Inter-Governmental Oceanographic Commission
2012 National Report
Submitted by Saint Lucia for the period January – December 2012
BASIC INFORMATION

1. ICG/CARIBE EWS Tsunami National Contact
   (Person representing country in the coordination of international tsunami warning and mitigation activities)

   Organization: National Emergency Management Organization

2. ICG/CARIBE EWS Tsunami Warning Focal Point
   Person, agency or organization with primary responsibility for receiving messages issued by PTWC or CARIBE EWS warning centers, and for issuing tsunami event information within their country. This information is provided in full using the CARIBE EWS Form for designating or updating Tsunami Warning Focal Point (TWFP) provided in the "Communication Plan for the Interim Tsunami Advisory Information Service to the Caribbean Sea and Adjacent Regions"

   Responsible Organization: Saint Lucia Meteorological Service

   National Tsunami Warning Centre (if different from the above)
   Pacific Tsunami Warning Centre

3. Tsunami Advisor(s), if applicable
   (Person, Committee or Agency managing Tsunami Mitigation in country)

   Responsible Organization: Seismic Research Centre of the University of the West Indies

4. Local Tsunami Procedures. (if a local tsunami hazard exists)
   a. What organization identifies and characterizes tsunamigenic events in the immediate source area?

      The Pacific Tsunami Warning Centre (PWTC) is currently responsible for identifying and characterizing tsunamigenic events and disseminating warning/information messages on associated threats to the Focal Point (Saint Lucia Meteorological Services). The messages are sent simultaneously on the Global Telecommunications System (GTS) and to relevant SMS and e-mail recipients.

   b. What is the threshold for declaring a potential local tsunami emergency?

      | M7.0 – M7.7 | Depth less than 100KM |
      | M7.8 and up | Depth less than 100KM | Depth more than 100KM |

   c. What organization acts on the information provided by the agency responsible for characterizing the potential local tsunami threat?

      - Action by Saint Lucia Met Service

   d. How is the emergency situation terminated?

      - Saint Lucia Met Service issues all clear based on cancellation from PTWC
5. Distant Tsunami Procedures (when distant tsunami hazard exists)
   a. What organization becomes aware of tsunamigenic events from a distant source?
      
      Saint Lucia Met Service from PTWC
      
   b. What action does this organization take with regard to tsunamigenic events from a
distant source?
      
      Contact NEMO Secretariat
      
   c. What are the criteria for initiating tsunami mitigation procedures?
      
   d. What actions were taken in response to warnings issued by PTWC during the
      intersessional period?
      
      i. Inform the Prime Minister
      ii. Call a meeting of Advisory Council
      iii. Issue orders to:
          ■ Initiate shut down of country
          ■ Mandatory Evacuation Ordered

6. National Sea Level Network
   Please include a table with position and description of stations/sensors, and a map.

<table>
<thead>
<tr>
<th>STATION NAME</th>
<th>LOCATION</th>
<th>LAT</th>
<th>LONG</th>
<th>SENSORS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ganter's Bay (CPACC)</td>
<td>Castries Harbour</td>
<td>14°01.20 N</td>
<td>61°00.06 W</td>
<td>Tide gauge, Water thermometer, Ord.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Thermometer, Barometer, Rain gauge, Wind, RH.</td>
</tr>
</tbody>
</table>

7. Information on Tsunami occurrences
   Please include sea level observations, pictures, wave arrival descriptions, public, media, or other responses to
   warnings, lessons learned, etc.

   NONE

8. Web sites (URLs) of national tsunami-related web sites
   http://www.weready.org
   http://archive.stlucia.gov.lc/docs/Reports/tsunami_reports.htm
National Programmes and Activities Information

Submitted by Saint Lucia for the period January – December 2012
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Cover page taken from https://www.meted.ucar.edu/training_module.php?id=907

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**FOLLOW UP FROM 2011 REPORT**

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<thead>
<tr>
<th>Action</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CaribeWave 2012</strong></td>
<td></td>
</tr>
<tr>
<td>• The occasion of CaribeWave12 shall be used for an orientation of the Staff of the National Emergency Management Organisation Secretariat. The test advisories from the Pacific Tsunami Warning Centre arrive by fax as well as email and it is important that the Staff is familiar with the actions that should be trigged by the arrival of an advisory.</td>
<td>Done</td>
</tr>
<tr>
<td>• The Proposed Five Year Strategy (2012 - 2017) for Building Resilience to Tsunamis(^1) shall also be discussed.</td>
<td>Pending</td>
</tr>
<tr>
<td><strong>Procedures</strong></td>
<td></td>
</tr>
<tr>
<td>• The Tsunami Focal Point and his team shall revise the Met Emergency Procedures to include tsunamis.</td>
<td>In Progress</td>
</tr>
<tr>
<td>• The test advisories from the Pacific Tsunami Warning Centre have begun to arrive in a more regulated manner; as such the Standard Operation Procedures for TESTS shall be used in 2012.</td>
<td>On Going</td>
</tr>
<tr>
<td>• In keeping with the Disaster Management Act the 2011 Annual Report shall be distributed. Past reports are available at <a href="http://stlucia.gov.lc/docs/Reports/tsunami_reports.htm">http://stlucia.gov.lc/docs/Reports/tsunami_reports.htm</a></td>
<td>On Going</td>
</tr>
<tr>
<td><strong>Forward Planning</strong></td>
<td></td>
</tr>
<tr>
<td>• Saint Lucia is in the process of adopting a <em>Five Year Strategy (2012 - 2017) for Disasters</em>. It shall become necessary for an addendum regarding tsunami. The Proposed Five Year Strategy (2012 - 2017) for Building Resilience to Tsunamis shall be presented for discussion and adoption.</td>
<td>On Going</td>
</tr>
<tr>
<td>• Discussion paper to be completed on the merits of Saint Lucia consideration for the hosting of the Caribbean Tsunami Secretariat.</td>
<td>Pending</td>
</tr>
<tr>
<td>• The Bureau of Standards shall complete the process of the adoption of ISO Standard for Marine Signage to include tsunami.</td>
<td>On Going</td>
</tr>
</tbody>
</table>

• Consideration to participate in the UNESCO Public Participation Programme 2012

Preliminary meetings held

THEME 1: MONITORING AND DETECTION SYSTEMS, WARNING GUIDANCE

Meteo-France Weather Buoy/ Tide Gauge (latitude 14°175 N longitude 60°933 W)

• Restricted access via internet at www.meteo.gp
• Data used in routine meteorological bulletins and to inform decision making during emergencies.

WMO Register of Alerting Authorities

• Saint Lucia Meteorological Services has registered as an alerting authority.

WMO WIS Implementation

• Saint Lucia Meteorological Services has completed implementation.

COCO Net

Between 2010 and 2012, the COCO Net Project funded by the US National Science Foundation (2010-2012) commenced the installation of 50 GPS permanent stations and integrating an additional existing 50 GPS stations to reinforce the tectonic deformation studies and the tsunami warning center (UNAVCO COCOnet network)²

In Saint Lucia the GPS was placed at the compound of the NEMO Headquarters.

² ICG Caribe EWS Implementation Plan - 2011
Establishment of a Geophysical Monitoring Station

The National Emergency Management Organization in partnership with the Seismic Research Centre (SRC) of The University of the West Indies in seeking to extent the local capacity to detect and monitor geophysical hazards commenced the establishment of a multi-parameter monitoring station adjacent to the National Disaster Office at Bisee. Installed in March 2012 the installation hosts a continuously operating Global Positioning System (cPGS) receiver, a pair of seismic sensors and a meteorological data collection platform.

Collectively, the full suite of instruments will function in concert with similar installations across the region to provide real-time surveillance of strong earthquakes and tsunamis. The cGPS is also part of a regional network that will monitor regional geodynamics from which earthquake hazard potential will be inferred, and also serve as a reference station for an array of geodetic monuments used to monitor the Qualibou volcano in southern Saint Lucia. Data from the cGPS is complemented with the weather station data to inform climate and climate change research.

\[3\] ICG Caribe EWS Implementation Plan - 2011
A satellite terminal will also be installed at site to uplink the data to the SRC regional monitoring headquarters at St. Augustine, Trinidad. It uses a 20 watt on 14.25 GHz in the Ku band operating in a TDMA multiplexing scheme. A subset of the data is also available to the NEMO Secretariat with potential for transfer to the local meteorological office. Such data streams can be used to confirm event occurrence and, to a limited extent, validate tsunami bulletins. Meteorological data may be used to complement other data collected by the MET services. Power for the installation will be supplied from a 400 watt photovoltaic array and 360 ampere hour battery pack.

A plot of land approximately 400 square meters (or 3500 square feet) adjacent to the outer south-western boundary of the NEMO perimeter fence was been identified to host the installation. The installation was be funded from three sources namely:

1. The European Union through the INTERREG facility (€90,000)
2. National Science Foundation (USA) through the COCONet Project (US$15,000)
3. The Seismic Research Centre (US$35,000)

Equipment for the facility was first flown to the SRC, Trinidad and the Volcano Observatory in Martinique where they were configured and tested then shipped to Saint Lucia. Construction of the installation took place in the second-third week of March 2010. The instrumentation were installed and commissioned within a month of the commencement of work.

This facility benefits the Government and people of Saint Lucia through its capability to provide early detection of tsunamis and serve as a tool for studying earthquake and volcano hazard potential.

**THEME 2: HAZARD ASSESSMENT**

**Inundation Map**

In 2009 the GIS Unit of the Ministry of Physical Development produced a draft inundation map using the Simplified Hazard Estimation.

- 10 meters up: Most tsunamis have serious impacts of only at elevations lower than ten meters above sea level, although it is possible for very large tsunamis to be destructive above this elevation.
- 3 KM inland: The destructive power of a tsunami usually dissipated by three kilometers inland, even over flat ground. This method can be used for communities on flat coastal plains.

Over the period under review the map was reviewed and updated.
Research Mission: Historic Tsunami

Extract from the Mission Report
Translation by Google Translate

Scientists: J. Roger (UAG, LARGE), B. Dudon (UAG, LARGE), V. Clouard (OVSMIPGP)

Purpose of the mission: The mission set out to indentify paleo-historic tsunami deposits on the island of Saint Lucia, Lesser Antilles, is part of the evaluation of the hazard tsunami for the French Antilles defined in the INTERREG IV project TSUNAHOULE in collaboration with the INTERREG IV TSUAREG, which are co-financed by the European project.

Research sedimentary markers highly energetic events such as tsunamis and storms in coastal areas can provide important information. Additional items to archive on past events in order to better force areas subject to these natural hazards. During flood events, volumes marine sediments are transported from the sea to land. The dynamic game will then afford to file these sediments in areas that will be favorable or not their conservation. The mission will allow to investigate potential sites for the deposition of sediments and conservation, previously identified on satellite images, typically areas protected from the sea by a dune and shingle beach located at the bottom of a bay lagoon thus favoring amplification of waves, for example by resonance. Any deposits highlighted will be sampled, and the samples will be analyzed in laboratory (particle size, bio-clasts, etc.) to determine (s) cause (s) (or tsunami storm) and if possible date in a comprehensive study. By his side technique, this mission requires the removal of a number of devices (auger, 2 sampling equipment, computers, etc.) hence the choice of the boat trip the amount equipment may result in additional expenses at the time of boarding.

THEME 3: WARNING, DISSEMINATION AND COMMUNICATION

Tsunami Signage

In 2010 the Saint Lucia Bureau of Standards undertook the adoption process of the ISO Standard for Tsunami Signs. The Bureau also agreed that other hazards require signage and that they would also address this need.
The following are the steps being taken:

<table>
<thead>
<tr>
<th>Development Stage</th>
<th>Description</th>
<th>Maximum Time Limit</th>
<th>Status as of this report</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage 00 – Preliminary Stage</td>
<td>A request for the development of a new standard or other deliverable is received by the HOD - SDD</td>
<td>Epoch</td>
<td>Request made in 2009</td>
</tr>
<tr>
<td>Stage 10 – Proposal Stage</td>
<td>On receipt of this request an evaluation is conducted and the project is submitted for authorization by the SC, through the TMC. If approval is granted, a Technical Committee is formed if an appropriate one does not exist, and the public is notified of the intent to proceed with the project.</td>
<td>2 months</td>
<td>Technical Committee formed in 2010</td>
</tr>
<tr>
<td>Stage 20 – Preparatory Stage</td>
<td>A working draft of the standard/deliverable is prepared and a project schedule is established.</td>
<td>3 months</td>
<td>To be launched in the first half of 2012</td>
</tr>
<tr>
<td>Stage 30 – Committee Stage</td>
<td>1. The TC/SC/WG develops the draft. 2. TC reaches consensus.</td>
<td>3 months</td>
<td></td>
</tr>
<tr>
<td>Stage 40 – Enquiry Stage</td>
<td>1. The draft is circulated to the public and major stakeholders for review and comment. 2. TC reaches consensus. 3. SLBS staff conducts a quality review.</td>
<td>3 months</td>
<td></td>
</tr>
<tr>
<td>Stage 50 – Approval Stage</td>
<td>1. The TMC conducts a second level review to verify that procedures were followed. 2. The SC, though the TMC approves the standard (voluntary or mandatory).</td>
<td>5 months</td>
<td></td>
</tr>
<tr>
<td>Stage 60 – Publication Stage</td>
<td>Independent and final editorial review is conducted and the standard is forwarded for publishing.</td>
<td>3 months</td>
<td></td>
</tr>
<tr>
<td>Stage 90 – Review Stage</td>
<td>The standard is maintained with the objective of keeping it up to date and technically valid.</td>
<td>3 – 5 years as deemed necessary</td>
<td></td>
</tr>
</tbody>
</table>

**WARN**

- Focal Point discussions with Alternates on alarm system
- Focal Point to start notifying designated persons of PTWS Dummy Messages
THEME 4: PREPAREDNESS, READINESS AND RESILIENCE

Steering Committee

On the recommendation of the ICG Caribe EWS, Saint Lucia as a Member State assembled a steering committee. The Saint Lucia Tsunami Technical Working Group comprises of the representatives to the ICG Caribe EWS Working Groups:

- WG1: Monitoring and Detection Systems, Warning Guidance - Saint Lucia Met Service (Thomas Auguste)
- WG2: Hazard Assessment - Sustainable Development and Environment Section (SDES) (Judith Ephraime)
- WG3: Warning, Dissemination and Communication - The Saint Lucia Met Service (Vernantius Descartes)
- WG4: Preparedness, Readiness and Resilience - NEMO Secretariat (Dawn French)

The Saint Lucia Met Services is the Tsunami National Focal Point
The NEMO Secretariat is the Tsunami National Contact point

Public Education

Tsunami Strike Caribbean Edition Online Training Module was issued in February 2012. The link was shared with the schools in Saint Lucia, placed on NEMO News at http://groups.yahoo.com/group/slunemo/message/1314 and NEMO Facebook at http://www.facebook.com/NEMO.SaintLucia

*Tsunami Strike! Caribbean Edition offers an interactive learning experience in which learners take on the role of a journalist writing an article for a news magazine. Sixteen multimedia lessons on tsunami science, safety, and history are interwoven within the learning scenario as resources for the article. The material is aimed at middle school and high school students (ages 13-17) but will be useful to a broader audience wishing to learn more about tsunamis in general and in particular about tsunami risks in the Caribbean.*

*Cited from https://www.meted.ucar.edu/training_module.php?id=907*
Meetings

Caribbean Tsunami Information Centre [CTIC]
Saint Lucia was unable to attend the CTIC meeting held in Barbados, however with the assistance of the CTIC Consultant Saint Lucia was able to make a contribution through a PowerPoint Presentation.

ICG/CARIBE EWS-VII
The National Tsunami Contact Point represented Saint Lucia at 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) in Willemstad, Curaçao 2 – 4 April 2012.

At the meeting Saint Lucia was voted onto the Executive as one of three Vice Chairs and onto the Committee to review the March 2012 Draft ICG Implementation Plan.

Projects

- CDEMA Tsunami Media Kit online at http://weready.org/tsunami/
- The Tsunami Story book was revised for use in Saint Lucia and shared with SRC, CDEMA CU and CTIC

Training

Third Caribbean Training Course for Operators of Sea Level Stations, 4-9 June 2012, Merida, Mexico (in English)

Within the framework of the Project "Strengthening sea-level observation network and coordination activities in the Caribbean", the Intergovernmental Oceanographic Commission (IOC) of UNESCO jointly with the US National Oceanic and Atmospheric Administration (NOAA) and the National Mareographic Service of the Universidad Autónoma de Mexico, organized the “Third Caribbean Training Course for Operators of Sea Level Stations,” in Mérida, Mexico 4–9 June, 2012.
Saint Lucia’s Delegate was Lucious Frederick who assisted in initial installation of Sea Level Monitoring Station at Ganter’s Bay in Saint Lucia.

CaribeWave 12

**CARIB WAVE 12/ LANTEX 2012: Caribbean Tsunami Warning Exercise** consisted of a half-day orientation exercise with the Staff of the NEMO Secretariat. The goal of the exercise was to establish a learning environment to familiarize the staff with the protocols in place for responding to a tsunami alert, warning or watch and what would be expected of the NEMO Staff should such an advisory be issued.

Three presentations were made:

- **Presentation 1 – Debris Management after the Japan Tsunami**
  Presented by a UNEP representative recently back from Japan where the team was looking at the disaster waste management situation for the UN one year after the event. The presentation gave a brief overview of what has been done, and any lessons for Saint Lucia and the broader Caribbean.

- **Presentation 2 - Tsunamis Explained**
  This section presented participants with information covering:
  - History of tsunamis in the Caribbean
  - Events that can triggers a tsunami [earthquake, volcano, landslide]
  - Categories of tsunami [Local, Regional, Distant]

- **Presentation 3 – SOPs**
  The presentation dealt with the need to provide procedural guidance and action steps to be followed in responding to a Tsunami Warning Centre issued TSUNAMI TEST BULLETIN.

  It was agreed that upon receipt of the notice that the staff would:
  i. Contact the Tsunami Warning Focal Point (Director Met Services) and report receipt of the Test Bulletin from the Tsunami Warning Centre.

  ii. Contact the Tsunami Warning Centre and report receipt of the Test Bulletin

  iii. Take no further action.
The exercise was designed to:

1. Improve the operational readiness of the national emergency management system, and augment the capabilities of that system to respond to emergency situations.

2. Orientate staff on the use of the Tsunami Decision Matrix.

3. Provide an opportunity for individual training to achieve a high level of collective preparedness.


CaribeWave 13

The CaribeWave simulation exercise is set for 20 March 2013. See Appendix 1 for the planning schedule.

The CARIBE WAVE 13 tsunami exercise is being conducted to assist tsunami preparedness efforts throughout the Caribbean region. The purpose of the exercise is to improve Tsunami Warning System effectiveness along the Caribbean coasts. The exercise provides an opportunity for emergency management organizations throughout the Caribbean to exercise their operational lines of communications, review their tsunami response procedures, and promote tsunami preparedness. Regular exercising of response plans is critical to maintain readiness for an emergency. This is particularly true for tsunamis, which are infrequent but high impact events. Every Caribbean emergency management organization (EMO) is encouraged to participate.\(^5\)

Saint Lucia intends to participate at two levels:

- Functional: Met Office to action SOPs
- Drill: Ministry of Education to select school(s) for evacuation drill

NEXT STEPS

THEME 1: MONITORING AND DETECTION SYSTEMS, WARNING GUIDANCE

- Funding approved under World Bank DVRP/PPCR for the installation of three coastal marine weather stations equipped tide gauges.

THEME 2: HAZARD ASSESSMENT

- Hazard Map developed at the National scale should be further expanded to focus on coastal communities.

THEME 3: WARNING, DISSEMINATION AND COMMUNICATION

- The Bureau of Standards shall complete the process of the adoption of ISO Standard for Marine Signage to include tsunami.
- The Tsunami Focal Point and his team shall revise the Met Emergency Procedures to include tsunamis.
- The test advisories from the Pacific Tsunami Warning Centre have begun to arrive in a more regulated manner; as such the Standard Operation Procedures for TESTS shall be used in 2012.

THEME 4: PREPAREDNESS, READINESS AND RESILIENCE

- In keeping with the Disaster Management Act the 2011 Annual Report shall be distributed. Past reports are available at http://archive.stlucia.gov.lc/docs/Reports/tsunami_reports.htm
- The occasion of CaribeWave13 shall be used for an orientation of the Staff of the National Emergency Management Organisation Secretariat. The test advisories from the Pacific Tsunami Warning Centre arrive by fax as well as email and it is important that the Staff is familiar with the actions that should be trigged by the arrival of an advisory.
- The Proposed Five Year Strategy (2012 - 2017) for Building Resilience to Tsunamis\(^6\) shall also be discussed.
- Saint Lucia is in the process of adopting a Five Year Strategy (2012 - 2017) for Disasters. It shall become necessary for an addendum regarding tsunami. The Proposed Five Year Strategy (2012 - 2017) for Building Resilience to Tsunamis shall be presented for discussion and adoption.
- Discussion paper to be completed on the merits of Saint Lucia consideration for the hosting of the Caribbean Tsunami Secretariat.

APPENDICES

Appendix 1: Planning Schedule for CaribeWave 13

Monthly – Receipt of Test notices by TFP from PTWC
Quarterly – Meeting of Planning Team in April 2012, July 2012, Oct 12, Feb 2013

12 April, 2012 – 1st Quarterly Meeting of National Planning Team
1. Briefing of potential partners (Met, Education, NEMO)
2. Acceptance of recommendation for exercise
3. Review and adoption of work plan
4. Consideration of inclusion Local Rep for RSS as UNEX is in 2013 (ie Police)

April
1. Met, Fire and Police dispatch officers introduced to Tsunami Test Message and expected actions. (Director Met)
2. Met Office starts to relay to specific NEMAC Members the Tsunami Monthly Test Notice
3. Ministry of Education to consider and respond to invitation to participate
4. If agreed by team:
   a. Invite Police rep to join planning team
   b. Police to consider and respond to invitation to participate
5. CDEMA TAC meeting discussion on adding to the exercise
   a. UNEX (RSS)
   b. Region Rap (CDEMA)

May - Prepare joint brief to NEMAC and Cabinet (NEMO Secretariat)

July – 2nd Quarterly Meeting of National Planning Team
1. Discuss Objectives for Exercise.
2. Notify Regional Planning Team of National Objectives
4. Review of recommendations from CaribeWave 11
5. Discuss methodology to include agencies that wish to test their SOPs.

August – Review of Tsunami Hazard Map (NEMO with GIS Unit/Min of Planning)

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7 Director Met, Chief Fire Officer, Commissioner of Police, Director NEMO
8 Director NEMO to attend
September

October – 3rd Quarterly Meeting of National Planning Team
   1. Review 2nd Draft of Manual
   2. Review of National Tsunami SOPs

November - Presentation of Two Day Training of Focal Points to Training Officers of TWFP and their alternates (Met, Fire, Police)

Mid January, 2013 - 1st Webinar
Mid February, 2013 - 2nd Webinar

February 2013 - 4th Quarterly Meeting of National Planning Team
   1. Review of Final version of Manual online
   2. Report from January & February Webinars

20th March 2013 – EXERCISE

1st April, 2013
   1. AAR/Q&A due
   2. National Report on Exercise completed and circulated to National Planning Team

16th April 2013 - FINAL Meeting of National Planning Team
   1. Review and adoption of National Report on Exercise
   2. Submission of Report to ICG Caribe EWS

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9 Intergovernmental Coordination Group for the Tsunami and Other Coastal Hazards Warning System for the Caribbean and Adjacent Regions
Appendix 2: *Proposed Five Year Strategy (2012 - 2017) for Building Resilience to Tsunamis*¹⁰

<table>
<thead>
<tr>
<th>CDM Outcome #4</th>
<th>Enhanced community resilience in CDEMA states/territories to mitigate and respond to the adverse effects of climate change and disasters.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CDM Outputs #4.3</td>
<td>Communities more aware and knowledgeable on disaster management and related procedures including safer building Techniques</td>
</tr>
<tr>
<td>Relevant HYOGO Priorities for Action #3</td>
<td>Use knowledge, innovation and education to build a culture of safety and resilience at all levels</td>
</tr>
<tr>
<td>Target Audience</td>
<td>The Communities of Saint Lucia</td>
</tr>
<tr>
<td>Areas of Intended Outcomes</td>
<td>Intended Outputs</td>
</tr>
<tr>
<td>1. Disaster Management</td>
<td>Support institutional capacity-building in disaster management through:</td>
</tr>
<tr>
<td></td>
<td>1. Consideration for the location of the Caribbean Tsunami Secretariat</td>
</tr>
<tr>
<td></td>
<td>2. Support the strengthening of NEMO Secretariat.</td>
</tr>
<tr>
<td></td>
<td>3. Promotion of strong linkage and coordination between the NEMO Secretariat and other disaster management authorities.</td>
</tr>
<tr>
<td></td>
<td>4. Facilitate the set-up of coordination and information exchange mechanisms.</td>
</tr>
<tr>
<td></td>
<td>5. Promotion of the integration of disaster risk reduction in coastal zone management.</td>
</tr>
<tr>
<td></td>
<td>6. Guidance on warning dissemination mechanisms, from authorities to people at risk.</td>
</tr>
<tr>
<td></td>
<td>7. Completion of the National Tsunami Plan</td>
</tr>
<tr>
<td></td>
<td>1. Office of the Prime Minister</td>
</tr>
<tr>
<td></td>
<td>2. NEMO Secretariat</td>
</tr>
<tr>
<td></td>
<td>3. CDEMA CU</td>
</tr>
<tr>
<td></td>
<td>4. Attorney General Chambers</td>
</tr>
<tr>
<td></td>
<td>5. Coastal Zone Management Unit</td>
</tr>
</tbody>
</table>

| 2. Public Awareness | Facilitate the enhancement of public awareness regarding tsunami through: | 1. NEMO Secretariat  
2. Saint Lucia Meteorological Service  
3. CTIC  
4. CDEMA CU |
|---|---|---|
| 1. Continued dissemination of public education material (Posters, PSAs etc)  
2. Dissemination of best practices and lessons learned from past disasters.  
3. Support for national and local authorities to carry out targeted awareness raising campaigns through the media and public events.  
4. Support the development of public information material tailored to local cultures and languages.  
5. Support the launch of a website  
6. Support the compilation of all-hazard kit (web-based information materials). | 1. NEMO Secretariat  
2. Saint Lucia Meteorological Service  
3. CTIC  
4. CDEMA CU |
| 3. Education | Support the strengthening of the education role in early warning through: | 1. NEMO Secretariat  
2. Saint Lucia Meteorological Service  
3. Ministry of Education  
4. CTIC  
5. CDEMA CU |
| 1. Promotion and support for the integration of a natural hazard component into school curriculum.  
2. Engagement of members of the education system in adoption of educational materials related to disaster management and tsunamis  
3. Training of trainers programmes for schoolteachers and disaster managers. | 1. NEMO Secretariat  
2. Saint Lucia Meteorological Service  
3. Ministry of Education  
4. CTIC  
5. CDEMA CU |
| 4. Community-based Approaches | Support the strengthening of local communities’ response capability through: | 1. NEMO Secretariat  
2. Ministry of Social Transformation  
3. District Disaster Committee |
| 1. Assessment and improvement of community preparedness measures in coastal zones.  
2. Training of District Disaster Committees  
3. Targeted-action at tsunami high risk community areas and develop plans to strengthen their capacity and build their resilience  
4. Continued evacuation planning. | 1. NEMO Secretariat  
2. Ministry of Social Transformation  
3. District Disaster Committee |
| 5. Early Warning System Implementation | Support the completion of the current core system implementation plans through:  
1. Support the completion of Tsunami Signage with the Bureau of Standards  
2. Support the need of bathometry for inundation mapping  
3. Clarification and strengthening of roles among national tsunami focal points, the Saint Lucia Meteorological Service and NEMO.  
4. Support for a faster and more dependable international communication between tsunami warning centers | 1. NEMO Secretariat  
2. Bureau of Standards  
3. Coastal Zone Management Unit  
4. Saint Lucia Meteorological Service |
| 6. Tsunami Risk Assessment and Mitigation | Facilitate the coordination of research development and risk assessment to provide:  
1. Consideration of tsunami building standards for consideration to be part of the National Building Code.  
2. Knowledge exchange and training on hazard map and its application strategy.  
3. Identification of hot spots with higher probability of tsunami risk in the near future.  
4. Risk factor analysis on tsunami disaster affected population. |
Appendix 3: Coastal Zone Management Advisory Committee Programming

As a member of the Coastal Zone Management Advisory Committee (CZMAC), NEMO shall collaborate with the Coastal Zone Unit to achieve its mandates.

**COASTAL ZONE MANAGEMENT UNIT**  
**SUSTAINABLE DEVELOPMENT AND ENVIRONMENT DEPARTMENT**  
**MINISTRY OF PHYSICAL DEVELOPMENT AND THE ENVIRONMENT**  
**PROGRAMMING FORMAT 2010-2015**

**PROGRAMME AREA:**  
**DATA ACQUISITION**  
**PROJECT ACTIVITY:**  
**ACQUIRE COASTAL BASELINE DATA**  
**OPERATIONAL OBJECTIVE/TARGET:**  
**TO BETTER GUIDE DEVELOPMENT PLANNING ON THE ISLAND**

<table>
<thead>
<tr>
<th>ACTIVITIES TO BE UNDERTAKEN</th>
<th>PRINCIPAL RESPONSIBILITY</th>
<th>CO-OPERANTS</th>
<th>COMMENTS</th>
<th>FINANCES</th>
</tr>
</thead>
</table>
| Acquire the following baseline data:  
  • Bathymetric  
  • Oceanographic  
  • Hydrodynamic  
  Finalise coastal habitat mapping exercise  
  Development of protocols/procedures for accessing this information by national government and non-government bodies, and foreign agencies. | CZMU | Ministries with responsibilities for the Government geographic information systems database, disaster risk reduction, nearshore resources/fisheries, development of environmental policy | In 2009, as part of an EU SFA 2003 project coastal habitat mapping exercise took place from Roseau Bay, along the island’s west coast, to Saltibus Point along the island’s east coast. The following habitat types were mapped: mangroves, beaches, cliffs, sea grass beds and coral reefs. | External funds need to be sourced for this activity. As much as possible, this activity should be coordinated with work undertaken as part of climate change adaptation and disaster risk reduction |
Submitted by
Saint Lucia Tsunami Technical Working Group
- NEMO Secretariat – National Tsunami Contact point
- Saint Lucia Met Services – National Tsunami Focal Point
- Sustainable Development and Environment Section

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