Runoff simulation and prediction using Support Vector Regression (SVR) and SWAT Hydrological model

Using dynamic and continuous time series has become the focus of attention due to rainfall-runoff process complexities and simplification of multiple regression and static methods. On the other hand, forecasting river flow is one of main topics in terms of flood control. In this paper, SWAT hydrological model was used to analyse the rainfall-runoff relationship for a 4-year period in Kahir catchment basin, Sistan and Baluchistan. Model output was calibrated by SUF\textsubscript{12} optimizer algorithm and data entered the model again. Then Model output was used to forecast future periods using Support Vector Regression (SVR) and essential codes in MATLAB. Acceptable results of SVR model to predict data can be used as another method to estimate parameters and inputs.

Keywords: SWAT hydrological model, Support Vector Regression (SVR), Time-series forecast, Kahir River.

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