

Tectonic evolution and source-to-sink patterns in center-south Turkey during the growth of the Central Anatolian Plateau

David Fernández-Blanco*¹ & Giovanni Bertotti^{1,2}

¹ *Dept. of Tectonics, Vrije Universiteit, De Boelelaan 1085, 1081 HV Amsterdam, The Netherlands*

² *Dept. of Geotechnology, Delft University of Technology, Stevinweg 1, 2628 CN Delft, The Netherlands*

*d.fernandezblanco@vu.nl

The ESF-sponsored Vertical Anatolia Movement Project (VAMP) focusses on the Miocene-Pleistocene Central Anatolia Orogenic Plateau (CAP), located in the convergence zone between Africa-Arabia and Eurasia. We present a synthesis of Miocene to Present source-to-sink patterns, regional vertical motions and horizontal deformations for the study area, covering the central (Tuz Gölü Basin) and southern domains of the CAP (Aksu, Kaprıdağ/Manavgat, Mut and Adana basins), the northeastern Mediterranean (offshore Antalya and Cilicia basins) and northern Cyprus (Kyrenia Range). We recognize three different domains. The northern domain (plateau interior basins) has continuous subsidence and minor horizontal deformation, only relevant during the Tortonian. The central domain (from the Taurus Mountains to the coastline) has a pre-Messinian stage of subsidence, followed by uplift. In this central domain, a major contrast between the central region and the W and E flanking regions occurs. In the central region, vertical movements remained geographically stable and surface deformations are limited. In contrast, the flanking regions are characterized by thrusting propagating outward and progressive cessation-of-sedimentation/onset-of-erosion in their hanging wall. The southern domain (northeastern Mediterranean) has continuous subsidence and limited horizontal deformation until the Tortonian, when differentiates into the northern subsiding Cilicia Basin and the uplifting Kyrenia fault-thrust belt. We conclude that the growth of the southern margin of the CAP was controlled by shortening accommodated by laterally changing deep geometries.