Abstract

The artificial neural networks (ANNs) have been applied to various hydrologic problems recently. This research demonstrates static and dynamic neural approach by applying Time lagged recurrent neural network and Radial basis function neural network to rainfall-runoff modeling for the upper area of Wardha River in India. The model is developed by processing online data over time using static and dynamic connections. Methodologies and techniques of the two models are presented in this paper and a comparison of the short term runoff prediction results between them is also conducted. The prediction results of the Time lagged recurrent neural network indicate a satisfactory performance in the three hours ahead of time prediction. The conclusions also indicate that Time lagged recurrent neural network is more versatile than Radial basis function neural network and can be considered as an alternate and practical tool for predicting short term flood flow.
Reference

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**Index Terms**

Computer Science  
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**Key words**

Artificial neural network  
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Rainfall
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