

Contribution of Gis and Remote Sensing in Assessing Of Landslides Hazard: A Case Study from Northern Area of the Central Rif, Morocco

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The landslides constitute a major concern as regards installation management of the territory.

In the northern area of the Central Rif, they are not only related on the occurrences of rains and faults generated by the last earthquake, but it's a multidisciplinary approach that combines geomorphology, geology, hydrogeology, and geotechnics in order to understand how such slope failures are generated, especially in a region with a heterogeneous structure characterized by significant lithological differences, severe fracturing, and thrust sheets where tectonic contacts play a major role in groundwater circulation. This may subsequently involve the entire slope. Possible scenarios have been imagined and mapped as a GIS which, in spite of its obvious limits, could constitute a preliminary step towards a decision support system.

In order to draw up a chart of the landslides hazard in the Central Rif, The use of satellite images and cartographic documents, enabled us to follow and to quantify the alterations that affected the semi-mountainous area of El-hoceima and to define, in hierarchic order, their potential risk. For that we had recourse to a DEM of the area like to optical data satellite and radar to which one applied a series of spectral and space raisings in addition to one multispectral classification from which we could establish a chart of the occupation of the ground.

The cartography of the principal limits of the lithological formations, realized starting from the photo-interpretation of the images resulting from the improvements spectral. Thus, a model of spatial and temporal variations in the factor of safety is proposed.

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