عنوان مقاله:

Modeling of groundwater salinity on the Persian Gulf coastal plain By using linear moments and ANFIS-PSO

محل انتشار:

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خلاصه مقاله:

The main source of water in Minab is the shallow aquifer which is part of the coastal aquifer. The quality of the groundwater is extremely deteriorated in terms of salinity. Salinization of groundwater may be caused and influenced by many variables. Studying the relation of between these variables and salinity is often a complex and nonlinear process, making it suitable for artificial intelligence application. The present paper presents a comparison of the hybrid of Adaptive Neuro Fuzzy Inference System (ANFIS) with Partial Swarm Optimization (PSO) model and L-moments regarding their power and efficiency in regional and at-site anticipation of salinity of groundwater at Minab coastal plain. In doing so, electrical conductivity is considered the dependent variable, while, through regression analysis, total cations, magnesium ion, sodium percentage, and level of groundwater are assumed to be independent parameters. Results showed that, in regions with lower heterogeneity criterion, ANFIS-PSO regional forecast were moderately more accurate than at-site anticipations.

کلمات کلیدی:

Salinity, ANFIS-PSO, Regional analysis, At-Site Analysis

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