

Modeling monthly rainfall time series using ets state space and sarima models

Abstract

The study of rainfall time series of two selected weather stations in Malaysia using various statistical methods enabled to analyse the temporal behaviour of rainfall in the study areas. Time-series analysis is an important tool in modelling and forecasting rainfall. SARIMA (1, 1, 2)(1, 1, 1)₁₂, SARIMA(4, 0, 2)(1, 0, 1)₁₂ with constant and ETS state space models based on exponential smoothing were built. All the models proved to be adequate. Therefore, could give information that can help decision makers establish strategies for proper planning of agriculture, drainage system and other water resource applications in Malacca and Kuantan.