1. Record Nr.	UNINA9910992784203321
Titolo	Remotely Sensed Rivers in the Age of Anthropocene / / edited by Subodh Chandra Pal, Uday Chatterjee, Martiwi Diah Setiawati, Dipankar Ruidas
Pubbl/distr/stampa	Cham : , : Springer Nature Switzerland : , : Imprint : Springer, , 2025
ISBN	3-031-82311-7
Edizione	[1st ed. 2025.]
Descrizione fisica	1 online resource (XXVII, 657 p. 236 illus., 218 illus. in color.)
Collana	Environmental Science and Engineering, , 1863-5539
Disciplina	910
Soggetti	Environmental geography
	Geographic information systems
	Geography
	Ecology - Methodology
	Computer simulation
	Geomorphology
	Integrated Geography
	Geographical Information System
	Regional Geography
	Ecological Modelling
	Computer Modelling
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Fluvial systems in the age of Anthropocene: issues and challenges -- Geospatial and Geostatistical based analysis of flood frequencies and magnitude - A case study -- Determination of the probabilities of flood events -Application of geospatial techniques -- Chapter-IV Assessment of basin hydrological Phenomenon using Google Earth Engine -- Chapter-V River bank erosion mapping and modeling using GIS techniques -- Chapter-VI Flood susceptibility analysis based on GIS-based frequency ratio model -- Ecohydrological Vulnerability and Risk Assessment - A GIS Approach -- Climate change impact on flood frequencies using Geospatial modelling -- Geo-spatial techniques for mapping, monitoring and modeling riverine hazards to support risk

management -- Landslide susceptibility mapping using Statistical and Geospatial modeling -- An assessment of human impact on tropical river: A critical review on worship to responsibility -- Geo-spatial modeling of Potential soil erosion estimation for sustainable conservation planning -- Gully erosion susceptibility and sustainability mapping using Machine Learning techniques: A case study -- Soil erosion risk and vulnerable zone identification sustainable solutions mapping using RS & GIS techniques -- River health monitoring and mapping for environmental sustainability using Geospatial techniques -- Risk and hazards mapping of Social-economic vulnerability and Resilience of a drainage basin using GIS techniques -- Assessment of water quality for sustainability and management using Geospatial technology -- River basin management using GIS-based empirical models.

| Sommario/riassunto | This book offers a geospatial technology approach to data mining techniques, data analysis, modeling, risk assessment, and visualization, as well as management strategies in many elements of river basin risks. This book investigates cutting-edge techniques based on open source software and R statistical programming Google Earth Engine and modeling in modern artificial intelligence techniques, with a particular emphasis on recent trends in data mining techniques and robust modeling in river basin management. It includes significant issues such as geomorphological hazards, climate change, catastrophic natural disasters, meteorological and agricultural drought monitoring, landslides or mudslides (mudflow), floods and flash floods, soil erosion, and land degradation. This book's contents are of interest to earth and environmental scientists, professionals, and policymakers. The book examines spatial modeling, risk evaluation of a drainage basin in the domain of environmental and social issues, management, and associated research. Due to poorly understood climate change and unclear man-made activity, there are several problems and uncertainties in studying earth's environmental circumstances, making it exceedingly difficult to analyze and make knowledgeable judgments. Many difficulties, on the other hand, are caused by mismanagement of present and future land, water, and forestry resources. It is also critical to use new technology and methods to improve and reinforce environmental protection. The link between the three devices, namely remote sensing (RS), GIS, and the R programming interface, is acknowledged in this respect. Land conservation measures, soil and water quality control, and new rules should all rely on correct measurements and predictions, and three technologies (RS, GIS, and R) and open access quantitative forecasting methodologies help with climate change and better management regulations. Nonetheless, this book serves as a feasible framework for studying current breakthroughs in geospatial artificial intelligence technologies and their relevance to the planet's environmental and socioeconomic concerns in a single volume. |