



## **Interplay Between Magmatism, Metamorphism and Core-Complex Formation: Evidence from the Menderes Massif, SW Turkey**

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The polymetamorphic Menderes Massif in SW Turkey comprises three submassifs, divided by active E-W-trending grabens; they were exhumed in the footwall of presently low- to moderate-angle normal ductile-to-brittle shear/fault zones that accompanies a major end-Oligocene-Miocene syn- to post-orogenic crustal extension. The extension has commenced subsequent to a Palaeogene crustal thickening during the closure of the Neotethyan Ocean between the Sakarya Continent in the north and the Anatolian-Tauride Platform in the south. The footwall rocks consist mainly of high-grade metasedimentary rocks and/or metamorphosed to unmetamorphosed syn-extensional granitoids while the hanging wall is composed of either low-grade metasediments and/or unmetamorphosed Miocene continental clastic sediments. The occurrence of syn-extensional granitoids in the immediate footwall of detachments faults and/or extensional shear zones suggests that extensional deformation and magma emplacement are closely related and that there is a genetic/mechanic link between normal faulting and magmatism such that the emplacement of magmatic bodies thermally weakens the crust and results in strain localisation in the footwall of major low-angle normal faults.

In this communication, the field relations, petrography, geochemical characteristics and age of these syn-extensional granitoid rocks and similar data from the metamorphic country rocks will be presented to address the crucial role of and interplay between crustal thickening, widespread metamorphism-migmatization, granitic magma generation and emplacement, and normal faulting during large-scale extension in exhuming the metamorphic rocks of the Menderes Massif.