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Burdwan Royal Heritage Site -- Governance And Floodplain Extent Changes Of Yamuna River Floodplain In Megacity Delhi -- Assessing Urban Compactness Using Machine Learning And Earth Observation Datasets: A Case Study Of Kolkata City -- Analysis Of Ecological Vulnerability Behind The Land Conversion From Agriculture To Aquaculture Of Purba Medinipur District In West Bengal, India -- Environmental Change Analysis Using Remote Sensing And Gis: A Study Of Upper Baitarani Basin, Odisha -- Mapping Urban Footprint Using Machine Learning And Public Domain Datasets.

Sommario/riassunto

This book introduces the use of various remote sensing data such as microwave, hyperspectral and very high-resolution (VHR) satellite imagery; mapping techniques including pixel and object-based machine learning; and geostatistical modelling techniques including cellular automation, entropy and land fragmentation. Remote sensing plays a vital role in solving urban and environmental challenges at the landscape level. Globally, more than half of the urban population is facing severe environmental and social challenges, especially those relating to climate change, agricultural land encroachment, green infrastructure and environmental degradation, mobility due to rapid rural–urban transformation and anthropogenic interventions. Mapping and quantification of such threats at the landscape level are challenging for experts using traditional techniques; however, remote sensing technology provides diverse spatial data at a varying scale, volume and accessibility for mapping and modelling, and it also analyses challenges at urban and landscape levels. Together, they address challenges at urban and landscape levels to support the Sustainable Development Goals (SDGs).