1. Record Nr. UNINA9911015621603321

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Titolo	Geospatial Technologies in Coastal Ecologies Monitoring and Management / / by Kousik Das Malakar, Supriya Roy, Manish Kumar
Pubbl/distr/stampa	Cham : , : Springer Nature Switzerland : , : Imprint : Springer, , 2025
ISBN	3-031-92017-1
Edizione	[1st ed. 2025.]
Descrizione fisica	1 online resource (0 pages)
Collana	Advances in Geographic Information Science, , 1867-2442
Altri autori (Persone)	RoySupriya KumarManish
Disciplina	910.285
Soggetti	Geographic information systems Riparian ecology Environmental monitoring Geographical Information System Riparian Ecology Environmental Monitoring
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Chapter 1: Remote Sensing Essentials: An Introductory Overview -- Chapter 2: Sensor Networks and Satellite Systems: Tools for Earth Observation -- Chapter 3: Aerial Imaging and Photogrammetry: Techniques and Applications -- Chapter 4: Geodesy and Air Photo Interpretation: Principles and Tools for Spatial Analysis -- Chapter 5: Geographic Information Systems: The Basics and Beyond -- Chapter 6: Practical Approaches to GIS Data Analysis -- Chapter 7: Database Management System: Foundations and Practices -- Chapter 8: Digital Imaging: Processing and Analysis -- Chapter 9: Participatory GIS: A Solution to Traditional GIS Challenges -- Chapter 10: Global Navigation Satellite Systems: An Introductory Guide -- Chapter 11: GPS 101: Introduction to Global Positioning System -- Chapter 12: GPS for All: Challenges and Future Directions -- Chapter 13: Coastal Socio-ecological Systems: GIScience in Monitoring and Management -- Chapter 14: Integrating GIScience in Coastal Policy: A Socio-Ecological Perspective -- Chapter 15: Monitoring and Management of Coastal Ecologies in India: Community Narratives through PGIS -- Chapter 16:

Geospatial Technologies in Coastal Ecologies Monitoring and Management on the Bengal Coast: Case Studies and Best Practices -- Chapter 17: Advancing Coastal Research: Integration of GIScience for Transdisciplinary Solutions and Strategic Decision-Making.

Sommario/riassunto

This book contributes to the advancement of scientific knowledge by demonstrating how geospatial technologies can support more effective coastal planning and management. These technologies, such as remote sensing, GIS, and GNSS, play a vital role in monitoring coastal ecosystems and offer powerful tools for data collection, analysis, visualization, and decision-making. They enhance the understanding of coastal needs and enable more informed and sustainable management strategies. Intended for scientists, professionals, researchers, planners, students, and the general public, the book promotes a deeper understanding of how geospatial tools address contemporary coastal challenges. It also emphasizes inclusive decision-making and supports the development of strategies for sustainable socio-ecological coastal systems. The book is structured into six parts. Part One introduces the fundamentals of remote sensing, including sensor networks, satellite systems, aerial imaging, photogrammetry, and air photo interpretation. Part Two covers key GIS concepts, data analysis, database management, digital image processing, and participatory GIS. Part Three explores GNSS and GPS techniques. Part Four discusses the application of geospatial tools in coastal ecological monitoring and management. Part Five presents real-world case studies and field narratives that explore a range of topics, including climatic trend analysis, shoreline dynamics modelling, mangrove canopy health, coastal land use and land cover changes, land surface temperature variations, ecological transformations, mangrove-human conflicts, climate adaptation strategies, the management of climate gaps, spatial considerations in coastal zone management, and the role of climate communication in shaping coastal narratives. And finally, Part Six examines the evolving nature of coastal research, highlighting the role of GIScience in transdisciplinary approaches and strategic decision-making.