

## PRE-SEISMIC ASSESSING HAZARD: EXAMPLES OF NORTHERN ALGERIA

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The study aims to describe the mapping in seismic hazard assessment. Historical seismicity, active faults analysis and seismotectonic zonation are established for pre-seismic assessing of some seismic regions with low to moderate seismicity and reveal neotectonic indications. These regions belong to North of Algeria. The domain located near tectonic plates boundary, has been marked by several destructors earthquakes.

The study initialized in the pre-phase seismic assessment and focused on the identification of geological structures which present a seismic potential. For this purpose, photogeological maps and historical seismicity maps are initiated. Then, the phase concerning seismotectonic analysis is carried out by correlation between tectonic structures and seismicity. A map of active fault and a preliminary seismotectonic zonation are established.

We mapped for some cases of seismic regions, mainly tectonic structures reported in the bibliography as being active (Figures 1 and 2). And we realized historical seismicity map (Figure 3) and seismotectonic zonation (Figure 4). This guide our work in the field. Also, the management of data in GIS is for quick response to any improvement of the evaluation. The geometric parameters (direction length, dip) of tectonic structures mainly faults are integrated into the calculation of the seismic hazard.

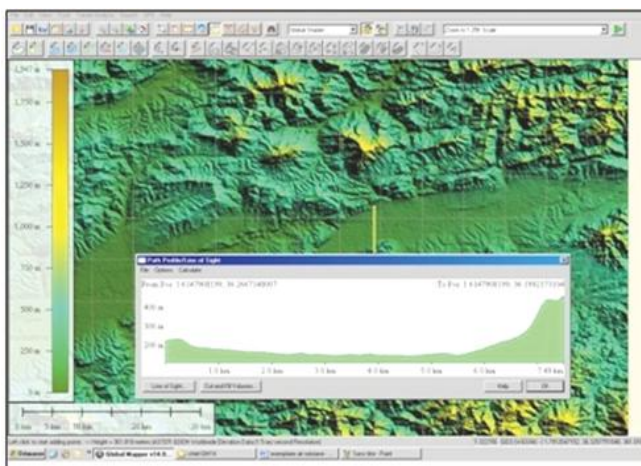


Figure 1. Analysis morphotectonics of the Lower Chéllif valley (0-2,5E 36, 50- 35,5N). Source: Worldwide Elevation Data (SRTM)

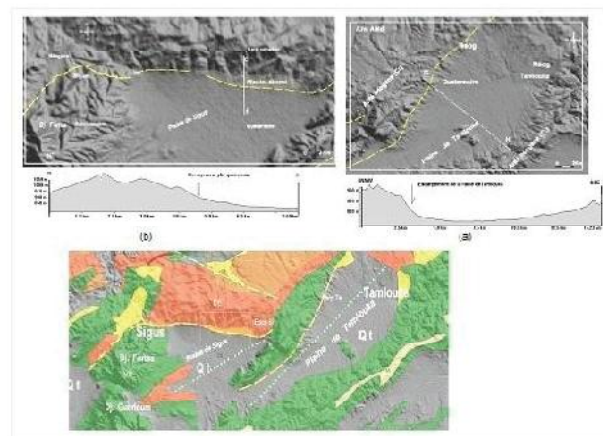


Figure 2. Example of photogeological map: escarpments of 02 supposed active faults in southern Constantine region

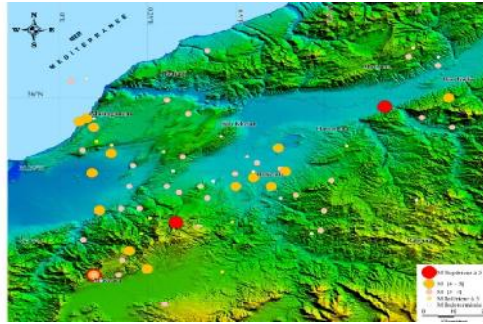


Figure 3. Seismicity of Lower Chellif valley. Based (Worldwide Elevation Data (SRTM)) and the on-line catalog of the ISC and the USGS

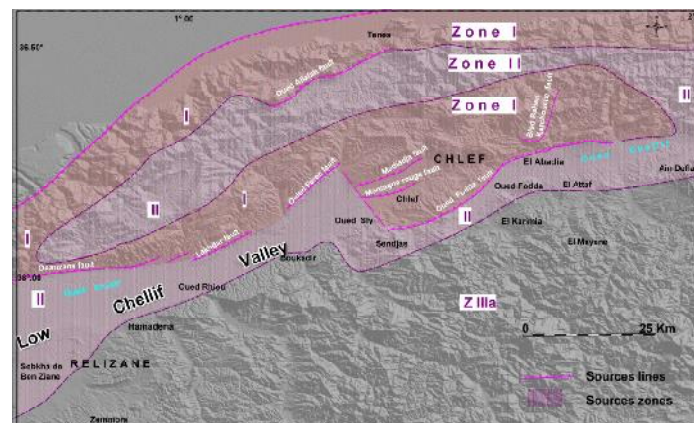


Figure 4. Map of seismotectonic zonation of Low Chellif valley (based on WCC, 1984)

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