

ANNEX VI

PTWS WORKING GROUP STRUCTURE

1.0 Introduction

At the ICG/PTWS XXII meeting held in Guayaquil, Ecuador it was resolved to change the governance structure of PTWS and establish an ICG/PTWS Steering Committee with membership from:

- a. Elected Officers (Chair and Vice Chairs);
- b. Current [intersessional] Working Group Chairs;
- c. Other member state's representatives by invitation.

The Steering Committee was charged with evaluating the need for provisional Intersessional Working Groups as required in the following areas:

- a. Monitoring
- b. Assessment
- c. Interoperability
- d. Awareness
- e. Regional.

This paper defines an Intersessional Working Group structure based on the PTWS Medium Term Strategy and the recommendations of ICG/PTWS XXII and XXIII.

2.0 Requirements of the Working Group Structure

The Working Groups and Task Teams are the mechanisms available for the ICG/PTWS to carry out the work identified in the Medium Term Strategy (MTS). From an overall IOC and efficiency point of view it is important to coordinate and cooperate with the ICGs for other oceans regarding activities that have common characteristics or common issues. It would therefore be generally preferable (if at all possible) that PTWS Working Groups have the same or similar structure to those of other ICGs.

Considering the overall PTWS structure and IOC definitions, Working Groups should be used for longer term (a five year time frame) activities and Task Team should be used for well defined short-term activities. In this way Working Groups can be used as the mechanism for implementation of the MTS of PTWS, and Tasks Teams can be seen as a means of carrying out defined tasks within [one or more] Working Groups.

Regional coordination requires considerable time indicating that Working Groups are more appropriate than Task Teams for regional issues. Similarly, to enhance the awareness and ownership of sub-regional issues, Working Group should provide more visibility than Task Teams.

The Pacific is the only region in which Regional working groups are used, so this could be seen as contradicting the aim of coordinating the Working Group structures between ICGs. However, the Pacific is both the largest and most complex region covered by the IOC ICGs making the use of this mechanism necessary. Situations to issues often differ between Regions, underlining the requirement of retaining a Regional Working Group structure within the ICG/PTWS.

Leadership is essential in ensuring progress is made on the objectives of the MTS, and can have much to do with the duration of activities being carried out by Working Groups and Task Teams..

3.0 Proposed Structure

We propose a structure for PTWS Working Groups and Task Teams which varies from that used in other ICGs, but are as closely related as possible. The concept is to have *Technical Working Groups (TWG)* that are closely aligned to those for the other ICGs, and *Regional Working Groups (RWG)* charged with identifying and coordinating work which is specific to the Region. In general Task Teams will be formed to carry out work with a defined duration as part of Technical Working Group activities, or as defined by the full ICG/PTWS session or the PTWS Steering Committee. The structure of the TWGs will be defined by the requirements of the MTS, and the Regional Working Groups will be constituted and dissolved by an ICG/PTWS meeting to carry out identified Regional work in line with the MTS.

In light of the above considerations we propose to have three Technical Working Groups as follows.

1. Tsunami Risk Assessment and Reduction;
2. Tsunami Detection, Warning and Dissemination;
3. Tsunami Awareness and Response.

The term “Interoperability” now has two meanings as applied to tsunami warning. One meaning is to ensure consistency with other ICGs and to consider other ocean hazards. The other is to have standard warning formats and procedures for tsunami warning systems. The former can be and should be considered in developing each component of tsunami warning systems in the corresponding WGs, and an independent “Interoperable” WG is unnecessary. The latter has been pursued by the current WG “Interoperability of regional, sub-regional and national warning systems in the Pacific”, and would become a part of the proposed TWG 2.

When establishing Regional warning systems the RWGs should pay attention to interoperability, and for national warning systems WG 2 can advise Member States to ensure interoperability.

The Regional Working Groups currently in existence should be confirmed unless a ICG/PTWS meeting decides to dissolve one or more of them. Similarly, the ICG/PTWS meeting may also constitute new Regional Working Groups as required. The Regional Working Groups are:

1. Central American Pacific Coast;
2. Southeast Pacific Region;
3. Southwest Pacific Region;
4. South China Sea Region.

The Technical Working Groups give technical support to the Regional Working Groups, while the Regional Working Groups give the Technical Working Groups feedback of their experiences of system establishment in the regions.

Task Teams should be formed within the TWGs to address particular issues. For example there may be Task Teams within the Detection, Warning and Dissemination (WG 2) on the technologies used for earthquake detection (seismic observation) and tsunami detection (sea

level observation). In the same way, the currently existing working groups that deal with specific technical matters could be transformed into Task Teams. “Sea-Level Measurement”, “Data Collection and Exchange” and “Rapid Near-field Recognition of Tsunamigenic Earthquakes and Associated Tsunamis” working group, and “Pacific Emergency Communications and Technologies” working group can be a Task Teams in the proposed TWG 2.

The scope of the TWGs is designed to cover the requirements of the MTS which covers the full range of PTWS activities. These are outlined in the sections below.

Provisional Terms of Reference for these proposed Working Groups are provided as appendices to this document. It is recommended that the Regional Working Groups be confirmed with the existing ToR, membership and officers; the ToR are included in appendix 2 for information purposes only.

3.1 Working Group on Tsunami Risk Assessment and Reduction

The assessment of tsunami hazard and risk is the focus of this working group. It includes examination and introduction of methods of assessing tsunami sources, estimating tsunami heights at coasts, building tsunami hazard maps, and mitigation. The work of this working group relates to pillar one of the MTS.

3.2 Working Group on Tsunami Detection, Warning and Dissemination

The focus of this working group is the improvement to the detection and monitoring system for tsunami warning. It includes the examination and introduction of techniques for measuring sea level, seismic and other kinds of data, data communications and evaluation. Disseminating tsunami warnings that are easy to understand to the people at risk promptly and securely is also the focus of this working group. It includes examination and introduction of appropriate format or contents in warning/information message, emergency communication techniques etc. The work of this working group relates to pillar two of the MTS.

3.3 Working Group on Tsunami Awareness and Response

This working group promotes good practice examples of capacity and resilience building and emergency management to improve the management of tsunami risk through mitigation, preparedness and response activities. These activities are performed both on administrative organization level and on general public level. Capacity building and training are examples for the former, and tsunami awareness public education is one for the latter. The work of this working group relates to pillar three of the MTS.

4.0 Steering Committee Role.

The Steering Committee will have the role of coordinating the activities of the working groups during the intersessional period. Steering Committee meetings during the interval between ICG/PTWS sessions should review the progress of working group activities to ensure progress is being made.

APPENDIX 1: TECHNICAL WORKING GROUPS

Provisional Terms-of-Reference Working Group 1: Tsunami Risk Assessment and Reduction

1. Review and report on existing arrangements with regard to tsunami hazard identification and characterization.
2. Advise on credible seismic scenarios that need to be captured for numerical tsunami modelling e.g., location, magnitude, rupture, orientation, dip, and probability of occurrence.
3. Review details on models that are currently used or in development and desirable standards of documentation (model inputs and outputs etc.).
4. Explore cooperation regarding coastal inundation models, including appropriate requirements for bathymetry.
5. Develop guidance on mandatory metadata including details of bathymetry, hydrography and topography.
6. Consider the issue of assessing hazard, vulnerability and risk, including the facilitation of access to models and mitigation measures.
7. Liaise with Working Groups from the other ocean basins, as well as other working groups within ICG/PTWS to coordinate and ensure efficient and effective information for tsunami warning and mitigation.

The Group will be composed of members nominated by Member States, with a chairperson and a vice-chairperson to be elected.

Provisional Terms-of-Reference Working Group 2: Tsunami Detection, Warning and Dissemination

1. Review and report on existing arrangements with regard to seismic, sea level and other kind of measurements, data collection and exchange;
2. Advise on how best to ensure that all events likely to cause tsunami can be reliably located and sized in a timely manner;
3. Review and make recommendations regarding upgrades and enhancements to the PTWS seismic and sea level stations and networks, communications, processing and analysis to further reduce the time required for source characterization to meet desired warning responses;
4. Liaise with the appropriate organizations and relevant experts to ensure effective data representation and code forms are used for the exchange of data (standards, metadata requirements);
5. Review and report on various means of transmitting data to warning centers, and conduct tests of latency (timeliness) of transmissions as required;
6. Coordinate the development and operational implementation of [the upstream part of] warning systems in the Pacific;
7. Liaise with Working Groups from the other ocean basins, as well as other working groups within ICG/PTWS to coordinate and ensure efficient and effective information for tsunami warning and mitigation.

The Group will be composed of members nominated by Member States, with a chairperson and a vice-chairperson to be elected.

Provisional Terms-of-Reference Working Group 3: Tsunami Awareness and Response

1. Promote good practice examples of capacity and resilience building and emergency management to improve the management of tsunami risk through mitigation, preparedness and response activities. Such measures include the following:

- Preparedness: capacity assessments, education for public awareness, training, response and evacuation planning and exercising.
- 2. Develop and codify good practices in emergency operations and evacuation plans and procedures through consistent Standard Operating Procedures (SOPs) and drills.
- 3. Liaise with Working Groups from the other ocean basins, as well as other working groups within ICG/PTWS to coordinate and ensure efficient and effective information for tsunami warning and mitigation.

The Group will be composed of members nominated by Member States, with a chairperson and a vice-chairperson to be elected.

APPENDIX 2: REGIONAL WORKING GROUPS

(Reference only)

Provisional Terms-of-Reference for the Regional Working Group on Tsunami Warning and Mitigation in the Southeast Pacific Region

1. To evaluate capabilities of countries in the South East Pacific Region for providing end-to-end tsunami warning and mitigation services,
2. To ascertain requirements from countries in the Southeast Pacific Region for the tsunami warning and mitigation services,
3. To promote and facilitate tsunami hazard and risk studies in the region,
4. To facilitate cooperation in the establishment and upgrading of seismic and sea level stations and networks and communication systems in the region, and their interoperability in accordance with ICG/PTWS requirements,
5. To improve the education programs with a regional criteria based on the regional social, cultural and economical reality,
6. To facilitate capacity building and the sharing of tsunami information in the region, including the free and open exchange of data,

The Group will be composed of representatives nominated by the Member States of Colombia, Ecuador, Peru and Chile, with a chairperson and a vice-chairperson to be elected.

Provisional Terms-of-reference for the Regional Working Group on Tsunami Warning and Mitigation in the Southwest Pacific Region

1. To evaluate capabilities of countries in the Southwest Pacific Region for providing end-to-end tsunami warning and mitigation services,
2. To ascertain requirements from countries in the Southwest Pacific Region for the tsunami warning and mitigation services,
3. To facilitate tsunami hazard and risk studies in the region,
4. To facilitate cooperation in the establishment and upgrading of seismic and sea level stations and networks in the region, and the interoperability of these systems in accordance with ICG/PTWS requirements,
5. To facilitate capacity building and the sharing of tsunami information in the region, including the effectiveness of ICG/PTWS services and the free and open exchange of data,
6. To support the further development of the virtual centre of expertise in a multi-hazards context within SOPAC in line with the regional Early Warning Strategy,

7. To facilitate the inclusion of tsunami hazard and response information into curricula, and development and dissemination of educational materials,

The Group will be composed of members nominated by Member States in the region, with full representation of SOPAC recommended, and including France with a chairperson and a vice-chairperson to be elected.

Provisional Terms-of-reference for the Regional Working Group on Tsunami Warning and Mitigation on the Central American Pacific Coast

1. To assist the Central American countries in the development, improvement and implementation of their National Tsunami Warning and Mitigation Systems, and the countries which are becoming new members of ICG/PTWS in their integration into the ICG/PTWS,
2. To recommend CEPREDENAC to determine whether the National Tsunami Warning Centres of Nicaragua or El Salvador (or of both countries cooperating) could act as interim Regional Tsunami Warning Centre disseminating warnings to all Central American countries,
3. To invite CEPREDENAC to consider the implementation of a Technical Committee for the Development of Regional Tsunami Warning and Mitigation Systems,
4. To implement a regional communications and warning plan,
5. To facilitate Tsunami Hazard and Risk studies in the Central American Region.

The Group will be composed of member from Member States Nicaragua, El Salvador, Guatemala, Costa Rica, and Honduras and Panama (as soon as they finalized the formal procedure of joining ICG/PTWS), with a chairperson and a vice-chairperson to be elected.

Provisional Terms of Reference for the Regional Working Group on Tsunami Warning and Mitigation in the South China Sea Region

1. To evaluate capabilities of countries in the South China Sea Region for providing end-to-end tsunami warning and mitigation services,
2. To ascertain requirements from countries in the South China Sea for the tsunami warning and mitigation services,
3. To promote and facilitate tsunami hazard and risk studies in the region,
4. To facilitate cooperation in the establishment and upgrading of seismic and sea level stations and networks and communication systems in the region,
5. To facilitate improvement of the education programs on tsunami mitigation in the region,
6. To facilitate capacity building and the sharing of tsunami information in the region, including the free and open exchange of data.

The Group will be composed of members nominated by Member States in the region with a chairperson and a vice-chairperson to be elected