

**Estimation of Underground Water Flows in the Shallow aquifers Using Artificial Neural Networks (ANN) in North of Algeria**  
**Abstract n°1840**

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**KEYWORDS:** geomorphological data, precipitation, shallow aquifers, artificial neural network, groundwater.

Rational management of water resources cannot ignore the monitoring of the most important geomorphological factors and studies on lithology, especially in arid and semi-arid regions and high precipitation variability. The technical support and the communication of geo-meteorological information is crucial for a sustainable management of water resources and to improve the quantity and the quality of the agricultural production. Often, geomorphological and meteorological information are not punctual, that are relative to a certain region, and the data are not treated to supply indications and provide useful indications concerning water reserves in the shallow aquifers for technicians and farmers. This work aimed to develop a model of artificial neural network for estimating the water reserves from the geomorphological data watersheds of northern Algeria under the effect of precipitation contrasting, in order to determine automatically the flow rates of underground water available for agriculture in the shallow aquifers, to have better control of groundwater.

