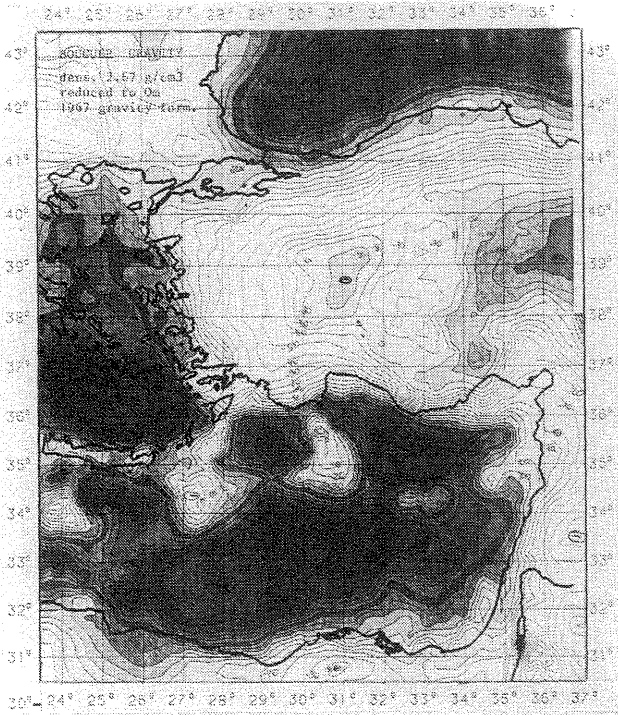


Geophysical Studies and Tectonics of the Eastern Mediterranean Sea

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By reevaluating all available geophysical information for the Eastern Mediterranean Sea new Bouguer gravity and total magnetic maps were compiled. Previously the gravity and magnetic fields of the region had never been resolved with sufficient accuracy to permit reliable quantitative evaluation.



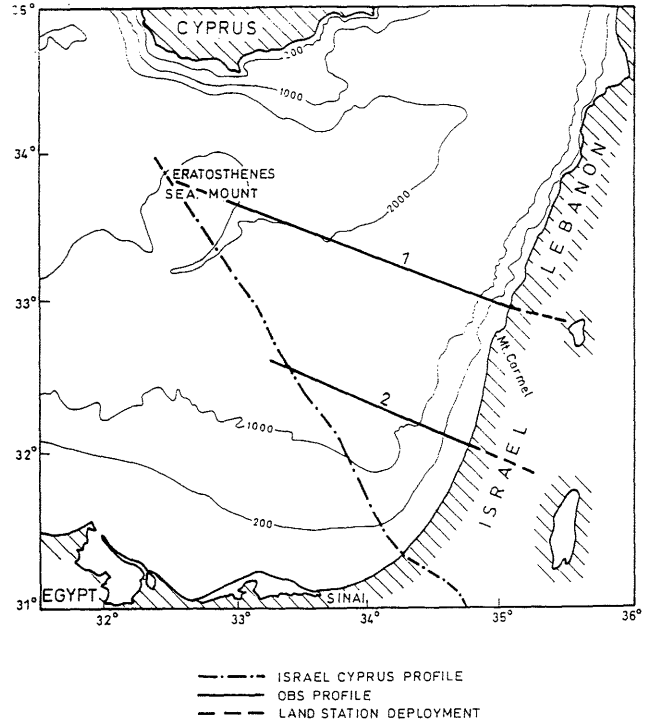
The thickness of the Eastern Mediterranean Rise ranges from 28 to 34 Km. Its sedimentary cover is about 10 Km thick. The borders of the Eastern Mediterranean Sea are built up of thick continental crust. Tectonically the northern borders of the Eastern Mediterranean Sea are built up of active continental margins defined by the Calabrian, Hellenic and Cyprus- Antalya Arcs, whereas the southern border represents a passive continental margin formed by stretching and subsequent subsidence.

Using the newly compiled maps, new crustal models were calculated; the results and implications are presented and discussed.

A Seismic Study of the Levantine Margin and Basin

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Previous geophysical studies indicate the presence of a fossil oceanic crust overlain by a thick sequence of sediments in part of the Levantine basin. Further, an examination of geophysical data shows that there are differences in the nature and structure of the crust north and south of the Carmel block in northern Israel.



In order to confirm these indications a combined onshore-offshore seismic study was undertaken by the Department of Geophysics, Tel Aviv University and the Institute of Geophysics, Hamburg University which was funded by the German-Israeli Foundation for Scientific Research and Development.

The study comprised two profiles, one across Lower Galilee, extending to Mt. Eratosthenes offshore and the other extending from west of Jerusalem extending west to some 180 km offshore. Data acquisition was based on OBSs offshore and mobile land stations onshore. Energy sources were airgun shots offshore, augmented by two large explosive shots per profile and by quarry blasts onshore.

The data which were recorded on analog tapes were digitized and plotted on to record sections. While the evaluation of the data is still underway, preliminary evaluation confirms the presence of a continental crust under Mt. Eratosthenes. It also confirms the position of the continental to oceanic crust and brings new information regarding the thickness, structure and nature of the sedimentary cover.