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# Heterogeneous Interseismic Coupling along the Main Marmara Fault

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## Abstract

Measuring interseismic crustal deformation offshore is a challenge in the sea of Marmara. Thus, little is known about the properties of the main faults in the sea of Marmara. In order to overcome the problem of sparse data on land, we extended the existing GNSS network (Ergintav et al., 2014), by new continuous GNSS stations and historical GPS survey points, which have been measured yearly in the last 15 yrs. In addition, we derived PSInSAR velocity maps using SENTINEL 1A/B data. These new data allow to better constrain parameters of the off-shore fault-system in the sea of Marmara.

Here, we present probabilistic models of strain accumulation along the northern branch of the North Anatolian Fault from İzmit to Ganos, including the Main Marmara Fault (MMF). Our new model provides strong evidence for aseismically slipping zones along the MMF and, henceforth the state of seismic hazard in the region needs to be re-evaluated.

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