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Multiplicative seasonal ARIMA modelling of monthly stream flows of Choriti river

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■ **ABSTRACT** : The multiplicative seasonal ARIMA $(p,d,q) \times (P,D,Q)_s$ models of different orders were tried for modelling of monthly inflow of Choriti river of Konkan region of Maharashtra, based on 20 years data. The parameters of seasonal ARIMA models were estimated by fitting ARIMA models to differenced series ($d=0$ and $D=1$) at different lags. The goodness of fit of models was tested by Box-Pierce Portmanteau lack of fit test and comparison of historical and forecasted monthly inflows. The forecasted performance of the model was evaluated by using goodness of fit tests. Lower values of root mean squared error; mean relative error and integral square error for multiplicative seasonal ARIMA $(0,0,1) \times (0,1,1)_{12}$ model indicated closer agreement between forecasted and historical monthly inflow series.

■ **KEY WORDS** : Autoregressive integrated moving average model, Forecasting, White noise, Akaike information criteria

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