Eighth Meeting of the PTWS Working Group 2 Task Team on Seismic Data Sharing in the Southwest Pacific
Chair: Rennie Vaiomounga, Tonga
Vice chair: Matthew Mohoi, Papua New Guinea

The meeting noted:

- the key recommendations from the 7th ORSNET Meeting (Annex 1) which include:
    - Develop a capacity development programme to strengthen competency and capability of national tsunami warning centres, seismic and volcano observatories including the training and support provided by ITIC, bilateral partners and peer to peer and mentoring exchanges between members
    - Strengthen the institutional arrangements for early warning including the development of legislation and policies with clearly defined responsibilities between warning centres, observatories, and disaster management
    - Undertake a periodic stocktake of the geohazards observatories in the Pacific re: volcano, seismic and tsunami as part of strengthening MHEWS. This should include the services that support early warning such as communication, staff competencies, arrangements
    - Encourage countries to advocate for the investment in new and emerging technologies such as the Science Monitoring and Reliable Telecommunications (SMART) subsea cable systems and GNSS, to improve early warning
    - Learning from the Hunga Tonga Hunga Ha'apai event, develop guidelines for requesting post event technical assistance to include:
        - the assessment of tsunami warning capability;
        - harmonisation with disaster management protocols for the deployment of goods, personnel and services; and
        - development of National Post-Tsunami Field Survey Guide for PICTs
    - **Develop a web-portal for collaboration & communication solution to secure and storing information which ORSNET members countries can access, upload & download data.**
    - **Explore resources available within ORSNET countries and how assistance can be mobilized within to assist member countries that require assistance**

- the opportunities presented by U.S. Geological Survey National Earthquake Information Center of the benefits of seismic data sharing which included
    - leveraging external data centers to archive and access data and allow for the use of standard web services which can improve seismic station quality control,
    - the potential for research collaboration, and
    - improving the timeliness and accuracy of earthquake characteristic products from global and regional monitoring agencies including the FDSN as the international standard for seismic data sharing and gave examples of seismic analysis tools available through the IRIS DMC, such as MUSTANG quality control tools
- the extension of the seismic network in Australia through the strategic collaboration with states and agencies and commended Geoscience Australia on the technical advice and support to Papua New Guinea to strengthen and extend their national seismic monitoring network and Tonga post HTHH to setup an immediate seismic network, and emphasised that under the data sharing arrangements, data from the new stations are improving earthquake monitoring capability in the region
- the deployment of the twelve dart buoys in the SW Pacific by New Zealand and thanked GNS for re-establishing the buoy network to full functionality closest to the

Tonga Trench, noting that the real-time data is accessible online and feeding into warning centres.

- the research undertaken by GNS/CPPT/GA to improve tsunami early warning in the SW Pacific using Mww and reiterated the dearth of open data in the region constrained the results. We note that limitations of availability in the data currently precludes target forecasting goals targeted for the Decade of Ocean Science.
- JICA's technical assistance programme in the Pacific and the significant number of natural hazard experts deployed and training delivered to Pacific Island Countries
- the opportunity to train and develop the capacity of staffs of seismic observatories in the south west Pacific and requested JICA to work with countries to help bridge the minimum qualification requirements with supplementary accredited training.
- the Terms of Reference for the Task Team on Seismic Data Sharing in the Southwest Pacific and reviewed the objectives to reflect the use of other technologies than seismic in tsunami warning
- the need for continuity in the office bearers and re-elected Rennie Vaiomounga from Tonga as Chair, Mathew Moihoi from Papua New Guinea as Vice Chair for the next intersessional period.

RECOMMENDATION

- Facilitate the open sharing of seismic data by ORSNET members to harness the benefit of seismic data centres and services like the International Federation of Digital Seismograph Networks (FDSN) and help contribute towards the achievement of the Ocean Decade Goals
- Encourage partners and countries to collaborate and share seismic data in order to improve tsunami early warning
- Endorse the 7th ORSNET Meeting Outcomes
- Submit the revisions to the Terms of Reference of the *ICG/PTWS Working Group 2 Task Team Seismic Data Sharing in the Southwest Pacific* to be considered at the 30th UNESCO-IOC ICG/PTWS
- Convene intersessional virtual meetings of the task team by the co-chair to address the challenge of data sharing
- Convene the 9th ICG/PTWS Working Group 2 Task Team Seismic Data Sharing in the Southwest Pacific prior to the 30th UNESCO-IOC ICG/PTWS in September 2023.

Outcomes

7th Meeting of the Oceania Regional Seismic Network

Nuku'alofa, Tonga

17 - 19 October, 2022

The 7th Meeting of the Oceania Regional Seismic Network was convened in Nuku'alofa, Tonga from 17th - 19th October 2022 as a hybrid meeting and was hosted by the Government of Tonga.

In attendance were representatives from ORSNET member countries, Fiji, French Polynesia, New Caledonia, Papua New Guinea, Samoa, Solomon Islands, Tonga and Vanuatu as well as the Intergovernmental Oceanographic Commission of UNESCO (UNESCO/IOC), IOC International Tsunami Information Centre (ITIC) and the Pacific Community (SPC). The meeting was attended by experts from national seismic observatories, national warning centres, national meteorological services, information and communication technology services, tsunami scientific and disaster risk management community.

The objective of the Meeting was to strengthen ORSNET coordination, increase awareness and understanding of seismic and tsunami early warning and preparedness activities being undertaken in Pacific Island Countries and Territories and map a sustainability strategy for ORSNET.

The Meeting,

1. Reaffirmed the intent of ORSNET to share expertise, experience, resources and data and the alignment of ORSNET member priorities to that of their respective national government
2. Urged members to progress the review of and finalise the Memorandum of Agreement by the 8th ORSNET Meeting prior to the 30th UNESCO IOC/ICG PTWS in Tonga in September 2023
3. Encouraged peer to peer sharing of best practice and lessons learnt, in particular, Vanuatu's methodology for local tsunami-genic earthquakes, Samoa's MHEW Policy, Tonga's Meteorological Act, Papua New Guinea's use of raspberry shakes
4. Urged members to consider integration of ORSNET products into their national MHEWS
5. Acknowledged its appreciation of the continuous support by the Institute of Research and Development (New Caledonia) in maintaining the regional data server for ORSNET and noted the backup server to be hosted by Vanuatu by June 2023
6. Recommended a regional programme of support to ORSNET which should include coordination and resourcing of activities building on the support extended by SPC to members

7. Noted the interest of ORSNET members in French Polynesia's data and expertise and invited them to consider becoming a member of ORSNET.

1. Reiterated the need for national priorities to be included in discussions and partnerships with international and regional partners

Agree and recommend:

2. Greater advocacy is needed at national and regional level to raise the profile of ORSNET to facilitate implementation and resourcing from national governments and partners

3. Develop the ORSNET Strategic and Implementation Plan by July 2023

4. Expand the objectives of ORSNET to include volcanic hazards

5. Enhance the information and dissemination interface to allow operational centres to quickly access and use ORSNET products.

6. Develop SOP and protocols for the deployment of the 5 mobile seismic stations

7. Develop a strategy to use common instrumentation, equipment and systems including a resourcing plan for financing, equipment standardisation and maintenance, and staffing

8. Develop a capacity development programme to strengthen competency and capability of national tsunami warning centres, seismic and volcano observatories including the training and support provided by ITIC, bilateral partners and peer to peer and mentoring exchanges between members

9. Strengthen the institutional arrangements for early warning including the development of legislation and policies with clearly defined responsibilities between warning centres, observatories, and disaster management

10. Review, exercise and strengthen tsunami warning and response Standard Operating Procedures (SOP), in particular for local earthquakes and tsunamis

11. Explore the use of a World Meteorological Organisation (WMO) dissemination method through the Global Telecommunication System (GTS) and Common Alert Protocol (CAP) for tsunami alerts

12. Undertake a periodic stocktake of the geohazards observatories in the Pacific re: volcano, seismic and tsunami as part of strengthening MHEWS. This should include the services that support early warning such as communication, staff competencies, arrangements

13. Encourage countries to advocate for the investment in new and emerging technologies such as the Science Monitoring And Reliable Telecommunications (SMART) subsea cable systems and GNSS, to improve early warning

14. Commit to the continued education of communities and people of local geohazard threat, preparedness and evacuation procedures

15. Learning from the Hunga Tonga Hunga Ha'apai event, develop guidelines for requesting post event technical assistance to include:

    - the assessment of tsunami warning capability;

- harmonisation with disaster management protocols for the deployment of goods, personnel and services; and
- development of National Post-Tsunami Field Survey Guide for PICTs

16. Note the need to strengthen volcanic hazard monitoring and consider data sharing of emerging technologies such as infrasound