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"Gheorghe Asachi" Technical University of Iasi, Romania

PRECIPITATION AND CLIMATE VARIABLES: A STUDY OF ISLAMABAD CITY

Dalia Streimikiene[1]*, Rizwan Raheem Ahmed[2], Saghir Pervaiz Ghauri[3], Jolita Vveinhardt[4]

[1]Institute of Sport Science and Innovations, Lithuanian Sports University, Sporto str. 6, 44221, Kaunas, Lithuania
[2]Faculty of Management Sciences, Indus University, Block-17, Gulshan, Karachi-7550, Pakistan
[3]Faculty of Management Sciences, DHA Suffa University, DG-78, Off Khayaban-e-Tufail, Phase-7, Ext-DHA, Karachi-75500, Pakistan
[4]Faculty of Economics and Management, Vytautas Magnus University, Daukanto str. 28, 44248, Kaunas, Lithuania

Abstract

The objective of this paper is to investigate the short and long run association, and causality among precipitation (dependent variable), and other climate parameters such as minimum and 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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* Author to whom all correspondence should be addressed: e-mail: dalia.streimikiene@lei.lt; Phone: +370 614 03424