

Neotectonic Characteristics of the Western Part of Konya, Central Anatolia, Turkey

Authors : Rahmi Aksoy

Abstract : The western part of Konya consists of an area of block faulted basin and ranges. Present day topography is characterized by alternating elongate mountains and depressions trending east-west. A number of depressions occur in the region. One of the large depressions is the E-W trending Kızılören-Küçükmuhsine (KK basin) basin bounded on both sides by normal faults and located on the west of the Konya city. The basin is about 5-12 km wide and 40 km long. Ranges north and south of the basin are composed of undifferentiated low grade metamorphic rocks of Silurian-Cretaceous age and smaller bodies of ophiolites of probable Cretaceous age. The basin fill consists of the upper Miocene-lower Pliocene fluvial, lacustrine, alluvial sediments and volcanic rocks. The younger and undeformed Plio-Quaternary basin fill unconformably overlies the older basin fill and is composed predominantly of conglomerate, mudstone, silt, clay and recent basin floor deposits. The paleostress data on the striated fault planes in the basin indicates NW-SE extension and associated with an NE-SW compression. The eastern end of the KK basin is cut and terraced by the active Konya fault zone. The Konya fault zone is NE trending, east dipping normal fault forming the western boundary of the Konya depression. The Konya depression consists mainly of Plio-Quaternary alluvial complex and recent basin floor sediments. The structural data gathered from the Konya fault zone support normal faulting with a small amount of dextral strike-slip tensional tectonic regime that shaped under the WNW-ESE extensional stress regime.

Keywords : central Anatolia, fault kinematics, Kızılören-Küçükmuhsine basin, Konya fault zone, neotectonics

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