

AUTO REGRESSIVE INTEGRATED MOVING AVERAGES MODEL FOR DAILY RAINFALL FORECASTING

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ABSTRACT

Weather on earth changes continuously and hence becomes important to forecast so as to foresee any natural calamity and hence to take preventive measures in advance. Auto Regressive Integrated Moving Averages model (ARIMA model) is the time series model which studies the stationary series and hence is used for modelling and forecasting. This paper studies the ARIMA model in order to model and forecast the weather parameter as rainfall of Delhi region from January 1, 2017 till December 31, 2018 on daily basis. In order to check the stationarity of the time series, Augmented Dickey-Fuller (ADF) and Philips Peron (PP) tests have been applied. The study revealed that the ARIMA (1,1,1) model is the best suited model of the series on the basis of the Akaike Information Criterion (AIC) value used for the selection of the best fit model for forecasting the parameter.

KEY WORDS: Auto Regressive Integrated Moving Averages model (ARIMA model), Augmented Dickey-Fuller (ADF), Philips Peron (PP), Time series, Akaike Information Criterion (AIC)