



Foreland basins of the Central Mediterranean Fold-and-Thrust Belts and the Heritage of Mesozoic Palaeogeography

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The Mesozoic palaeogeography of the southern Tethyan margin, and of Adria in particular, is characterised by a system of carbonate platforms and epicontinental basins passing to adjacent oceanic basins belonging to various branches of the Tethyan ocean. Following the subductive consumption of the oceanic domains, the sedimentary successions of Adria were progressively involved in thrusting and folding, particularly along the eastern and western margins of Adria, giving rise to a system of foreland basins that fringes Adria along the Apennines, Southern Alps and Dinarides-Hellenides.

The different lithomechanics of the Adriatic sedimentary successions and the articulated topography of the Mesozoic domains of Adria appear to control the structural style in the frontal part of the fold-and-thrust belts.

The lithospheric strength and the load of the fold-and-thrust belt are considered as the main controlling factors in shaping foreland basins. Nevertheless, a review of the foreland basins surrounding Adria shows that thickness, depocentral geometry and sedimentary facies of these basins vary remarkably along strike. Almost everywhere a close correlation can be drawn with the Mesozoic palaeogeographic domain of the foreland. In particular, it appears that inherited topographic depressions in the foreland represent preferential sites of clastic sediment accumulation, whereas foreland basin sedimentation can be largely reduced above the domains of shallow water carbonate platforms. These relationships can be documented in the Southern Alps retro-wedge foreland basin system of Oligo-Miocene age, as well as in the pro-wedge foreland basin systems of the Northern and Southern Apennines and of the Hellenides. The relationships observed in the recentmost foreland basins allow to use the features of the older foreland basin sediments, currently stacked within the fold-and-thrust belts, to make inference on the palaeogeography of the southern Tethyan margin.