



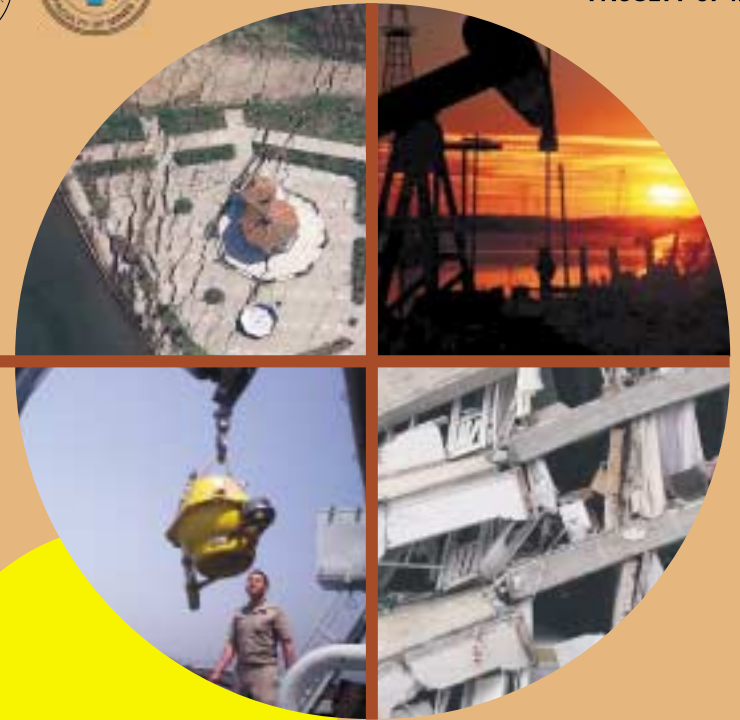
Photo: Halcan Öge

Mekegölü, near Karapınar town of Konya sitting like a hat with a diameter of 1.5 km, is an excellent example of a maar, produced by Late Quaternary volcanism in Central Anatolia. The lake is located c. 110 km southeast of Konya, is characterized by a central cinder cone and has evolved in three successive stages: pre-volcanic lacustrine sedimentation in the 'Konya Lake' which extended across the area; formation of the actual crater following explosive eruption; and growth of the cinder cone within the crater and flooding to form the maar. Seven parasitic cones form small islands within the lake.

1st INTERNATIONAL SYMPOSIUM of the FACULTY of MINES (ITU) on EARTH SCIENCES and ENGINEERING



SCIENTIFIC ACTIVITIES 2002
İSTANBUL TECHNICAL UNIVERSITY
FACULTY OF MINES

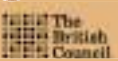


ABSTRACTS

1st INTERNATIONAL SYMPOSIUM
of the FACULTY of MINES (ITU)
on EARTH SCIENCES
and ENGINEERING



MINISTRY
OF
TOURISM



SERHAM
KALE MADEN



16 - 18 May 2002
İstanbul Technical University (İTÜ)
Süleyman Demirel Cultural Centre

SPONSORS

ISTANBUL TECHNICAL UNIVERSITY
1773

ATLAS

MINISTRY OF TOURISM

ETI Holding

AFEL

GEMINI

NORMANDY

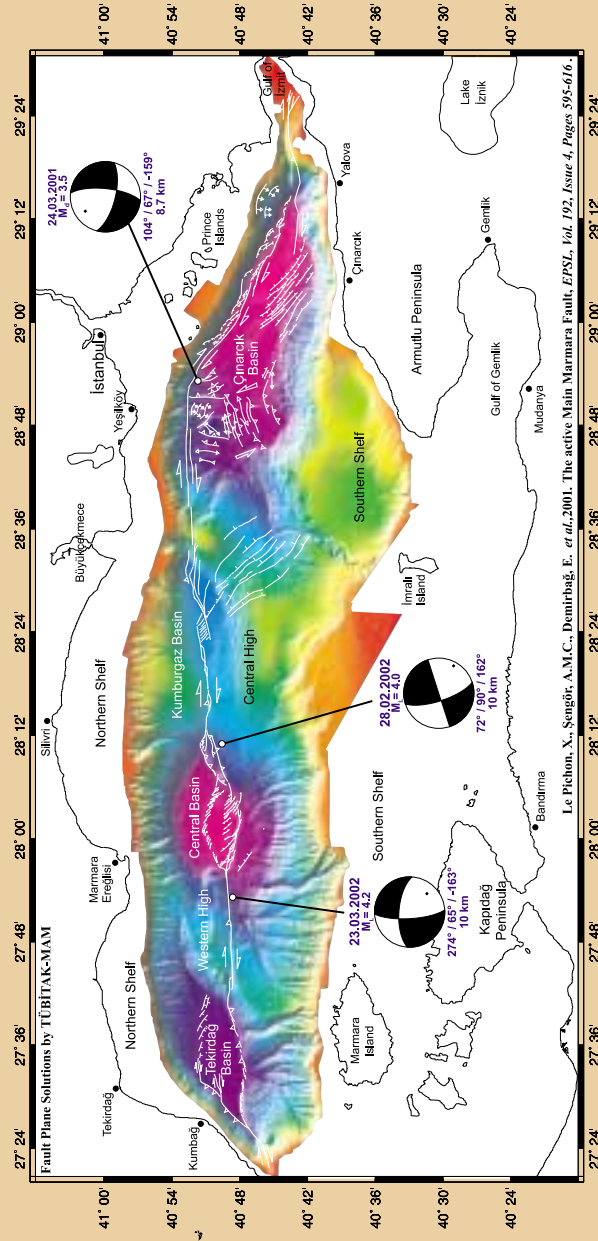
ISKI

The British Council

EFES Pilsen

SERHAM

KALE MADEN



Sea Bottom Morphological Image and Active Main Fault System of the Sea of Marmara

Turkish Scientific and Technological Research Council (TÜBİTAK) put major effort to obtain a better estimation of the earthquake risk from the active fault system in the Sea of Marmara after the Mw = 7.4 1999.8.17 Gölcük-Kocaeli earthquake. For this purpose Turkish and French scientists performed a detailed bathymetric data collection allowing precise mapping with a 4 m contouring interval and a scale of 1/50000 by means of swath bathymetry equipment EM 300 installed on board Ifremer /v Le Suroit. This cruise was part of a Turkish-French bilateral cooperation program coordinated by TÜBİTAK and INSU and it was cofinanced by the ECHO division of the European Community. The map reveals significant details in the submarine morphology that appears to be controlled by erosional processes, gravitational collapses and active faults. (i) Erosional processes; numerous canyons dissecting the steepest slopes and some of the highs are clearly seen. Some of these canyons are flowing directly downslope as observed on both flanks of the Tekirdağ and Central basins. These generally N-S elongated canyons are using a direct pathway towards the deepest part of the basin and they are not controlled by active structures. These canyons are the main feeders for the turbiditic infill of the deep basins. Another type of the underwater flowing system is the large meandering canyon flowing northward from Inrallı Island. This canyon that dissects an old erosional surface could be the trace of an ancient now submerged river bed. (ii) Collapse structures: a large curvilinear feature affects the SE end of the straight wall bounding the Çınarcık basin towards the north. This feature is probably the scar of a large landslide just west of the Gulf of İzmit. This type of landslide could be a response to the slope instabilities generated by the seismic activity. (iii) Active tectonic processes: EW trending canyons dissect the western and central highs and do not follow the slope gradient. This type of linear scar is the trace of a major fault that extends continuously along most of the western part of the Marmara Sea. This is the most spectacular evidence of the active main strike slip fault zone evidenced on the sea bottom. The dextral strike-slip main fault system, which is the western continuation of the northern branch of the NAF, cuts the northern Sea of Marmara lengthwise and joins the 1999.8.17 Kocaeli earthquake fault with the 1912.8.09 Şarköy-Marete earthquake fault. The western three fourths of the main fault system from Ganos to orifshore Büyükçekmece has a well defined rectilinear trace and joins through a steep bend the northern margin of the Çınarcık basin for the last one fourth of its path. Some minor component of motion is distributed across the Çınarcık Basin by means of a normal fault system within the southeast Çınarcık Basin.

Le Pichon, X., Şengör, A.M.C., Demirbaş, E., Rangin, C., İmren, C., Armljo, R., Güçür, N., Çığatay, N., Mercier de Lappinay, B., Meyer, B., Surtçilar, R., and Tok, B., (2001). The Active Main Marmara Fault. *EPSL, vol. 192, p. 595-616.*
Rangin, C., Demirbaş, E., İmren, C., Crussion A., Normand A., Le Bot, A., (2005). *Marine Seismic Atlas of the Sea of Marmara. 11 plates and 1 booklet.* Special Publication by Ifremer/Brest Technology Center, France.