The highest seismicity in Europe, including magnitude 7+ earthquakes, occurs along the western Hellenic arc subduction zone, including the Ionian Islands. In late 2010, Permanent Scatterer INSAR (PSI) results for 1992-2008, produced under the European Space Agency’s Terrafirma project, became available to complement a University of Athens GPS network operated on Cephalonia throughout the past decade. GPS shows horizontal clockwise rotation of the island with an increased motion following the August 2003, 6.3Mw earthquake. Vertically, both GPS and PSI analyses show slight subsidence in the period up to 2003 (around 1mm/year) with a reversal to uplift (>3mm/year), subsequently. So, before 2003, the modest ground deformation is consistent with the expected neotectonic movements of the area. After 2003, the high rates of uplift may indicate a major regional crustal deformation process in an environment that has previously supported magnitude 7 earthquakes, offshore.

On an archaeological note, parallel work at the University of Edinburgh is investigating the possibility that the Paliki peninsula of Cephalonia is, in fact, Odysseus’ homeland of Ithaca in Homer’s “The Odyssey”. This requires Paliki to be an independent island 3000 years bp and, therefore, requires a mechanism for fusion over that period, including allowances for sea level change. Existing geological and neotectonic knowledge is being supplemented by new geoscience data collected with the aid of Fugro, including onshore and offshore boreholes. In combination with the new GPS and PSI data, above, a new model is being developed to test the hypothesis; the new geoscience feeding back into the earthquake history and modelling.