FDSN Network Report – ISTP NETWORK

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Background

Through the Earthquake Engineering and Seismology Group (NESS) of the Institute for Structure Engineering, Territory and Building Technologies (ICIST), Instituto Superior Tecnico, Lisbon (IST) is concerned with studies of seismicity, seismic risk and seismotectonics, with emphasis on mainland Portugal and the Azores. In addition, the research goals of NESS include experimental studies of the seismic behaviour of concrete and masonry structures, base isolation systems, etc. Within the scope of a cooperation programme with the authorities of the Republic of Cape Verde, ICIST is also actively involved in volcanic monitoring and volcanic risk mitigation (VIGIL Network).

VIGIL Network, Cape Verde - Station FPPC

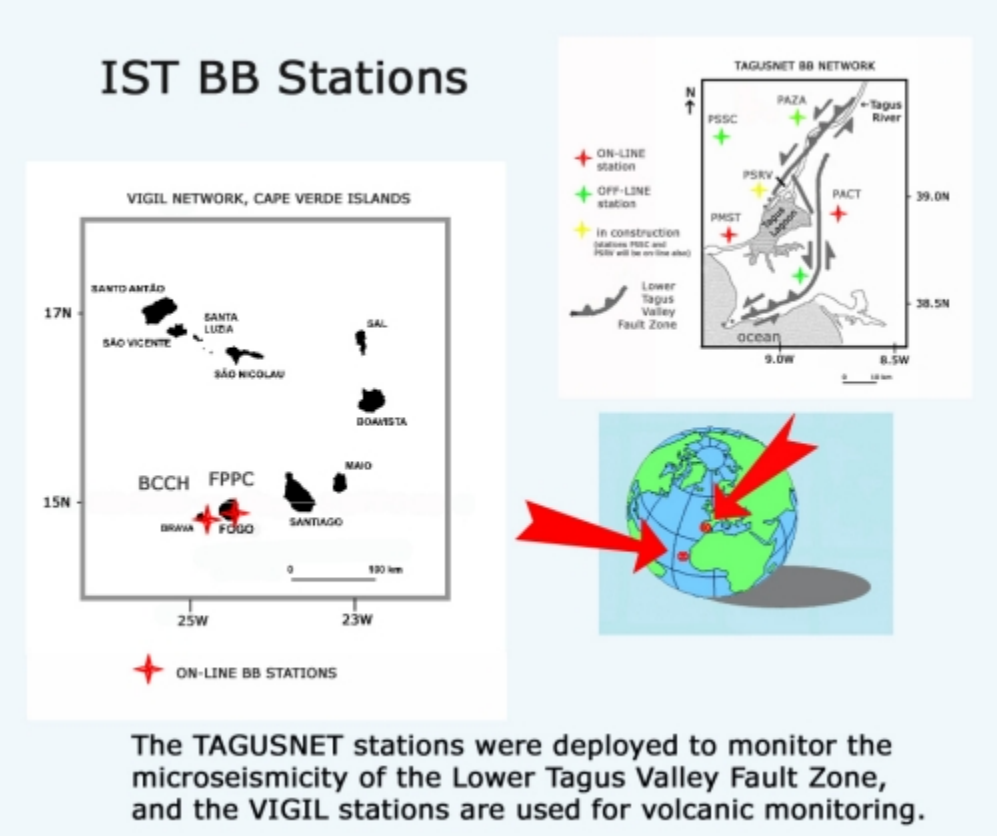
Outside view of station FPPC, in the caldera of Fogo Volcano.

Entrance to the lava tunnel where the sensor is located.

CMG-40T sensor with thermal insulation, inside the lava tunnel.

Recent developments

In 2000, ICIST started the deployment of the TAGUSNET network of permanent broadband stations in the Lower Tagus Valley Region around the Portuguese capital, Lisbon. The main purpose of this deployment is to investigate the Lower Tagus Valley fault, towards the refinement of seismic hazard assessment for the Greater Lisbon area (Vilanova and Fonseca, 2004). At present five stations are in operation, two of which transmit in real time to the central lab at ICIST, and three are off-line. The two on-line stations, PMST and PACT, are equipped with CMG-40T sensors and CMG DM-24 digitizers. The data are recorded in a pc with SCREAM!®, for local analysis, and transmitted in real-time to the ORFEUS Data Center by a linux server running a SEEDlink plug-in for format conversion and SeisComP. We are endebted to Reinoud Sleeman from ORFEUS for the adaptation and implementation of the latter software. Additional data requests can be sent to Joao Fonseca (jfonseca@ist.utl.pt).



Future developments

Project NAVIGATORS (**N**etwork of **A**ccelerographs and **V**ery-Broad-Band **I**nstruments for the **G**ibraltar **A**zores **T**ransform and **O**nshore **R**elated **S**tructures) was submitted to the Portuguese Ministry for Science in 2002 by ICIST jointly with colleagues from the Azores and Oporto University, and was recently approved. It aims at the deployment of VBB instruments in the Azores, Madera, NW Africa and Mainland Portugal, and will allow a natural extension of VEBSN towards the Atlantic region over the next few years. Among its goals, this project addresses the possible role of fault interaction in the activation of intraplate faults by the large earthquakes in the plate boundary between Africa and Iberia (Vilanova et al., 2003). To improve coverage in this important seismogenic region, future plans at ICIST contemplate the operation of an OBS BB station off SW Iberia (this goal was already included in the FP6 NERIES proposal).

IST is a member of ORFEUS, IRIS and the FDSN, and the seismologists at ICIST are strongly committed to free real-time dissemination of seismological data to the scientific community.

Acknowledgements

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(ORFEUS) is working closely with us towards solving the technical difficulties of distributing the broadband data from Cape Verde in SEED format. We are indebted to Pete Davis (UCSD) for letting us share his dedicated line out of Cape Verde.

References

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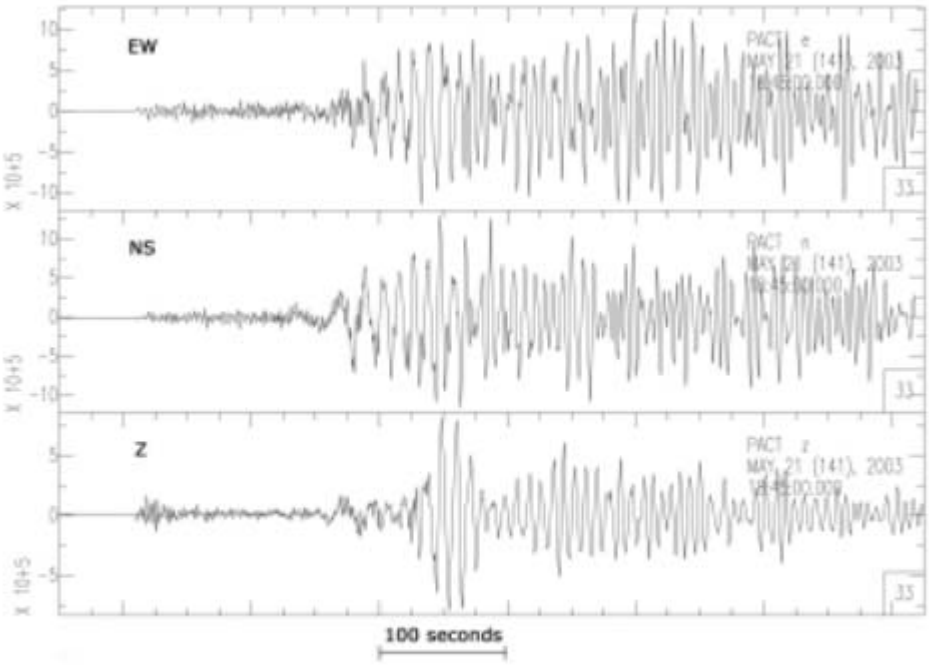

M6.8 Algerian Earthquake of May 21 2003
recorded at BB station PACT, near Lisbon