

عنوان مقاله:

(Estimation of SAR Quality Index by using M5 Tree Model (Case study: Shahrchay River in West Azerbaijan, Iran

محل انتشار:

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خلاصه مقاله:

Water quality is a major concern around the world, particularly in dry climates. Usually, assessment of surface water quality is costly and time-consuming. In this situation, one procedure which can estimate the water quality accurately with the minimum of hydro-chemical parameters is more acceptable. One of the important parameters of water quality in the field of agriculture is a Sodium Adsorption Ratio (SAR). In this study, feasibility of estimation SAR quality index in Shahrchay River located in west of the Urmia lake basin investigated by using different hydro-chemical parameters and M5 model tree. Four Statistical criterions, including Correlation Coefficient (R), Nash-Sutcliffe (NSC), Root Mean Square Error (RMSE) and Mean Absolute Error (MAE) used for the scrutiny of M5 model accuracy. The values of these criterions based on optimum combination of parameters (TDS, Na) obtained ($R=0.994$, $N-SC=0.979$, $RMSE=0.016$ (mg/l), $MAE=0.012$ (mg/l)) and indicated that the M5 model tree has a well performance in estimation of SAR values and offers the practical and simple linear equations

کلمات کلیدی:

Water Quality, Sodium Adsorption Ratio (SAR), M5 Tree Model, Shahrchay River

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