



NOANET: High-rate GPS Network for Seismology and Geodynamics In Greece

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Greece is located at a complex plate boundary region where two tectonic plates (Africa-Nubia and Eurasia) converge and the country has very high risk of major earthquakes (up to $M=8.2$ offshore Crete). Relative motion of these plates accumulates stress in the lithosphere, causing observable crustal deformation (Ganas & Parsons, 2009). Earthquake rupture occurs along crustal faults and/or along the plate interface to release that tectonic stress. Space geodesy technologies, such as GPS, represent a powerful tool in crustal deformation monitoring, especially when high precision is required and geodetic measurements are increasingly more widely applied in geodynamics and earthquake studies. NOA has begun installing permanent GPS stations on February 2006 including a EUREF permanent station in Attica, NOA1. Currently NOA operates twelve (12) continuous GPS stations around Greece all sampling at 1-s and transmitting real-time data to Athens. Significant seismic events in Greece with magnitudes (M_w) varying from 5.1 to 6.4 have occurred tens of kilometres away from the nearest NOANET station during the last three years. Recent results derived from 30-s data at the RLS station have shown considerable static displacement from the co-seismic motion of the 8 June 2008 $M=6.4$ earthquake. Work in progress includes calculations of station velocities, strains and exploitation of kinematic solutions for extracting dynamic displacements from near field GPS stations.