Abstract

Rainfall prediction is very complex hydrologic process and is important as it holds the key to any countries’ economy. Proposed model presents a new approach for yearly rainfall prediction of 30 Indian subdivisions. Yearly rainfall data of the Indian subdivision is available from IITM, Pune. The combination of Fast Fourier Transform (FFT) and Feed Forward Neural Network (FFNN) is applied for next one year rainfall prediction. Fast Fourier transform with filtering is performed on interpolated rainfall data to separate periodic components. These periodic components and delayed periodic components are given as input and desired output respectively to an FFNN for training. While testing the output of FFNN, inverse FFT gives the predicted rainfall value by amount of training input-output delay. This model is tested with 140 year’s Indian subdivisions rainfall data. The experimental results of 30 subdivisions show that next one year rainfall prediction accuracy is above 92%.

References

Rainfall Prediction using Neural Net based Frequency Analysis Approach

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Index Terms

- Computer Science
- Artificial Intelligence
Keywords
Rainfall prediction  Fast Fourier Transform  Feed Forward Neural Network