be developed and ICG Member States and various working group members have benefited from a range of technical trainings.

Regarding the overarching support to the ICG/CARIBE EWS, it is noted that UNESCO and its IOC managed to maintain an acceptable level of coordination, training activities, and publications flowing, despite the financial shortages and decreasing human resources. Albeit, this support was facilitated within a framework of increasing temporary staffing appointments and a reliance on extra-budgetary funding. The Tsunami Unit (TSU) managed to get a special contribution of 130,000 USD from the UNESCO Emergency Fund towards the establishment of the Caribbean Tsunami Information Centre (CTIC) which continued throughout this period.

There has been a steady growth in the number of operational sea-level stations, with six (6) additional stations recently installed in the region through funds provided by the IOC. Through extra-budgetary projects and partnerships, the Unit also maintained activities related to awareness and preparedness, among others with EU DG ECHO support towards tsunami preparedness in Haiti and Dominican Republic. These initiatives will improve the scientific knowledge on the effects of the 1946 tsunami event in the North of the Hispaniola Island, and
provide a solid base to evaluate tsunami inundation in Northern Hispaniola. A detailed technical report on earthquake and tsunami scenarios for Northern Hispaniola was developed with the assistance of knowledgeable experts and school manuals approved by the Ministry of Education in Dominican Republic (MINERD) have also been provided.

In relation to public awareness and education initiatives, the CTIC advanced the development of its website together with the development of the official logo and branding materials in July 2014. Further adaptation of the Tsunami Rules Flyer and the Tsunami brochure was also undertaken. The final products are appended to the report and the website is expected to be completed by March 2015. These activities were supported by Working Group 4 of the ICG/CARIBE EWS. Limited copies of the Tsunami Public Awareness and Education Strategy for the Caribbean and Adjacent Regions, published as No. 107 of the UNESCO/IOC Technical Series have been printed and distribution to ICG/CARIBE EWS MEMBER States have commenced. In association with UNDP, Barbados and the OECS, the CTIC also conducted sensitization missions to Dominica and Anguilla during November 2014. These missions proved successful is supporting national level initiatives including exercises and provided opportunities for interface with policy-level representatives and the National Commissions for UNESCO as a means of sensitization about the CTIC. Another mission is planned to St. Kitts and Nevis in 1st Quarter, 2015.

In conjunction with UNESCO/IOC, ITIC, PTWC and the CTWP together with financial assistance from USAID/OFDA and UNESCO/IOC as well as logistical support from the Department of Emergency Management, Barbados, CTIC supported the coordination of a one-week regional SOP training sessions was convened in Mexico during April 2014. This training was attended by 30 participants, and covered essential topics involved in end-to-end tsunami warning including event monitoring and detection, threat evaluation and warning, alert dissemination, emergency response, evacuation, and public action. The trainings also included an information and feedback session on the proposed PTWC Enhanced Tsunami Products. The enhanced products were approved for development by the ICG/CARIBE-EWS VIII (2013) and featured as part of the CARIBE WAVE 2013 and 2014 Exercises.

The ICG/CARIBE EWS IX Meeting of May 2014, acknowledged the increasing number of communities receiving “TsunamiReady” recognition in the region, and certificates were awarded for the most recent two territory wide recognitions; the US Virgin Islands and Virgin Islands (UK) [latter undertaken within the framework of the NWS NOAA-UNESCO/IOC “TsunamiReady” pilot project]. After being the first English-speaking Caribbean territory to be recognised internationally under the “TsunamiReady” pilot project in 2011, Anguilla received a renewed recognition in September of 2014. Other ICG/CARIBE EWS member countries including Antigua and Barbuda, Barbados, the Commonwealth of Dominica, the Dominican Republic, Grenada, St. Kitts and Nevis, and St. Vincent and the Grenadines are currently undertaking various initiatives in conjunction with UNESCO/IOC-CTIC, USAID/OFDA, DIPECHO, UNDP Barbados and the OECS, and other partners towards the achievement of community-based warning systems which are capable of ensuring that populations in vulnerable coastal areas are prepared and respond appropriately if there is a potentially destructive tsunami threat.
ICG CARIBE EWS IX also renewed the Task Team on Performance Recognition Program as part of the activities to be undertaken by Working Group 4. Further the ICG requested the members of the Task Team to develop a strategy or business proposal for a Performance Based Recognition Programme including the parameters, possible metrics or performance measures, the feasibility, and potential sources of funding for the programme. The second meeting of the Task Team is scheduled for 08 April 2015 in Puerto-Rico. All ICG/CARIBE EWS Member States have expressed strong support for the adoption of the region-specific programme being led by the Task Team and have requested that implementation be prioritised by the CTIC.

The Education and Outreach section of the Seismic Research Centre of the University of the West Indies (SRC) continued its Tsunami Smart Programme during 2014 focusing on tsunami public awareness activities targeting school communities. As part of the SRC’s regional initiatives, the Centre supported the Department of Emergency Management (DEM), Barbados during their earthquake and tsunami awareness month in March, 2014 and integrating wider public lectures and presentations within the programme. The DEM is planning similar engagements for March 2015. Support was also provided to St. Kitts and Nevis in September 2014 by a joint mission of SRC and Caribbean Tsunami Warning Program (CTWP) personnel for a week long campaign on earthquakes and tsunamis which including training sessions in schools, public forums, media tour and courtesy calls to government officials. Resulting from this mission, the Federation has indicated a keen interest in pursuing “TsunamiReady” recognition. Being the first country within the Organisation of Eastern Caribbean States (OECS) to indicate an interest, St. Kitts and Nevis would pave the way for enhanced input to the ICG/CARIBE EWS-lead proposed community-based tsunami performance recognition program.

CTIC representatives from various ICG/CARIBE EWS Working Groups have participated in activities convened by a Trilateral Project among the Spanish Government, the Chilean Government and the Coordinating Unit of the Disaster Emergency Management Agency (CDEMA) entitled “Strengthening of the Caribbean Disaster Emergency Management Agency (CDEMA) in the technical areas of earthquakes and tsunamis.” The project is aimed at strengthening the knowledge and preparedness of the Caribbean Region in the technical areas of tsunami and earthquake disaster preparedness and emergency prevention. Specifically, it is expected to enhance the knowledge of CDEMA and National Disaster Offices (NDOs) of the CDEMA Member States in general aspects related to seismic and tsunami, specifically inundation mapping, tsunami and earthquake drills and state of the art approaches in seismic technology and investigation. The expected outcomes include, the enhanced readiness for earthquake and tsunamis and the promotion of knowledge and awareness of resilience issues. The activities already undertaken under this initiative included:

- Field visit to Chile for a Training-of-Trainers Orientation Workshop on Tsunami Inundation Maps, 28th July – 1st August, 2014
- “Hazard Assessment Training Course,” 15th – 19th September, 2014, Jamaica
- “Earthquake-Tsunami Evacuation Drill,” 17 - 20 November, 2014, Concepcion, Chile
2015 activities are:

- “Vulnerability and Risk Assessment Training Course,” 26th – 30th January, 2015, Jamaica
- “Tsunami Drill” Tuesday, 24 February, 2015, Jamaica

The opportunities for several high level and/or high visibility events requiring the coordinated presence of the CARIBE-EWS Member States include the 10 year commemoration of the Indian Ocean tsunami, the 50th Anniversary of the Pacific Tsunami Warning System in 2015, and the 3rd UNISDR World Conference on Disaster Risk Reduction (Sendai, Japan, 14–18 March 2015).

3. UPDATES FROM TSUNAMI INFORMATION CENTRES
3.1 INTERNATIONAL TSUNAMI INFORMATION CENTRE (ITIC)

The ITIC continued to host and deliver training in Hawaii (called ITP-Hawaii) and in-region (called ITP-International) for NTWC and NDMO staff in 2014 to PTWS and CARIBE-EWS member states. The ITIC also participated to IOTWS SOP Regional Training Courses in 2014. The training focused on SOPs for tsunami warning and tsunami emergency response in the context of planning, conducting, and evaluating tsunami exercises as a best practice for increasing country readiness. Specific attention was given for preparing for exercises and the introduction and feedback on new experimental PTWC tsunami products.

A number of general awareness materials are available free-of-charge from the ITIC, publishing in collaboration with the IOC. In 2014, the ITIC updated and printed The Great Waves 2014; translated and added 2010 tsunami information to create a new IOC publication Surviving Tsunamis, Lessons Learned from Chile, Hawaii, and Japan based on the USGS Circular 1187; Global Tsunami Sources (1410 BC- AD 2014) poster and icosahedrons. Low-resolution copies of documents are available from the ITIC web site (www.tsunamiwave.info) and high-resolution copies are distributed by DVD by the ITIC.

To assist warning centres and response agencies, ITIC also distributes free-of-charge tsunami warning decision support tools, which include: CISN (earthquake display), Tide Tool (sea level monitoring display), TTT (tsunami travel time calculation software), TsuDig (global tsunami, earthquake, and volcano offline GIS database tool). In addition, the ITIC hosts the Tsunami Bulletin Board (list serve for tsunami professionals), and supports the RANET Project in providing heads-up courtesy SMS texts of PTWC messages. Unfortunately, since the changeover to the PTWC enhanced products, the RANET SMS has been down and may be discontinued unless there is significant request from customers.

The ITIC is also finishing the Tsunami Warning and Emergency Response SOP Manual and Guide in collaboration with the IOC IOTWS Secretariat, and has a 1-day Business SOP Short Course aimed a preparing small business and hotels to effectively respond to a local and distant tsunami.

For the PTWS 50th anniversary, the ITIC is publishing a 50-year historical book on the PTWS, and producing a 5-minute video Tsunami Warning! on the warning and response actions of countries and the PTWC to a M9.5 northern Chile scenario.
3.2 INDIAN OCEAN TSUNAMI INFORMATION CENTER (IOTIC)

IOTIC is still waiting for its Terms of Reference for endorsement by the ICG. This is expected to be done at the 10th ICG/IOTWS meeting in Muscat, Oman 24-26 March 2015. The TOR has been reviewed and includes a recommendation on “Manage post-event performance surveys and compilation of reports in close collaboration with the ICG/IOTWS Secretariat under the overall direction of the ICG/IOTWS Steering Group, assisted by teams of experts nominated by the ICG/IOTWS Steering Group as required”

IOTIC is housed in UNESCO Office Jakarta; currently IOTIC is exploring to be hosted by the Indonesian National Warning Centre - The Meteorological, Climatological, and Geophysical Agency (BMKG). In addition IOTIC is requesting BMKG provide staffing support in the form of 2-3 secretarial and administrative staff and 1 professional staff as well as for funding support for its programme and activities.

IOTIC supported the implementation of two project of ICG/IOTWS secretariat in close cooperation with WG 3 namely:

- **Enhancing Tsunami Risk Assessment and Management, Strengthening Policy Support and Developing Guidelines for Tsunami Exercises in Indian Ocean Countries:**
  This project consist of two main components: the first component is to support ICG/IOTWS Working Group 1 on Tsunami Risk Assessment and Reduction focusing on the revision and updating the IOC Guidelines on “Tsunami Risk Assessment and Mitigation for the Indian Ocean: Knowing Your Tsunami Risk - and What to Do About it”, published in June 2009 as IOC Manuals and Guides No.52. A Task Team has been established to lead the revision of this Guideline. The second component is to support Working Group 3 on Tsunami Awareness and Response to strengthen policy support and guidelines for tsunami exercises for Member States, in particular Bangladesh, Myanmar, and Timor Leste. Six training activities have been implemented as part of the project activities, in Dhaka, Bangladesh 8-11 October 2013 and 1-4 September 2014; in Dili, Timor Leste 4-7 February 2014 and 14-17 July 2014 and Nay Pyi Taw, Myanmar 11-14 March 2014 and 1-4 September 2014. The first trainings focused on raising the awareness of the participants on tsunami risk reduction and to assist the national stakeholders to assess their existing disaster management legislation in terms of its aptness for tsunami risk reduction and sustainable tsunami exercises. The second trainings focused on how to plan, organize, conduct and evaluate tsunami exercises at national level. These trainings / workshops on Tsunami Exercises were organized at national level with a national task team from the relevant agency of local government, meteorological agency, national disaster management office, emergency response organizations, community organizations, non-government organizations, and media representatives as participants.

  The training was based on the module on Policy Support for Tsunami Exercises and how to conduct tsunami exercise developed by the team of experts. The first training covers five Modules with 14 topics. The modules are: Understand the Risk; Key concepts of DRR policy; DRR Status and Analysis; Introduction to Tsunami Exercising; and Context of Exercises in Policy Perspective. The second training covers six modules with 14 topics. The modules are: Introduction to Tsunami Exercise; Designing Tsunami Exercise; Setting Up and Organizing Exercises; Evaluation and Summary; Review on SOPs: NTWC - NDMO (National - Local); and Table Top Exercise.
In addition to these trainings/workshops, the project also engaged with consultants to support the countries in drafting their national guideline for tsunami exercise. Two consultants were hired for Myanmar and Timor Leste, but we still have difficulties to engage with a consultant for Bangladesh.

A final activity for this project is the Regional Lessons learned workshop that will be held in May 2015 inviting the three participating countries and several other Indian Ocean member states.

- **Investigation of the written and oral history of tsunami events in the Makran Coastal Region:**
  This project aims to improve the knowledge of the impact of the 1945 tsunami in Pakistan, Iran and India by searching for historical documents in all three countries as well as in Oman, which historically controlled some of the port areas in present-day Pakistan. Eyewitness accounts of the 1945 tsunami were collected and documented from the coastal communities in Pakistan, Iran, India, and Oman. The information gathered was documented and made publicly available on the IOTIC website (www.iotsunami.info) as well as in the form of a booklet. This information is expected to be used by both government and research agencies to further tsunami awareness and preparedness in the region. Detail information of this 1945 event, gained from historical documents and eyewitness accounts, will provide valuable input for improved tsunami models of the event and will contribute to more accurate risk assessment. The booklet has been published and the next step is to translate it into three languages.

In addition IOTIC implemented one project activities funded by Indonesian Fund in Trust in close cooperation with WG 3: Building Model Disaster Resilient Cities in Indonesia: Tsunami Hazard. This project aims to address the need to strengthen the capacity of the local government in incorporating disaster risk reduction (DRR) into the development planning, with focus on earthquake and tsunami hazards in Indonesia. The project focuses on four components:

1) Strengthening the local capacity in tsunami risk assessment. In cooperation with the Research Centre for Disaster Mitigation of Bandung Institute of Technology (RCDM ITB) training was given to representatives of university, disaster management office and government officials of 5 district/cities;

2) Capacity Building for Schools and Communities in 6 Schools in Pandeglang District, Banten Province; namely three public elementary schools, an Islamic secondary school, a public junior high school, and a public vocational school. The UNESCO Office in Jakarta is in partnership with the Community Preparedness (COMPRESS) and the Research Centre for Geotechnology of the Indonesian Institute of Sciences for its activity implementation;

3) Strengthening tsunami early warning chain from warning centre to local government and broadcasting media. This component focuses on the Pandeglang District. A series of design workshops and trainings have been conducted for the local government agencies to gain information on tsunami early warning chain as well as a comparative study field visit and technical discussion in Badan Penanggulangan Bencana Daerah (BPBD: Local Disaster Management Agency) Bantul, Yogyakarta Province. These activities will contribute to increasing
the capacity of the local government in Pandeglang District to issue early warning and guidance to communities in tsunami prone area within the district;

4) Revitalization of the Aceh Tsunami Museum. The activities in 2014 focuses on preliminary assessment on Aceh Tsunami Museum, and the development of tsunami preparedness animation videos and panel exhibition display for Aceh Tsunami Museum. This activity is implemented under the cooperation between UNESCO and Bandung Geology Museum, Aceh Tsunami Museum, Aceh Local Government, Sony Corporation, and Samsung Electronics Indonesia. This project contributed to raise the awareness and knowledge of Aceh communities on tsunami hazard.

IOTIC will be implementing another project with the support of the Malaysia Fund in Trust (MFIT) with a focus on south-south cooperation. With this in mind, IOTIC will be implementing activities to support capacity building on tsunami preparedness in one of the Indian Ocean African countries and one of the Indian Ocean Small Island Developing States.

3.3 NEAMTWS TSUNAMI INFORMATION CENTRE

No update was received from the NEAMTC. The information below resents the 2014 report:

The NEAMTIC was approved by the ICG/NEAMTWS-VI based on the model tsunami information centers in other regions. NEAMTIC started in December 2010 as two-years project funded by the European Commission Directorate General Humanitarian Aid & Civil Protection (DG ECHO). The project was officially concluded in April 2013. NEAMTIC worked on four main activities:

- Collect information on the international warning activities for tsunamis and other sea-level related hazards in the NEAM region, including establishing contacts with the Monitoring and Information Centre (MIC) of the European Civil Protection as well as civil protection agencies of Member States.
- Provide to regional and national stakeholders information on tsunamis and other sea-level related hazards, and on tsunami warning and mitigation systems.
- Foster identification and exchange of best practices and assist national stakeholders in the establishment of regional and national components of NEAMTWS, and the reduction of risks from tsunamis and other sea-level related hazards through comprehensive mitigation programmes.
- Act as an information resource for the development and distribution of awareness, educational and preparedness materials, event data collection, and the fostering of research and its application with the aim of mitigating loss of life and property from tsunamis and other sea-level related hazards.

Currently the NEAMTIC web-portal is functioning as repository of ICG/NEAMTWS documents and information, and the NEAMTIC educational and awareness raising products are being translated into ICG/NEAMTWS Member States’ languages.

3.4 CARIBBEAN TSUNAMI INFORMATION CENTRE

The CTIC was established on September 02, 2013 as a UNESCO/IOC-Government of Barbados partnership initiative. The role and responsibilities of the CTIC are to:
Monitor the effectiveness of the tsunami warning system and recommend improvements;
Bring to regional and national stakeholders knowledge on tsunami warning systems, and encourage their active participation in the ICG/CARIBE-EWS;
Assist national stakeholders in the establishment of warning and mitigation systems, and the improvement of tsunami preparedness;
Act as a technical resource for strengthening both technical and institutional aspects of the CARIBE-EWS;
Act as an information resource providing for the development, publication, and distribution of educational and preparedness materials on tsunamis and tsunami hazards; and
Act as an information resource on tsunami events.

Oversight to the activities of the CTIC is provided by the CTIC Board which is comprised of Member State and partner organisations with ultimate governance of the CTIC resting at the level of the ICG/CARIBE EWS.

Since the formal establishment of the CTIC in September 2013, it continues to advance the finalization of memoranda of understanding (MOUs) between the Government of Barbados with the Governments of France and Venezuela in respect of secondments, as well as resource mobilization proposals in association with UNESCO/IOC and UNDP. The ICG/CARIBE EWS Secretariat also continues to seek monetary contributions as well as secondments from Member States to support the work of the CTIC through the following mechanisms:

- MOUs
- Voluntary contributions to the IOC Special Account
- Support for specific activities

Core financial resources to cover CTIC operational expenses (including salaries) beyond October 2015 are currently non-existent. The CTIC is staffed by an Interim Director, with administrative and logistical support being provided through agreements with Barbados Government, UNESCO/IOC and UNDP. The human resources constraints of the CTIC have limited its strategic level success to date and the sustainability of the CTIC needs to be urgently bolstered by a more structured mechanism for the enhanced provision of core financial and human resources which is Member State-driven. Such a mechanism by Member States should include annual financial contributions to the IOC Special Account, support to specific CTIC activities, and lobbying on behalf of CTIC for potential sources of funding within the donor community and partnerships with key regional and sub-regional organisations.

The Seventh Session of the ICG/CARIBE-EWS VII approved the CTIC Business Plan 2012 – 2016 and the revised draft was further endorsed at ICG/CARIBE-EWS IX in May 2014. CTIC activities continue to be implemented under the guidance of 2012 – 2016 Business Plan.

4.7 Wave Exercises
Every ICG maintains a programme of international tsunami exercises to test and improve their products as well as processes and readiness of regional warning centres and member states.

Thirty-one (31) Caribbean nations and sixteen (16) territories (98% of Member States of the ICG) took part in the third regional Exercise Caribe Wave/Lantex’14 held on 26 March 2014. The 1st scenario of the exercise were based on a hypothetical earthquake located offshore Portugal and a 2nd one was simulated a submarine landslide within the Gulf of Mexico. The high level of participation reflects improved level of understanding of the tsunami threat and commitment of the countries to get ready. Given the trans-Atlantic nature of the scenario, it also marked the first time for coordination between two tsunami warning systems, the ICG/CARIBE EWS and the Tsunami Early Warning and Mitigation System in the North-Eastern Atlantic, the Mediterranean and Connected Seas (NEAMTWS). Through this exercise it was possible to:

- Validate the issuance of tsunami products from the PTWC and NTWC;
- Validate the receipt and dissemination of tsunami products by TWFP’s;
- Continue with the exposure to proposed enhanced PTWC products, which include graphics;
- Validate the readiness of the CARIBE-EWS countries to respond to a distant tsunami.

The exercise and media reports for CARIBE WAVE 2014 are available at www.caribewave.info The next exercise, CARIBE WAVE/LANTEX 15, is scheduled for 25 March 2015. This exercise will provide simulated tsunami messages from the PTWC and NTWC triggered by two scenarios:

- a hypothetical earthquake located offshore Panama. This scenario was modeled off the September 7, 1882 earthquake, generated a tsunami which affected the coasts of countries and territories within the Caribbean with 3.0 maximum reported wave.
- a submarine landslide off the coast of Florida.

In order to improve the preparedness of Member States, CARIBE WAVE/LANTEX 15 will involve the review and evaluation of the PTWC new enhanced products. Furthermore, PTWC tsunami messages and products will be sent only to TWFPs who are responsible for disseminating information to participants under their jurisdiction. This way of proceeding is in compliance with the role of tsunami provider of the PTWC and will better involve each member state in it responsibility on the dissemination of the alert to the population. The CARIBE WAVE/LANTEX 15 task team responsible for the preparation of the exercise introduced some changes in registration in order to focus on keeping track of participants. The exercise manuals are available at www.caribewave.info

At the national level, CTIC; in association with UNDP, Barbados and the OECS provided support to the DOMWAVE 14 Exercise in Dominica. This exercise was designed to simulate an earthquake event and a Tsunami threat in the Portsmouth area in order to:

- View and comment on the evacuation of two schools (St. John’s Catholic School and St. John’s Academy) in Portsmouth to the earthquake and Tsunami hazard;
• Improve organizational coordination;
• Clarify roles and responsibilities; and
• Improve individual performance.

Scenario:
This exercise, codenamed “Exercise DomWave 14” was intended to commemorate the tenth anniversary of the 6.3 magnitude earthquake event, which occurred on 21st November 2004, as well as test two schools’ evacuations. This functional exercise and drill was designed and executed in Dominica by the UNDP (Barbados and the Eastern Caribbean) and the ODM, with technical assistance from the CDEMA. The exercise was based on a localized Tsunami threat generated from an earthquake affecting Dominica, and more directly the Portsmouth area.

Key positives of the preparation and exercise were:

• Both schools actively participated and were evacuated.
• Students created a “Tsunami Smart Club” at St. John’s Primary.
• Proposals for the re-establishment of the traditional “Lavolin” bell sound for emergencies.
• Next steps identified as a result of the DOMWAVE 14 Exercises included:
  • Establishment and testing of the Common Alert Protocol (CAP), which includes the RDS and Radio Interrupt.
  • Encourage and assist schools to complete and regularly test their emergency disaster preparedness plans and protocols.
  • Train school staff in first aid and CPR.
  • Train DMC as CDRT/CERT members.
  • Develop emergency response plan and protocols for the Police.

CTIC provided technical support to the Community Alerts Project which sought to implement effective, integrated, early warning systems in Dominica, Grenada and St. Vincent and the Grenadines during the period June 2014 – December 2014. At the end of this project, two (2) communities in each of the countries benefitted from a functional, tested, integrated common alerting protocol framework with radio interrupt, broadcasting devices. The applicability for the tsunami risk was emphasized.

The ICG/NEAMTWS conducted its 1st NEAMWave12 tsunami exercise on 27-28 November 2012. This real-time simulation, based on four scenarios in which earthquakes provoked tsunamis in different regions, demonstrated that the communication system for sending and receiving alert messages to concerned national authorities, worked smoothly. Turkey, France, Greece, and Portugal were in charge of generating the four earthquake and tsunami scenarios for the test, and 18 member countries participated.
The ICG/PTWS conducted Exercise Pacific Wave 2015 in February 2015 to test the new PTWS products and member states’ readiness in this regard. 42 member states participated. Evaluations are being processed for the Exercise Report.

On March 20, 2013, the second regional tsunami exercise, CARIBE WAVE/LANTEX13 was conducted. The tsunami scenario simulated a tsunami generated by a M 8.5 earthquake originating 57 miles north of Oranjestad, Aruba in the Caribbean Sea. The initial dummy message was issued by the Pacific and West Coast/Alaska Tsunami Warning Centers (PTWC/USNTWC) and disseminated over all its standard broadcast channels. A participant handbook was prepared that included the tsunami and earthquake scenario information, time lines, the PTWC/USNTWC exercise messages, a model press release and instructions for post exercise evaluation. Four online webinars were conducted in support of this exercise. Almost 40,000 people were registered to participate in this second regional exercise. Exercise and media report for CARIBE WAVE 2013 are available at caribewave.info

4. TASK TEAM ACTIVITIES: PROGRESS
The table below reflects the activities decided by the Task Team in February 2014 and the progress against each:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Progress</th>
</tr>
</thead>
<tbody>
<tr>
<td>Finalizing SOP Manual</td>
<td>In progress. The Task team agreed that this will be a priority for finalization in the next period. Potential funding for a resource to assist with completion of the Manual has been identified.</td>
</tr>
<tr>
<td>Compile a reference list of tsunami evacuation mapping material, and develop a template for comprehensive mapping guidelines</td>
<td>The Reference List was completed, 46 references have been listed.</td>
</tr>
<tr>
<td></td>
<td>The Task Team noted that the PTWS ITIC is leading the development of a standardized process and training course to enable the production of reliable and practical community-level tsunami evacuation maps. The new course “Essential Tsunami Preparedness: Evacuation Plans, Maps, and Procedures” will include processes for preparing tsunami evacuation maps and associated response plans that are based on international practices and guidelines developed by IOC, TOWS WG, and ICG Working Groups and Task Teams. The outcome (a general course curriculum and methodology that is usable in all ICGs) is expected to have global applicability and impact. The pilot training will commence in 2015/16.</td>
</tr>
<tr>
<td></td>
<td>The TT recognized that this initiative is a key development towards the establishment of evacuation guidelines, and the</td>
</tr>
</tbody>
</table>
reference list that has been completed under this action will be provided to the PTWS WG3 Pilot.

The Task Team was also notified by IOTIC that funding exists to extend the Pilot to an IOTWS member state in Africa or South Western Indian Ocean.

The Task Team also noted a comprehensive evacuation guideline is being developed by the Indonesian Agency for Disaster Management. This includes structural design for vertical evacuation and tsunami DRR in spatial planning. The Task Team subsequently requested WG3 of ICG/IOTWS and IOTIC to investigate the possibility to translate the draft evacuation guidelines developed by Indonesia to English for reference by the PTWS initiative.

| Promote education and awareness strategies including ‘Tsunami Ready’ | The CARIBE-EWS provided a report on the implementation of the “TsunamiReady” program to the meeting of the Task Team on 11 March 2015. This program is now well established in the USA and in the Caribbean. It was decided that Task Team members will encourage their respective ICGs to adopt similar performance recognition programs for preparedness that can be modelled on the “TsunamiReady” program. Although the “TsunamiReady” program is trademarked, there is much experience in the CARIBE-EWS that can be leveraged.

The Task Team also noted that a Tsunami Public Awareness Strategy for the Caribbean & adjacent regions was also published as a UNESCO/IOC Technical Series no. 107. This strategy can also serve as a template for adaptation by other ocean basin ICGs.

The action is now considered completed. |
| Finalizing a tsunami guide for hotels | In progress. At its meeting on 11 March 2015 the Task Team discussed the Tsunami Ready guidelines that were developed for Bali hotels by IOTWS. WG3 of IOTWS and IOTIC will make the Bali material available to the TT for checking against the NEAMTWS/ITIC material with a view on simplification. CARIBE-EWS has also developed similar material that is successfully implemented. It was agreed that the current draft is too large in volume and should be simplified to make it more attractive for hotels as a first step. More detail guidance can be provided |
Finalizing the Post Event Assessment Questionnaire

Completed: The Task Team reviewed the questions reviewed and added an additional section for Preparedness at its meeting on 11 March 2015. The triggers for activation were agreed with the Task Team on Tsunami Watch Operations.

There is a need for advocacy of the tsunami hazard in the context of DRR in the build-up to the third UNISDR World Conference of Disaster Risk Reduction in March 2015

Completed. The Task Team noted the following activities are scheduled as part of the Conference:
14 March: Sessions on Tsunami Hazard Assessment and Early Warning Systems respectively,
15 March: Session on Lessons from mega Disasters, with the IOC Executive Secretary on the panel,
16 March: Session on Communities addressing local risk (from the floor),
18 March: Public Forum on Tsunami Early Warning and Public Awareness.

5 PLANNED ACTIVITIES

Based on reports received and progress made with actions agreed in 2014, the Task Team considered its future activities:

5.1 SOP Manual
A focus of the task team will be to finalize these guidelines in the next period. The Chair of the Task Team will take the lead.

5.2 Tsunami Evacuation Mapping Guidelines
The Task team noted the initiative for evacuation mapping and planning training developed by the ITIC of the PTWS and the comprehensive guidelines under development by Indonesia. ITIC and PTWS WG3 will remain in the lead while IOTIC will attempt to translate the Indonesian draft guidelines into English as a resource for the PTWS training. Between these two initiatives an IOC guideline can be developed.

5.3 Tsunami Preparedness Recognition Programs
The Task team noted that the CARIBE-EWS “TsunamiReady” Program is now well established and tested. The respective ICG Disaster Management and Preparedness WGs should consider adopting similar programs that are modelled on the “TsunamiReady” initiative and leverage the experience of CARIBE-EWS in this regard, noting that the “TsunamiReady” program is trademarked.

5.4 Tsunami Guide for Hotels
The IOTWS WG3 and IOTIC will make the Tsunami Ready guidelines developed for Bali hotels available for comparing against the current draft material. CAIBE-EWS also have similar material that can be compared. This work is still in progress.
5.5 Business Continuity Planning
The Task Team identified a need to support the inclusion of tsunami risk in business continuity planning (BCP), especially at the local government level. It agreed that the intent is not to develop BCP guidelines as such as that falls outside its scope and mandate, but it recognized that BCP requires special consideration for tsunami. It agreed to call upon the Task Team members to investigate what material or guidance is already available in this regard before specific work is committed.

5.6 Maritime and Ports Guidance
The Task Team identified a need to survey guidelines for maritime and ports authorities with regards to tsunami response. It agreed to call upon the Task Team members to investigate what material or guidance is already available in this regard before specific work is committed.

6 RECOMMENDATIONS TO THE TOWS WGVIII

As a result of its meeting on 11 March 2015, the Task Team recommends that the TOWS-WGVIII:

6.1 Notes that the Task Team met on 11 March 2015 in Morioka, Japan. This was the first opportunity for the Task Team to meet since it met in February 2014. The Task Team considered:

- reports from the respective ICG working groups and TICs
- progress with regards to activities agreed in February 2014
- planned activities for the next year

6.2 Notes the TT’s concern about the CTIC’s report that core financial resources to cover its operational expenses (including salaries) beyond October 2015 are currently non-existent.

6.3 Notes that the planned activities of the Task Team on Disaster Management and Preparedness include:

- Finalizing the SOP Manual.
- Finalizing the PTWS ITIC pilot training program for tsunami evacuation mapping and planning.
- Encouraging ICGs (through the Disaster Management and Preparedness Working Groups) to adopt performance based recognition programs on tsunami preparedness that are modelled on the CARIBE-EWS “TsunamiReady” program.
- Comparing the Bali and Caribbean Hotel guidelines developed by IOTWS and CARIBE-EWS with the NEAMTWS and ITIC material so that a guideline can be finalized.
- Conducting a survey of material to support the consideration of tsunami hazard in business continuity planning.

6.4 Notes that although one of the ICGs were not represented at this meeting and some ICGs were not fully represented, the value to meet face-to-face at the same time as the task Team on Tsunami Watch operations and in advance of the TOWS-WG, was again demonstrated and provided new momentum to activities of the Task Team. Therefore the Task Team recommends that:

- The Task Team continues to meet on an annual basis, and to make travel worthwhile for the attendees a two-day meeting is preferred,
To support the on-going challenge of funding for travel by Task Team members, TICs should be encouraged to include the annual Task Team meeting in their budget plans, while consideration could also be given to hold the Task Team meetings at one of the respective TICs as that will avoid travel costs for at least one representative. However, the latter option will have to be considered against the preference to arrange the Task Team meetings to be held back to back with TOWS meetings which is also aimed at limiting travel costs.