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PRECIPITATION AND CLIMATE VARIABLES: A STUDY OF ISLAMABAD CITY

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Abstract

The objective of this paper is to investigate the short & long run association, and causality between Precipitation (dependent variable), and other climate parameters such as minimum & maximum temperature, wind speed, relative humidity, and atmospheric pressure (independent variables) for Islamabad city. The authors have considered the data set from July 2001 – December 2017, and applied several econometrics techniques such as Augmented Dickey-Fuller, Vectors Auto regression, Multivariate cointegration, and Granger causality techniques to analyze the data. The findings of the study demonstrated a long-term association between precipitation, and minimum temperature, atmospheric pressure, relative humidity, and wind speed. Finally, the Granger causality revealed the one-way causal relationship from atmospheric pressure to the rainfall, rainfall to relative humidity, and atmospheric pressure to rainfall. However, the authors have observed two-way causality between precipitation and minimum temperature.

Key words: atmospheric pressure, precipitation, relative humidity, temperatures, wind speed

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