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Active Tectonics in crossroads of an evolving orogen and morphological consequences: Anatolia

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Anatolia lies in a curved setting of the active Alpine Mountain Range and is located in crossroads of the European and Asian terrains. It is one of the fastest deforming land in the world, manifested by seismicity, characteristic landforms and GPS measurements. Active tectonics in Anatolia provides not only a comparable geological model for the past orogens, but also a laboratory case for morphological consequences of an orogenic processes.
Anatolia comprise different tectonic subsettings with its own characteristics. Northern part is influenced by tectonic characteristics of the Black Sea Basin, the Pontides and the Caucasian Range; northwestern part by the Balkanides; eastern-southeastern part by the Bitlis-Zagros suture; and south-southwestern part by the eastern Mediterranean subduction setting. Much of its present tectonic complexity was inherited from the convergence dominant plate tectonic setting of the platelets prior to the Middle-Neogene. Beginning about 11 Ma ago, the deformed and uplifted landmass unable to accommodate further deformation in Anatolia and ongoing tectonic activity gave rise to rearrangement of tectonic forces and westerly translational movements. Formation of major strike-slip faults in Anatolia including the North and East Anatolian Faults and a new platelet called the Anatolian Plate are the consequences of this episode. Such change in the tectonic regime has led to modification of previously-formed landscape, modification and sometimes termination of previously-formed basins. Evidence is present in the Plio-Quaternary stratigraphy, tectonic characteristics and morphology of the well-studied areas. This presentation will discuss active tectonic features of the northwestern, southwestern and eastern Anatolian subsettings and their influence on morphology that is closely related to sites of pre-historical human settlement.