



Seismological studies within the frame of the EU project NEAREST

NEAREST Working Group
(Wolfram.Geissler@awi.de)

NEAREST (Integrated observation from NEAR shore sources of Tsunamis: towards an early warning system) is a EU funded project (GOCE, contract n. 037110), which aims at the identification and characterization of potential near-shore sources of tsunamis in the Gulf of Cadiz. This area is well known from the catastrophic earthquake and tsunami occurred November 1st, 1755.

Within the project a quasi-real-time observation of several crucial parameters is realized by the GEOSTAR multi-parameter deep-sea observatory. Further activities include the installation of a temporary network of 24 broadband ocean-bottom seismometers (OBS), active seismic studies, detailed bathymetric, and geological investigations. Numerical modelling is done to study the effect of inundation during a potential tsunami for several localities along the eastern Atlantic coast. All the results will be finally incorporated into a feasibility study for a regional early warning system.

One of the project's work packages deals with monitoring of seismic activity in the Gulf of Cadiz area. For this purpose 24 broadband OBS from the German DEPAS instrument pool were deployed in August 2007 by RV Urania. Local and teleseismic events will be recorded for a period of about 11 to 12 months. Together with the dense onshore seismic networks the temporary OBS network will allow to locate and characterize small seismic events more precisely than it can be done only with onshore stations. Additionally, the data will be used to investigate the lithospheric structure using passive seismic methods.