



Constraining the age of the Miocene forebulge unconformity in central-southern Apennines: a Sr-isotopes and structural study

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The Miocene foreland of the central-southern Apennine fold-and-thrust belt has experienced pre-thrusting bulging, uplift and erosion caused by the bending of the subducting lithosphere and the accretionary wedge migration. This tectonic stage is evidenced by a regional unconformity, separating Miocene shallow-water carbonates from underlying Cretaceous to Eocene carbonates, by extensional fracturing and faulting in the uppermost part of the lithosphere, and by the onset of flexural subsidence. The age of this extensional event is constrained by sedimentary infilling in fractures, predating these deposits, associated with the first Miocene transgressive sediments overlying the pre-orogenic passive margin mega-sequence. However, the biostratigraphy of Miocene shallow-water carbonates is plagued by low-resolution and poor chronostratigraphic calibration. In this work, we aim at constraining the migration of the forebulge unconformity through space and time by producing high-resolution ages for the very first syn-orogenic sediments above. This is achieved by means of Sr-isotope stratigraphy, which can attain a resolution of 0.1-0.5 My for the Miocene interval.