

Use of Spatial Remote Sensing and MNT for the Fracturing Analysis in the Al Hoceima (Relationship with the Distribution of the Landslides) Rif, Morocco

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The Al Hoceima area in eastern Rif is located on the Moroccan Mediterranean edge. Its an area where the very broken and karstic character of the calcareous dorsal often associated with a reduced field of view because of the greenness cover, constituted a major handicap to follow the layout of the faults. By using satellite images (HRV XS of SPOT, RADAR SAR of ERS-1) and aerial photographs accompanied by a control in site, we carried out a structural map of the Northern Rif internal domain. We have find out four principal directions of faults: N-S, NE-SW, NW-SE and E-W. This fracturing which guides on the surface the majority of the hydrographical network, shows also a relationship with the distribution of landslides. These latter are developed along NESW, NW-SE and E-W faults . Or, especially at tectonic nodes which correspond to various crossings combinations of these accidents. The relationship fracturing – landslides underlined and the maps carried out allow to direct the choice of the new pattern roads, as well as sites of urbanization in this part of the Al Hoceima. This fracturing associated with the slope, the lithology, the geotechnical quality of certain grounds, and the anthropic action correspond to the predisposing factors of the landslides. Whereas, the water, the erosion, the tectonic activity and the seismicity constitute the starting factors of the landslides.

Key words : SPOT XS, ERS-1 SAR, Fracturing, landslides, Al Hoceima , Morocco