Abstract

Erosion and sedimentation, resulting in the loss of fertile agricultural soil and cause damage outside the region. The sediment transport on water quality parameters are effective The estimated amount of sediment, soil conservation projects, design and implementation of hydraulic structures, and utilization of water resources is necessary. Estimation of suspended sediment is a function of many factors that may be difficult to model analytically, so they are all using artificial intelligence techniques that are capable of significantly useful simulation of complicated phenomena appear

,In the present study using an artificial neural network model of multi-layer perceptron (MLP) and general regression (GRNN) to estimate sediment gauging stations located in Khorasan Razavi Kardh dam was discussed. GRNN Neural networks are often used as estimation functions. Which consists of a radial basis layer and a special linear layer is. Multi-layer perceptron network consists of three layers of input, hidden and output the number of neurons in each layer is determined by trial and error After monitoring data, review of data homogeneity and normality of the data flow, rainfall, discharge day before, day before the precipitation corresponds to the rate of deposition as the network input and output of the network was used to calculate the deposition rate. Models used during the training process and the process of network weights of trained neural network is optimized for Estimation of suspended sediment was used, then use statistical indicators to compare the estimated and actual values, and determine the strengths and weaknesses of the model in predicting sediment was examined. Finally, a general regression neural network in the input parameters to the neural network was associated with a more acceptable results

Keywords: Suspended, Load, Discharge, ANN, Kardeh

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