

4D model of Precaspian and North-Caspian Basins

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We present our new 4D model of Precaspian and North Caspian region based on several lateral (regions and zones) and vertical (crust, sedimentary cover, seismic complexes) interrelated seismostratigraphical elements. There are 7 seismogeological provinces considered in the model: Precaspian, Sarmatian, Volga-Uralian, West-Uralian, East-Turanian, West-Turanian, Scythian, Black Sea-Caspian. The boundaries of provinces are suture zones and regional faults. First-order vertical elements of model are geodynamic complexes: platform, pre-platform, folded. Boundaries of second-order vertical elements correspond with regional seismic horizons. The model consists of 10 levels: basement, base of Devonian, Bashkirian, bottom of Kungurian, bottom of Jurassic, bottom of Cretaceous, bottom of Paleogene, bottom of Sarmatian, bottom of Pliocene, bottom of Akchagylian. Each level contains structural map, map of regional faults, lithological and facies maps, paleogeographical reconstruction, isopachs map, paleobathymetry map, oil and gas bearing potential map. This model serves as a basis for basin and petroleum system modelling.