Tsunami Evacuation Maps, Plans, and Procedures (TEMPP)

... communities knowing what to do and where to go

ITIC Essential Community Preparedness
Capacity Building, Honduras, Central America, 2015-16
PTWS Next Priority (5 yrs) – Preparedness

Since 2014 PTWS PTWC New Products start, Preparedness:

- **Communities must know what to do and where to go when a tsunami is imminent (> 50% lack plans)**
- **ITIC capacity building course – Tsunami Evacuation Maps, Plans, and Procedures (TEMPP)**

**EXERCISE PACIFIC WAVE 2015 Evacuation Map ?**

- **YES**
- **NO**

**Tsunami Signage**

- **Tsunami Hazard Zone**
- **Tsunami Evacuation Route**
- **Tsunami Evacuation Site**
TEMPP Course: 2015-2017

GOAL:

- Reliable tsunami evacuation maps done by communities and govt agencies.
- Globally applicable standardized tools and methodologies

- Develop with Pilot – Central America, in Spanish
- 5 linked training workshops over 1.5 years (2015-17)
  Start with modeling. End with functional exercise
- Final Product: IOC Publication (2017) – TEMPP
  Review from ICGs, Global TOWS Inter-ICG TT Disaster Mgmt & Preparedness
- Simultaneous pilots other countries possible subject to funding
Focus and Stakeholders: Communities make Evacuation Maps

- Local workshops
- All Stakeholders
- GIS-facilitated maps
- Critical facilities, Schools, Hospitals, Special needs
- Safe Assembly areas
- Time of day, year
- Walking routes, Practice Exercises
<table>
<thead>
<tr>
<th>WORKSHOP / TRAINING SCHEDULE</th>
<th>DATES</th>
<th>PURPOSE / GOAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>TEMPP 1: Tsunami Inundation Modeling – ComMIT/MOST tool</td>
<td>27-31 July 2015</td>
<td>Inundation modeling training using ComMIT tool and MOST model</td>
</tr>
<tr>
<td>TEMPP 2: Seismic Tsunami Sources for Honduras Meeting</td>
<td>29 Feb– 1 March 2016</td>
<td>Identification of credible worst-case tsunami scenarios to use for inundation mapping</td>
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<tr>
<td>TEMPP 2: Inundation Mapping for Evacuation – process</td>
<td>2-3 March 2016</td>
<td>Create Inundation map for a given community as an ensemble of inundation scenarios. Output results in GIS formats</td>
</tr>
<tr>
<td>TEMPP 4: Response Plans and SOPs, Socialization, Community Exercises</td>
<td>7-11 Nov 2016</td>
<td>Create Response Plan (warning / evacuation SOPs); Develop Exercise Plan, Create essential awareness materials (signage, map, flyer, card)</td>
</tr>
<tr>
<td>TEMPP 5 Official Adoption Ceremony, Functional Exercise</td>
<td>15-17 Feb, 2017</td>
<td>Official Adoption of Maps, Functional Exercise, incl evac, TR Board approval and recognition, Pilot Wrap-up</td>
</tr>
</tbody>
</table>

• Inundation and evacuation mapping best practices:
• Hazard and evacuation mapping tools: ComMIT, GIS
TEMPP Input and Planning, Feb, June 2016

• PTWS Task Team on Evacuation Mapping and Planning and TOWS TTs - input

• TOWS Task Team on Disaster Management & Preparedness (TT-DMP)
  ➢ TEMPP Project to establish Evacuation Mapping Guidelines (TT-DMP activity)
TEMPPP2, Feb 29 – Mar 3, 2016

• Seismic Tsunami Sources for Honduras – Expert Mtg
• Tsunami Inundation Mapping for Evacuation training
TEMPP3, Aug 11-15, 2016

• Tsunami Evacuation Mapping
TEMPP4, Nov 7-11, 2016

- Tsunami Response Plans and Exercises
- Tsunami Ready
• Tsunami Exercise (COPECO NTWC; CODEM/CODEL warning dissemination, School/Comm evacuation drill)

• Tsunami Ready Board Review, Cedeño TR recognition
PacWave17 – NTWC, Cedeno Evacuation

- 16 Feb – NTWC - Live PTWC msg receipt, Colombia – Ecuador scenario
- 17 Feb – Cedeno drill – Regional – Local dissemination, School / Community Evacuation
Tsunami Signage - Honduras

- Adapt from other countries (US, NZ)
- ‘Tsunami Zone’, ‘Enter/Live Tsunami Ready Community’
TEMP Course Manual - Documents

- **EVACUATION OVERVIEW**
- **HAZARD ASSESSMENT – INUNDATION MODELING**
  - Numerical Models in Hazard Assessment
  - ComMIT tool manual (MOST model), including Appendices (abridged requirements, in Spanish)
  - Seismic Worst-Case Scenarios for Tsunami Hazard Assessment (no credible sources)
  - Establishing Tsunami Inundation for areas not-modeled or with low-hazard (no history, low population, poor DEM)
- **COMMUNITY – EVAC MAP, RESPONSE PLANNING**
  - Best Practice Country Ex: Chile, Indonesia, Japan, NZ, Philippines, USA, IOC Projects (SOPs, training) …
    - How to Create Evacuation Maps
    - How to Create Community Tsunami Response Plans
    - How to Create Community Tsunami Exercises
**International Tsunami Ready (I-TR) Guidelines**

- **UNESCO IOC - 2015**
- **TR Pilots – Caribbean:**
  - US TR: Anguilla, BVI
- **Intl TR Pilot – Pacific:**
  - Honduras (2017), Costa Rica, PIC TT (Samoa, Tonga, Vanuatu), Ecuador
- **Intl TR Pilot – Indian:**
  - WG 1 decision to implement (2016)

<table>
<thead>
<tr>
<th>INTERNATIONAL TSUNAMI READY (I-TR)</th>
<th>DONE</th>
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<tbody>
<tr>
<td><strong>MITIGATION (MIT)</strong></td>
<td></td>
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<tr>
<td>MIT-1. Have designated and mapped tsunami hazard zones</td>
<td>X</td>
</tr>
<tr>
<td>MIT-2. Have a public display of tsunami information</td>
<td>X</td>
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<tr>
<td><strong>PREPAREDNESS (PREP)</strong></td>
<td></td>
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<tr>
<td>PREP-1. Produce easily understood tsunami evacuation maps as determined to be appropriate by local authorities in collaboration with communities.</td>
<td>X</td>
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<tr>
<td>PREP-2. Develop and distribute outreach and public education materials</td>
<td>X</td>
</tr>
<tr>
<td>PREP-3. Hold at least three outreach or educational activities annually</td>
<td>X</td>
</tr>
<tr>
<td>PREP-4: Conduct an annual tsunami community exercise.</td>
<td>X</td>
</tr>
<tr>
<td><strong>RESPONSE (RESP)</strong></td>
<td></td>
</tr>
<tr>
<td>RESP-1. Address tsunami hazards in the community’s emergency operations plan (EOP).</td>
<td>X</td>
</tr>
<tr>
<td>RESP-2. Commit to supporting the emergency operations center (EOC) during a tsunami incident if an EOC is opened and activated.</td>
<td>X</td>
</tr>
<tr>
<td>RESP-3. Have redundant and reliable means for a 24-hour warning point (and EOC if activated) to receive official tsunami threats.</td>
<td>X</td>
</tr>
<tr>
<td>RESP-4. Have redundant and reliable means for 24-hour warning point and/or EOC to disseminate official tsunami alerts to the public.</td>
<td>X</td>
</tr>
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</table>

(Caribbean Guidelines, 2015)
Thank You
Dr. Laura Kong Director, ITIC
Christa von Hillebrandt-Andrade, Manager, CTWP
Dr. Diego Arcas, Director, NCTR, PMEL