Abstract

Nonlinearity exists in most of the real phenomenon and it is difficult to model the behaviour of such indefinite systems. Neural computing is one the important tools for modeling the nonlinear structures and efficiently applying in the measurement of inexplicit systems. The monsoon rainfall in Pakistan shows an important part in upstream flow in the Upper Indus Basin (UIB). This study, suggests different Dynamic Neural Network (DNN) models, based on time delayed autoregressive structures, for the upstream water flow of Tarbela Dam on upper Indus basin. The appropriateness of the models for training, validation and testing phases established on evaluation metrics which exhibit the accuracy of the models. This paper also gives a major preference when only the upstream flow gauge stations data are available, which can be beneficial for water-resource engineers.

References

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**Index Terms**

Computer Science  
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**Keywords**

Upper Indus Basin, Dynamic Neural Network, Upstream water flow.