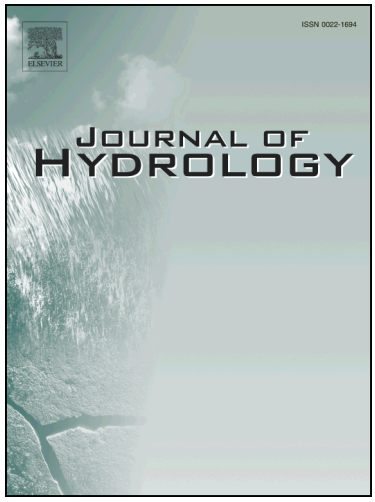


Research papers

# Prediction of pollutant remediation in a heterogeneous aquifer in Israel: Reducing uncertainty by incorporating lithological, head and concentration data

Ziv Moreno, Amir Paster

PII: S0022-1694(18)30517-1
DOI: https://doi.org/10.1016/j.jhydrol.2018.07.012
Reference: HYDROL 22944

To appear in: *Journal of Hydrology*

Received Date: 12 March 2018
Revised Date: 10 June 2018
Accepted Date: 5 July 2018

Please cite this article as: Moreno, Z., Paster, A., Prediction of pollutant remediation in a heterogeneous aquifer in Israel: Reducing uncertainty by incorporating lithological, head and concentration data, *Journal of Hydrology* (2018), doi: https://doi.org/10.1016/j.jhydrol.2018.07.012

# Prediction of pollutant remediation in a heterogeneous aquifer in Israel: Reducing uncertainty by incorporating lithological, head and concentration data

Ziv Moreno

Corresponding author: School of Mechanical Engineering, Faculty of Engineering, Tel Aviv University, Tel Aviv 69978, Israel; E-mail: zivmoreno@post.tau.ac.il

Amir Paster

School of Mechanical Engineering, Faculty of Engineering, Tel Aviv University, Tel Aviv 69978, Israel; E-mail: paster@tau.ac.il



## 1. Introduction and background

Reliable predictions of pollutant transport in aquifers have a major rule in the management and protection of the aquifer. Based on predictions we can perform risk analysis and manage production wells (e.g. *Hobbs et al.,* 1988; *Li et al.,* 2007; *Maxwell et al.,* 1998), and make decisions regarding a suitable remediation strategy for the contaminated aquifer (e.g. *Guo and Brusseau,* 2017; *Wagner and Gorelick,* 1989; *Zheng and Wang,* 2002). However, the complex processes of sediments' deposition and erosion, that generates the aquifer's geological structure, may result in a highly heterogeneous spatial distribution of hydrogeological parameters *(Huysmans and*