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The Gulf of Naples is one of the marginal basins, formed on the western Tyrrhenian margin as a consequence of the extensional tectonics, affecting this area after the end of the building up of the Apenninic chain.

Compression began in Southern Apennines in Lower Miocene in the inner zones of the chain; with time compression shifts toward outer zones, where it is active till Plio-Pleistocene. The main shortening of the chain can be dated to Langhian-Tortonian (MALINVERNO and RYAN, 1985).

The Tyrrhenian basin began to extend after the end of the rotation of the Sardo-Corso block (19 Ma; MONTIGNY *et al.*, 1981), that is in the Middle and Upper Miocene. Extension produced the formation of little oceanic basins in the Southern Tyrrhenian Sea, such as Marsili and Vavilov basins (KASTENS, MASCLE *et al.*, 1990).

From this overview it is clear that extension in the Tyrrhenian domains results contemporaneous with crustal shortening in the Apenninic chain and with flexure of the foreland.

The Gulf of Naples, located in the inner zones of the Apennines, was interested through time by both types of tectonics; extensional tectonics, which attention is focused on, is morphologically more evident, being more recent. Morphology and bathymetry of the gulf and neighbouring areas point out the recent formation of relief: in about 30 km relief goes from + 1,131 m (Faito Mount) to - 1,000 m (Dorhn Canyon, S of the city of Naples).

At least two phases of extension can be identified, based on a structural survey on the mainland, supported by bathymetric, single channel and multi channel seismic data.

The first phase is represented by faults striking about N-S. A N-S fault can be inferred from bathymetry on the western side of Capri, producing a scarp of at least 100 m. Many others direct faults, striking mainly N-S (Fig.1), have been identified in the gulf through single channel seismic reflection profiles. Furthermore, along a N-S lineament six volcanic and subvolcanic bodies developed (Fig. 1), ranging in age from Pliocene to Quaternary. This phase shows the same strike of faults and the same axis of extension (about E-W) as that of the opening of Tyrrhenian Sea, in particular the Central Fault (REHAULT *et al.*, 1987).

The second phase is represented by some spectacular submarine scarps (at least 800 m) (Fig. 1), trending about E-W, which can be interpreted as direct faults. Of particular interest are the ones which border the southern side of the Sorrentina Peninsula; in multichannel seismic profiles they show a step structure, dislocating the sedimentary basement. The axis of maximum extension of the second phase strikes N-S. In the Tyrrhenian Sea no structure compatible with a N-S extension have been reported in literature, so this phase seems to be characteristic of marginal Tyrrhenian basins, such as the Gulf of Naples and the Pontine Island, where a recent N-S extensional phase have been described (PANTOSTI e VELONA, 1986).

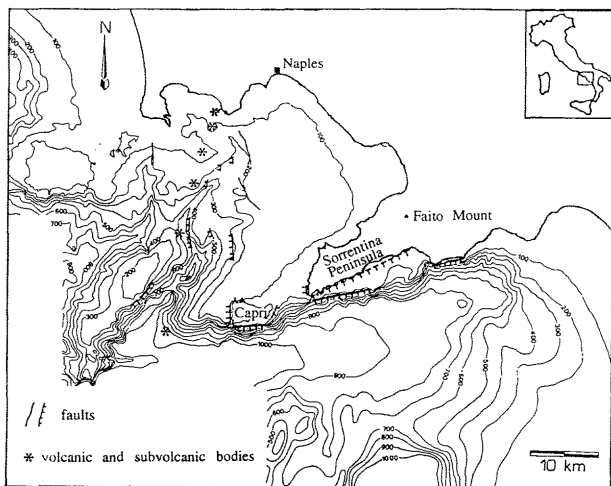


Fig. 1 - Structural sketch-map. Isobaths in m

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