

GEOFON Status Report for the FDSN Meeting Santiago de Chile October 2005

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Network Operations

The permanent GEOFON network presently consists of 50 stations (Fig. 1). Two new joint stations with ROA/UCM (CEU, PVLZ) became operational in the last year on Spanish territories in Northern Africa. The first station of the new tsunami warning sub network (see below) was installed on Nias Island in Indonesia. Two stations of the Greek sub network (SKOR and APEZ) and one in Greenland (SFJ) were moved to new locations (KARN, SIVA, SFJD). SIVA and the joint IU/GE station SFJD also obtained real-time telemetry. A complete GE station table can be found under www.gfz-potsdam.de/geofon/new/netabs/ge.html. In addition to its own permanent network, GEOFON supports presently 25 other mostly national networks within its partnership initiative.

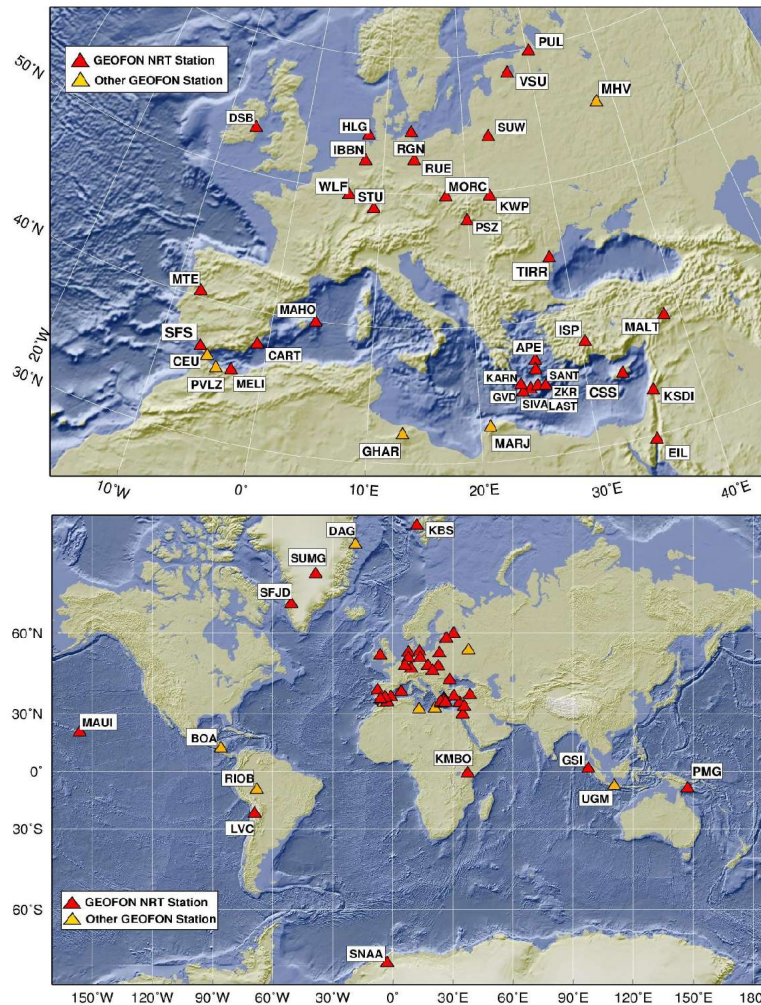


Fig. 1: GEOFON station maps as of September 30, 2005.

The GEOFON Earthquake Monitoring System

After the Sumatra quake, the GEVN (GEOFON Extended Virtual Network) as basis for GEOFON's earthquake monitoring system has been substantially enlarged to presently about 220 stations worldwide. Specially South East Asia became an important subject of more intensive surveillance due to requirements from national authorities and from the public. With a newly developed auto-location program as part of the SeisComP package, the reliability and precision of the automatic locations could remarkably be increased.

GEOFON and the Indian Ocean Tsunami Warning System

Also after the Tsunami tragedy, the German government decided to fund a large project for setting up a tsunami warning system for the Indian Ocean under the lead of GFZ and with Indonesia as the main target area. GEOFON became responsible for the seismic part and plans to install up to 40 new stations in the Indian Ocean area, most of these in Indonesia. The locations of 22 planned stations in Indonesia are shown in Fig. 2 as part of a joint international network (with BMG/Indonesia, NIED/Japan, CEA/China and CTBTO). A first new GEOFON station was already installed (see above) and several more will follow until the end of this year. In addition, a preliminary data processing system was already installed at BMG in Jakarta capable to issue automatic earthquake alerts for South East Asia within less than 10 minutes after origin. Presently this system is mainly based on public real-time data from IRIS stations as well as those from Malaysia and Australia imported via Internet using SeedLink protocol. But with time the number of stations within Indonesia connected by VSAT will grow quickly.

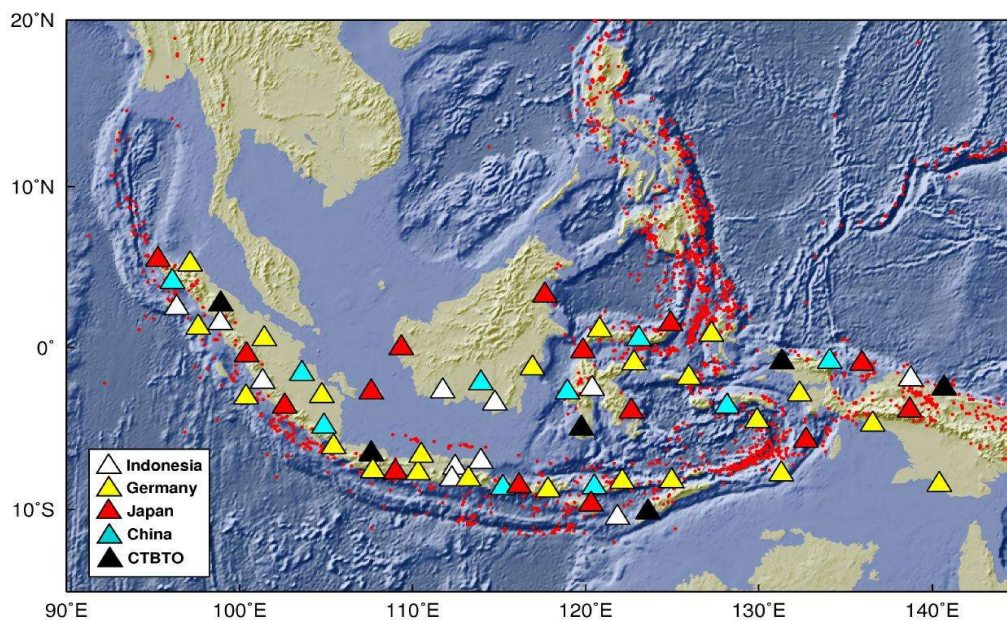


Fig. 2: Planned international broadband seismic network for Indonesia as part of the future Tsunami Early Warning System.

In addition to Indonesia, a collaboration with Australia and South Africa for joint new stations and station upgrades is agreed on. With other Indian Ocean countries talks have started within the framework of UNESCO/IOC's IOTWS initiative, where Germany and GEOFON in specific will play an active role.