

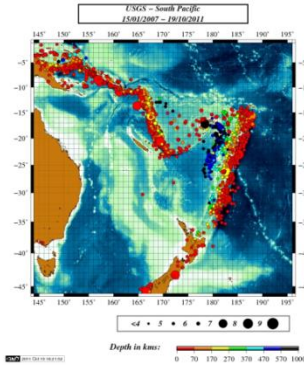


# ORSNET concept note



## Oceania Regional Seismic Network for Earthquake and Tsunami mitigation

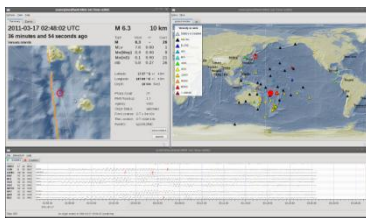
### 1. One of the most active seismic region; the reasons to build an Oceania seismic regional network



30% of global seismicity is observed in the South West Pacific Region (Lebellegard et al., 2007) when less than 3% of seismic stations are available for real time monitoring within this area (repartition based on GEVN network). The reasons to establish an Oceania seismic regional network are:

1. To better and more quickly manage Tsunami Alerts for local and regional countries (more stations means better/faster earthquake detection);
2. Supporting National TWS with a Regional Alert System;
3. Sharing of the resources (financial, technical and human) for mutual support;
4. Having a better standing among worldwide and regional institutes;
5. Training local engineers and technicians to improve the self resilience of these state members.

### 2. Feasibility context, the example of the Vanuatu-New Caledonia Regional Seismic Network



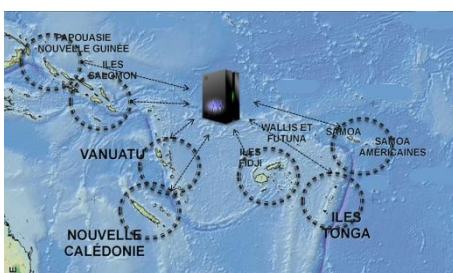
This network, developed between IRD (Noumea) and the Vanuatu Geohazards Observatory (Vanuatu) helped both countries to improve Tsunami and Earthquake mitigation. This network allows both observatories to manage:

- Efficient regional automatic detection (using a standard software system used by most of TWS around the globe);
- An automatic alert system (i.e. email and SMS dissemination to all national disasters risk reduction stakeholders);
- A real merged and integrated regional network with a common system shared and mutualized.

### 3. A regional collaboration approved and supported

The Pacific Tsunami Warning System (PTWS) of UNESCO-IOC is leading a global effort to establish ocean-based tsunami warning systems as part of an overall multi-hazard disaster reduction strategy. The IOC Tsunami Unit works with Member States to build sustainable tsunami early warning systems. The ORSNET countries are all state members of the IOC/ICG-PTWS Working Group for the South West Pacific. Following the recommendations of the IOC/PTWS Task Team on "Seismic Data Sharing in the South-west Pacific" (2009 in Vanuatu, 2011 in New Zealand) and the recent meeting of the International Federation of Digital Seismograph Networks (FDSN) community on Infrastructure for Seismology during the XXV International Federation of Digital seismograph Networks (IUGG) General assembly (July 2011 in Australia) these members confirmed and approved the support of data sharing amongst Pacific seismic stations to better understand regional seismic activity and hazard.

### 4. The perspective of the ORSNET Network



Official representatives from Papua New Guinea, Solomons Islands, Vanuatu, New Caledonia, Fiji, Tonga and Samoa agreed to share their Seismic Network for the purpose of regional Natural Disasters Mitigation (earthquake & tsunami).

Vanuatu-New Caledonia state members have designed, with the support of the Government of New Caledonia, a unified regional seismic network with encouraging results. This technical solution could be extended and deployed amongst all the ORSNET state members at a very reasonable cost.