

## **Application of ANN and Fuzzy Logic Algorithms for Runoff and Sediment Yield Modelling of Kal River, India**

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**Abstract :** The ANN and fuzzy logic (FL) models were developed to predict the runoff and sediment yield for catchment of Kal river, India using 21 years (1991 to 2011) rainfall and other hydrological data (evaporation, temperature and streamflow lag by one and two day) and 7 years data for sediment yield modelling. The ANN model performance improved with increasing the input vectors. The fuzzy logic model was performing with R value more than 0.95 during developmental stage and validation stage. The comparatively FL model found to be performing well to ANN in prediction of runoff and sediment yield for Kal river.

**Keywords :** transferred function, sigmoid, backpropagation, membership function, defuzzification

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