

## **GIS of Fault Zones and Earthquakes in the Dinarides**

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### **Abstract**

Adriatic microplate movements and resistance of the Dinarides are of key importance in tectonic movements. There are rock masses differing in size and orientation. In addition, microplate movements cause the formation of a stress field which influences deformation and displacement of separate rock masses and seismotectonic activity. Seismotectonically active zones are formed due to displacements of segments of the Adriatic microplate differing in size and rate of movement and in the resistance of rock masses of the Dinarides. The position of these zones can be determined on the basis of earthquake foci locations. Earthquake foci concentrations depict the strongest activity in the zone of Dubrovnik, but there are also some active faults within the Adriaticum unit. Initial tectonic movements of the Adriatic microplate result in dominating compression in the area of the Dinarides. QGIS and remote sensing data enable detection of structural features, such as faults, and offer opportunities for improving mapping and identifying locations of faulting areas. Landsat ETM-7 satellite data images were used and band-5 was found to be the most suitable band, based on the ability to identify geological features on the Adriatic coast.

**Keywords:** recent tectonic movements, Adriatic microplate, GIS, Landsat ETM 7, digital terrain model