Abstract

Due to increased impact of drought on water availability at different scales there is need to understand droughts especially in upper Tana River basin which is a critical and largest water system in Kenya. There is need to correlate trends of drought as influenced by the climate variability of the present times. Drought frequency, duration and intensity in the basin have been increasing. The influencing hydro-meteorological parameters and their interaction are necessary in developing measures for mitigating impacts of droughts. It is important to have a timely review of drought definitions and fundamental concepts of droughts, classification of droughts, types of drought indices, historical droughts and artificial neural networks with special focus of Kenyan a basin. Out of the review, this paper draws conclusions where gaps for more focused research especially for a typical river basin in Kenya exist. By developing effective drought forecasting tool for on-set detection and drought classification and drought forecasting, information on decision making on matters of drought preparedness and mitigation programmes will be available for proper water resources management.