

Geophysical study of the Southern Adriatic basin

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By the interpretation of a great amount of multichannel seismic reflection data and of the heat flow density data it is possible to infer that the Adria plate began to detach from the African Megaplate in the Middle-Upper Triassic. Complete separation occurred in Middle Jurassic and stretching phase continued also in Cretaceous and later on. The Dogger tectonic activity determined a crustal thinning and persistent deep sea condition in the Southern Adriatic basin and induced halokinetic movements in the Upper Triassic salt layer (Burano Formation).

The compressive meso and neo-alpine tectonic processes of Dinaric orogenesis created a diffused thrusting deformation accompanied by some evident strike-slip movements.

Since the Southern Adriatic basin is the foredeep of the Dinarides and the Apulian platform is its foreland, the Apenninic orogenesis affected only in a light manner this depression area. But during the Neogene-Quaternary alpine activity, progression of the thrusting deformation of the Dinaric system, and foundering of the adriatic foredeep took place, very probably accompanied by new crustal stretching and thinning with local mantle uplifting.