



Regional distribution of mud volcanoes in Eastern Mediterranean Sea: Evidences from regional swath bathymetry and backscatter records

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During the last ten years most of the deep basins of the Eastern Mediterranean sea have been surveyed by swath bathymetry and back-scatter imagery. Using this set of data, we have undertaken a regional synthesis of mud volcanoes distribution, often easily detected on multibeam data as subcircular lens-shaped features and/or as high backscatter patches on the seafloor. Mud volcanoes (and related mud flows, fluid seeps and brines), are widespread in two main settings: (a) along the tectonically active Mediterranean Ridge and Cyprus arcs which both consist of thick piles of tectonized sediments, and (b) along the Egyptian passive margin where the Nile river has constructed, since early Pliocene, a conspicuous terrigenous wedge now covering a thickly sedimented mesozoic passive margin segment.

Along the southern Aegean-Anatolian active boundaries, mud volcanoes, and other fluid seep related features, are distributed in an 1500 km long and almost continuous belt recognized all along the Mediterranean Ridge backthrust domain, from its Ionian corner to southern Turkey (Anaximander mountains area) and prolongating through Florence and Hecatus rises (west and east of Cyprus respectively) up to the vicinity of the levantine margin.

Less abundant, but significant mud and fluid expelling features (sometimes associated with brines), are also detected along the Nile continental slope where they constitute

either a gas chimney belt along the upper slope or appear as clusters of mud cones, chiefly at the foot of the northwestern continental slope area.