Abstract

This article uses the non-linear integrated drought index (NDI) for managing drought and water resources forecasting in a tropical river basin. The NDI was formulated using principal component analysis (PCA). The NDI used hydro-meteorological data and forecasted using recursive multi-step neural networks. In this article, drought forecasting and projection is adopted for planning ahead for mitigation and for the adaptation of adverse effects of droughts and food insecurity in the river basin. Results that forecasting ability of NDI model using ANNs decreased with increase in lead time. The formulated NDI as a tool for projecting into the future.