



Monitoring fault activities on the Iznik and Gemlik segments of the North Anatolian Fault

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North Anatolian Fault bifurcates as northern and southern branches in the eastern Marmara region. Despite the fact that there are so many scientific studies on the northern part, there are limited studies on the southern strand. Having more than 150 km length, strike-slip structure south strand has a series of segments as Geyve, Iznik and Gemlik faults. All of them are accepted as locked and have a deformation rate of about $\pm 1-2$ cm/yr indicating a horizontal interseismic loading. These faults have large earthquake records since 29 AD.

We have been making GNSS observations on Iznik segment since 1994 in a narrow field. We started a new study covering larger profiles of both Iznik and Gemlik faults. We plan to monitor the Iznik and Gemlik faults by GNSS technique with fault-normal/fault-parallel directions and to determine the velocities and strain accumulation arising from crustal deformation. Most of the stations will be continuous GPS points and some of them will be campaign points. With this project, we will have an idea on the crustal deformation along this particular section of the fault.