

# **The Kherrata moderate earthquake (Mw = 5.8) of March 20th 2006 (Wilaya of Bejaia, Babor chain, North-East Algeria). Macro seismic effects, Seismology and Seismotectonic implications.**

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On March 20th, 2006, at 19h44mn UTC, a moderate earthquake (Mw 5.8; ETHZ) struck the region of the Babor chain, in the Alpine Tell Atlas (wilaya of Bejaia, North-east Algeria). The epicentre was located at 36.56N and 5.41E (CRAAG), at about 1 km north of the Kherrata village. In this region between Kherrata and Bejaia cities, several buildings and private houses suffered from the event. Some of them collapsed totally in the Laalam village (20 km NE of Kherrata), due to a landslide triggered by the earthquake, causing 4 died persons and 175 injured. The corresponding intensity was of VIII (EMS scale). Besides the Laalam landslide, rock falls have been often observed throughout this mountainous region. According to fault-plane solutions provided by the CRAAG, INGV and ETHZ seismological centres, and the spatial distribution of aftershocks, the earthquake is associated to a sinistral strike-slip fault trending N-S. Analysis of aftershock distribution shows besides the existence of two other trends: NW-SE and E-W. One focal mechanism on the NW-SE trend indicates a dextral movement, in agreement with the NW-SE faults described in the Babor chain. The E-W trend would have a sinistral movement, in comparison to the known E-W sinistral faults in the Babor region. The compressive component  $\sigma_1$  of the stress tensor ellipsoid is here horizontal and oriented NW-SE. This agrees with the NW-SE orientation of  $\sigma_1$  deduced in other parts of the Tell Atlas, in relation with the horizontal convergence between the plates Eurasia and Africa.