

## **Analytic Mapping of Faults Affecting the Anti-Atlas Chain (Maroc)**

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In the Moroccan Anti-Atlas, and due to the absence of well developed vegetation, remote sensing is an effective tool for geologists, in lithologic and structural mapping, and also in the field of mining exploration.

The analysis, the photo-interpretation and the application of different filters on images scenes (TM and ETM+ of Landsat) covering the Anti-Atlas, allowed to establish a lineament map of the different populations of faults, structuring the range, in the perspective of creating the faulting evolution of the Anti-Atlas's Proterozoic.

Many kinds of faults are distinguished by crossing varied formations since the Paleoproterozoic till the quaternary. Concerning the Precambrian fields, four principal kinds can be identified (N060°E to N090°E, N0 to N150°E, N100°E to N140°E, and N020°E to 040°E).

In the oriental Anti-Atlas, the more abundant faults are N060E to N090E; they are kilometric faults with apparent sinistral strike slip movement affecting all Proterozoic formations, and even Paleozoic. The kind N0 to N150E presents a dextral strike slip movement; it affects the upper and lower formations without crossing N060E to N090E faults. The third kind N020 to N040°E presents a weak extension which affects even the paleozoic field.

In addition the three kinds that we find in the oriental domain, the central Anti-atlas is characterized by the faults N100 to N140 forming the Anti-Atlas Major Fault which divides the chain in two domains: oriental and occidental.

In the occidental part, faults are less apparent than the two first fields, because of the dominance of Infracambrian formations. Faults have generally the same directions as in the oriental Anti-Atlas.

Key words: Faults, Remote sensing, Proterozoic, Anti-Atlas