

ICG/IOTWMS-XIV, Jakarta, Indonesia
16 - 19 November 2024



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3.6 Status of progress in the ICG/PTWS

Dakui WANG
Vice Chair, ICG/PTWS

The Thirtieth Session of the ICG/PTWS (ICG/PTWS-XXX)



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- Venue: Nuku'alofa in Kingdom of Tonga
- Date: 12th - 15th September, 2023
- 62 delegates from 17 Member States (Australia, Canada, Chile, China, Ecuador, Fiji, France, Indonesia, Japan, Malaysia, New Zealand, Nicaragua, Republic of Korea, Solomon Islands, Tokelau, Tonga, and United States of America)
- 11th September, 2023: 8th JOINT ICG/PTWS– IUGG JOINT TSUNAMI COMMISSION TECHNICAL WORKSHOP





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Recommendations adopted in the ICG/PTWS-XXX

- Recommendation ICG/PTWS-XXX.1: ICG/PTWS Governance
- Recommendation ICG/PTWS-XXX.2: Understanding Tsunami Risk
- Recommendation ICG/PTWS-XXX.3: Tsunami Detection, Warning and Dissemination
- Recommendation ICG/PTWS-XXX.4: TSP Messages for the Maritime Community
- Recommendation ICG/PTWS-XXX.5: Disaster Risk Management and Preparedness
- Recommendation ICG/PTWS-XXX.6: Start of Operation of Central America Tsunami Advisory Center (CATAC)
- Recommendation ICG/PTWS-XXX.7: Minimum competency levels for National Tsunami Warning Center (NTWC) operations staff
- Recommendation ICG/PTWS-XXX.8: UN Decade of Ocean Science for Sustainable Development (2021 – 2030)

ICG/PTWS Organizational Structure (Recommendation ICG/PTWS-XXX.1)



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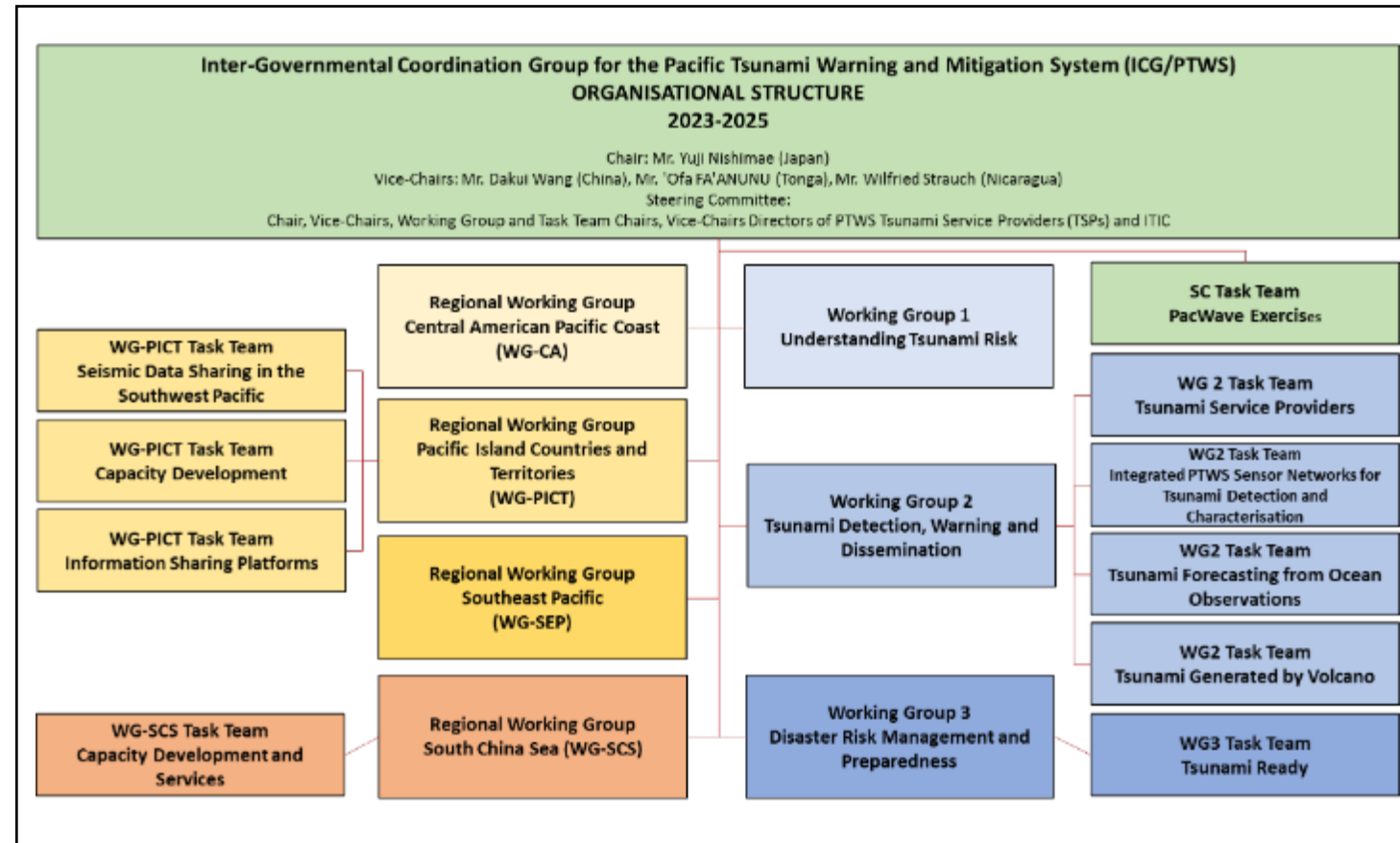
Chair: Mr. Yuji Nishimae (Japan)
Vice-Chairs: Dr. Dakui Wang (China)
Dr. Wilfreid Strauch (Nicaragua)
Mr. 'Ofa Fa'anunu (Tonga)

Dissolved Task Teams;

- Task Team on UN Ocean Decade,
- Task Team on Future Goals and Performance Monitoring,
- WG2 Task Team on the Minimum Competency Levels for National Tsunami Warning Centre (NTWC) Operations Staff

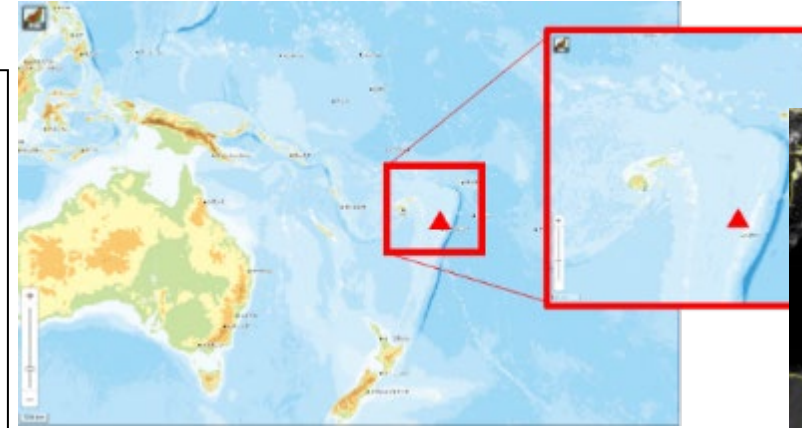
Established Task Teams;

- WG2 Task Team on Tsunami Generated by Volcanoes (TGV)
- WG2 Task Team on Forecasting from Ocean Observations (TT-FOO)
- WG3 Task Team on Tsunami Ready
- Pacific Island Countries and Territories Working Group Task Team on Information Sharing Platforms

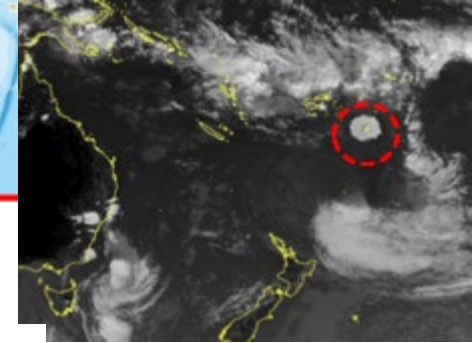


15 Jan 2022 – Hunga Tonga – Hunga Ha'apai Event

- **Unprecedented – massive eruption and tsunami** Tsunami waves were observed at not only near tide gauges but also distant tide gauges.- Larger than 1 meter in California of USA, Chile, Japan.
- 1. **3 PTWS Briefs (20 Jan, 3 Feb, 10 Feb 2022)**
- 2. **Post-Event Assessment (PAE)**
- 3. **ITIC expert/facilitate support to Tonga (ensure best technical effort with minimum duplication), 1st call 25 Jan => April (30+ virtual meetings, IOC hosted) – (Situational EQ/Volcano activity, HTHH interim procedures, equipment install / repair and post-tsunami survey (NZ, AU, US, SPC)**
- 4. **PTWS HTHH Interim Products and Procedures**
- 5. **Post-Tsunami Field Survey (runup, inundations)**
- 6. **Hunga Tonga Hunga Ha'apai' Volcano Permanent Monitoring and Warning Procedures of the Pacific Tsunami Warning Center was published (IOC CL-2984 dated on 19 January, 2024) as IOC TS 188.**



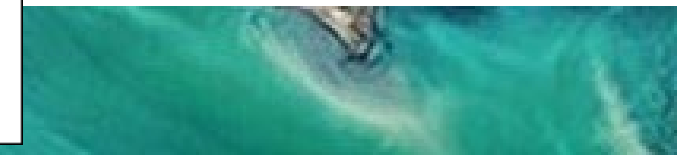
Location of Hunga-Tonga Hunga-Ha'apai volcano



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Hunga Tonga – Hunga Ha'apai
Volcanic Tsunami Hazard
Response
PTWC Procedures and PTWS Products
User's Guide (version 1.6)

UNESCO



Establishment of Task Teams for Tsunami Forecasting under the WG2 (Recommendation ICG/PTWS-XXX.1 and ICG/PTWS-XXX.3)



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The first objective of the Ocean Decade Tsunami Programme is to develop the warning systems' capability to issue actionable and timely tsunami warnings for tsunamis from all identified sources to 100 percent of coasts at risk.

WG2 Task Team on Tsunami Generated by Volcanoes (TGV)

Terms of Reference

WG2 Task Team: Tsunami Generated by Volcanoes (TGV)

1. To confirm the list of volcanoes identified by the TGV as posing a potential threat to the Pacific (referred in Annex 4 Technical Series 183), to identify additional potential threat volcanoes, and continually review the list.
2. Among the volcanoes with potential tsunami threat, to identify those with implemented tsunami hazard assessment, monitoring, warning, and preparedness systems.
3. To establish direct collaboration between ICG/PTWS member states and IAVCEI to facilitate the contribution of PTWS tsunami expertise to the monitoring and warning capability of existing volcano monitoring centres or NTWCs, as appropriate.
4. To Identify potential volcanic partners in countries and international bodies, and recommend collaboration opportunities with them to improve tsunami early warning and to support the downstream decision makers affected by the volcanically-generated tsunami
5. To develop guidelines on SOPs to monitor, detect, warn, and prepare for any volcano-induced tsunami waves.
6. To develop guidelines on SOPs to monitor, detect, warn, and prepare for any volcano process that could induce tsunami waves.

The Task Team will be composed of members nominated by Member States, a representative from ITIC, and invited observers. Co-chairs to be elected by the ICG.

WG2 Task Team on Forecasting from Ocean Observations (TT-FOO)

Terms of Reference

WG2 Task Team: Tsunami Forecasting from Ocean Observations (TT-FOO)

1. Compare and document existing strategies for source-independent tsunami early warning and quantify and document their operational usefulness. Efforts will include consideration of both existing and emerging ocean observations technologies and techniques.
2. Connect with appropriate entities in the WMO and IOC Oceanographic communities to allow best-practice direct observation driven forecasting techniques to be assessed for their usefulness in Tsunami Forecasting from Ocean Observations.
3. Align efforts with the Task Team Integrated PTWS Sensor Networks to ensure that existing and likely future monitoring systems support TT recommendations.

The Task Team will be open to members nominated by Member States, invited experts. Co-chairs to be elected by the ICG.

IOC/UNESCO Tsunami Ready Recognition Program (Recommendation ICG/PTWS-XXX.1 and ICG/PTWS-XXX.5)



The second objective of the Ocean Decade Tsunami Programme is that 100 percent of communities at risk to be prepared and resilient to tsunamis by 2030 through efforts like the IOC-UNESCO Tsunami Ready Recognition Programme.

UNESCO/IOC TSUNAMI READY RECOGNITION

TO INITIATE THE IMPLEMENTATION OF TSUNAMI READY, CONTACT TSUNAMI INFORMATION CENTERS (ITIC):

- CARIBBEAN AND ADJACENT REGIONS TIC (CTIC) ctic@unesco.org
- INDIAN OCEAN TIC (IOTIC) iotic@unesco.org
- PACIFIC OCEAN INTERNATIONAL TIC (ITIC) itic@unesco.org
- NORTH-EASTERN ATLANTIC, MEDITERRANEAN AND CONNECTED SEAS (NEAMTIC) neamtic@unesco.org

SCAN *Here*  TSUNAMIREADY.ORG

UNESCO/IOC TSUNAMI READY RECOGNITION PROGRAMME

Building resilient coastal communities against tsunamis

Tsunami Ready

The Tsunami Ready Recognition Programme (TRRP) of UNESCO/IOC is an international community-based initiative designed to mitigate tsunami-related risks.

It is a voluntary, performance-based community recognition programme that promotes an understanding of the concept of readiness as an active collaboration among national and local warning and emergency management agencies, and government authorities, scientists, community leaders and the public.

The main objective is to improve coastal community preparedness for tsunamis and to minimize the loss of life, livelihoods and property.

Coastal communities seeking the UNESCO/IOC Tsunami Ready Recognition, should follow the guidelines and meet all 12 indicators.

The recognition is renewable every four years.

To effectively implement the Tsunami Ready Recognition Programme, refer to:

- IOC Manuals and Guide 74 [Standard Guidelines for the Tsunami Ready Recognition Programme](#)
- IOC Manuals and Guide 82, [Preparing for community tsunami evacuations: from inundation to evacuation maps, response plans and exercises](#)

Terms of Reference

WG3 Task Team: Tsunami Ready

This expert Task Team will facilitate and coordinate efforts relating to the Tsunami Ready Recognition Programme and within the ICG/PTWS, in support of UN Ocean Decade Goals.

- Develop formal PTWS guidelines following the 'Tsunami Ready Equivalency Approach' for recognition of tsunami readiness of communities not implementing the IOC Tsunami Ready Recognition Programme.
- Monitor Tsunami Ready campaigns and outcomes, and report results,
- Ensure the advocacy for Tsunami Ready is aligned with other PTWS and IOC documents,
- Advise on the Tsunami Ready workflow as it pertains to the PTWS and regions,
- Support ITIC in its efforts to facilitate the implementation of Tsunami Ready in PTWS Member States,
- Support ITIC's efforts to develop standardized training supporting Tsunami Ready under the framework of OTGA, such as through feedback on content and helping to test trainings before officially deployed,
- Help to identify sources of funding in support of the implementation of Tsunami Ready,
- Report progress on encouraging the standard text in the UNESCO-IOC Tsunami Ready signage for vertical evacuation, such as "Go to the designated building for vertical evacuation",
- Report progress toward informing the public on the validity of the recognition, to be indicated on Tsunami Ready signage and on the certificate under the UNESCO-IOC Tsunami Ready logo.

The Group will be composed of members nominated by the Member States, representative of ITIC, with two co-chairs to be elected by the ICG.

Minimum competency levels for National Tsunami Warning Centre (NTWC) operations staff (Recommendation ICG/PTWS-XXX.7)



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Recommends the approval of the PTWS National Tsunami Warning Centre competencies, framework, and training requirements, as described in IOC ICG/PTWS-XXX Working Document (Agenda 4.5) Report from the Task Team on the Minimum Competency Levels for National Tsunami Warning Centre (NTWC) Operational Staff.

➤ **Framework -2 Tiers (1. TSP Products, 2. TSP + National analyses)**

- **NTWC Staffing Role 1: Tsunami incident controller (or manager)**

This tier 1 role requires a comprehensive understanding of tsunami causes and impacts, expert interpretation of TSP products, and competent performance of all key national warning procedures.

- **NTWC Staffing Role 2: Tsunami incident assistant**

This tier 2 role requires a basic understanding of tsunami causes and impacts, simple interpretation of TSP products, and ability to perform some tasks of the national warning procedures.

➤ **Minimum Competencies**

- Core science knowledge
- Advanced science knowledge
- Core operational competency
- Advance agency competency


➤ **Training Requirements**

An NTWC Competency Programme should

- Include a NTWC Staffing Profile, including positions, qualifications, and capabilities,
- Establish standardized training modules, covering science, operational, and agency competencies, that have measureable assessments, performance criteria, and/or tests.

Exercise Pacific Wave 24

- September to November, 2024 to support IDDRR (13 Oct. 2024) and WTAD (5 Nov. 2024)
- Regional Exercise and National Exercise
- Live Communications Test from the PTWS TSPs on 5 November
- Trial Transmission of the dummy message from PTWC to the NAVAREA coordinators through the NTCW on 5 November.
- IOC-CL 2999 dated 28 May 2024 has been issued with the Exercise Manual (IOC TS-191) as an attachment.



INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION
COMMISSION OCÉANOGRAPHIQUE INTERGOUVERNEMENTALE
COMISIÓN OCEANOGRÁFICA INTERGUBERNAMENTAL
МЕЖПРАВИТЕЛЬСТВЕННАЯ ОКЕАНОГРАФИЧЕСКАЯ КОМИССИЯ
اللجنة الدولية الحكومية لعلوم المحيطات
政府间海洋学委员会

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E-mail: ioc.secretariat@unesco.org

IOC Circular Letter No 2999
(Available in English only)

IOC/VH/ON/ah
28 May 2024

To : ICG/PTWS Tsunami Warning Focal Points (TWFP)
ICG/PTWS Tsunami National Contacts (TNC)
ICG/PTWS Chair and Vice-Chairs

C.c. : Official National Coordinating Bodies for liaison with IOC (IOC Member States)
Permanent Delegates/Observer Missions to UNESCO, and
National Commissions for UNESCO of IOC Member States
Directors of UNESCO and IOC Regional Offices in the Asia/Pacific Region
Regional Organizations cooperating with UNESCO-IOC
Director, Pacific Tsunami Warning Center (PTWC)
Director, Northwest Pacific Tsunami Advisory Center (NWPTAC)
Director, International Tsunami Information Center (ITIC)
Head, Tsunami Warning Division, China National Marine Environmental
Forecasting Center and South China Sea Tsunami Advisory Center (SCSTAC)
Coordinator, Central America Tsunami Advisory Center (CATAC)

Subject: Pacific Tsunami Warning and Mitigation System (PTWS) Exercise Pacific Wave 2024 (PacWave24), September–November 2024, including live Tsunami Service Provider Communication Test on 5 November 2024 at 0000 UTC

At its 30th session ([ICG/PTWS-XXX](#), Nuku'alofa, Kingdom of Tonga, 11–15 September 2023), the Intergovernmental Coordination Group for the Pacific Tsunami Warning and Mitigation System approved the conduct of Exercise Pacific Wave 2024 ([PacWave24](#)) in the months of September through November 2024 to support [International Disaster Risk Reduction Day](#) (13 October) and [World Tsunami Awareness Day](#) (5 November).

PacWave24 will test PTWS Tsunami Service Provider (TSP), and country operational plans and procedures to respond to a destructive tsunami. PacWave24 is the eleventh in a series of PacWave exercises that have been conducted biennially since 2006. The Exercise Manual ([IOC Technical Series 191](#)) is attached. For PacWave24, all exercise information, including resources, manual

Intergovernmental Oceanographic Commission
Technical Series

191



EXERCISE PACIFIC WAVE 2024
September–November 2024

Volume 1

Exercise Manual

Expansion of the ICG/PTWS Earthquake Source Zone (Recommendation ICG/PTWS-XXX.3)



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Decision in the ICG/PTWS-XXX session

Decides to expand the PTWS Earthquake Source Zone to include an area from 63° to 52° south latitude and from 72° to 18° west longitude to include the Scotia Arc and its adjacent seismic zones.

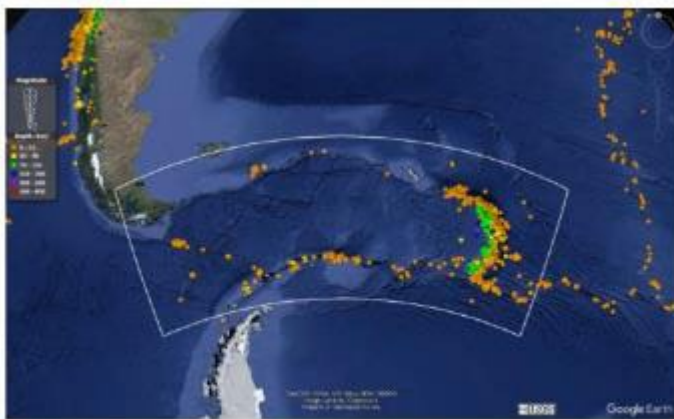


Figure 5. Seismicity in the southern Atlantic Ocean including the Scotia Arc Subduction Zone. The polygon surrounding this seismicity, extending from 63° to 52° South latitude and from 72° to 18° West longitude, is the proposed extension of the PTWS Earthquake Source Zone.

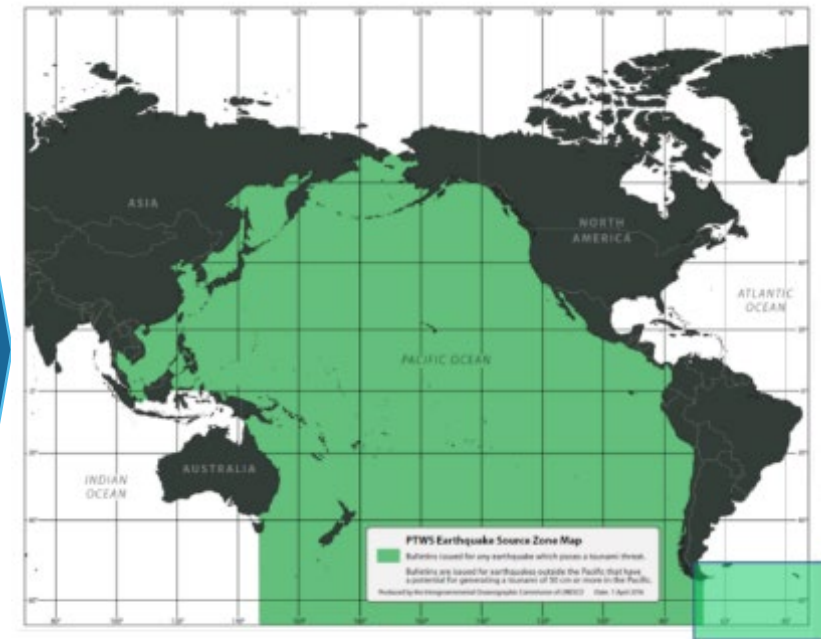
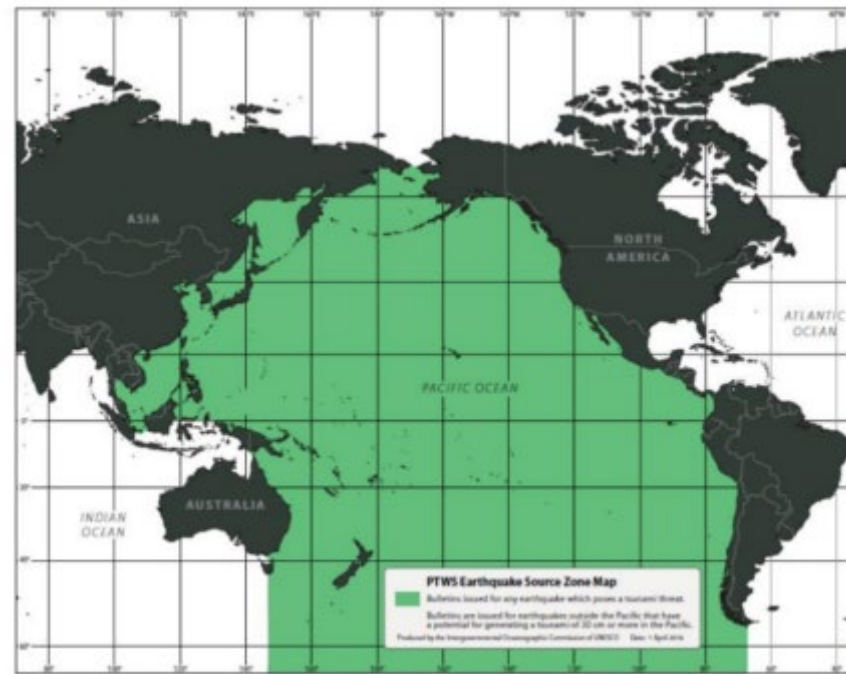


Figure 4. The current PTWS Earthquake Source Zone is indicated in green. The transparent green box at the lower right indicates the approximate proposed addition to the PTWS ESZ that would include the seismic zone associated with the Scotia Arc and South Sandwich Islands.

Start of Operation of Central America Tsunami Advisory Center (CATAC) (Recommendation ICG/PTWS-XXX.6)



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➤ Recommendation ICG/PTWS-XXX-6

- **Decides** to admit the start of the official full functional operations of CATAC, starting after the IOC governing body meeting in 2024, with the specific starting date to be decided after the coordination with the ICG/CARIBE-EWS



IOC EC 57th Session (25 June to 28 June 2024)



ICG and	Session	Reporter
ICG/CARIBE-EWS	XVII Session	Dr. Regina Browne on behalf the Chair
ICG/NEAMTWS	XVIII Session	Dr. Alessandro Amato
ICG/PTWS	XXX Session	Mr. Yuji Nishimae
TOWS-WG	XVII Session	Dr. Srinivasa Kumar Tummala

Fifty-Seventh Session of the Executive Council
Paris, 25–28 June 2024

Report of the ICG/NEAMTWS (2023-2024)

Alessandro Amato
Chair
ICG/NEAMTWS

Amr Hamouda and Ignacio Aguirre Ayerbe
(vice Chair)

Denis Chang Seng
Technical Secretary

ICG/CARIBE-EWS XVII

Gérard Métayer
ICG/CARIBE-EWS Chair
June 27, 2024

57th Executive Council

57th Session of the IOC Executive Council
25 - 28 June 2024

Report from the ICG/PTWS

NISHIMAE Yuji
ICG/PTWS Chair



57th Session of the Executive Council, Paris, 25-28 June 2024

Agenda 3.2.1.2

Global Coordination of Warning and Mitigation Systems for Ocean Hazards

Dr Srinivasa Kumar Tummala
Chair, TOWS-WG and Vice-Chair, IOC

Acknowledgements: Bernardo Aliaga, IOC

Start of the official full functional operation of the Central America Tsunami Advisory Center (CATAC)



Recommendation ICG/PTWS-XXX-6

Decides to admit the start of the official full functional operations of CATAC, starting after the IOC governing body meeting in 2024, with the specific starting date to be decided after the coordination with the ICG/CARIBE-EWS

Recommendation ICG/CARIBE-EWS-XVII.8

- **Recommends** CATAC to continue with the implementation of EEW methods for the acceleration and improvement of the tsunami warning for Central America.
- **Recommends** the use of additional methods for the transmission of CATAC's products to its users.
- **Recommends** that CATAC continues full functionality in an interim manner to be able to support the National Tsunami Warning Centers (NTWCs), Tsunami Warning Focal Points 18 (TWFPs), and emergency management authorities of Central America in addressing those challenges,
- **Further recommends** the consideration of CATAC as a TSP in its XVIII Session in 2025 to enable the IOC Assembly to consider the final admission of CATAC as TSP in June 2025



Expansion of the ICG/PTWS Earthquake Source Zone

Recommendation ICG/PTWS-XXX.3

Decides to expand the PTWS Earthquake Source Zone to include an area from 63° to 52° south latitude and from 72° to 18° west longitude to include the Scotia Arc and its adjacent seismic zones.

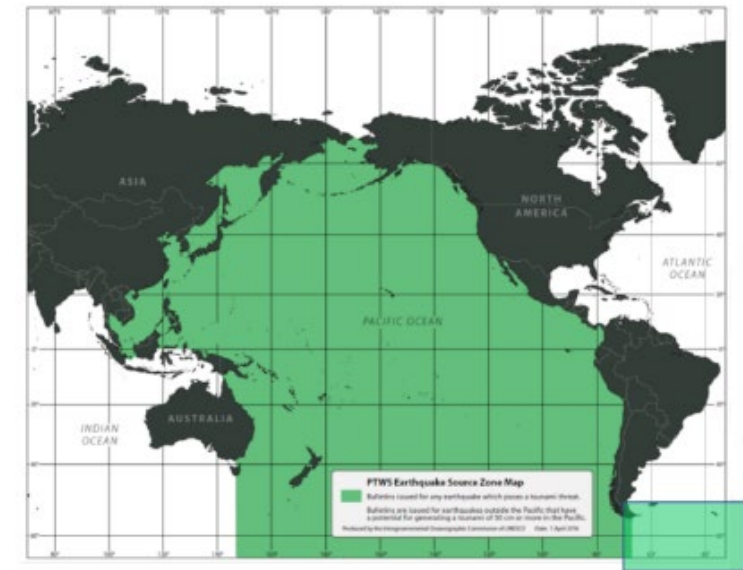


Figure 4. The current PTWS Earthquake Source Zone is indicated in green. The transparent green box at the lower right indicates the approximate proposed addition to the PTWS ESZ that would include the seismic zone associated with the Scotia Arc and South Sandwich Islands.

Adopted decision about the ESZ

The related paragraph to the Recommendation ICG/PTWS-XXX.3 was deleted.

Notes:

- (i) the concerns of ICG/PTWS regarding the seismic activity in the Scotia Arc region as reflected in the Executive Summary of the ICG/PTWS-XXX (IOC/ICG/PTWS-XXX/3s);
- (ii) that tsunami bulletins are issued by the PTWC for the ICG/CARIBE-EWS and ICG/PTWS for earthquakes in the Scotia Arc and its adjacent seismic zones for events fulfilling certain criteria as reflected in the IOC Technical Series, 130, 'Tsunami Watch Operations-Global Service Definition Document';
- (iii) the need for the active engagement of Argentina with the ICG/CARIBE-EWS and ICG/PTWS regarding Argentinian Search and Rescue (SAR) and NAVAREA VI coordination responsibilities;





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THANK YOU 