

PROGRESS REPORT

Kingdom of Tonga

Submitted to the ICG/PTWS-XXXI Meeting

Beijing, China | 22–26 April 2025

1. Introduction

The Kingdom of Tonga continues to prioritize seismic and tsunami hazard monitoring and preparedness as part of its national resilience agenda. Under the framework of the Intergovernmental Coordination Group for the Pacific Tsunami Warning and Mitigation System (ICG/PTWS), the Natural Resources Division (NRD) of the Ministry of Lands and Natural Resources has maintained its efforts in seismic monitoring, tsunami early warning, community awareness, and regional cooperation. This report outlines progress made since the last session (ICG/PTWS-XXX).

2. Seismic Monitoring and Network Operations

- The Tonga Seismic Network (TSN), operated by NRD, currently consists of **five broadband seismic stations**, with data transmitted in real-time to the Pacific Tsunami Warning Center (PTWC) through ORSNET
 - **Key improvement:** Upgrade of the Ha'apai, Vava'u and Tongatapu seismic stations with improved telemetry and power backup systems funded through the PREP project.
 - The **station in Niuatoputapu and Niuafo'ou** to be installed under the PREP project.
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3. Tsunami Warning and Response Systems

- Tonga continues to rely on the PTWC as its Tsunami Service Provider (TSP). Tonga Met Services as the **National Tsunami Warning Center (NTWC)** and coordinates closely with NRD for disseminating alerts. National Disaster Reduction Management Office (NDRMO) in responding and leading the evacuation during an tsunami warning
 - Efforts are underway to **enhance the SOPs** for tsunami alert dissemination with more robust redundancy and communication channels.
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4. Capacity Building and Regional Engagement

- NRD staff participated in:
 - The **PTWS Standard Operating Procedures Workshop** in Fiji (March 2024)
 - The **IOC/PTWS Exercise Pacific Wave 2024**, with national and community-level drills held in Tongatapu and Ha'apai.
 - A local **Tsunami Community Preparedness Workshop** was held in July 2024 in collaboration with UNESCO/IOC and the World Bank.
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5. Public Awareness and Education

- The **Tsunami Ready Program** continues to be rolled out in partnership with UNESCO/IOC. Three communities (Kanokupolu, 'Ohonua, and Pangai) were assessed and two were recognized as Tsunami Ready in 2024.
- Educational outreach programs were conducted in **12 primary and secondary schools**, focusing on tsunami signs, evacuation, and safe zones.

6. Challenges and Priorities

- **Challenges:**
 - Insufficient maintenance budget and technical staff for seismic station upkeep.
 - Limited redundancy in communication tools during multi-hazard events.
 - Ongoing need for sustainable funding for training and network expansion.
- **Priorities for 2025–2026:**
 - To install **seismic station in the northern islands** (Niuatoputapu or Niuafo’ou).
 - Continue expansion of the **Tsunami Ready program** to all outer islands.
 - Improve real-time integration of seismic and sea level data for NTWC use.
 - Strengthen national coordination with emergency services and the media sector.

7. Conclusion

The Kingdom of Tonga remains fully committed to the objectives of the ICG/PTWS and expresses gratitude for the ongoing support from UNESCO/IOC, PTWC, and regional partners. Continued cooperation and resource-sharing are vital for ensuring tsunami early warning effectiveness across Pacific island countries.

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