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Geoinformatics for Sustainable Urban Development

Edited by
Sulochana Shekhar
Deepak Kumar

Geoinformatics for Sustainable Urban Development

This book provides compelling new insights into how cities are attempting to address sustainability challenges via major applications of geospatial technology in an urban area. It elucidates the role of geospatial techniques such as GIS and GNSS, including remote sensing in urban management, and covers the theory and practice of urban sustainability transitions. It provides case studies and contextualised tools for the governance of urban transitions to present various applications of geospatial techniques in an urban environment.

Features:

- Covers hands-on approaches on quantitative measures of urban analytics
- Focuses on sustainability issues in urban planning and development
- Includes pertinent global case studies for implementation of urban planning practices
- Reviews the inter-relationship between smart cities and sustainable development

This book is aimed at graduate students, researchers, and professionals in GIS, urban sciences, and geography.

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10.1 INTRODUCTION

A rapid spread of an infectious disease covering a large portion of the population worldwide is called a pandemic. One such ongoing pandemic, COVID-19 (corona-virus) has severely affected humankind in many ways (Figure 10.1). SARS-CoV-2 (severe acute respiratory syndrome 2) has been traced to originate from Wuhan, Central China's Hubei Province, China, as a pneumonia of unknown cause in November 2019 (Bogoch et al., 2020). In India, the first case was found on 27 January 2020 in Kerala. After facing a whole year of rising and falling of the first wave of the virus spread, it resulted in affecting 219 countries and territories, of which 118,000,000 people worldwide and 11,300,000 in India caught the virus, with global deaths reachingd 2.62 million, and in India above 158,000 deaths had been recorded by 14 March 2020. The second wave which hit India from 15 February was much more frightening, with 250,000 cases being reported daily at the time of writing. The highest single-day spike of 314,835 new cases was recorded on 22nd April 2021 and it continued to break its records daily. According to Health Ministry Data, India's daily positivity rate doubled

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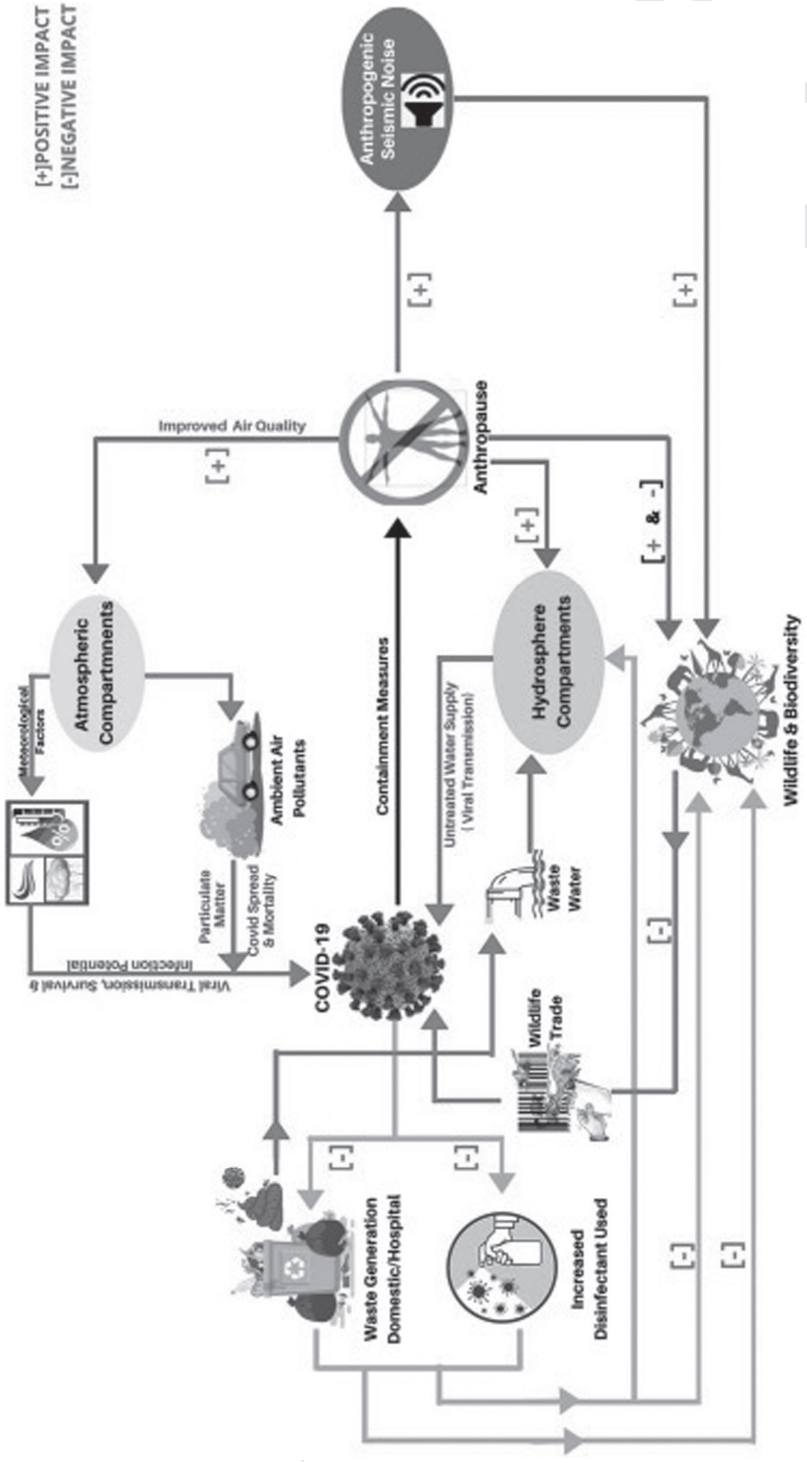

FIGURE 10.1 Impact of COVID-19 on the environment and its interlinking throughout the various spheres increasing its spread.

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