Slab tearing or slab retreat as triggers of extension at the Dinaric-Hellenic transition

The aim of this project is to link the Neogene to recent structural and crustal evolution in the transition zone between the Dinarides and the Hellenides to changes in the subduction system. The Shkoder-Peja Normal Fault and associated fault systems at the junction of these orogens is in our main focus, since these structures accommodate Mid-Miocene to recent clockwise rotation of the northern segment of the Hellenides by normal faulting, transfer- and strike-slip faulting and out-of-sequence thrusting. We apply geological mapping, structural and kinematic analysis, analysis of Neogene (fault-bounded) sedimentary basins and apatite fission-track analysis in order to date and quantify the evolution of these fault systems to ultimately conclude on the triggering mechanisms driving this episode of structural reorganization.
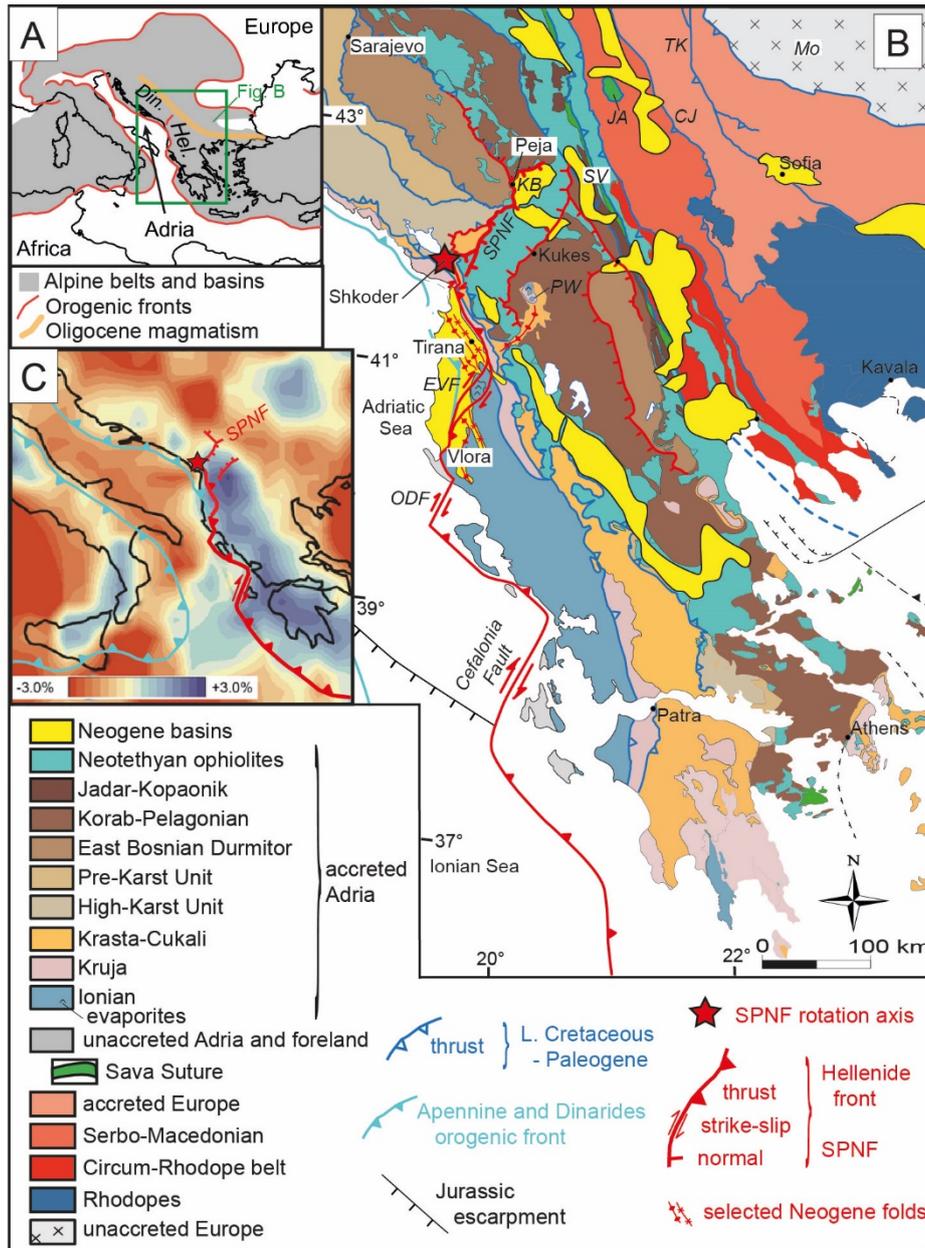
Tectonic map of the southern Dinarides and Hellenides illustrating the Neogene to recent fault systems (maps and tectonic units modified after Schmid et al. 2011). (C) P-wave tomography at 150 km depth with location of major surface structures (modified after Bijwaard and Spakman 2000. Abbreviations: CJ – Cerna-Jiu, EVF – Elbasan-Vlora Transfer Fault, JA – Jastrabac core complex, KB – Kosovo Basin, MO – Moesia, ODF – Othoni-Dhermi Transfer Fault, PW – Peshkopie Window, SPNF – Shkoder-Peja Normal Fault, SV – Sava suture, TK – Timok Fault.

Steeply dipping normal fault in upper Triassic limestones of the Korab-Pelagonian unit (Road Kukes-Peshkopia, northern Albania).

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