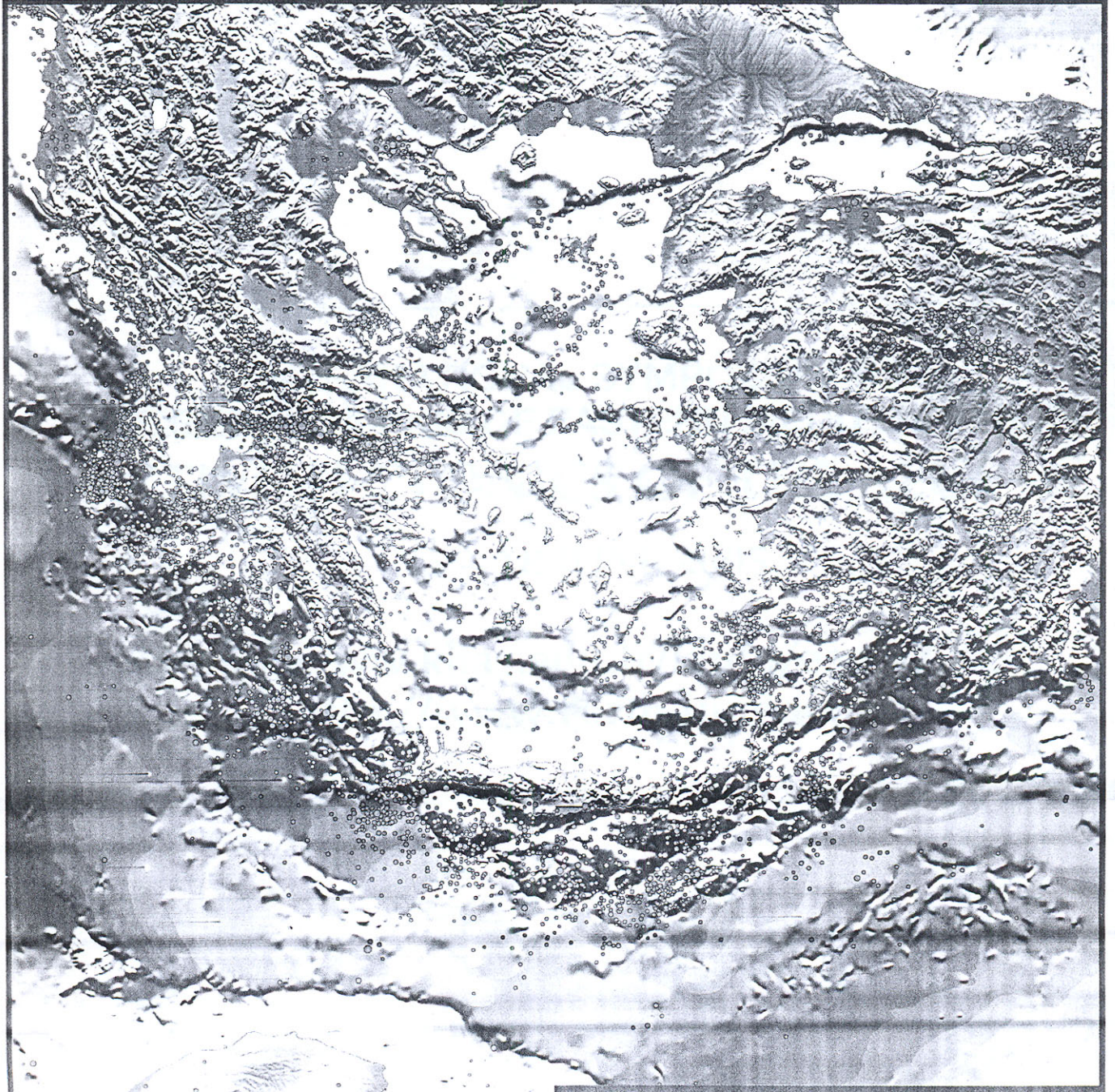




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Seismicity of the Aegean ISC (1964-2001) 4 5 6 7

ABSTRACTS

<http://www.khas.edu.tr/kinto/earth2005>
<http://www.earth.itu.edu.tr>

TECTONIC ANALYSIS OF THE KONITSA AREA (NORTHERN GREECE) USING REMOTELY SENSING DATA

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The present paper concerns the tectonic study of the broader area of Konitsa (NNW Greece) and especially the thrust belt of Northern Epirus, using remotely sensing data. The extension along Epirus zone is expressed by three asymmetric grabens, typically spaced 8-10km. Several faults trending NE-SW cross cut the thrust belt deforming the fold axis of many major synclines and anticlines. The main tectonic structures are the Konitsa fault with NE-SW direction and Doliana fault trending E-W. These faults control the geomorphology of the area.

The area presents relative low seismic activity. The latest destructive earthquake occurred in 2.8.1996 when a seismic event of Mw=5.3 stroke Konitsa region, with focal mechanism indicating normal movement for the adjacent fault.

A set of Multispectral and Panchromatic data of Landsat 7 ETM+ covering the entire area, were processed. The data were geometrically corrected using 1:50.000 topographic maps. A FCC image (472 as RGB) and the panchromatic image were merged using the RGB-IHS-RGB method. The processing was followed by the spatial enhancement of the merged image by applying various high pass filters with different kernel sizes.

The tectonic lineaments provided by the satellite image reveal the general trend (NE-SW) of major active structures in the area and assist to recognize the continuity of the latter. In the case of Doliana fault, the contribution of the present study is related to the existence of possible faults parallel to the fault as well as its propagation. Anomalies recognized on the drainage network of the area reflect the activity of these tectonic lineaments.

The seismological catalogue although it corresponds to a low seismicity, it establishes that long term deformation of the area is partially seismic, but the balance between the aseismic and seismic deformation is still unknown. Thorough field work and geomorphological studies should be done in order to evaluate the tectonic setting from the beginning.