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**TECTONIC ARCHITECTURE AND MUD VOLCANISM IN EASTERN
MEDITERRANEAN SEA: A REVIEW**

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The Eastern Mediterranean Sea is the remnant of a much larger Mesozoic oceanic space created in connection with the progressive consumption of older Tethyan oceanic domains. Today the Eastern Mediterranean deep basins are chiefly submitted to overall shortening processes which have led to the edification of thick tectonic sedimentary accretionary wedges, from West to East: the External Calabrian Arc, (EAC), the Mediterranean Ridge (MR), the Florence Rise (FR), and its eastern prolongation South and East of Cyprus. To the North the Mediterranean Sea is bounded by active margin segments, mostly cut into previously tectonized domains themselves chiefly inherited from different episodes of Alpine orogeny. Southward the deep basins are bounded by passive margins segments built at the borders of the stable Paleozoic African craton.

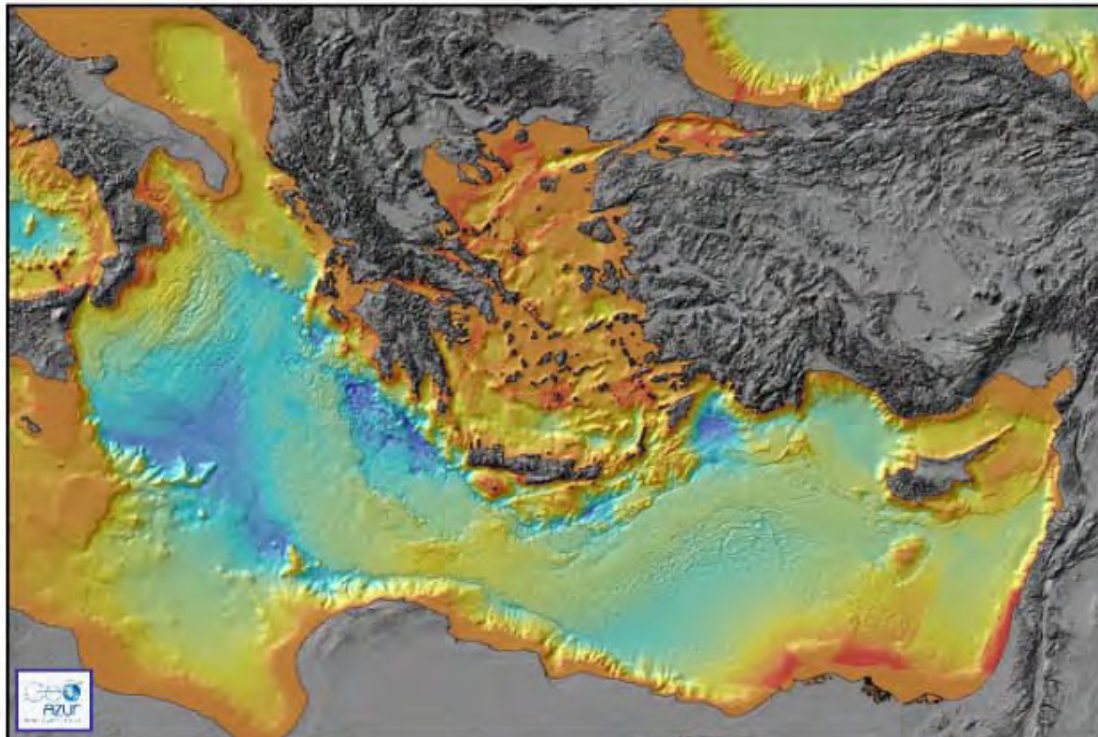


Figure 1: General Morphology of the Eastern Mediterranean Sea
(DTMat 500m chiefly based on integration of swath data)

In the last 10 years numerous academic geophysical surveys, from different countries, have allowed to systematically collect multibeam bathymetric (and backscatter) data together with other geophysical measurements (seismic refraction, magnetism and gravimetry). During the same period a few MCS surveys have been conducted within the deep basins and along the African continental margins to better image and understand the deep geological structures despite the presence of interbedded thick evaporite layers deposited almost everywhere during the latest Miocene (Messinian) salinity crisis. In addition several MCS lines previously recorded (in the seventies) were reprocessed.

The access to these sets of data allows to better illustrate and partly better understand the structural framework of the Eastern Mediterranean Sea active and passive continental margin and of its deep basins.

Another outcome of these data has been the regional mapping of fluid releasing features, chiefly mud volcanoes, which appear to be widespread all over the compressive sedimentary wedges and particularly the Mediterranean Ridges as well as along the thickly sedimented Egyptian Continental Margin.

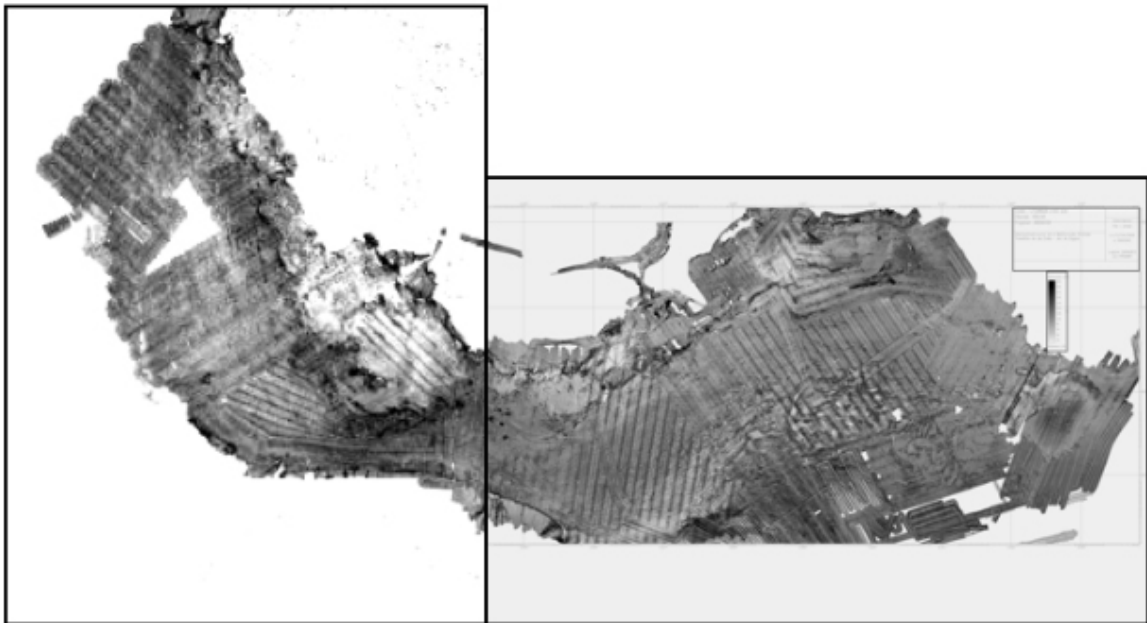


Figure 2 Backscatter image of the deep Eastern Mediterranean Sea