



## **EGELADOS: a temporary amphibian broadband seismic network in the southern Aegean**

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Recent geodynamics of the Hellenic Subduction Zone are characterized by high seismicity, the potential of generating large earthquakes with magnitudes up to 8, relative plate motions of about 4.5 cm/a, and active volcanism. A temporary amphibian broadband seismic network has been installed in the southern Aegean to (1) image the entire Hellenic Subduction zone from the Peloponnese in the west to western Turkey in the east down to about 250 km depth including the Aegean mantle wedge and the volcanic arc and (2) to observe and analyse the spatio-temporal distribution of seismicity in the magnitude range of about 2.5 to 6. Special emphasis will be put on the relation between rheological and petrological models of a subduction zone and geophysical observables in order to gain a better understanding of the underlying geodynamic processes along the plate contact, in the fore and island arcs. The network consisting of 80 broadband stations is presented. It encompasses 45 Guralp 60 s seismometers, 4 STS-2 seismometers and 7 1Hz-Mark seismometers at land sites. In addition, the network has been designed to incorporate the 7 permanent broadband seismographs of the GEOFON network and 1 MEDNET station. Typical station distances range between 50 and 70 km. The land sites were occupied in October 2005 and will be gradually dismantled between March and May 2007. On-shore stations are supplemented by 24 ocean-bottom seismographs equipped with Guralp 60s seismometers. The ocean-bottom seismographs have been deployed in May 2006 by the German research vessel Poseidon and will be recovered in March 2007 by the French research vessel Le Suroit. The network is well suited for localization of seismicity, as well as for source parameter, tomographic, and receiver function studies. The EGELADOS project is part of the Collaborative Research Centre 526 at the Ruhr-University Bochum funded by the German Science Foundation. The EGELADOS working group consists of collabora-

tors at National Observatory Athens, Technical University Chania, University Thessaloniki (Greece), Istanbul Technical University (Turkey), University Hamburg, GeoForschungszentrum Potsdam, and Ruhr-University Bochum (Germany). Currently, after two visits of the land sites in 2006 recordings for about one year are available. First data examples and the signal processing scheme are presented. The recording capabilities of the onshore network are demonstrated using a magnitude 6.7 event and its fore- and aftershocks that occurred in January 2006 in the region of the network.