



Kinematic reconstruction of Anatolia since the Cretaceous

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The Anatolian region has formed at the plate boundary zone between the Eurasian, African and Arabian plates. Its tectonic evolution owes to a long history of subduction, accretion and exhumation during closure of the Neotethys Ocean. In Anatolia, this is manifested in the complex interplay of several continental fragments, a kinked subduction zone geometry, overriding plate extension, and segmentation of the subducted African-Arabian and Neotethyan plates into multiple slabs. Sedimentary basins that formed in forearc positions above the subducting African-Arabian plate slabs, and underlying relics of overriding plate lithosphere hold the key to reconstructing the kinematic history of the plates that existed between Africa-Arabia and Eurasia during their convergence. Here, we present a kinematic reconstruction of the Anatolian region back to 100 Ma, which is integrated into the global plate circuit using GPlates reconstruction software. As subduction systems display significant along-strike variations in the timing and style of deformation, this reconstruction integrates kinematic constraints on Anatolian deformation from structural geological observations and paleomagnetism. We will explore the implications of our reconstruction for the location, segmentation, evolving configuration, and duration of trenches in the eastern Mediterranean region since the Late Cretaceous, and reconstruct when the collision of Arabia with continental crust in the Anatolian fold-thrust belt occurred.