



GPS-derived Strain Rates in western Turkey

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In western Turkey, the distribution of earthquakes indicates that the Aegean Region is under North-South extension. In order to estimate strain rates around the Tuzla Fault, which is located in the Aegean Region of western Turkey, five Global Positioning System (GPS) surveys were carried out between 2009 and 2012. The velocity field obtained from this study was combined with the published velocity field of the region and strain rates were calculated. Maximum values of strain accumulation were found to be on and around the sites close to Izmir. The velocities in ITRF2005 reached up to 20 mm/yr relative to the Eurasian plate. The Results of strain calculation indicated up to 140×10^{-9} strain/yr and the direction of the extension and compression of the area showed consistency with present day kinematics of the Aegean Region. The GPS network in the area should be extended westward to increase the spatial resolution of the results. Besides, real-time GPS data coming from CORS sites can also provide an improved assessment of the status.