

# **Using the DRASTIC method and the geographic information system for the estimate and mapping of ground water vulnerability to the pollution: case of Eastern Mitija**

In Algeria, groundwater is the main source of water demand satisfaction.

For over a decade, rapid urbanization, and increased industrial activities and intensive farming practices have led to a deterioration in the quality of this resource, already in limited quantities. This situation got worse by a continuing drought. Consequently, it must receive sustained protection; and to be effective, the latter requires knowledge of the receiving body of water (watercourses, sheets, etc.).

DRASTIC methodology which is of American origin, was developed by the National Water Well Association (NWWA) between 1983 and 1987. It provides vulnerability maps that are a synthesis of lithological, structural and hydrogeological knowledge of a region. These documents identify areas where the risk of groundwater pollution is the most important. The aforementioned methodology is an invaluable tool for the management and development of a territory in order to prevent pollution of those waters.

The method was applied for the first time in Algeria, in the east area of Mitija. The method is computerized using the Geographic Information System ATLAS.GIS. The method adequacy, as a vulnerability indicator is also discussed.

**Keywords:** ground water; vulnerability; pollution; cartography; GIS; DRASTIC.