INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION
(of UNESCO)

Intergovernmental Coordination Group for the Tsunami and other Coastal Hazards Warning System for the Caribbean and Adjacent Regions

(ICG/CARIBE EWS-IX)

St Thomas, Virgin Islands, USA,
13 –15 May 2014

Agenda Item 4.5
REPORT ON TASK TEAM ON PERFORMANCE RECOGNITION PROGRAMME

1. SPECIFIC PURPOSE OF MEETING

The ICG/CARIBE-EWS Working Group 4 in association with the Caribbean Tsunami Information Centre (CTIC), the Intergovernmental Oceanographic Commission of the United Nations Educational, Scientific and Cultural Organisation (UNESCO/IOC), and the United Nations Development Programme (UNDP) for Barbados and OECS through the Enhancing Resilience to Reduce Vulnerability in the Caribbean (ERC) Project and the Caribbean Tsunami Warning Program (CTWP), is currently advancing activities to support the development of an end-to-end interoperable Tsunami and Other Coastal Hazards Warning System for the Caribbean and Adjacent Regions (CARIBE EWS).

As part of the activities being coordinated by the Working Group 4 in association with the CTIC on behalf of the ICG/CARIBE -EWS a Meeting of the Performance Based Tsunami Recognition Programme was convened on November 13 and 14, 2013 in Mayaguez, Puerto Rico.

2. PERFORMANCE BASED TSUNAMI RECOGNITION PROGRAMME TASK TEAM MEETING

The objectives of the Performance Based Tsunami Recognition Programme Task Team Meeting were to advance the development of the strategy or business proposal for a Performance Based Tsunami Recognition Programme as required by the ICG, including the parameters, possible metrics or performance measures, the feasibility, and potential sources of funding for the programme.

3. TASK TEAM MEMBERSHIP

Kerry Hinds, DEM, Barbados, (Chair)
Wilfredo Ramos, PREMA, Puerto Rico, USA
Carolina Hincapie, PRSN, Puerto Rico, USA
Juan Salado, ONAMET, Dominican Republic
Gerard Metayer, SEMANAH, Haiti
Christa Von Hillerbrandt (ex officio, CARIBE EWS Chair), Puerto Rico, USA

Additionally technical expertise was provided by:
Donna Pierre, CDEMA Coordinating Unit
Alison Brome, Interim Director, CTIC
Dawn French, NEMO St. Lucia
Wildaomaris Gonzalez Ruiz, PRSN, Puerto Rico, USA
Anguilla Department of Disaster Management
4. KEY OUTCOME (S) OF THE CONFERENCE/MEETING

4.1 REVIEW OF DAY ONE : FIELD TRIPS

Meeting participants were given the opportunity to visit the tsunami ready communities of Rincón and Mayagüez in Puerto Rico. After exchanging the customary pleasantries, the day's activities commenced with a tour from the north to the south of Mayaguez including the special evacuation trail in the district near Urb. San José. During the tour, participants were able to see the sirens which have been erected as part of the early warning system, the signage which included evacuation route, evacuation zone and assembly point signs, billboards depicting evacuation maps and general tsunami public awareness information which have been placed in the municipality as part of the tsunami ready program. Persons were also taken to the special evacuation trail maintained by one of the communities. This was particularly interesting since this community created this trail as a short cut to get to higher ground very quickly if there is a tsunami event.

After the tour of the communities we then met with the emergency management Manager Christian Ramos and his personnel at the local emergency management agency to discuss the successes and challenges of the overall program and operations. The group was given the opportunity to hear firsthand from emergency management personnel about their experiences with the implementation of the tsunami ready programme, view the various plans, procedures and equipment which supported Mayaguez's operations as well as discuss the workings of the warning system its connectivity with the community, municipality authorities and state authorities.

In the afternoon participants continued the tour, visiting the tsunami ready community of Rincon. Similar to the morning segment of the tour participants were given a tour of the community thereby receiving the opportunity to see signage, evacuation routes, maps, assembly points and sirens. The group then visited the local emergency management agency and other first responder agencies such as the Municipal Police where there were given an overview of how the warning and communications system works. During the visit to Rincon, the visiting group was able to engage the officials about the implementation and continued operationalisation of the community-based tsunami ready program noting that while generally it was a good program there were still some sections of the community for example some hotels and residents that were not totally onboard with the program. There was some concern about erection of the signage having a negative impact on property values. It was also noted that some of the signage became victim to graffiti.

4.2 REVIEW OF DAY TWO

On Day two of the Tsunami Performance Recognition Task Team Meeting, participants discussed the development of a strategy for promoting and implementing a community-based recognition program for tsunami preparedness. Consideration was given to the existing National Weather Service TsunamiReady Program Guidelines and the implementation of existing tsunami recognition programmes in communities such as Rincón and Mayagüez, Puerto Rico as well as the Anguilla case study. Participants were able to develop an initial draft of Community-centric Tsunami Preparedness Guidelines and an Application form (Attachment 2) which were adapted from the US NWS TsunamiReady program.

Discussion also centered on accreditation issues noting that it was important that communities be recognized for their efforts at promoting and enhancing their tsunami preparedness. It was further noted that a standard globally recognized accreditation was preferable and desirable for communities. However an issue regarding accreditation was that of country accreditation versus community accreditation and who would be the parties...
responsible for bestowing recognition at these various stages of the process. In the case of communities within a country or territory, it was noted that it would be very important that the corresponding authority of the MS/Territory be part of the validation team, something which would not be a requirement if the whole MS/Territory were to be recognized.

The question of program sustainability was discussed, noting that community or country financing through national or community level budgets, private-public sector partnership funding, private financing were all feasible options which should be explored by individual countries before embarking on the programme. It was also noted that the Caribbean Tsunami Information Centre (CTIC) and the Caribbean Tsunami Warning Program (CTWP) would support the programme through the rendering of technical assistance to countries and territories.

The monitoring and evaluation of the program on a periodic basis over its lifespan was considered. Standardised metrics would be developed to measure the effectiveness of the programme. These measurements over a period of time could also be done at the community, country and regional levels.

Programme Visibility was also discussed noting that any community based recognition programme would have to be marketed on an ongoing basis to harness support for the initiative and engage existing and potential stakeholders and or investors.

With regards to the name, both TsunamiReady and Tsunami Smart were suggested. As TsunamiReady is the US NWS programme and is trademarked there was consensus that other alternatives should be evaluated.

5. FOLLOW-UP ACTIONS
   • Chair of Tsunami Performance Recognition Task Team will produce and circulate the report of the meeting for the benefit of the task team and the wider Regional Working Group IV Membership through the Technical Secretary IOC.
   • Barbados to convene a follow up task team meeting if required before or during the 9th Session of ICG CARIBE-EWS.
   • Barbados as Chair of the Task Team to indicate to ICG IOC Secretariat of St. Lucia’s willingness to participate in the task team.

6. RECOMMENDATION(S)
   • Member States should continue to support the ICG/CARIBE-EWS Regional Tsunami Preparedness and Mitigation Programme.
   • The Task Team should continue its’ work on the development of the strategy for a Performance Based Recognition Programme as required by the ICG.

7. ATTACHMENTS
   • Tsunami Recognition Programme Task Team Meeting Agenda (Attachment I)
   • Proposed Guidelines CARIBE EWS Performance Based Community Recognition Programme (Attachment II)
## AGENDA

### TSUNAMI RECOGNITION PROGRAMME TASK TEAM MEETING

**MAYAGUEZ, PUERTO RICO**

**13 NOVEMBER 2013**

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00 – 10:00 AM</td>
<td>Tour from North to South of Mayaguez, including the special evacuation trail made by the municipality near Western Plaza, Sirens, Signage (standard and maps), San Jose neighborhood.</td>
</tr>
<tr>
<td>10:00 – 11:30 AM</td>
<td>Visit and Meeting at Mayaguez OMME (Christian Ramos)</td>
</tr>
<tr>
<td>12:00 – 1:30 PM</td>
<td>LUNCH at Hotel, OMME directors of Mayaguez and Rincon, invited</td>
</tr>
<tr>
<td>1:30 – 3:00 PM</td>
<td>Tour of Rincon, Estela, Lighthouse, signage, sirens</td>
</tr>
<tr>
<td>3:00 – 4:30 PM</td>
<td>Visit and Meeting to Rincon OMME/Municipal Police (Hector Martinez)</td>
</tr>
<tr>
<td>5:00 PM</td>
<td>Return to Hotel</td>
</tr>
</tbody>
</table>

### AGENDA

**14 NOVEMBER 2013**

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>9:00 – 9:05 AM</td>
<td>Welcome and Introductions</td>
</tr>
<tr>
<td>9:05 – 9:15 AM</td>
<td>Purpose of Establishment of Task Team</td>
</tr>
<tr>
<td></td>
<td>Task Team Responsibilities</td>
</tr>
<tr>
<td></td>
<td>Outline of Goals for Session</td>
</tr>
<tr>
<td>9:15 – 9:30 AM</td>
<td>Recap of preceding day’s field trips</td>
</tr>
<tr>
<td>9:30 – 10:00 AM</td>
<td>Presentation by Local TsunamiReady Committee (Christa/Wilfredo)</td>
</tr>
<tr>
<td>10:00 AM – 12:00 PM</td>
<td>Working Session on Tsunami Recognition Programme</td>
</tr>
<tr>
<td>12:00 - 1:30 PM</td>
<td>LUNCH</td>
</tr>
<tr>
<td>1:30 – 4:15 PM</td>
<td>Working Session on Tsunami Recognition Programme</td>
</tr>
<tr>
<td>4:15 – 4:30 PM</td>
<td>Next Steps and Meeting Close Out</td>
</tr>
</tbody>
</table>
## UNESCO IOC CARIBE EWS/NWS PROPOSED GUIDELINES FOR A CARIBE EWS PERFORMANCE BASED COMMUNITY RECOGNITION PROGRAM

Guidelines for Community-Based Recognition Program. Each guideline is fully discussed following the table. The guidelines are based on four population-based categories.

<table>
<thead>
<tr>
<th>Guidelines</th>
<th>Population</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>&lt; 2,500</td>
</tr>
<tr>
<td><strong>Guideline 1: Communications and Coordination</strong></td>
<td></td>
</tr>
<tr>
<td>Established 24-hour Warning Point (WP)</td>
<td>X</td>
</tr>
<tr>
<td>Established Emergency Operations Center (EOC)</td>
<td>X*</td>
</tr>
<tr>
<td><strong>Guideline 2: Tsunami Warning Reception</strong></td>
<td></td>
</tr>
<tr>
<td>Number of ways for WP/EOC to receive Tsunami Warning Center tsunami messages.</td>
<td>2</td>
</tr>
<tr>
<td><strong>Guideline 3: Local Warning Dissemination</strong></td>
<td></td>
</tr>
<tr>
<td>Number of ways WP/EOC can disseminate warnings to public</td>
<td>2</td>
</tr>
<tr>
<td>Emergency Alert Systems in public and critical facilities</td>
<td>X</td>
</tr>
<tr>
<td><strong>Guideline 4: Community Preparedness</strong></td>
<td></td>
</tr>
<tr>
<td>Number of educational and preparedness tsunami activities per year as part of a Tsunami Awareness Program</td>
<td>2</td>
</tr>
<tr>
<td>Conduct an Annual Tsunami Drill</td>
<td>1</td>
</tr>
<tr>
<td>Have available a tsunami evacuation map</td>
<td>X</td>
</tr>
<tr>
<td>Display within the community tsunami awareness and response information</td>
<td>X</td>
</tr>
<tr>
<td>Provide written, locally specific, tsunami hazard response material to public (e.g. evacuation map)</td>
<td>X</td>
</tr>
<tr>
<td>Schools: Encourage preparedness and readiness.</td>
<td>X</td>
</tr>
<tr>
<td><strong>Guideline 5: Administrative</strong></td>
<td></td>
</tr>
<tr>
<td>Formal tsunami hazard operations plan</td>
<td>X</td>
</tr>
<tr>
<td>Key Emergency Management and Warning Point personnel complete COMET on line Community Preparedness and Tsunami Warning Systems training module (<a href="https://www.meted.ucar.edu">https://www.meted.ucar.edu</a>).</td>
<td>X</td>
</tr>
<tr>
<td>Visit by NWS official to community at least every other year</td>
<td>X</td>
</tr>
</tbody>
</table>

* For cities or towns with less than 15,000 people, a EOC is required; however, another jurisdiction within the Member State/Territory may provide that resource. If the recognition is going to the Member State or Territory, an EOC infrastructure is required, irrespective of population.
Guideline 1: Communications and Coordination Center

A key to effective hazards management is effective communication. This is especially true in tsunami emergencies, since wave arrival times may be measured in just minutes. Such a “short fused” event requires an immediate but careful response. To ensure such a proper response, communities must have set up the following:

1. 24-Hour Warning Point. To receive recognition under the CARIBE EWS Performance Based Community Recognition program, the community needs to have a 24-hour Warning Point (WP) able to receive official tsunami alert products and provide local response instructions. Typically, this might be an emergency management, law enforcement or fire department dispatching point. The warning point needs to have:
   - 24 hour operations
   - Warning reception capability
   - Warning communication/dissemination capability
   - Ability and authority to activate local warning system(s)

2. Emergency Operations Center. All Member States and Territories must have an EOC for themselves or their communities to receive recognition. The communities must demonstrate in their SOP’s linkages to the national EOC’s. It must be activated during tsunami events to manage the incident. Summarized below are tsunami-related roles of an EOC:
   - Activate based on predetermined guidelines
   - Staffed by emergency management director or designee
   - Possess warning reception/dissemination capabilities equal to or better than the warning point
   - Ability to communicate with adjacent EOCs/Warning Points.
   - Ability to follow the corresponding Standard Operation Procedures

Guideline 2: Tsunami Warning Reception

Warning points and EOCs each need multiple ways to receive Tsunami Warning Center/National Tsunami Warning Focal Points alert products. Guidelines to receive Tsunami Warning Center/National Tsunami Warning Focal Point bulletins in a WP/EOC require two or more of the following, based on population:

- Emergency Management Weather Information Network (EMWIN) receiver: Satellite feed and/or VHF radio transmission of Tsunami Warning Center products
- State/Territory/Nationwide Telecommunications System: Automatic relay of Tsunami Warning Center products on national emergency management or law enforcement system
- State/Territory/Nationwide Warning Fan-out System: Authorized system of passing message throughout warning area
- E-mail from Tsunami Warning Center: Direct e-mail from Warning Center
Guideline 3: Warning Dissemination

1. Upon receipt of official Tsunami Warning Center/National Tsunami Warning Focal Point alerts or other reliable information suggesting a Tsunami threat, local warning point/emergency officials should communicate the threat to as much of the population as possible. Receiving recognition requires having two or more of the following means of ensuring timely warning dissemination to citizens (based on population):
   - Outdoor warning sirens
   - Amateur Radios
   - Social Media
   - SMS
   - Television audio/video overrides
   - Phone messaging (dial-down) systems
   - Other locally-controlled methods, e.g., local broadcast system or emergency vehicle sirens.

2. Once Tsunami Warning Center/National Tsunami Warning Focal Point products are received, or local information suggests an imminent tsunami threat, the warning point/local emergency officials should communicate with as much of the population as possible. To be recognized, a community must have an emergency notification system in the following facilities:
   - **Required Locations:**
     - 24 hour Warning Point
     - Emergency Operations Center
     - National/Local Government Authority Office
     - Ministry of Education or equivalent
   - **Recommended Locations:**
     - Courthouses
     - Public libraries
     - Health facilities
- All schools
- Parks and recreation areas
- Public utilities
- Sports arenas
- Transportation departments
- Nursing Homes/Assisted Living
- Harbors
- Beaches

In addition, recognition will be contingent on having one or more of the following means (based on population) of ensuring timely warning dissemination to citizens:

- Cable television audio/video overrides.
- Local Flood warning systems with no single point of failure.
- Other locally-controlled methods like a local broadcast system or sirens on emergency vehicles.
- Outdoor warning sirens.

3. Counties/Municipalities/Boroughs/Parishes Only: A county/borough-wide communications plan ensuring the flow of information among the population within its borders. This would include fanning out of the message as required by national policy. Critical public access buildings should be defined by each community’s tsunami warning plan.

**Guideline 4: Awareness**

Public education is vital in preparing citizens and visitors to respond properly to Tsunami threats. An educated public is more likely to take steps to receive tsunami warnings, recognize potentially threatening Tsunami events, and respond appropriately to those events. Communities seeking recognition must:

1. Conduct or sponsor Tsunami awareness programs. Target audiences should include education, tourism, media, first responders, general public. Activities could include talks, workshops, booths, media interviews and community walk throughs (door to door). The number of activities per year is based on population.

2. Conduct at least one tsunami evacuation drill a year (for example, CARIBE WAVE, LANTEX). The level of the exercise can vary.

3. Have available a tsunami evacuation map which defines tsunami evacuation areas, routes and assembly points.

4. Display within the community tsunami awareness and response information (signs, markings, etc.).

5. Provide written Tsunami hazard information to the populace, including:
• Hazard zone maps
• Evacuation routes
• Basic tsunami information

These instructions can be distributed through social media, mailings, i.e, utility bills, within phone books, and posted at common meeting points such as libraries and public buildings throughout the community.

6. For schools, especially within the tsunami evacuation zone:

• Provide or facilitate talks on tsunamis.
• Promote the participation of the schools in the annual Tsunami evacuation drills
• Written safety material should be provided to all staff and students. Provide Tsunami awareness information in primary and secondary schools. CTIC, CTWP, ITIC, CDEMA, CEPREDENAC, UNESCO can provide these materials.
• Encourage the schools to have an emergency response plan, including a tsunami annex for schools within the evacuation zone.

Guideline 5: Administrative

No program can be successful without formal planning and a pro-active administration. To be recognized:

1. A Tsunami Emergency Response plan must be in place and approved by the local governing body. This plan must address the following:

• Standard Operating Procedures
• Reference to EOC activation criteria and procedures
• Tsunami evacuation map
• Criteria and procedures for activation of sirens, cable television override, and/or local systems activation in accordance with state Emergency Alert System (EAS) plans, and warning fan-out procedures, if necessary
• Annual exercises and awareness activities
• Timely reporting of tsunami impacts and damage to corresponding authority


3. Triennial visit of a Member of the Tsunami Recognition Program Verification Team to the Community

4. It is recommended that exercises to verify the SOP be conducted regularly.