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Estimation of climate change impact on the flood of Kickapoo River at La Farge

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ABSTRACT

Predicting the impact of climate change in a particular river is necessary to adapt and mitigate the future floods. In this study the climate change impact on Kickapoo River is estimated using the rainfall forcing of RCP 4.5 scenario. Towards this a new methodology is framed to simulate discharge in the river using Artificial Neural Network which uses the knowledge of predictability of the time series as well. Four different bias correction methods, including an ANN based bias correction method is evaluated to reduce the biases in the rainfall forcing series obtained from Global Circulation Model and the best out of the four applied to bias correct the whole series. Simulation of discharge is done till the year 2099. It is found the Kickapoo River flow may likely go low in future due to climate change.

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