



Development of neural network based models for real-time river forecasting in the Bird Creek catchment

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This study explores the development of neural network based models for real-time river forecasting in the Bird Creek catchment, USA. These models provide six hourly river flow forecasts up to 24 hours ahead. The structure of these models is based on two neural network types, namely, the radial basis function and the multi-layer perceptron. The developed neural network models can be regarded as non-linear Auto-Regressive Exogenous-input (ARXM) models, where the exogenous input is the rainfall. The results of the neural network models are compared to those of the linear ARXM models using a range of quantitative and qualitative model performance criteria.