

## Spatial and Temporal Variability of Fog Over the Indo-Gangetic Plains, India

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**Abstract :** The aim of the paper is to analyze the characteristics of winter fog in terms of its trend and spatial-temporal variability over Indo-Gangetic plains. The study reveals that during last four and half decades (1971-2015), an alarming increasing trend in fog frequency has been observed during the winter months of December and January over the study area. The frequency of fog has increased by 118.4% during the peak winter months of December and January. It has also been observed that on an average central part of IGP has 66.29% fog days followed by west IGP with 41.94% fog days. Further, Empirical Orthogonal Function (EOF) decomposition and Mann-Kendall variation analysis are used to analyze the spatial and temporal patterns of winter fog. The findings have significant implications for the further research of fog over IGP and formulate robust strategies to adapt the fog variability and mitigate its effects. The decision by Delhi Government to implement odd-even scheme to restrict the use of private vehicles in order to reduce pollution and improve quality of air may result in increasing the alarming increasing trend of fog over Delhi and its surrounding areas regions of IGP.

**Keywords :** fog, climatology, spatial variability, temporal variability

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