MARsite NEWSLETTER

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NEWS & ANNOUNCEMENTS

MARsite videos interviews

(Nurcan Meral Özel, John Douglas, Louis Geli, Paolo Favali) are available at: *http://marsite.eu/?p=1724*

NERA Annual Meeting 2013

The NERA Annual Meeting and General Assembly 2013 will take place at BGS, in Keyworth (Nottingham), UK, on November 11-13, 2013.

REAKT Second Annual Meeting

The second annual meeting of the REAKT project will be held in Zurich, Switzerland, on October 23-25, 2013.

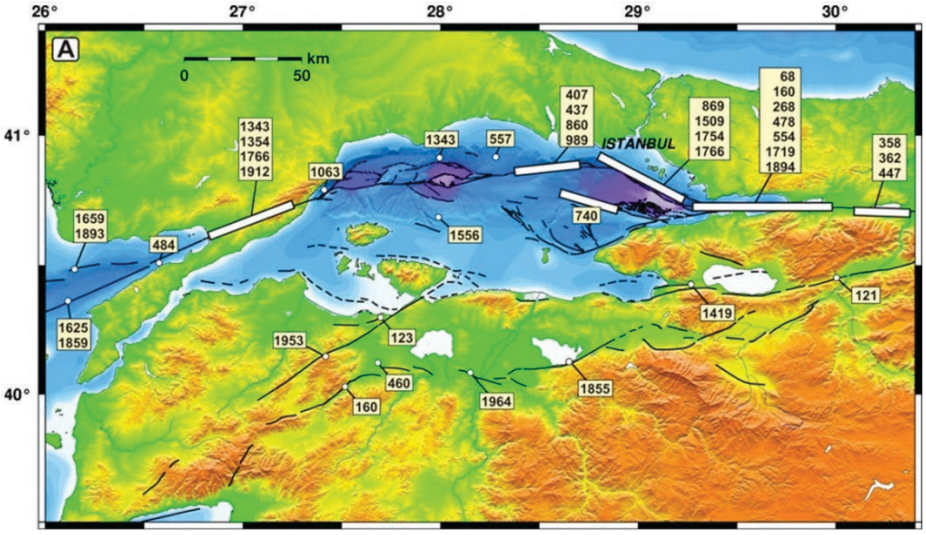
Links to other EU projects

- REAKT
http://www.reaktproject.eu
- ESFRI
http://cordis.europa.eu/esfri/roadmap.htm
- EPOS
http://www.epos-eu.org
- EMSO
http://www.emso-eu.org/

NEW DIRECTIONS IN SEISMIC HAZARD ASSESSMENT THROUGH FOCUSED EARTH OBSERVATION IN THE MARMARA SUPERSITE

Nurcan Meral Ozel
KOERI (Kandili Observatory and Earthquake Research Insititute - Bogazici Universitesi)

WP1



The MARsite project proposes to identify the Marmara region as a 'Supersite' within European initiatives in order to compile on-shore, off-shore and space-based observations, comprehensive geophysical monitoring, improved hazard and risk assessments encompassed in an integrated set of activities. The project aims to coordinate research groups with different scientific skills (from seismology to engineering to gas geochemistry) in a comprehensive monitoring activity developed both in the Marmara Sea and in the surrounding areas. MARsite is coordinated by the Bogaziçi University, Kandilli Observatory and the Earthquake Research Institute (KOERI),Turkey. The 11 Work Packages deal with Management, Research and Development, Data Integration and Dissemination (WP11) activities.

The objectives of the project are to achieve long-term hazard monitoring and evaluation by in-situ monitoring of earthquakes, tsunamis, landslides, displacements, chemical-radioactive emission and other physical variables and by the use of space-based techniques; to improve existing earthquake early-warning and rapid-response systems; to improve ground shaking and displacement modelling by development of source models; to establish novel borehole observation system in western Marmara; to interact with end users and contribute to the improvement of existing policies and programs on preparedness, risk mitigation and emergency management; and to build on past and on-going European projects by including their contributions to create a better understanding of geo-hazards.

MONITORING SEISMICITY AND FLUID ACTIVITY NEAR THE FAULT USING EXISTING CABLED AND AUTONOMOUS MULTIPARAMETER SEAFLOOR INSTRUMENTATION

WP8

Louis Geli
IFREMER (French Research Institute for Marine Studies)

The objective of WP8 is to implement an integrated approach based on multiparameter seafloor observatories, to continuously monitor the micro-seismicity along with the fluid expulsion activity within the submerged fault zone. KOERI presently operates a network of 5 cabled, permanent broad-band stations. Additional data with autonomous seafloor instrumentation will be collected and analyzed jointly with the permanent network. Innovative methods for multi-parameter data interpretation will be developed:
- to detect low magnitude earthquakes and improve the characterization of the near-fault micro-seismicity;
- to search for seismic tremors;
- to detect gas-bursts related events;
- to establish correlations between fluids and seismicity.

The next generation of seafloor observatories for geo-hazards will also be prepared within WP8.

MARSITE'S LINKS TO OTHER EU INITIATIVES

WP10

John Douglas
BRGM (Bureau de Recherches Géologiques et Minières)

MARsite is one of three Supersite projects recently funded by the European Commission (EC), the other two being the Mediterranean Supersite Volcanoes (MED-SUV) and the Icelandic volcanoes (FUTUREVOLC) projects. Also the project's fields of interest (e.g. seismic risk and data dissemination) and the geographical region studied (the Marmara Sea) overlap with many on-going projects, e.g. the EC-funded REAKT project, and large-scale initiatives, e.g. European environmental infrastructures of the ESFRI roadmap, such as EPOS (European Plate Observing System) and EMSO (European Multidisciplinary Seafloor Observatory), of which the Marmara Sea is a node. Consequently, it is important that links are made and maintained to these initiatives so that the work undertaken in MARsite does not repeat work done elsewhere nor is it opposed to developments in other projects. Synergies to these other projects are currently being sought. As an example, various members of the MARsite consortium actively participated in the European Supersites Coordination Workshop organized by the EC on 11th and 12th June 2013.

LONG TERM CONTINUOUS GEODETIC MONITORING OF CRUSTAL DEFORMATION

WP3

Rahsan Cakmak Kosma
TUBITAK MRC

We will investigate long-term continuous monitoring of the crustal deformation by exploiting the existing geodetic crustal deformation monitoring systems (like Marmara Continuous GPS Network and the complementary GPS surveys) in WP3 named Long-term Continuous Geodetic Monitoring of Crustal Deformation. Additionally, we propose to process SAR data acquired by the old and new generation radar sensors, to compute the time series of the occurred and on-going surface displacements. The integration of the GPS and InSAR time series with the contribution of seismological data, will allow us to map the dense spatial-temporal evolution of the present-day crustal deformation phenomena affecting the MARsite area. We will also update the algorithms for the future ESA GMES Sentinel-1 A and B satellites and develop new approaches to reduce the atmospheric in-homogeneities at the time of acquisition of the different SAR images. Finally all efforts will be combined to better determine the 4D deformations with the integration of the GPS and InSAR, with the contribution of seismological data, in order to understand earthquake cycle processes and to constrain the seismic hazard models in the Marmara region.