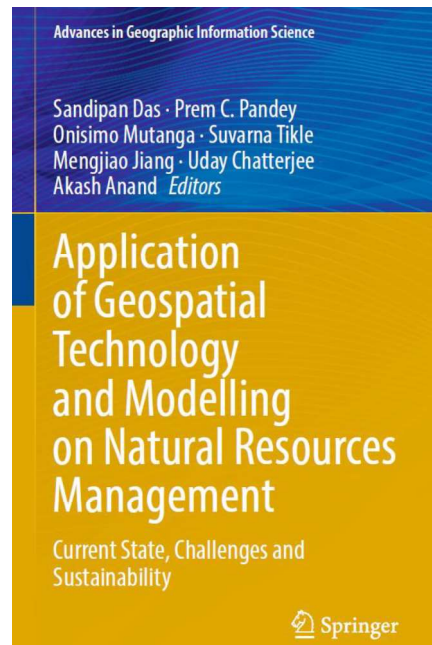


BOOK REVIEW: Application of Geospatial Technology and Modelling on Natural Resources Management

Edited by Sandipan Das, Prem C Pandey, Onisimo Mutanga, Suvarna Tikle, Mengjiao Jiang, Uday Chatterjee, Akash Anand

Dr. Nidhi Verma
CEO, Envitran Smart Systems Pvt Ltd,
Post-doctoral Researcher, Department of Civil Engineering
Indian Institute of Technology Madras, Chennai
Email: deinidhiverma@gmail.com



The book “**Application of Geospatial Technology and Modelling on Natural Resources Management**” is edited by Sandipan Das, Prem C Pandey, Onisimo Mutanga, Suvarna Tikle, Mengjiao Jiang, Uday Chatterjee, Akash Anand offers a comprehensive and well-structured resource on the application of geospatial technologies in natural resource management. It is consisted of twenty-two chapters which provides a good understanding about application of geospatial modelling.

The book starts with explanation of basic details about the principles of GIS and remote sensing. It provides a good insight about the role of geospatial technology in addressing climate change, resource depletion, and disaster management. Subsequent chapters define about the use of

hydrological modeling integrated with GIS to predict flood risks, role of drainage characteristics for water resource management, use of satellite imagery to analyzes the decline in surface water bodies and how Google Earth Engine can be used to track NDVI and NDWI changes over 20 years to examine the hydro-vegetation dynamics of the Godavari River sub-basins. The book discusses the use of the various statistical techniques to depict geomorphology, geology, slope, land use, and rainfall. Various deep learning models such as UNet, LinkNet, FPN, ResNet, and VGG are compared using satellite data. It explains use of remote sensing, GIS, machine learning, and cloud computing applications for monitoring LULC change. Techniques for mapping salt-affected soils and soil erosion are presented. Urban heat islands, green and blue space impacts, and spatial inequality in green areas are discussed. UAV imagery and Random Forest classifiers are applied for identifying mixed-cropping systems. The book also covers mangrove loss tracking, wildfire assessment, and concludes with limitations related to data interoperability and model transferability in geospatial modeling.

The book can effectively connect geospatial technology to real-world resource management issues. It highlights the importance of satellite based data and cloud data for disaster management. It covers advanced modelling techniques and application of machine learning with high accuracy. The data provided can be useful for policy makers and local land managers. However, in few chapter high technical complexity may limit accessibility for non-specialists. Few chapters are limited to descriptive analysis and lacks future based projections.