



The Corini Active Fault in Southwestern Viotia region, central Greece: segmentation, stress analysis and extensional strain patterns

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The Corini normal fault (CF) is an active structure of Quaternary age in Southwestern Viotia, central Greece. This is a region of low finite strain, located between the Quaternary rifts of the Gulf of Corinth and the Gulf of Evia. The fault is segmented into several segments with an average strike of N60°E and dip direction to the SE. The segmentation of the CF is characterized by two main fault segments; the western segment starts from the Corini village extending for almost 8 Km to the east and it is characterized by shorter fault segments (500 – 1000 m long) showing both right and left stepping. The architecture of the fault zone is characterized by a main 15 cm thick gouge rock, observed along the fault plane on the footwall side. At several localities along strike we observed a well-defined basal strip of un-eroded fault plane that represents the extent (uplift) of the last co-seismic slip. The width of the strip ranges 20-30 cm. The analysis of the slip inversion data from CF showed that the stress field is extensional with sigma 3 (σ_3) oriented N328°E. This value compares well with the mean extension direction of the T-axis of the 1981 earthquakes, as well as with the mean extension direction defined by the slip vector data of the 1981 surface ruptures. This result implies that fault kinematics is similar on either side of the Gulf of Corinth