

## NEOTECTONICS AND SLOPE INSTABILITIES IN THE REGION OF GUELMA (NORTH EAST OF ALGERIA)

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### **Abstract**

In the North eastern Algeria, earthquakes and landslides are among the most frequent natural hazards and the most recurrent.

The Wilaya of Guelma located in this region has registered, in latest years, some low-amplitude pulses telluric and many forms of slope movement reflecting its instability which managers must take into account these natural hazards for future development projects.

The identification of active faults in similar regions, characterized by slow deformation and land badly marked deformation is a difficult and necessary task to address the seismic hazard assessment.

The present study is relies on the particularities and anomalies both morphological and geological to identify the active deformation by using the criteria of active tectonics.

We chose to apply an approach which combines the Morphostructural analysis, geology, Hydrographical network and seismicity, which aims to decipher the mechanisms of operation of these natural phenomena.

Finally, it has been found that the different cases have been affected by a neotectonic effect leading to instability of the area. Using confrontation and the superposition of multiple layers of information, by GIS application, it has been confirmed the presence of a relation between the spatial distribution of fractures, their activity and the slope instabilities.

**Key words:** Guelma, neotectonic, morphostructural analysis, hydrographical network, slope instabilities.