Intergovernmental Coordination Group
Pacific Tsunami Warning &
Mitigation System
(PTWS)

TOWS-WG X, 23-24 February 2017
Filomena Nelson, Chair ICG/PTWS
Report by Tomoaki Ozaki, Vice-Chair ICG/PTWS
PTWS Area of Service
PTWS Earthquake Source Zone
Governance

Intergovernmental Coordination Group
Chair: Ms Filomena Nelson (Samoa)
Vice Chair: Mr Rick Bailey (Australia)
Dr Tatiana Ivelskya (Russian Federation)
Mr Tomoaki Ozaki (Japan)

Steering Committee
WG1 Tsunami Hazard Assessment
WG2 Tsunami Detection, Warning and Dissemination
WG3 Disaster Management, Preparedness and Risk Reduction
Regional Working Groups:

Central American Pacific Coast
South East Pacific Region
South West Pacific Region
South China Sea Region
Task Teams:

- Steering Committee: TT PacWave Exercises
- Steering Committee: Task Team on Future Goals and Performance Monitoring
- Steering Committee: Evacuation Planning and Mapping
- WG2: TT on Enhancing Products
- Regional Working Group on Tsunami Warning and Mitigation in the South China Sea Region: TT Establishment of a South China Sea Tsunami Advisory Centre
PTWS Tsunami Service Provider

Pacific Tsunami Warning Centre
Hawaii
Sea Level & Seismic Monitoring

PTWC displays of sea level and seismic network data
Enhanced PTWS Products
Sub-regional TSP: Northwest Pacific Tsunami Advisory Center (NWPTAC)

Japanese Seismic Network

Global Seismic Network

Sea Level Stations

Pacific Tsunami Warning Center (PTWC)

Data Exchange

Tsunami Bulletins
(NWPTA: Northwest Pacific Tsunami Advisory)

JMA

Analysis
• Hypocenter
• Magnitude
• Evaluation of Tsunamigenic Potential
• Tsunami Observation etc.
International Tsunami Information Centre
ICG Decided to have a balanced effort of the ICG/PTWS across: a) risk and hazard assessment; b) warning systems; and c) awareness and preparedness, taking into consideration Member States reporting and targets of the UN WCDRR Sendai Framework 2015–2030;
Objectives:

1. Develop a new programme aimed at facilitating tsunami resilience through community preparedness, specifically through the preparation of tsunami evacuation maps and associated response plans for tsunami-vulnerable coastal communities.

2. Programme globally applicable and utilizing standardized tools and methodologies where they exist.
Tsunami Evacuation Mapping and Planning (TEMPP) course, which is piloting the PTWS new course on tsunami evacuation maps for two communities, Cedeno on the Pacific and Sambo Creek on the Caribbean, was delivered and completed over five sessions from June 2016 to February 2017 in Honduras. ITIC and NOAA Caribbean Tsunami Warning Programme (CTWP) piloted this course.

As a result, Honduras adopted the Tsunami Ready programme, becoming the first country in the PTWS to do this. The ITIC developed a historical tsunami map for the region; the intent is to develop similar maps for other countries. Costa Rica has also started implementation.
TsunamiReady™ has been successfully implemented as a tsunami preparedness and awareness programme in the U.S.

ICG/CARIBE EWS approved Tsunami Community Preparedness Recognition Programme in the Caribbean as Guidelines for the Tsunami Ready Community Performance-Based Tsunami Recognition Programme for the Caribbean and Adjacent Regions.

Referring to Caribbean case, PTWS investigates the possibility of piloting an experimental Tsunami Ready recognition process in Samoa, Tonga and Vanuatu in the South West Pacific and Ecuador in the South East Pacific.

Cedeno, a small community in the Gulf of Fonseca, Honduras, become the first community to be recognized as Tsunami Ready in February 2017. Costa Rica is preparing Ostional on the Pacific to be Tsunami Ready as an outcome of TEMPP.
South West Pacific WG meeting in Honiara, Solomon Islands (22-23 August, 2016):

- A Tsunami Ready Task Team was established at this meeting with the support of the Working Group 3 representatives with Tonga taking the lead.
- Tonga also took the lead in a Task team that was established to enhance response with regards to local source tsunami events.
- The working group also agreed that all countries in the region should have tsunami evacuation maps, while it was also encouraged to focus on public alerting options.
- Fiji, Niue, Papua New Guinea and Samoa expressed interest in enhanced products training, however funding will have to be found. It was noted that the World Bank is sponsoring Tsunami Resilience projects in Samoa and Tonga.
Regional WG South China Sea

- 5\textsuperscript{th} Regional WG on Tsunami Warning and Mitigation System for the South China Sea Region in Manila (2-3 March, 2016)
- 2\textsuperscript{nd} Task Team Meeting on Establishment of the SCSTAC in Beijing (24-26 October, 2016)
- Participation in PacWave17 through providing experimental SCSTAC products.
- Preparation for SCSTAC operation is proceeding, targeting endorsement of SCSTAC operation by 6\textsuperscript{th} SCS-WG (March 2017), ICG/PTWS-XXVII (March, 2017) and IOC Assembly (June 2017).
Task Force (Task Team) on the Central America Tsunami Advisory Center CATAC, Managua (2 Nov. 2016) was held at the occasion of Regional Meeting of Seismology and Early Warning against Tsunami, Managua (1-4 Nov. 2016).

Central America Tsunami Advisory Center (CATA) is enhancing its ability as a sub-regional TSP with the support by JICA.
Training was held in Vanuatu in April 2016 about the new PTWC products and a community response component. The training was attended by 30 community representatives.

The International Tsunami Training Programme (ITP) was held in Hawaii in September 2016. The training was participated by five countries.
Working with the IOC, the ITIC completed the Tsunami Glossary. The Glossary is now translated into Spanish, while the French translation is underway.
Historical Tsunamis and Effects

* Global Tsu Sources - rev 2016 (e-file)
* Central American and Adj Regions
* Amer Samoa, Samoa, Tonga; Hawaii
New Zealand Event 13 Nov. 2016

- Magnitude 7.8 Mw New Zealand earthquake (42.737°S, 173.054°E, depth 15 km) occurred at 11:02, 13 Nov. 2016 UTC.
- Generated a local tsunami (1.47M at Kaikoura).
- A drawdown of 2.5m was observed in Kaikoura’s sea level data.
- 2m uplift was found, 100,000 landslide occurred, 150 landslide dam generated, many cracks appeared in the ground.
- PTWC issued its 1st advisory information at 1112 UTC with Mwp7.4, and 2nd advisory information at 1143 UTC with Mw7.9.
- Much difference between hypocenter location and major fault rupture zone made it difficult for Warning Centre to estimate tsunami risks.
- NZ decided to improve tsunami warning standard operation procedures and enforce tsunami awareness activities.
TT Enhancing Products

NW Pacific Tsunami Advisory Centre
Japan Meteorological Agency

Introduction of enhanced forecasts - experimental provision in 2017, and full changeover in 2018
PacWAVE16
- February 2016
- Test NWTPAC enhanced products
- Conducted as a regional exercise involving the 16 countries that receive the NWPTAC products

PacWAVE17
- February 2017
- Conducted as a Pacific-wide exercise involving all PTWS countries as part of the regular bi-annual Pacific Wave exercise conducted since 2006
- In addition to PTWC and NWTAC Enhanced Products, experimental SCSTAC products were also used.

Communications Tests
- Regular monthly by PTWC and twice/year by NWPTAC
ICG Decided:

* To replace the current Implementation Plan with a PTWS Status Report prepared by the Steering Committee for presentation and review at each session of the ICG/PTWS, with the Action Plans of the Working Groups and Task Teams being informed by the Decisions, Recommendations and Action Plans of the ICG/PTWS to address any issues, gaps and identified enhancements identified by the PTWS Status Report.

* Develop KPIs with targets to monitor implementation and performance of all components of the warning and mitigation.
ICG/PTWS XXVII and International Tsunami Workshop, March 2017

ICT/PTWS XXVII is planned to be held at Tahiti, French Polynesia – France from 28 to 31 March, 2017.

International Tsunami Workshop “Recent tsunamis in the Pacific (2007-2016) – Improving tsunami response” is to be held on 27 March, 2017.

Organizers: UNESCO/IOC, IUGG and French Polynesia Tsunami Warning Center (Centre Polynesiæn de prevention des tsunamis ; CPPT)