

Karstic Hazard in BOUKADIR (Chlef-Algeria) and its potential socio-economic impact

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Boukadir, the municipality of the Wilaya of Chlef located west of Algiers has never been defined as a **karstic region** of **Algeria** despite the formation of a large collapse sinkhole in June 1988. The sinkhole formed a crater with 60m wide and 35 m deep across the national road RN4 linking the Wilaya of Algiers to Oran.

The municipality of Boukadir is located near southern edge of a 20 km wide plain flooded by the Chlef River bounded to the south by the **Ouarsenis** mountain range. The northern piedmont of the **Ouarsenis** Range is composed of Lithothamnion limestones of the tertiary that form a 25° dipping structural surface. Traces of karstification were founded in these Lithothamnion limestones outcropping at the surface. At the level of the plain and of the collapse sinkhole, the carbonate rocks are covered with younger sediments (quaternary alluviums). In order to objectively evaluate the hazard in the covered karst, we combine a range of boreholes to unravel the geometry of the carbonates and its cover. The characteristics of the limestones are evaluated combining XRD, XRF and thin sections in order to evaluate its dissolution potential. The socio-economic context is reviewed (population, industry, agriculture...) to discuss the karstic risk.

Keywords: Algeria, Boukadir, Ouarsenis, Karstic region, Geology, socio-economic context.