

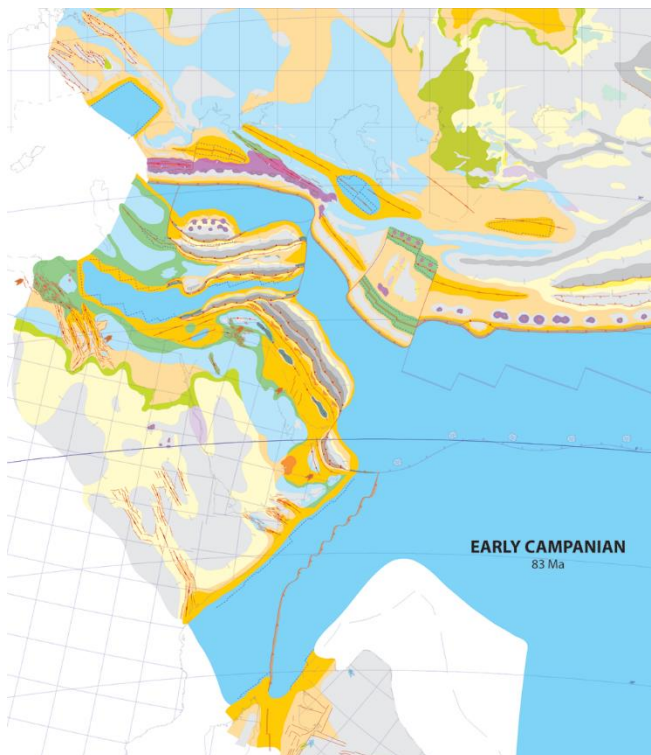
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The DARIUS Palaeotectonic Maps: Evolution of the Central Tethys domain since the Middle Permian

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The DARIUS Programme (2010-2015) was a multi-disciplinary geological program sponsored by Major Oil Companies and Research Organizations. 116 original scientific projects executed by 150 research institutions from 25 countries were funded by the Programme. Collection of original data and regional syntheses characterize the scientific activity of DARIUS that drive together a group of academic scientific teams whose expertise includes tectonics, stratigraphy, modeling, kinematics, and geophysics. The main objective was investigating and characterizing the tectonic-stratigraphic evolution since the Late Paleozoic of a vast region, centered on the Central Tethys domain, extending from Black-Sea Anatolia in the west to western Central Asia in the east. The DARIUS Programme was designed ultimately to provide new and modern insights and syntheses on the geodynamic-tectonic development of this region through a set of 20 Palaeotectonic maps for key periods ranging from the Middle Permian to the Pliocene (1).



The maps of the DARIUS atlas propose reconstructions (Fig. 1) of the south-central Eurasian and north African-Arabian plates starting after the Hercynian orogenies. They are based on an up-to-date kinematics reconstruction of the Africa, India and Arabia with respect to Eurasia assumed to be fixed. The maps include tectonic, geodynamic, kinematic and lithological data. The maps specify the major tectonic events and special attention is paid to the relationships between tectonic and sedimentation. For each map we depict the main geodynamic -tectonic features (i.e. rifts, different types of basins, major orogens and fold belts, main transcurrent faults, subduction zones, accretionary prisms...) as well as the main palaeo-environments and palaeofacies and. In addition the kinematics of the major plates is indicated.

Figure 1: Early Campanian reconstruction - Map

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Our reconstructions are based on an accurate timing of the tectonic events that have succeeded in the Central Tethyan margins and surroundings since the Late Paleozoic. Three main periods have succeeded: (1) the Mid-Triassic to Liassic Cimmerian period related to the **collision of Gondwanian**

blocks with Pangea after the closure of the Paleo-Tethys, (2) the northward subduction of the Neo-Tethys beneath the southern Laurasian-Eurasian margins lasting from the Jurassic to the Early Cenozoic. This long-lasting subduction is associated in the overriding plate (Laurasia-Eurasia) by openings and inversions of back-arc and marginal basins, and (3) the Cenozoic collisions between major continental plates (Africa, Arabia, India) and Eurasia originating the Alpine chains.

(1) Barrier E. and Vrielynck B., 2016. Palaeotectonic maps of Middle East and Western Central Asia from the Middle Permian to the Pliocene. Scale 1:17 000 000, 20 sheets. CGMW. ISBN: 9782917310304

