

Foreland tectonics in the Southern Adriatic Sea

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The deformational patterns of the Adriatic area register the complex history of a changing geodynamic environment from a Mesozoic passive margin to a present-day foreland.

With the aid of newly acquired and the available multi-channel seismic reflection data tied in with wells in the public domain, gravity and magnetics we attempt to reconstruct the stratigraphic and structural evolution of the foreland region surrounding the Gargano Promontory. Particular attention is paid to the deformational styles, their temporal evolution and kinematic significance.

Two regional structural belts occur offshore the Gargano promontory. These belts have different trends and different ages of activity in the Tertiary and can also be linked to the recent seismicity recorded in the area.

Their structural style, combined with the stratigraphic relationships existing in the area, suggests that their origin can be linked to inversion tectonics processes affecting a Mesozoic extensional fault system. The timing of inversion appears to be related to the major tectonic pulses occurring in the adjacent fold-and-thrust belts (Dinarides and Apennines). The tectonic loading of these chains and the ensuing propagation of their peripheral bulges are major controls on the structural style of this foreland area.

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