



## **The role of the Anaxagoras Mountain in the Miocene to Recent tectonic evolution of the eastern Mediterranean**

Mark Colbourne (1), Jeremy Hall (1), Ali Aksu (1), and Günay Çifçi (2)

(1) Department of Earth Sciences, Memorial University of Newfoundland, St. John's NL, Canada , (2) Institute of Marine Sciences and Technology, Dokuz Eylül University, Izmir, Turkey

The Anaximander Mountains are one of the many enigmatic structures situated along the morphologically and structurally complicated junction between the Hellenic and Cyprus Arcs, in the eastern Mediterranean. Interpretation of ~750 km of marine multi-channel seismic reflection data show that the present day Anaximander Mountains underwent several distinct phases of tectonic activity since Miocene. During the mid-late Miocene, a protracted, contractional tectonic regime produced the east-west trending, south-verging fold-thrust belt observed in the area. The Messinian was a period of relatively low tectonic activity, and is marked by the deposition of an evaporite layer. This phase lasted until the latest Miocene – earliest Pliocene, when a major erosional event associated with the Messinian salinity crisis occurred. Beginning in the early-mid Pliocene-Quaternary a transpressional and rotational tectonic regime prevailed over the area. The Anaximander Mountain (*sensu stricto*) and Anaximenes Mountain developed in the Pliocene-Quaternary associated with the reactivation, uplift and rotation of a linked, thick skinned pre-Messinian imbricate thrust fan. Back thrusting in the region accentuated the morphology of these mountains. The Anaxagoras Mountain differs both lithologically and morphologically from the Anaximander Mountain (*sensu stricto*) and the Anaximenes Mountain. It is probably developed associated with the emplacement of the ophiolitic Antalya Nappe Complex. Faulting in the Anaxagoras region is characterized by southwest striking thrust and/or oblique thrust faults. Due to the similarities in morphology between the Isparta Angle of southwestern Turkey and the Anaximander Mountains (*sensu lato*), it is hypothesized that the tectonic evolution of the two regions are similar in nature. The Anaximander Mountains (*sensu lato*) can thus be considered the offshore replication of the Isparta Angle, produced by similar mechanisms, but being of a younger age.