



EMCOL (Eastern Mediterranean Centre for Oceanography and Limnology): A new European research centre for natural hazards and environmental change studies

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Recently a new 3-year FP6-2004-ACC-SSA-2 project (Contract No. 17490) has been initiated at İstanbul Technical University with the following main objectives:

1. To establish state-of-the-art laboratory and field infrastructure that will be used extensively in marine and lake studies, including *natural hazards and environmental changes*, so that the output will be comparable with that from European, American, and other worldwide centres of excellence,
2. To develop highly qualified first- and second-generation researchers in interdisciplinary marine and lake studies at ITU, covering a wide range the fields such as underwater earthquake geology, tsunamis, submarine land slides, floods, climate change and environmental pollution, and
3. To enhance interactions in projects and idea exchanges between ITU researchers and those in the EU countries.

EMCOL will serve the needs of researchers working in the Eastern Mediterranean regions in the areas of *Natural hazards and environmental change*, involving imaging of sea and lake sediments and analyzing important proxies in sediment cores. With the EMCOL facilities it will be possible to map active faults and submarine landslides,

determine high resolution records of past earthquakes and tsunamis that are essential for earthquake and tsunami risk assessment. The same facilities can also be used for determination of the high resolution sediment records of sea-level, climate and ecological changes.

The EMCOL's laboratories and field facilities include:

1. Core Analyses Laboratory housing: (i) ITRAX Core scanner for sub-mm-scale resolution XRF analyses, digital X-ray radiography and color scanning of cores, (ii) MSCL core logger with magnetic susceptibility, p-wave and electrical resistivity sensors.
2. Sedimentology Laboratory, with laser grain size analyzer and mechanical sifter, smear slide preparation and optical microscopy.
3. Geochemistry Laboratory with coulometer for organic and inorganic carbon analyses, fossil separation for isotope analyses.
4. Wet Core laboratory for sample description, digital photography, geomechanical tests, discrete sampling, and wet-sieving for microfossils.
5. Cold Core Storage Room for storing and archiving sediment cores at 4°C.
6. Field Equipment Storage facility with sub-bottom profiler (chirp-type), platform with Uwitec tripod for lake coring and sediment sampling, sediment traps for lakes (20), 5 m boat with engine, various corers, such as gravity corer, Kajak corer, Livingstone piston corer, Ekmann dredge, equipment for shoreline drilling and submersible vibracorer.

In addition to the EMCOL facilities, Sample Preparation, GIS, Remote Sensing, Tree Ring laboratories of the Eurasian Institute of Earth Sciences will be available for research projects.

It is planned that the EMCOL field and laboratory facilities will be available to research groups for project work by the beginning of the year 2007. You can follow the developments on the EMCOL the web-site (<http://www.mines.itu.edu.tr/emcol>), concerning the laboratories, equipment and training courses and employment opportunities for young scientists.