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Mapping the Intrinsic Vulnerability of the Quaternary Aquifer of the Eastern Mitidja (Northern Algeria)

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Abstract : The Neogene basin of the Eastern Mitidja, object of the study area, represents potential water resources and especially groundwater reserves. This water is an important economic; this resource is highly sensitive which need protection and preservation. Unfortunately, these waters are exposed to various forms of pollution, whether from urban, agricultural, industrial or merely accidental. This pollution is a permanent risk of limiting resource. In this context, the work aims to evaluate the intrinsic vulnerability of the aquifer to protect and preserve the quality of this resource. It will focus on the disposal of water and land managers a cartographic document accessible to locate the areas where the water has a high vulnerability. Vulnerability mapping of the Easter Mitidja quaternary aquifer is performed by applying three methods (DRASTIC, DRIST, and GOD). Comparison and validation results show that the DRASTIC method is the most suitable method for aquifer vulnerability of the study area.

Keywords : Aquifer of Mitidja, DRASTIC method, geographic information system (GIS), vulnerability mapping
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