

Watershed Prioritization Using Sediment Yield Index Model

Climate and anthropogenic changes impact the conditions of erosion and sediment transport in rivers. Rainfall variability and, in many places, the increase of rainfall intensity have a direct impact on rainfall erosivity. Increasing changes in demography have led to the acceleration of land cover changes in natural areas, as well as in cultivated areas, and, sometimes, in degraded areas and desertified landscapes. These anthropogenized landscapes are more sensitive to erosion. On the other hand, the increase in the number of sediment fluxes, which do not reach the sea in the same amount, nor at the same quality, with consequences on coastal geomorphodynamics. This book is dedicated to studies on sediment fluxes from continental areas to coastal areas, as well as observation, modeling, and impact analysis at different scales from watershed slopes to the outputs of large river basins. This book is concentrated on a number of keywords: “erosion” and “sediment transport”, “model” and “practice”, and “change”. The keywords are brief literature. The contributions in this book address observations and models based on laboratory and field data, allowing researchers to make use of such resources in practice under changing conditions.

Contributed papers presented at the National Seminar on ‘Hyperspectral Remote Sensing and Spectral Signature Database Management System,’ held on February 14-15, 2008 at Annamalai University. The world is undergoing changes in climate and environment that often lead to natural disasters. Nearly three million people worldwide may have been killed in the past 20 years by natural disasters. In total, 90% of the natural disasters and 95% of all disaster-related deaths occur in the developing countries. Recently such problems have accelerated due to LULC change, biodiversity degradation, increased tourism, urbanization and climate change. This book, consisting of 27 chapters, explores the topics of developing countries. It is essential to discuss these diverse issues in the field of geography as it encompasses interdisciplinary topics. The range of issues on national, regional and local dimensions is not only confined to geography but also concerned to other disciplines as well. Therefore, this book is a valuable source for scientists and researchers in allied fields such as climatology, disaster management, environmental science, hydrology, agriculture, and land use studies, among other areas. Furthermore, this book could be a decision-makers engaged in dealing with the problems of climate, environmental change and natural disasters in developing countries.

Seascape Ecology provides a comprehensive look at the state-of-the-science in the application of landscape ecology to the seas and provides guidance for future research priorities. The first book devoted exclusively to this rapidly emerging and increasingly important discipline. It is comprised of contributions from researchers at the forefront of seascape ecology working around the world. It presents the principles, concepts, methodology, and techniques informing seascape ecology and reports on the latest developments in seascape ecology and management. A growing number of marine scientists, geographers, and marine managers are asking questions about the marine environment that are best addressed with a landscape ecology perspective. Seascape Ecology represents the first serious effort to fill the gap in the literature on the subject. Key topics and features of interest include: The origins and history of seascape ecology and various approaches to spatial patterning in the sea The links between seascape patterns and ecological process by seagrasses and salt marshes and animal movements through seascapes Human influences on seascape ecology—including models for assessing human-seascape interactions A special epilogue in which three eminent scientists who have been instrumental in shaping the course of landscape ecology offer their insights and perspectives Seascape Ecology is a must-read for researchers and professionals in an array of disciplines, including marine biology, environmental science, geosciences, marine and coastal management, and an excellent supplementary text for university courses in those fields.

Recent Trends in River Corridor Management

HYDROLOGY AND WATERSHED MANAGEMENT

Human Interference on River Health

Soil Erosion and Sustainable Land Management (SLM)

Morphometry of Drainage Basins

Geo-Resources

This book offers the scientific basis for the ample evaluation of badland management in India and some surrounding regions. It examines the processes operating in the headwaters and main channels of ephemeral rivers in lateritic environments of India. In particular, the book covers a range of vital topics in the areas of gully erosion and water to soil erosion at lateritic uplands regions of India and other regions in Asia. It explores the probable gully erosion modeling through Remote Sensing & GIS Techniques. It is divided into three units. Unit I deals with the introduction of badland, types of badland and the process of badland formation. Unit II is devoted to a description of quantitative measurements. Unit III deals with the control and management processes related to various issues from different regions. As such this book serves as a reference book for research activities in this area. It is an efficient guide for aspiring researchers in applied geography, explaining advanced techniques to help students recognize both simple and complex concepts.

Despite the mechanisms of reservoir sedimentation being well known for a long time, sustainable and preventive measures are rarely taken into consideration in the design of new reservoirs. To avoid operational problems of powerhouses, sedimentation is often treated for existing reservoirs with measures which are efficient only for a limited time.Th

This book, specially prepared for soil scientistsand engineers, offers comprehensivenesscoverage of basic soil concepts, systematics,mapping and examination procedures forsoils. The Manual is universally useful andis the primary reference on principles andtechnical detail for local, State and Federalcontributions to authorized soil surveys.Soil scientists concerned with soil surveysin other countries have used it as well.Teachers have used it both as a text and as areference for students.

This book, written by a vascular surgery texts, despite the fact that these disorders are among those most frequently encountered. Since its original publication in 1983, this text has been a welcome and effective remedy for this reference gap. The current edition of this widely acclaimed classic, succeeds, once again, in its goal to expertly and comprehensively present the clinical presentation, diagnostic techniques, and therapeutic approaches to almost the full range of common and uncommon conditions affecting this area.

In his review of the second edition (Journal of Vascular Surgery, May 1990), Dr. Kenneth Oriet calls this book "well organized, well illustrated, and comprehensive" and concludes: "Mastery of this text will allow one to diagnose and treat upper extremity vascular problems in a logical and efficient manner, providing the patient with the best opportunity for successful management of these frequently disabling disorders."

Technological and Methodological Advances

Hydrological Modeling

An RS & GIS-based Model Building Approach in the Eastern Himalaya

International Journal of Advanced Remote Sensing and GIS

Advances in Water Resources Management for Sustainable Use

Groundwater Resources Development and Planning in the Semi-Arid Region

This book discusses various statistical models and their implications for developing landslide susceptibility and risk sonation maps. It also presents a range of statistical techniques, i.e. bivariate and multivariate statistical models and machine learning models, as well as multi-criteria evaluation, pseudo-quantitative and probabilistic approaches. As such, it provides methods and techniques for RS & GIS-based models in spatial distribution for all those engaged in the preparation and development of projects, research, training courses and postgraduate studies. Further, the book offers a valuable resource for students using RS & GIS techniques in their studies.

International Journal of Advanced Remote Sensing and GIS (IJARSG, ISSN 2320 – 0243) is an open-access peer-reviewed scholarly journal publishes original research papers, reviews, case study, case reports, and methodology articles in all aspects of Remote Sensing and GIS including associated fields. This Journal commits to working for quality and transparency in its publishing by following standard Publication Ethics and Policies.

The Universal Soil Loss Equation (USLE) enables planners to predict the average rate of soil erosion for each feasible alternative combination of crop system and management practices in association with a specified soil type, rainfall pattern, and topography. When these predicted losses are compared with given soil loss tolerances, they provide specific guidelines for effecting erosion control within specified limits. The equation groups the numerous soil-related physical and management parameters that influence erosion rate under six major factors whose site-specific values can be expressed numerically. A half century of erosion research in many States has supplied information from which at least approximate values of the USLE factors can be obtained for specified farm fields or other small erosion prone areas throughout the United States. Tables and charts presented in this handbook make this information readily available for field use. Significant limitations in the available data are identified.

Watershed prioritization is the ranking of different critical sub watersheds according to the order in which they have to be taken up for the treatment by soil and water conservation measures. A particular sub watershed may get top priority due to various reasons but often the intensity of land degradation is taken as the basis. In the absence of sediment yield data or ungauged watershed situations, geomorphologic parameters along with the satellite – based land use / land cover information of watershed may be helpful in prioritization of the sub watersheds. Quantitative geomorphologic analysis of a drainage basin is considered to be the most satisfactory method because it enables us to understand the relationship among different aspects of the drainage pattern of the basin and to make a comprehensive evaluation of different drainage basins developed in various geologic and climatic regimes. The latest advances in remote sensing technology have provided very useful methods of surveying, identifying, classifying and monitoring several forms of earth resources. Remote sensing data provide accurate, timely and real time information on various aspects of the watershed.

Modelling Soil Erosion by Water

Soil Survey Manual (New Revised Ed.)

Watershed Management

Potential and Future Trends

Landscape Ecology and Water Management

Landscape Dynamics, Soils and Hydrological Processes in Varied Climates

This book presents the innovative ideas and technical expertise for the sustainable solution in the field of water resources. It covers various topics on sustainable water resources management under climate change where researchers and professionals have shared their experience, innovative ideas, issues, recent trends and future directions in field of water resources engineering, science and technology. This book culminates the importance of achieving the ways towards water security and espouse targets and measures that will allow the end-user to meet this challenge in conjunction. It is a compendium of research articles pertaining to the mitigation of water crisis, surface and groundwater management, watershed management and modelling, case studies related to wetland vulnerability, water pollution, water quality, extreme climate hazards and others issues and its sustainable diminution through ingenious ideas and technologies that will incur valuable information to the stakeholders in the society. Given its scope, this book will be useful for the researchers and professionals.

The Proceeding contains the following sections: (i) Groundwater Exploration and Exploitation; (ii) RS&GIS Applications in Water Resources; (iii) Watershed Management: Hydrological, Socio-Economic and Cultural Models; (iv) Water and Wastewater Treatment Technologies; (v) Rainwater Harvesting and Rural and Urban Water Supplies; (vi) Floods, Reservoir Sedimentation and Seawater Intrusion; (vii) Water Quality, Pollution and Environment; (viii) Irrigation Management; (ix) Water Logging and Water Productivity in Agriculture; (x) Groundwater Quality; (xi) Hydrologic Parameter Estimation and Modelling; (xii) Climate Change, Water, Food and Environmental Security; (xiii) Groundwater Recharge and Modelling; (xiv) Computational Methods in Hydrology; (xv) Soil and Water Conservation Technologies.

The book presents the processes governing the dynamics of landscapes, soils and sediments, water and energy under different climatic regions using studies conducted in varied climatic zones including arid, semi-arid, humid and wet regions. The spatiotemporal availability of the processes and fluxes and their linkage to the environment, land, soil and water management are presented at various scales. Spatial scales including laboratory, field, watershed, river basin and regions are represented. The effect of tillage operations and soil management on soil physical characteristics and soil moisture is discussed. The book has 35 chapters in seven sections: 1) Landscape and Land Cover Dynamics, 2) Rainfall-Runoff Processes, 3) Floods and Hydrological Processes 4) Groundwater Flow and Aquifer Management, 5) Sediment Dynamics and Soil Management, 6) Climate change impact on vegetation, sediment and water dynamics, and 7) Water and Watershed Management.

The book describes the drainage basin as a system unit resulting from the interaction between runoff and topography - a lengthy process of evolution that occurs according to well-defined laws. It aims not to quantify the agents which created the present forms, but to analyse the forms themselves in order to establish the laws according to which they develop, and to define a series of inter-relationships between morphometrical parameters and river discharge.

Compilation from Volume 1 to Volume 9

Select Proceedings of RCRM 2021

Vascular Disorders of the Upper Extremity

Geospatial Technologies for Land and Water Resources Management

Ecosystem Resilience-Rural and Urban Water Requirements

Rainfall Erosivity and Risk Assessment

This book presents insights into the complex processes controlling sediment behavior in river basins and into state of the art integrated sediment management concepts. Main topics are: sediment transport, modelling sediment transfer in rivers, sediment quality, sediment monitoring and integrated sediment management at catchment scale. Interlinkages of sediment dynamics and quality with biogeochemistry, ecology, climate change and human activities are discussed. Drivers, boundary conditions and processes of erosion, sediment transport and sedimentation are presented with the aim to help the reader putting sediment quantity and quality issues into perspective.

The book will be an everlasting and invaluable reference for, academia, industry and planners specialized in georesource and for those who need updated information and current research in the field. The book will also be equally useful for advance level students and research scholars throughout the world.

This book provides a comprehensive presentation of the realization of improved rainfed agriculture yield in semi-arid and dry land areas. The incentive of watershed programs is to increase the return on investment with over 20% for 65% of the projects that are currently underperforming. Besides techniques to improve the livelihood of the many small

New York City’s municipal water supply system provides about 1 billion gallons of drinking water a day to over 8.5 million people in New York City and about 1 million people living in nearby Westchester, Putnam, Ulster, and Orange counties. The combined water supply system includes 19 reservoirs and three controlled lakes with a total storage capacity of approximately 580 billion gallons. The city’s Watershed Protection Program is intended to maintain and enhance the high quality of these surface water sources. Review of the New York City Watershed Protection Program assesses the efficacy and future of New York City’s watershed management activities. The report identifies program areas that may require future change or action, including continued efforts to address turbidity and responding to changes in reservoir water quality as a result of climate change.

Design Hydrology and Sedimentology for Small Catchments

Proceedings of IGU Rohtak Conference, Vol. 2

Seascape Ecology

A Guide to Conservation Planning

Gully Erosion Studies from India and Surrounding Regions

Soil Erosion

This book examines in detail the health of India’s Haora River, which is of vital importance as the lifeline of Agartala, the Capital City of Tripura. From its source in the Baramura Hills, the river debouches onto the rolling plains of Chandrasadhabari. Thousands of people between Chandrasadhabari and the boundary of Bangladesh have settled along the riverbanks and are directly dependent on the river. Since the 1970s the ever-growing population of the Haora River basin has been exerting tremendous pressure on the river. Several anthropogenic activities affect the river, increasing sedimentation and pollution, and are leading the Haora River toward its dying phase. This book presents the problems related to the overall health of the Haora River and discusses some proposals for restoring the ecological balance and geo-political stability of this strategically important part of the country.

Papers presented at the International Symposium on Land Degradation and the Commonwealth Geographical Bureau Food Security Workshop organized by Dept. of Geography, M.M.H. College, Ghazialbad, India, on 7-12 April, 2002.

This book focuses on hydrological modeling, water management, and water governance. It covers the applications of remote sensing and GIS tools and techniques for land use and land cover classifications, estimation of precipitation, evaluation of morphological changes, and monitoring of soil moisture variability. Moreover, remote sensing and GIS techniques have been applied for crop mapping to assess cropping patterns, computation of reference crop evapotranspiration, and crop coefficient. Hydrological modeling studies have been carried out to address various issues in the water sector. MODFLOW model was successfully applied for groundwater modeling and groundwater recharge estimation. Runoff modeling has been carried out to simulate the snowmelt runoff together with the rainfall and sub-surface flow contributions for snow-fed basins. A study has been included, which predicts the impact of the land use and land cover on stream flow. Various problems in the water sector have been addressed employing hydrological models such as SWAT, ArcSWAT, and VIC. An experimental study has been presented where the laboratory performance of rainfall simulator has been evaluated. Hydrological modeling studies involving modifications in the curve number methodology for simulation of floods and sediment load have also been presented. This book is useful for academicians, water practitioners, scientists, water managers, environmentalists, and administrators, NGOs, researchers, and students who are involved in water management with the focus on hydrological modeling, water management, and water governance.

TO THE MODEL EVALUATION 1. MODELLING SOIL EROSION BY WATER 12 John Boardman and David Favis-Mortlock 1 School of Geography and Environmental Change Unit Mansfield Road University of Oxford Oxford OX1 3TB UK 2 Environmental Change Unit University of Oxford 5 South Parks Road Oxford OX1 3UB UK Introduction This volume is the Proceedings of the NATO Advanced Research Workshop ‘Global Change: Modelling Soil Erosion by Water’, which was held on 11-14th September 1995, at the University of Oxford, UK. The meeting was also one of a series organised by the IGBP 1 GCTE Soil Erosion Network, which is a component of GCTE’s Land Degradation Task (3.2.2) (Ingram et al., 1996; Valentin, this volume). One aim of the GCTE Soil Erosion Network is to evaluate the suitability of existing soil erosion models for predicting the possible impacts of global change upon soil erosion. Due to the wide range of erosion models currently, in use or under development, it was decided to evaluate models in the following sequence Favis-Mortlock et al., 1996): • field-scale water erosion models • catchment-scale water erosion models • wind erosion models • models with a landscape-scale and larger focus. As part of this strategy, the first stage of the GCTE validation of field-scale erosion models was carried out at the Oxford NATO-ARW 1A list of Acronyms forms Appendix A.

Geospatial Technology for Environmental Hazards.

River Basin Management VI

SCS National Engineering Handbook

A Geospatial Technology Based Approach

Geoinformatics and Modelling of Landslide Susceptibility and Risk

Climate, Environment and Disaster in Developing Countries

“ Applied Morphometry and Watershed Management ” book is designed to introduce the recent developments related to applied morphometric studies of drainage basins. Applications of drainage basin morphometric analysis cover several topics of reserach such as: 1) Prioritization of sub-watersheds for soil and water conservation; 2) Surface water harvesting; 3) Assessment of groundwater potential and predicting of groundwater movement; 4) Geo-hazard assessment (i.e., soil erosion and sediment yield modeling, landslide susceptibility mapping, flashflood hazard and flood management); 5) The impact of Quaternary tectonics on structure and drainage network distortions.

This book addresses the various challenges in achieving sustainable groundwater development, management, and planning in semi-arid regions, with a focus on India, and discusses advanced remote sensing and GIS techniques for the estimation and management of groundwater resources. The book is timely as there is a need for a better understanding of the various tools and methods required to efficiently and sustainably meet the growing demand for clean surface and groundwater in developing countries, and how these tools can be combined with other strategies in a multi-disciplinary fashion to achieve this goal in water-scarce regions. To wit, the book combines remote sensing and GIS techniques, runoff modeling, aquifer mapping, land use and land cover analyses, evapotranspiration estimation, crop coefficients, and water policy approaches. This will be of use to academics, policymakers, social scientists, and professionals involved in the various aspects of sustainable groundwater development, planning, and management.

This book advances the scientific understanding and application of space-based technologies to address a variety of areas related to sustainable development, including environmental systems analysis, environmental management, clean processes, green chemistry, and green engineering. Geo-spatial techniques have gained considerable interest in recent decades among the earth and environmental science communities for solving and understanding various complex problems and approaches towards sustainable technologies. The book encompasses several scopes of interests on sustainable technologies in areas such as water resources, forestry, remote sensing, meteorology, atmospheric and oceanic modeling, environmental engineering and management, civil engineering, air and environmental pollution, water quality problems, etc. The book will appeal to people with an interest in geo-spatial techniques, sustainable development and other diverse backgrounds within earth and environmental sciences field.

This book explores state-of-art techniques based on open-source software and statistical programming and modelling in modern geospatial applications, specifically focusing on recent trends in data mining techniques and robust modelling in Geomorphological, Hydrological, Bio-physical and Social activities. The book is organized into physical, mountainous, coastal, riverine, forest, urban and biological activities, with each chapter providing a review of the current knowledge in the focus area, and evaluating where future efforts should be directed. The text compiles a collection of recent developments and rigorous applications of Geospatial Artificial Intelligence in Land Degradation and Sustainable Agriculture and the Commonwealth Geographical Bureau Food Security Workshop organized by Dept. of Geography, M.M.H. College, Ghazialbad, India, on 7-12 April, 2002. The authors address the wide range of challenges and uncertainties in the study of earth system dynamics due to climate change, and complex anthropogenic interferences where spatial modelling may be applied in the risk assessment of vulnerable geophysical landscapes. The book will act as a guide to find recent advancements in geospatial artificial intelligence techniques and its application to natural and social hazards. This information will be helpful for students, researchers, policy makers, environmentalists, planners involved in natural hazard and disaster management, NGOs, and government organizations.

Applied Morphometry and Watershed Management Using RS, GIS and Multivariate Statistics(Case Studies)

Predicting Rainfall Erosion Losses

Hyperspectral Remote Sensing and Spectral Signature Applications

Modeling and Management in Asian Countries

Anthropogeomorphology

Intgrated Watershed Management in Rainfed Agriculture

In recent years, significant advances have been made in the development and application of software tools for predicting the flow, water quality, sediment transport and ecological processes in river systems. Since 2001, the Wessex Institute of Technology has organized a biennial conference to facilitate the sharing of these advances. This book contains the papers presented at the latest conference in the series. The papers presented at the Conference cover Water resources management;Flood studies; Ecological and environmental impact; Erosion and sediment transport; Hydrological modelling; Eco-hydraulics; River restoration and rehabilitation; Hydropower production; River and watershed management; Water quality issues; Trans-boundary river issues; Estuaries and deltas; Changing Climate; Droughts and desertification; Water and health; and Socio-economic and political issues.

The over-exploitation of important earth resources such as land and water has led to a number of environment-related problems the world over. At the same time, land-use change caused by various human activities has led to extinction of many plant and animal habitats and species. In this context, the relevance of biodiversity for human survival is becoming a major international political issue as scientific evidence builds on the global health implications of biodiversity loss. These issues are closely linked with the issue of climate change, as many of the health risks due to climate change are associated with rapid degradation of biodiversity. This present work focuses on holistic natural resource-based spatio-temporal planning, development and management and considers them as essential to save the degraded ecosystem for sustainable resource management. Contributions are compiled in two volumes: 1. Climate Change and Biodiversity and 2. Landscape Ecology and Water Management. Geoinformatics along with its tools such as remote sensing and Geographical Information Systems (GIS) have been used in assessing the results of various environmental problems both physical and social. These volumes will be useful for geographers, geoscientists, hydrologists, landscape ecologists, environmentalists, engineers, planners and policy makers.

This Special Issue titled “Soil Erosion and Sustainable Land Management” presents 13 chapters organized into four main parts. The first part deals with assessment of soil erosion that covers historical sediment dating to understand past environmental impacts due to tillage; laboratory simulation to clarify the effect of soil surface microtopography; integrated field observation and the random forest machine learning algorithm to assess watershed-scale soil erosion assessment; and developing the sediment delivery distributed (SEDD) model for sub-watershed erosion risk prioritization. In Part II, the factors controlling soil erosion and vegetation degradation as influenced by topographic positions and climatic regions; long-term land use change; and improper implementation of land management measures are well dealt with. Part III presents different land management technologies that could reduce soil erosion at various spatial scales; improve land productivity of marginal lands with soil microbes; and reclaim degraded farmland using dredged reservoir sediments. The final part relates livelihood diversification to climate vulnerability as well as the coping strategy to the adverse impacts of soil erosion through sustainable land management implementation which opens prospects for policy formulation. The studies cover regions of Africa, Europe, North America and Asia, being dominantly conducted under the framework of international scientific collaborations through employing a range techniques and scales, from the laboratory to watershed scales. We believe these unique features of the book could attract the interest of the wider scientific community worldwide.

The Clean Water Act, with its emphasis on storm water and sediment control in urban areas, has created a compelling need for information in small-catchment hydrology. Design Hydrology and Sedimentology for Small Catchments provides the basic information and techniques required for understanding and implementing design systems to control runoff, erosion, and sedimentation. It will be especially useful to those involved in urban and industrial planning anddevelopment, surface mining activities, storm water management, sediment control, and environmental management. This class-tested text, which presents many solved problems throughout as well as solutions at the end of each chapter, is suitable for undergraduate, graduate, and continuing education courses. In addition, practicing professionals will find it a valuable reference. Anderson/Woessner: APPLIED GROUNDWATER MODELING (1992) Shuiman/Slosson: FORENSIC ENGINEERING (1992) de Marsily: QUANTITATIVE HYDROGEOLOGY (1986) Selley: APPLIED SEDIMENTOLOGY, THIRD EDITION (1988) Huyakorn: COMPUTATIONAL METHODS IN SUBSURFACE FLOW (1986) Pinder: FINITE ELEMENT MODELING IN SURFACE AND SUBSURFACE HYDROLOGY (1977) Key Features * Covers major new improvements and state-of-the-art technologies in sediment control technology * Provides in-depth information on estimating the impact of land-use changes on runoff and flood flows, as well as on estimating erosion and sediment yield from small catchments * Presents superior coverage on design of flood and sediment detention ponds and design of runoff and sediment control measures

Applications and Challenges of Geospatial Technology

An Indian Experience

Review of the New York City Watershed Protection Program

Modeling and Practice of Erosion and Sediment Transport under Change

Water Management and Water Governance

1.1. Introduction Vamsadhara basin lies in Orissa and Andhra Pradesh States. It is bounded on the north by the Mahanadi basin, on the northeast by the Rushikulya basin, on the west by the Nagavali basin and on the east by the Bay of Bengal. The catchment area is mostly hilly. Since the surface is mostly covered with kankar and murum, the run -off is moderate in the basin. Vamsadhara is an important east flowing river between Mahanadi and Godavari. The river rises just south of the Belagad village in the undivided phulbani district of Orissa at an elevation of about 600m. The important between Orissa and Andhra Pradesh and 73 km is in Andhra Pradesh. The important tributaries of Vamsadhara are Chuluvadhua, Poladi, Gunguda, Sannani and Mahendratanya, Bhanqepadda, Poddaddadda and Bellagadda. The catchment area of the Vamsadhara River is 10,515 is taken up for the examination of the problem. The river is prone to frequent floods. This is interstate drainage basin between Andhra Pradesh and Orissa. The river joins the sea at Kalingapatnam after traversing 230 kms in both the states which 8,611 km2 lies in Orissa State (1,178 km2 in Phulbani, 191 km2 in Kalahandi, 4,056 km2 in Koraput and 3,501 km2 in Ganjam districs) and 1,904 km2 lies in Andhra Pradeh State (221 km2 in Vizianagaram and 1,683 km2 in Srikakulam districts).

The book demonstrates the geospatial technology approach to data mining techniques, data analysis, modeling, risk assessment, visualization, and management strategies in different aspects of natural and social hazards. This book has 25 chapters associated with risk assessment, mapping and management strategies of environmental hazards. It covers major topics such as Landslide Susceptibility, Arsenic Contaminated Groundwater, Earthquake Risk Management, Open Cast Mining, Soil loss, Flood Susceptibility, Forest Fire Risk, Malaria prevalence, Flood Inundation, Socio-Economic Vulnerability, River Bank Erosion, and Socio-Economic Vulnerability. The content of this book will be of interest to researchers, professionals, and policymakers, whose work involves environmental hazards and related solutions.

Sediment Models

IoT BASED RIVER BASIN MANAGEMENT INFORMATION SYSTEM

Reservoir Sedimentation

Resource Conservation and Food Security

Erosion and Sediment Transport Measurement in Rivers

Remote Sensing and GIS Approach for Prioritization of Watershed