



Neogene history of the Florence Rise at the paleo-suture of the African plate with the Aegean-Anatolian microplate in the eastern Mediterranean: results from recent seismic reflection profiling

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In 2007, we collected around 700 km of high-resolution seismic reflection data across the Florence Rise in the eastern Mediterranean as part of our regional study of the Cyprus Arc. The profiles intersect the locations of DSDP sites 375 and 376, and the drilling results provide a good stratigraphic tie with our seismic profiles. Messinian evaporites are bounded by strong reflectors: 'M' above, separating the Miocene from the early Pliocene-Quaternary clastic sediments; 'N' below, separating the latest-Miocene evaporites from underlying late Miocene (Tortonian) sediments. The 'M' and 'N' reflectors are readily identified through the area, and the structures responsible for their relief mapped in detail.

We present sample interpreted seismic reflection profiles and summarise the Neogene history of the Florence Rise, in the context of its location above the paleo-suture of African plate and the Aegean-Anatolian microplate. Florence Rise is characterized by three morphotectonic units. In the north, a salt-cored fold belt, with predominantly (but not ubiquitously) south-verging thrusts, extends into the Antalya Basin. The core of Florence Rise is composed of a broad corrugated seafloor high, in which the corrugations are mirrored at the pre-Pliocene-Quaternary 'M' reflector. Narrow (1 km-wide) zones of discontinuity in this area may be interpreted as inversion structures bounded by high-angle faults. Alternative interpretation of these as dissolution structures or mud/gas diapirs is possible but considered unlikely. To the south of the broad core of Florence Rise, lies a 15-20 km bathymetric high zone of complexly faulted slivers with Pliocene-Quaternary growth strata wedges.