



## **A new morpho-bathymetric map of the Eastern Mediterranean Sea**

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A new morpho-bathymetric synthesis of the Eastern Mediterranean Sea has been compiled using a digital terrain model (DTM) based on a 100-meter grid. This DTM has been constructed using data provided by several peri-mediterranean Institutes, and collected using various swath bathymetry systems operated by different research vessels. One may estimate that 90% of the seabed extending by water depths higher than 2000m have been mapped using swath systems.

The aim of this synthesis is chiefly to illustrate, in detail, the morphological features resulting from the various (sedimentary, tectonic, geochemical, magmatic, etc.) active geological processes operating on the four main physiographic domains, which characterize the Eastern Mediterranean Sea: the Calabria outer arc (Ionian Sea), the Mediterranean Ridge (most of the central basin), the Nile sedimentary cone (off Egypt) and the Eratosthenes seamount (south of Cyprus).

For areas not yet covered by swath bathymetric systems the map has been completed by digital data extracted either from GEBCO or from EMODNET DTM files ([http://www.gebco.net/data\\_and\\_products/gebco\\_digital\\_atlas/](http://www.gebco.net/data_and_products/gebco_digital_atlas/)) (<http://www.emodnet-hydrography.eu/>).

Several artifacts introduced by the use of these files, for example the occurrences of their grids, can be detected along most of the steep continental slopes not yet mapped in detail, as well as in the southern domain of the Adriatic Sea. Similarly it has not been possible to systematically correct a few, but non-linear, discrepancies in Z values between various DTM files. Such discrepancies result either from the use of data collected by swath systems operating at different frequencies and/or from minor differences in seawater sound velocity corrections.