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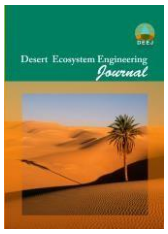

Investigating the trend of changes temporal in the water table of groundwater in an arid ecosystem (Case Study: Aspas Aquifer)

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Abstract

In arid and semi-arid ecosystems shortage of surface water has led to a greater use of groundwater resources. Water table in groundwater due to climate and human intervention is always fluctuating. Assessing change groundwater resource in planning and sustainable management of water resources in each region has of great importance. In this study were investigated changes of water table in the plain aquifer Aspas. For this purpose monthly data of 30 well of groundwater observation to demonstrate groundwater fluctuations in statistics course (2002_2009) was used and using nonparametric tests Mann - Kendall and Spearman significant trend for monthly and annual time series were evaluated at a significance level of 95%. For each series, the slope of trend line was computed using Sen's Estimator method. The results showed that in all stations (except stations Pahlevani side drainage and riverside Hajiabad, Babai, kenas - sefli and kenas sefla) groundwater level has a negative trend. Mann - Kendall showed that nearly 83 percent of stations have negative significant trends. Investigate slope of trend line in the Aspas plain shows that water table declined 73.5 centimeter in each year.

Keywords: Water table, Mann - Kendall test, Spearman test, Aspas plain.

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