

## Multi-step-ahead prediction of non-linear time series using artificial neural network approach

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Recently, there has been considerable interest in the forecasting of a time series system by using various tools. An artificial intelligence network (ANN) is such a method, which allows knowledge processing to be included in forecast support tool. It has become an attractive alternative to traditional forecasting methods, to predict the long-term behaviors of nonlinear systems. This paper presents a time series forecasting methodology to generate multi–step–ahead predictions. In order to evaluate performance of the Multi–step–ahead prediction of non-linear time series using artificial neural network, we made use of 86 years of rainfall time series data of Hyderabad (India) which is bounded by latitude 17°-18° N and longitude 78°-79° E. The rainfall is highly non-linear phenomena and its prediction is a challenging and demanding task especially in view of the major environmental problem of global warming. The global nature of this phenomenon is very complicated and requires sophisticated computer modelling and simulation to predict it accurately. The results obtained through this approach are shows potential for long-term prediction.