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ABSTRACT

Seasonal adjustment techniques such as the Census X-11 and *ARIMA*-model-based procedures are used mainly in business and economic studies. In view of the similarity in basic structure and composition of hydrologic time series to commercial time series, in the first part of this study, we appraise the applicability of these techniques in hydrologic studies.

The need for non-Gaussian models in describing hydrologic time series has long been felt since most hydrologic series are skewed and have long-term correlation structures. In this study, a new Gamma-like autoregressive-moving average model is developed, its probabilistic properties such as bivariate distribution, covariance structure, conditional expectation are established. As an application, this model is fitted to mean monthly flows of Perak river in Malaysia and its performance investigated.