عنوان مقاله:

Evaluating Performance of Hybrid Neural Network Models in Daily River Flow Estimation

محل انتشار:

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خلاصه مقاله:

River flow forecasting is of immense importance for reliable planning, designing, and management of water resources projects. This study investigated the performance of wavelet neural network, support vector machine, artificial neural network, and Multiple Models Driven by Artificial Neural Networks (MMANN) in predicting flow time series of the Kashkan River in Lorestan, Iran. Daily flow time series was created from the records of Kashkan hydrometric and rain gauge stations for a ۱۰-year period from ۲۰۰۶ to ۲۰۱۶. To determine the best input-output mapping, estimations were repeated with different combinations of inputs derived from previous daily river flow data. Performance of the models was evaluated in terms of correlation coefficient, root mean square error, and mean absolute error. Performance comparisons showed that the MMANN model with a correlation coefficient of ۰.۹۶۰, root mean square error of ۰.۰۲۱, and mean absolute error of ۰.۰۰۱ generates the best daily flow estimates for the studied river.

کلمات کلیدی:

Flow discharge, Support vector machine, wavelet neural network, Forecasting