



Hydrodynamic characterisation of an heterogeneous aquifer system under semi-arid climate

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Abstract

The studied zone is a part of the Mellegne's (North-East of Algeria) under pound, this zone is characterised by its semi-arid climate.

The water bearing system is formed by the plio-quaternary alluviums resting on a marly substratum of age Eocene.

The geostatistical approach of the hydrodynamics parameters (Hydraulic load, transmissivity) allowed the study of their spatial distribution (mapping) by the method of Kriging by blocks and the identification of zones with water-bearing potentialities.

In this respect, the zone of Ain Chabro which, is situated in the South of the plain shows the best values of the transmissivity.....

The use of a bidimensional model in the differences ended in the permanent regime allowed us to establish the global balance sheet (overall assessment) of the tablecloth and to refine the transmissivity field. These would vary more exactly between 10^{-4} to 10^{-2} m²/s.

The method associating the probability approach of Kriging to that determining the model has facilitated the wedging of the model and clarified the infiltration value.

Key words: hydrodynamics, geostatistics, Modeling, Chabro, Tébessa.