

Correspondence Author

Licence

Suman Kumar

CC BY 4.0

New Vistas

Volume 12, Issue 1, 2026, UWL Annual Doctoral Students' Conference 2025

Abstract

Urban development has been a core driver of the global economy with businesses, utilities, services, and quality of living standards. Cities have played a significant role in shaping the global growth story but at the same time are recognised as key contributors to global emissions, climate change, and associated risks. Nevertheless, cities have also shown the potential to reduce emission levels by adopting and prioritising sustainable development goals and strategies.

Studies emphasise Green Infrastructure (GI) as one of the most successful techniques for carbon sequestration, reduction in the heat island effect, climate change adaptation and mitigation, fostering urban biodiversity and human well-being. Despite its importance, the recent decline of green infrastructure in cities highlights the urgent need for a robust and scalable monitoring and management system. Recent advancement in remote sensing techniques offers a series of cost-efficient and suitable tools to map, monitor, and assess green infrastructure and its characteristics such as canopy mapping, tree-height estimation, biomass calculation, health, and mortality detection.

A common limitation that has been observed in several studies is how the decline of greenspaces is limiting human exposure to natural spaces and their impact. To address this, the study proposes to utilise satellite-derived datasets for GI mapping and socioeconomic parameters with a key focus on a spatiotemporal variation in greenspaces and human exposure. The study focuses on a comprehensive assessment and comparison of human exposure to urban greenspace and associated inequality.

The expected outcome of the study will provide critical insights into prominent spatial differences in greenspaces and exposure. Moreover, it will support the stakeholders in data-driven decision-making to manage GI in urban spaces leading to green, sustainable, and resilient cities

Keywords

Climate change, Green infrastructure, Remote sensing