

Exploratory Analysis of RainFall Data in India for Agriculture

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Literature Survey :

Project Title	Author	Objective/Outcome
A simple method for generating daily rainfall data	Shu Geng, Penning de Vries, Iwan Supit	In this project to find rainfall data using proposed methods, a combination of Markov chain and gamma distribution function is recognized as a simple approach and is demonstrated to be effective in generating daily rainfall data for many environments. Unfortunately, this method requires that many years of daily weather records be available for estimating the model parameters. Thus the availability of the weather data limits the applicability of the simulation method.
Artificial neural network for forecasting rainfall data in Canada	Craig Heady, Irene Parisi, Elisabeth Vogel	In this study a multilayer feed-forward back-propagation ANN algorithm is implemented to evaluate the forecast accuracy and to analyse the statistical characteristics of the ANN model for original data and for data

		<p>pre-processed with moving average and exponential smoothing transformations. The prediction performance of these models is compared to that of a seasonal autoregressive fractionally integrated moving average time series model. The statistical results show that the ANN model with exponential smoothing of the data has the smallest root mean square error and the highest correlation coefficient and thus, outperforms the alternative models investigated in this study.</p>
<p>Rainfall Variation and Changing Pattern of Agricultural Cycle</p>	<p>Alam M M, Mohd Ekhwan T, Siwar C, Talib B</p>	<p>In this study uses descriptive statistics to analyze the fact and uses unit root test to measure the predictability of rainfall. The raw data is taken from 8 stations from 1980 to 2007. Shifting crop cycle is also not fruitful due to unpredicted changes of rainfall. All combination of crop cycle is also affected in a similar way. Under this circumstance, in the short run, adaptation approaches should be followed in farmer level and policy level.</p>
<p>Annual and monthly rainfall data generation schemes</p>	<p>N E Unal, H Aksoy, T Akar</p>	<p>Annual and monthly rainfall data series are generated by using autoregressive (AR) processes, Thomas-Fiering</p>

		<p>(TF) model, method of fragments (F) and its modified version (MF), two-tier (TT) model, and a newly developed wavelet (W) approach. It is seen that the W approach is as well in preserving the statistical behavior of the observed data series as the classical annual and monthly hydrological data generation schemes used in this study. The W approach is found even better in replacing some particular characteristics such as the mean of the sequence and correlation between the successive months in the series.</p>
<p>Matsuyama City Rainfall Data Analysis Using Wavelet Transform</p>	<p>G Santos, Koichi Suzuki</p>	<p>This study the variability of the monthly rainfall time series in Matsuyama city, wavelet analysis is applied. The wavelet power spectrum shows a big power concentration between the 8-16- month band, revealing an annual periodicity of such events, which is confirmed by the peak of the integration of transform magnitude vectors over time that show again a strong annual signal.</p>