A study on the investigation of crustal deformation along the Iznik-Gemlik segment of the estern Part of North Anatolian Fault System

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GNSS observations on the western part of the North Anatolian Fault Zone (NAFZ) have been carrying out since the beginning of 1990s. August 17, 1999, Izmit earthquake (Mw= 7.4) excited more scientific attention on this area. Bogazici University Kandilli Observatory and Earthquake Research Institute (KOERI), Geodesy Department has been continually collected GNSS data on the Iznik-Mekece segment, which is located at the eastern part of the Marmara region, since 1994. We accumulated a significant time-series data about the region for 20 years.

There is limited data on the palaeoseismicity of the southern strand of the North Anatolian Fault. Moreover, GPS-based elastic block models suggest a higher activity on the Gemlik-İznik segment then the eastern part. In this study, we are planning to monitor the area through the Iznik-Gemlik segment by GNSS technique with fault-normal/fault-parallel directions and to determine the velocities and strain accumulation arising from crustal deformation. With addition of 2 new network points to the total of 8 sites, we will have a better understanding on the crustal deformation along this particular section of the fault.