

THE FORMATION OF SUPERGIANTS IN THE CENTRAL AND SOUTH CASPIAN BASINS: STRUCTURAL EVOLUTION AND PLATE TECTONIC SETTING.

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Abundant hydrocarbon deposits exist between the Black Sea and Turkmenia. Of note are the supergiant fields of the South Caspian. The late Permian to present day structural evolution and tectonic setting of these fields is described.

The Caspian can be considered as two discrete basins: the Central forming as a late Eocene foreland basin, and the South resulting from mid Jurassic left lateral pull apart tectonics. This shear zone, forming after closure of the Paleotethys Ocean, was influenced by the opening Central Atlantic. Thick Liassic basinal deposits in the Azerbaijan Caucasus, the interpreted northwestern extension of the South Caspian basin, and a rim of late Jurassic carbonates provide evidence for the time of basin opening.

From the late Jurassic through to the present, a succession of pulsed compressive events across the Caspian area is again reflected in the outcrops of the Azerbaijan Caucasus. As the entire region was shortened, northward subduction of the oceanic crust beneath the Apsheron ridge began; fold and thrust belts formed on its margins, and the basin was pushed down, forming an ideal site for source rock deposition.

Subsequent sedimentation in the South Caspian can be closely linked to regional tectonic events: uplift loaded foreland basins, resulting sometimes in a continuous seaway from the South Caspian to the Mediterranean; quiescence caused sea level fall and isolation. During the Messinian lowstand, rivers carved canyons into the Central Caspian, depositing the principle South Caspian reservoir interval. Folding from continued compression created the giant structures of today.