

Seismic Observations of Tonga

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Local Seismic Network and Instruments

The National Seismic Network's Data Processing Center of the Ministry of Lands, Survey, Natural Resources and Environment of Government of the Kingdom of Tonga, is located at the Geology Section, Vaololoa. The Center was officially opened in 2003. The facilities and seismic equipment and office premises was donated by the Government of Japan under the Japan International Cooperation Agencies (JICA).

We have deployed five (5) seismic stations on remote sites including two broad-bands stations in Vava'u and Tongatapu. The four stations located further in the outer islands, including Vava'u, Ha'apai, Niuatoputapu and Niufo'ou and the other one in Tongatapu. Those 3 stations were properly upgraded last year and are working well at this time, including Tongatapu, Vava'u and Ha'apai. Those two stations located in Niuatoputapu and Niufo'ou are not working at this time. Now, we are looking forward to re-building the two new sheds and also upgrading those equipments in these 2 islands donated by the Government of Japan under JICA Tonga.(Fig.1)

Remote sites:

1. Niuatoputapu, Niufo'ou, Ha'apai Station's instruments. a. 1 Hz sensor

- b. Operating by solar power system
- c. 24-bit digitizer
- d. VSAT dish (2.4m)
- e. V-SAT terminal

2. Vava'u station's instruments a. broadband sensor

- b. operating by electric power system
- c. 24-bit digitizer
- d. UPS
- e. VSAT dish (2.4m), V-SAT terminal

3. Tongatapu station's instrument a. broadband sensor

- b. operating by electric system
- c. 24-bit digitizer
- d. UPS

4. Central Monitoring Network's instruments a. VSAT dish (4.6m)

- b. VSAT central hub
- c. Network management Pc
- d. UPS

*Some of the instruments provided by the Nanometric, form Canada.

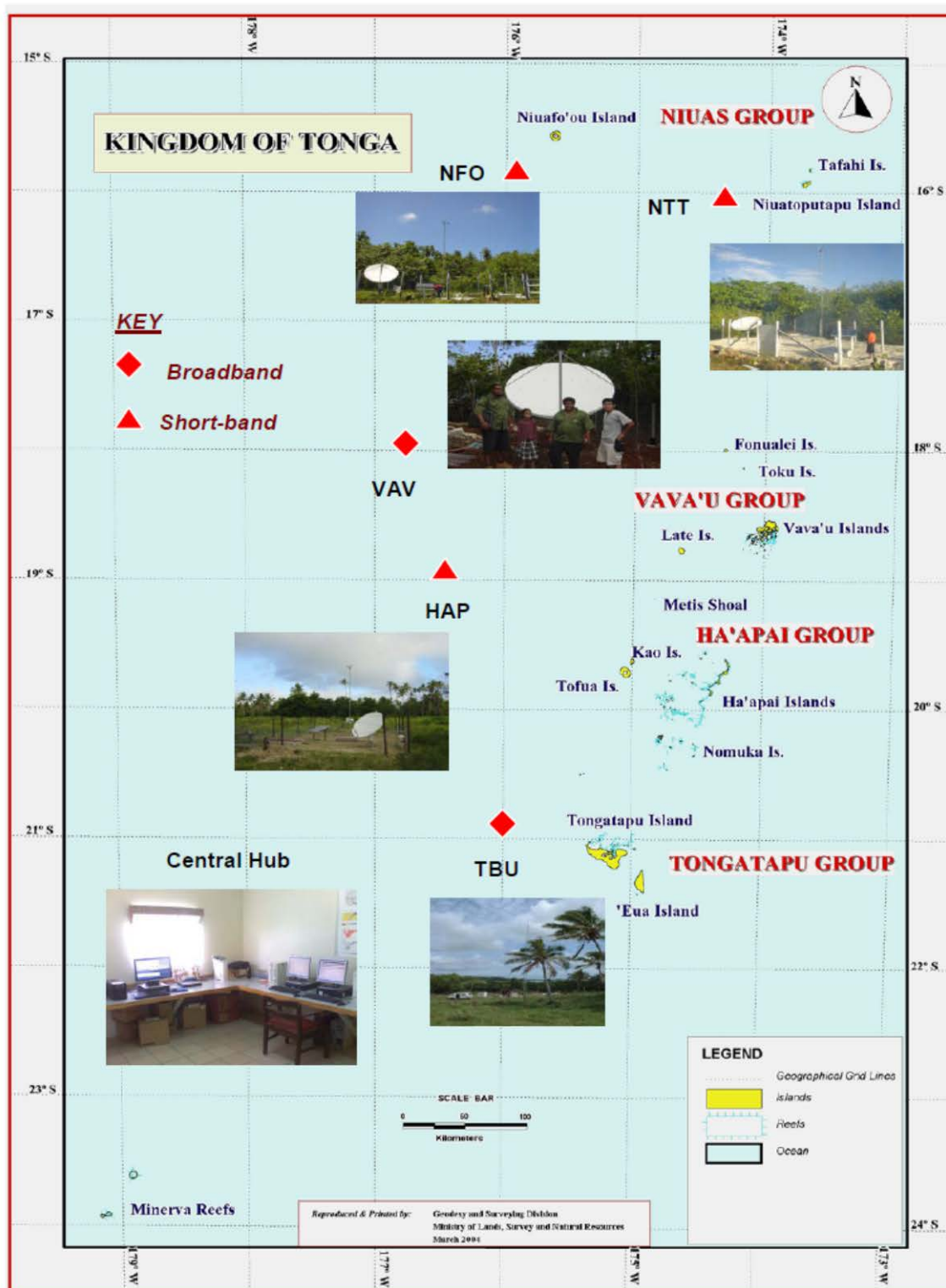


Figure 1. National Seismic Network.

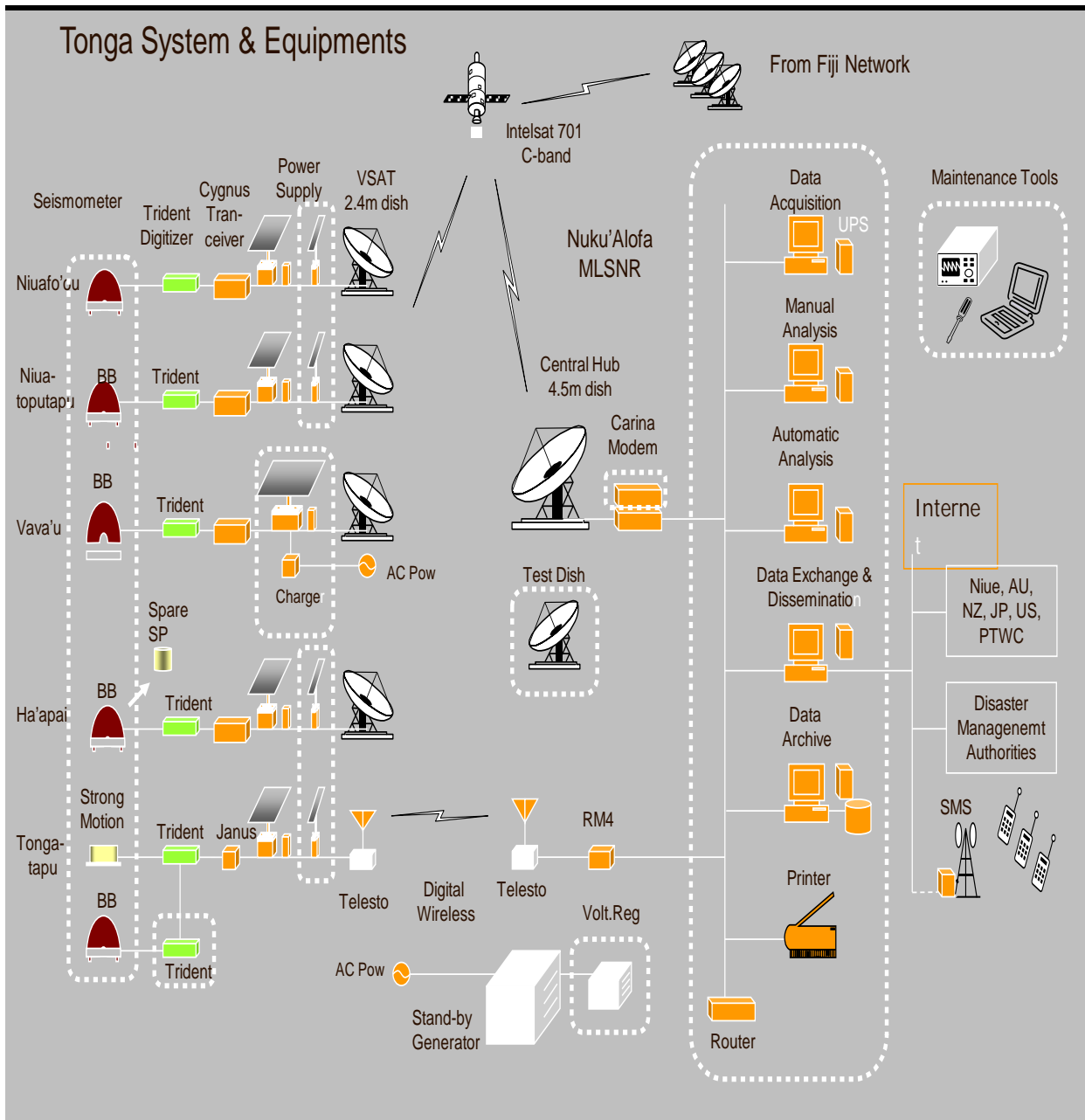


Figure 2. Tonga System & Equipment.

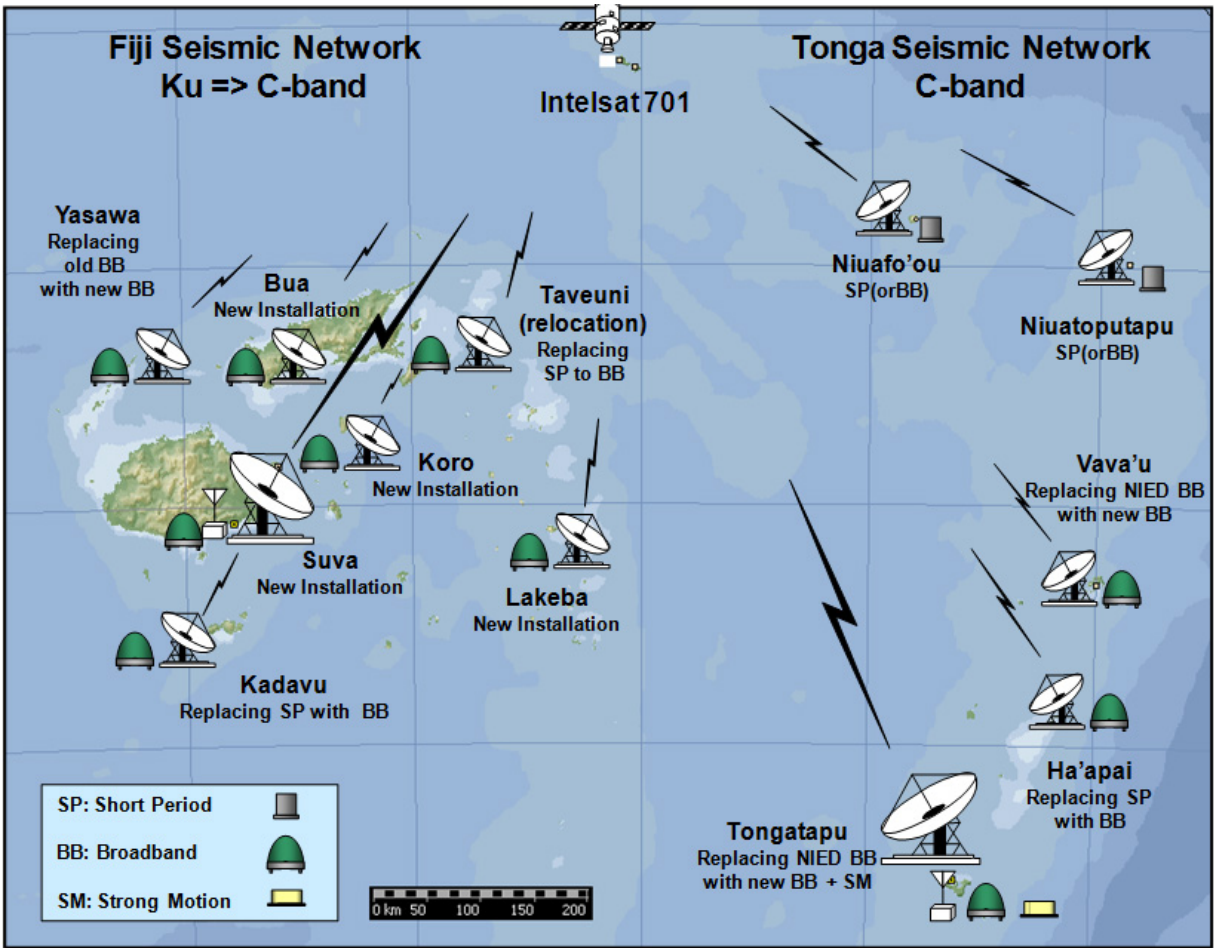


Figure 3. Tonga & Fiji Seismic Network.

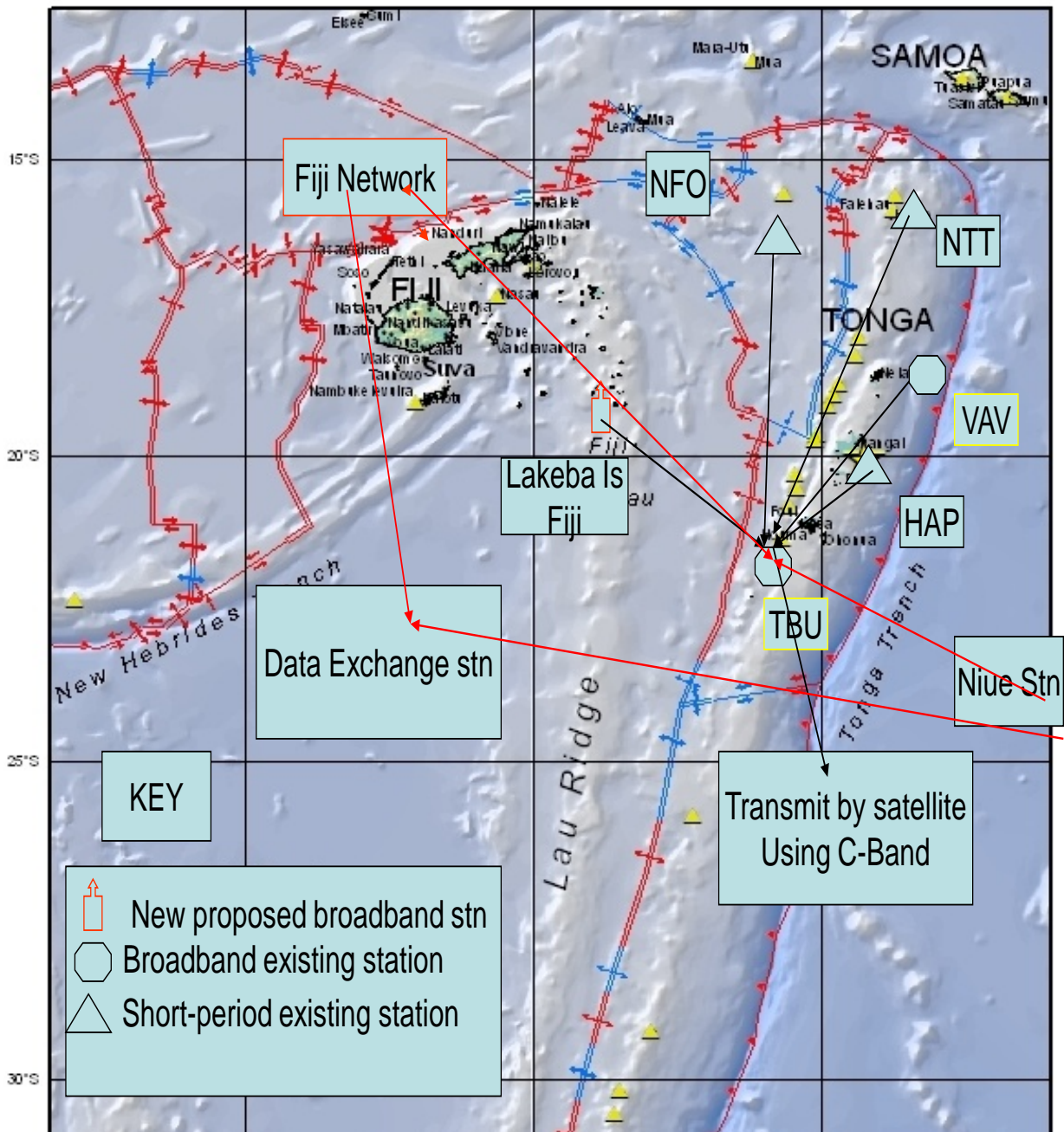


Figure 4. Tonga & Fiji Network Seismic Station.