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# MONTHLY TRENDS OF PHYSICO-CHEMICAL FACTORS IN THE MAROON RIVER

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## Abstract

Evaluation of the quality of river water as a very important part of our natural heritage is necessary both for comprehending the existing condition of rivers and for better managing water quality (WQ) impairments by point and non-point poluution sources. The purposes of the current study are (1) to examine temporal trends in the monthly time series of thirteen physico-chemical factors in the Maroon River in the southwest of Iran for the period 1989-2008 using the parametric linear regression and the nonparametric Sen's slope estimator and Mann–Kendall test (2) to discuss the relationship between the difference of the two groups of trend tests and the degree of normality of the statistical distribution. The findings revealed that (1) the greatest number of significant trends was found in calcium and turbidity variables; (2) the difference between the results of the parametric and nonparametric tests can be related to the statistical distribution of the WQ data. The results of this study emphasize that consideration of the statistical distribution of WQ data is essential prior to trend analysis by parametric tests.

*Key words:* chemical variables, physical variables, southwestern Iran, trend analysis, water quality

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