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Investigating the effects of COVID-19 to crime rates through a geospatial approach: the case of New York, USA

Ioanna Tselka, Isidora Isis Demertzi, and George P. Petropoulos
Department of Geography, Harokopio University of Athens, El. Venizelou 70, 17676, Athens, Greece
(ioannatselka@hotmail.com; isisdemertzi@gmail.com)

Covid-19 pandemic has led to severe consequences to humanity worldwide. Yet, to our knowledge, little scientific evidence is available exploring the impact of the pandemic on criminality. Thus, it is imperative to examine their relationships spatially to obtain a better understanding of societal characteristics during the pandemic.

This study aims at demonstrating the use of geoinformation in analyzing the spatial patterns between crime properties and Covid-19 spread using as a case study New York City, USA, one of the largest metropolitan cities of the world. To address our objectives, geostatistical analysis and data visualization methods have been implemented in real-world crime data acquired from a web-GIS platform. Our analysis concerns two equal time periods before and after the lockdown implementation.

Results revealed some very interesting patterns spatially between the examined parameters and societal characteristics existing in the study region. The methodological framework presented underlined the added value of geoinformation as a robust and cost-effective approach in examining the impact of the pandemic to the society.

Keywords: Covid-19, pandemic, crime rates, geoinformation, New York