

Application Of Remote Sensing In Civil Engineering Ppt

The science and technology of remote sensing is introduced in terms of its history, concepts and language, and its application to the exploitation and management of marine fisheries. The physics of electromagnetic radiation is reviewed with reference to atmospheric and target interactions. The variety of sensor platforms and sensor types are described, the latter in the context of either global or sequential acquisition systems. Environmental satellites, their associated sensors and the techniques of digital image processing also are reviewed. Direct and indirect applications of remote sensing technology to fisheries are described in general, followed by a series of specific case studies. Recommended reference material, a glossary of terms and acronyms, sources of oceanographic satellite data and a selected list of training institutions conclude this manual.

Effectively Manage Wetland Resources Using the Best Available Remote Sensing Techniques Utilizing top scientists in the wetland classification and mapping field, Remote Sensing of Wetlands: Applications and Advances covers the rapidly changing landscape of wetlands and describes the latest advances in remote sensing that have taken place over the past

Advances in Mapping from Remote Sensor Imagery: Techniques and Applications reviews some of the latest developments in remote sensing and information extraction techniques applicable to topographic and thematic mapping. Providing an interdisciplinary perspective, leading experts from around the world have contributed chapters examining state-of-the-art. An accessible yet rigorous introduction to remote sensing and its application to the study of vegetation for advanced undergraduate and graduate students. The underlying physical and mathematical principles of the techniques discussed are explained in a way readily understood by those without a strong mathematical background.

Using Remote Sensing in State and Local Government Information for Management and Decision Making National Academies Press

This book is dedicated toward space technology application in Earth studies based on the use of a variety of methods for satellite information classification and interpretation. Advantages of geospatial data use in a large-scale area of observation and monitoring as a source of decision-making stage have been demonstrated. The book describes navigation systems providing data estimation method and review of existing data in the literature relevant to remote sensing sensors delivering main information electromagnetic spectrum and a variety of sensor applications. This aspect is important when combining/integrating satellite data processing into the field measurements. Satellites and satellite data application for the study of Earth features have been demonstrated as the next step of geospatial data application. The use of different purposeful processing technology applications of satellite data is one of the vital aspects of space technology advances. The use of GNSS GPS technology in industry and MODIS images and data interpretation for agriculture purposes has been presented. It was the aim of the book to create an attractive environment by presenting space technology application in the wide areas of Earth study. For this purpose, some of the book chapters are dedicated toward space technology advances in climate monitoring, natural disaster factor detection, satellite data processing optimization, and GIS technology for meteorology information with the aim of agriculture developments.

A variety of biophysical applications (e.g. leaf area index and gross primary productivity) have been derived from measurements of the Earth system obtained remotely by NASA's MODIS sensors and other satellite platforms. In Biophysical Applications of Satellite Remote Sensing, the authors describe major applications of satellite remote sensing for studying Earth's

biophysical phenomena. The focus of the book lies on the broad palette of specific applications (metrics) of biophysical activity derived using satellite remote sensing. With in-depth discussions of satellite-derived biophysical metrics that focus specifically on theory, methodology, validation, major findings, and directions of future research, this book provides an excellent resource for remote sensing specialists, ecologists, geographers, biologists, climatologists, and environmental scientists.

National parks, wildlife refuges and sanctuaries, natural reserves, conservation areas, frontier lands, and marine-protected areas are increasingly recognized as essential providers of ecosystem services and biological resources. As debates about climate change and sustainability intensify, protected areas become more important as indicators of eco Land Surface Remote Sensing: Environment and Risks explores the use of remote sensing in applications concerning the environment, including desertification and monitoring deforestation and forest fires. The first chapter covers the characterization of aerosols and gases by passive remote sensing. The next chapter presents the correlation of optical images for quantifying the deformation of the Earth's surface and geomorphological processes. The third chapter examines remote sensing applications in the mining environment. The fourth chapter depicts the strong potential of radar imagery for volcanology and urban and mining subsidence studies. The next two chapters deal respectively with the use of remote sensing in locust control and the contribution of remote sensing to the epidemiology of infectious diseases. In the last ten years, spatial observation of the Earth—particularly continental surfaces—has expanded considerably with the launch of increasing numbers of satellites covering various applications (hydrology, biosphere, flow of surface, snow, ice, landslide, floods). This has paved the way for an explosion in the use of remote sensing data. This book offers essential coverage of space-based observation techniques for continental surfaces. The authors explore major applications and provide a corresponding detailed chapter for the physical principles, physics of measurement, and data processing requirements for each technique, bringing you up-to-date descriptions of techniques used by leading scientists in the field of remote sensing and Earth observation. Provides clear and concise descriptions of modern remote sensing methods Explores the most current remote sensing techniques with physical aspects of the measurement (theory) and their applications Provides chapters on physical principles, measurement, and data processing for each technique described Describes optical remote sensing technology, including a description of acquisition systems and measurement corrections to be made

Monitoring of water and land objects enters a revolutionary age with the rise of ubiquitous remote sensing and public access. Earth monitoring satellites permit detailed, descriptive, quantitative, holistic, standardized, global evaluation of the state of the Earth skin in a manner that our actual Earthen civilization has never been able to before. The water monitoring topics covered in this book include the remote sensing of open water bodies, wetlands and small lakes, snow depth and underwater seagrass, along with a variety of remote sensing techniques, platforms, and sensors. The Earth monitoring topics include geomorphology, land cover in arid climate, and disaster assessment after a tsunami. Finally, advanced topics of remote sensing covers atmosphere analysis with GNSS signals, earthquake visual monitoring, and fundamental analyses of laser reflectometry in the atmosphere medium.

Driven by advances in technology and societal needs, the next frontier in remote sensing is urban areas. With the advent of high-resolution imagery and more capable techniques, the question has become "Now that we have the technology, how do we use it?" The need for a definitive resource that explores the technology of remote sensing and the issues it can resolve in an urban setting has never been more acute. Containing contributions from world renowned experts, Urban Remote Sensing provides a review of basic concepts, methodologies, and case studies. Each chapter demonstrates how to apply up-to-date techniques to the problems

identified and how to analyze research results. Organized into five sections, this book: Focuses on data, sensors, and systems considerations as well as algorithms for urban feature extraction Analyzes urban landscapes in terms of composition and structure, especially using sub-pixel analysis techniques Presents methods for monitoring, analyzing, and modeling urban growth Illustrates various approaches to urban planning and socio-economic applications of urban remote sensing Assesses the progress made to date, identifies the existing problems and challenges, and demonstrates new developments and trends in urban remote sensing This book is ideal for upper division undergraduate and graduate students, however it can also serve as a reference for researchers or those individuals interested in the remote sensing of cities in academia, and governmental and commercial sectors. Urban Remote Sensing examines how to apply remote sensing technology to urban and suburban areas.

Crop models and remote sensing techniques have been combined and applied in agriculture and crop estimation on local and regional scales, or worldwide, based on the simultaneous development of crop models and remote sensing. The literature shows that many new remote sensing sensors and valuable methods have been developed for the retrieval of canopy state variables and soil properties from remote sensing data for assimilating the retrieved variables into crop models. At the same time, remote sensing has been used in a staggering number of applications for agriculture. This book sets the context for remote sensing and modelling for agricultural systems as a mean to minimize the environmental impact, while increasing production and productivity. The eighteen papers published in this Special Issue, although not representative of all the work carried out in the field of Remote Sensing for agriculture and crop modeling, provide insight into the diversity and the complexity of developments of RS applications in agriculture. Five thematic focuses have emerged from the published papers: yield estimation, land cover mapping, soil nutrient balance, time-specific management zone delineation and the use of UAV as agricultural aerial sprayers. All contributions exploited the use of remote sensing data from different platforms (UAV, Sentinel, Landsat, QuickBird, CBERS, MODIS, WorldView), their assimilation into crop models (DSSAT, AQUACROP, EPIC, DELPHI) or on the synergy of Remote Sensing and modeling, applied to cardamom, wheat, tomato, sorghum, rice, sugarcane and olive. The intended audience is researchers and postgraduate students, as well as those outside academia in policy and practice.

Land management issues, such as mapping tree species, recognizing invasive plants, and identifying key geologic features, require an understanding of complex technical issues before the best decisions can be made. Hyperspectral remote sensing is one the technologies that can help with reliable detection and identification. Presenting the fundamentals of remote sensing at an introductory level, Hyperspectral Remote Sensing: Principles and Applications explores all major aspects of hyperspectral image acquisition, exploitation, interpretation, and applications. The book begins with several chapters on the basic concepts and underlying principles of remote sensing images. It introduces spectral radiometry concepts, such as radiance, irradiance, flux, and blackbody radiation; covers imaging spectrometers, examining spectral range, full width half maximum (FWHM), resolution, sampling, signal-to-noise ratio (SNR), and multispectral and hyperspectral sensor systems; and addresses atmospheric interactions. The book then discusses information extraction, with chapters covering the underlying physics principles that lead to the creation of an image and the interpretation of the image's information. The final chapters describe case studies that illustrate the use of hyperspectral remote sensing in agriculture, environmental monitoring, forestry, and geology. After reading this book, you will have a better understanding of how to evaluate different approaches to hyperspectral analyses and to determine which approaches will work for your applications.

High spatial resolution data including those from satellite, manned aircraft, and unmanned aerial vehicle (UAV) platforms provide a novel data source for addressing environmental

questions with an unprecedented level of detail. To effectively utilize information contained in high spatial resolution imagery, some key questions must be addressed, including: (1) what are the challenges of using new sensors and new platforms? (2) what are the cutting-edge methods for fine-level information extraction from high spatial resolution images? and (3) how can high spatial resolution data improve the quantification and characterization of physical-environmental or human patterns and processes? The chapters in this book provide a snapshot of cutting-edge high spatial resolution remote sensing image collection, preprocessing, processing, and applications. This book intends to provide a useful benchmark for the high spatial resolution remote sensing community and inspire more studies that would address important scientific and technical challenges in use of high spatial remote sensing.

Introduction to Satellite Remote Sensing: Atmosphere, Ocean and Land Applications is the first reference book to cover ocean applications, atmospheric applications, and land applications of remote sensing. Applications of remote sensing data are finding increasing application in fields as diverse as wildlife ecology and coastal recreation management. The technology engages electromagnetic sensors to measure and monitor changes in the earth's surface and atmosphere. The book opens with an introduction to the history of remote sensing, starting from when the phrase was first coined. It goes on to discuss the basic concepts of the various systems, including atmospheric and ocean, then closes with a detailed section on land applications. Due to the cross disciplinary nature of the authors' experience and the content covered, this is a must have reference book for all practitioners and students requiring an introduction to the field of remote sensing. Provides study questions at the end of each chapter to aid learning Covers all satellite remote sensing technologies, allowing readers to use the text as instructional material Includes the most recent technologies and their applications, allowing the reader to stay up-to-date Delves into laser sensing (LIDAR) and commercial satellites (DigitalGlobe) Presents examples of specific satellite missions, including those in which new technology has been introduced

Remote Sensing Applications in Environmental and Earth System Sciences is a contemporary, multi-disciplinary, multi-scaling, updated, and upgraded approach of applied remote sensing in the environment. The book begins with an overview of remote sensing technology, and then explains the types of data that can be used as well as the image processing and analysis methods that can be applied to each type of application through the use of case studies throughout. Includes a wide spectrum of environmental applications and issues Explains methodological image analysis and interpretation procedures for conducting a variety of environmental analyses Discusses the development of early warning systems Covers monitoring of the environment as a whole – atmosphere, land, and water Explores the latest remote sensing systems in environmental applications This book is an excellent resource for anyone who is interested in remote sensing technologies and their use in Earth systems, natural resources, and environmental science.

Advanced Remote Sensing is an application-based reference that provides a single source of mathematical concepts necessary for remote sensing data gathering and assimilation. It presents state-of-the-art techniques for estimating land surface variables from a variety of data types, including optical sensors such as RADAR and LIDAR. Scientists in a number of different fields including geography, geology, atmospheric science, environmental science, planetary science and ecology will have access to critically-important data extraction techniques and their virtually unlimited applications. While rigorous enough for the most experienced of scientists, the techniques are well designed and integrated, making the book's content intuitive, clearly presented, and practical in its implementation. Comprehensive overview of various practical methods and algorithms Detailed description of the principles and procedures of the state-of-the-

art algorithms Real-world case studies open several chapters More than 500 full-color figures and tables Edited by top remote sensing experts with contributions from authors across the geosciences

Advances in spatial, spectral, and temporal resolution over the past several years have greatly expanded opportunities for practical applications of remote sensing data. To explore the implications of these possibilities, the NRC held a series of three workshops on different facets of remote sensing applications. This report is on the third of those workshops: the development and use of remote sensing data and information by state, local, and regional governments. The steering committee was asked to examine the opportunities, potential challenges, and policy issues associated with the application of remote sensing data in the public sector including approaches and procedures for government agencies to use such data and barriers to development and use of the applications. The resulting report is addressed primarily to non-technical managers and decisions makers at all levels of government below the federal level.

Oceanographic Applications of Remote Sensing describes how remotely sensed data fields can be applied to help solve problems in ocean-related studies. This timely reference, written by and for oceanographers, emphasizes the application of data to particular physical, chemical, and biological processes related to the ocean and the ocean-atmosphere system. The organization of the book reflects this emphasis, with chapters arranged by process rather than by sensor characteristics. Oceanographic Applications of Remote Sensing contains comprehensive information on the application of such relevant data sets as sea surface temperature and topography, ocean circulation, sea level variability, wind speed and stress, wave height, solar radiation flux at ocean surfaces, and sea-ice characteristics and ice motion. It also discusses the reliability of remotely sensed data and provides information about the applicability of the various data sets to particular process studies. Its completeness and relevance makes Oceanographic Applications of Remote Sensing an important reference for modern studies of ocean and coupled ocean-atmosphere processes. Its unique coverage of the physics that govern satellite processes and their applications to oceanography ensures that it will remain an important reference as new satellites are introduced.

Re-envisioning Remote Sensing Applications: Perspectives from Developing Countries aims at discussing varied applications of remote sensing, with respect to upcoming technologies with diverse themes. Organized into four sections of overlapping areas of research, the book covers chapters with themes related to agriculture, soil and land degradation studies; hydrology, microclimates and climate change impacts; land use/land cover analysis applications; resource analysis and bibliometric studies, culminating with future research agenda. All the topics are supported via case studies and spatial data analysis. Features: Provides the applications of remote sensing in all fields through varied case studies and spatial data analysis Includes soil and land degradation, microclimates, and climate change impacts Covers remote sensing applications in broad areas of agriculture, hydrology, land use/land cover change and resource analysis Discusses usage of GPS-enabled smartphones and digital gadgets used for mapping and spatial analysis Explores future research agenda for applications of remote sensing in post-COVID scenario This book is of interest to researchers and graduate students in environmental sciences, remote sensing, GIS, agricultural scientists and managers, forestry scientists and managers, and water resources

scientists and managers.

Remote sensing has majorly profited almost all areas of human activity and development. Remote sensing provides a common platform to physical, natural and social activities for interaction and advancement. This book discusses the impacts of remote sensing on various areas of science, human activity and technology by presenting a selected number of high quality contributions related to various remote sensing applications organized under two sections: Land Cover and Climate & Atmosphere. The book includes contributions of prominent experts and researchers, who possess vast knowledge and years of experience in this field.

This is a monograph concerning the scattering of electromagnetic waves from surfaces to generate information for the purposes of remote sensing. It combines, for the first time, a treatment of two important new ideas, namely information from the orientation or polarisation of the wave and how it can be combined with interferometry.

Hyperspectral Remote Sensing: Theory and Applications offers the latest information on the techniques, advances and wide-ranging applications of hyperspectral remote sensing, such as forestry, agriculture, water resources, soil and geology, among others. The book also presents hyperspectral data integration with other sources, such as LiDAR, Multi-spectral data, and other remote sensing techniques. Researchers who use this resource will be able to understand and implement the technology and data in their respective fields. As such, it is a valuable reference for researchers and data analysts in remote sensing and Earth Observation fields and those in ecology, agriculture, hydrology and geology. Includes the theory of hyperspectral remote sensing, along with techniques and applications across a variety of disciplines Presents the processing, methods and techniques utilized for hyperspectral remote sensing and in-situ data collection Provides an overview of the state-of-the-art, including algorithms, techniques and case studies

Remote sensing was the primary data source since the launch of the first environmental monitoring satellite back in 1972. In the past five decades, remote sensing technology has come a long way and evolved into a mature science. Even so, new technologies, new theories, new methodologies, and new applications continue to emerge. With the rapid pace of technological advancement, it is essential to share experiences especially between different disciplines, either on breakthroughs in new theory or understanding, or applications of remote sensing on real world issues. Disciplines or fields covered in this book include geography, geology, agriculture, forestry, botany, and oceanography. Though remote sensing may be used differently in various disciplines, the principles are similar, if not the same. This book will be valuable to scientists, scholars, working professionals, or students who use remote sensing in their work, and are interested in learning how others use remote sensing in different ways.

The aim of this book is to demonstrate the use of SAR data in three application domains, i.e. land cover (Part II), topography (Part III), and land motion (Part IV). These are preceded by Part I, where an extensive and complete review on speckle and adaptive filtering is provided, essential for the understanding of SAR images. Part II is dedicated to land cover mapping. Part III is devoted to the generation of Digital Elevation Models based on radargrammetry and on a wise fusion (by considering sensor characteristic and acquisition geometry) of interferometric and photogrammetric elevation data. Part IV provides a contribution to three applications related to land

motion.

Land use and land cover changes associated with increased urbanization have led to landscape and environmental changes throughout the world. Remote Sensing Applications for the Urban Environment places emphasis on the rapid development of worldwide urbanization and its impact on the environment, and reviews the assessment of urban land cover condit

The use of remote sensors for human settlement mapping and monitoring holds great promise for numerous fields of study, including urban planning and global environmental change and sustainability. While the potential for this technology is difficult to measure, achieving useful results at a regional or global level is but a recent accomplishment. Global Mapping of Human Settlement is the first book to provide a comprehensive overview of the methodologies, datasets, and approaches related to the use of remotely sensed data to map human settlements at the global scale, as well as the experiences encountered with their application. Valuable to a broad range of researchers, the book begins by analyzing the requirements for global and regional urban remote sensing. It provides a general background of global urban issues, outlines observation and assessment requirements, and looks at how these relate to current initiatives on international policy and strategic levels. The contributors, an international group of pioneering experts, describe the characteristics of human settlements as seen and mapped from remote sensors, either at the regional or global scale. They also discuss the spectral variety, special scales, and nighttime appearance as key remote sensing indicators of these environments. The text explores some of the most acclaimed and important projects and programs previously carried out or in current use for urban mapping and monitoring. These chapters highlight the impressive amount of information available and the processing and analysis techniques used to extract such data from several data sources, including satellite imagery. The book also explores some of the future challenges and makes recommendations regarding areas of research that should be actively pursued. DVD Included to Complement the Text To provide readers with the opportunity to experience the latest tools, the editors supplement the text with a DVD that provides samples of the latest products. These will assist readers in testing approaches proposed in the book.

Ideal for both undergraduate and graduate students in the fields of geography, forestry, ecology, geographic information science, remote sensing, and photogrammetric engineering, LiDAR Remote Sensing and Applications expertly joins LiDAR principles, data processing basics, applications, and hands-on practices in one comprehensive source. The LiDAR data within this book is collected from 27 areas in the United States, Brazil, Canada, Ghana, and Haiti and includes 183 figures created to introduce the concepts, methods, and applications in a clear context. It provides 11 step-by-step projects predominately based on Esri's ArcGIS software to support seamless integration of LiDAR products and other GIS data. The first six projects are for basic LiDAR data visualization and processing and the other five cover more advanced topics: from mapping gaps in mangrove forests in Everglades National Park, Florida to generating trend surfaces for rock layers in Raplee Ridge, Utah. Features Offers a comprehensive overview of LiDAR technology with numerous applications in geography, forestry and earth science Gives necessary theoretical foundations from all pertinent subject matter areas Uses case studies and best practices to point readers to

tools and resources Provides a synthesis of ongoing research in the area of LiDAR remote sensing technology Includes carefully selected illustrations and data from the authors' research projects Before every project in the book, a link is provided for users to download data

Generating a satisfactory classification image from remote sensing data is not a straightforward task. Many factors contribute to this difficulty including the characteristics of a study area, availability of suitable remote sensing data, ancillary and ground reference data, proper use of variables and classification algorithms, and the analyst's e

Space-based sensors are giving us an ever-closer and more comprehensive look at the earth's surface; they also have the potential to tell us about human activity. This volume examines the possibilities for using remote sensing technology to improve understanding of social processes and human-environment interactions. Examples include deforestation and regrowth in Brazil, population-environment interactions in Thailand, ancient and modern rural development in Guatemala, and urbanization in the United States, as well as early warnings of famine and disease outbreaks. The book also provides information on current sources of remotely sensed data and metadata and discusses what is involved in establishing effective collaborative efforts between scientists working with remote sensing technology and those working on social and environmental issues.

This book is a completely updated, greatly expanded version of the previously successful volume by the author. The Second Edition includes new results and data, and discusses a unified framework and rationale for designing and evaluating image processing algorithms. Written from the viewpoint that image processing supports remote sensing science, this book describes physical models for remote sensing phenomenology and sensors and how they contribute to models for remote-sensing data. The text then presents image processing techniques and interprets them in terms of these models. Spectral, spatial, and geometric models are used to introduce advanced image processing techniques such as hyperspectral image analysis, fusion of multisensor images, and digital elevation model extraction from stereo imagery. The material is suited for graduate level engineering, physical and natural science courses, or practicing remote sensing scientists. Each chapter is enhanced by student exercises designed to stimulate an understanding of the material. Over 300 figures are produced specifically for this book, and numerous tables provide a rich bibliography of the research literature.

Emerging technologies have enhanced the various uses of geographic information systems. This allows for more effective analysis of available data to optimize resources and promote sustainability. Remote Sensing Techniques and GIS Applications in Earth and Environmental Studies is a critical reference source for the latest research on innovative methods for analyzing geographic data and utilizing sensor technologies for environmental monitoring. Featuring extensive coverage across a range of relevant perspectives and topics, such as land use, geospatial analysis, image interpretation, and site-suitability analysis, this book is ideally designed for engineers, professionals, practitioners, upper-level students, and academics actively involved in the various areas of environmental sciences.

Filling the need for a comprehensive book that covers both theory and

application, *Remote Sensing of Land Use and Land Cover: Principles and Applications* provides a synopsis of how remote sensing can be used for land-cover characterization, mapping, and monitoring from the local to the global scale. With contributions by leading scientists from aro

Active remote sensing is the principal tool used to study and to predict short- and long-term changes in the environment of Earth - the atmosphere, the oceans and the land surfaces - as well as the near space environment of Earth. All of these measurements are essential to understanding terrestrial weather, climate change, space weather hazards, and threats from asteroids. Active remote sensing measurements are of inestimable benefit to society, as we pursue the development of a technological civilization that is economically viable, and seek to maintain the quality of our life. *A Strategy for Active Remote Sensing Amid Increased Demand for Spectrum* describes the threats, both current and future, to the effective use of the electromagnetic spectrum required for active remote sensing. This report offers specific recommendations for protecting and making effective use of the spectrum required for active remote sensing.

This book is a printed edition of the Special Issue "The Use of Remote Sensing in Hydrology" that was published in *Water*

Nowadays, the innovation in space technologies creates a new trend for the Earth observation and monitoring from space. This book contains high quality and compressive work on both microwave and optical remote sensing applications. This book is divided into five sections: (i) remote sensing for biomass estimation, (ii) remote sensing-based glacier studies, (iii) remote sensing for coastal and ocean applications, (iv) sewage leaks and environment disasters, and (v) remote sensing image processing. Each chapter offers an opportunity to expand the knowledge about various remote sensing techniques and persuade researchers to deliver new research novelty for environment studies.

This summer school was a sequel to the summer school on Remote Sensing in Meteorology, Oceanography and Hydrology which was held in Dundee in 1980 and the proceedings of which were published by Ellis Horwood Ltd., Chichester, England. At the present summer school we concentrated on only part of the subject area that was covered in 1980. Although there was some repetition of material that was presented in 1980, because by and large we had a new set of participants, most subjects were treated in considerably greater detail than had been possible previously. The major topics covered in the present summer school were (i) the general principles of remote sensing with particular reference to marine applications, (ii) applications to physical oceanography, (iii) marine resources applications and (iv) coastal monitoring and protection. The material contained in this volume represents the written texts of most of the lectures presented at the summer school. One important set of lecture notes was not available; this was for the lectures on active microwave techniques, principally synthetic aperture radar, by W. Alpers from Hamburg. For this material we would

refer the reader to "Imaging Ocean Surface Waves by Synthetic Aperture Radar - A Review" by W. Alpers, which is to appear as chapter 6 in "Satellite Microwave Remote Sensing" edited by T.D. Allan (Ellis Horwood, Chichester) which is to be published in 1983.

With reference to India.

Applications of Remote Sensing in Agriculture contains the proceedings of the 48th Easter School in Agricultural Science, held at the University of Nottingham on April 3-7, 1989. The meeting invites 146 delegates from over 22 countries and contributions to this book come from nine countries. This book generally presents a review of the achievements of remote sensing in agriculture, establishes the state of the art, and gives pointers to developments. This text is organized into seven parts, wherein Parts I-III cover the principles of remote sensing, climate, soil, land classification, and crop inventories. Productivity; stress; techniques for agricultural applications; and opportunities, progress, and prospects in the field of remote sensing in agriculture are also discussed.

The book will provide an overview of the practical application of remote sensing for the purposes of nature conservation as developed by ecologists in collaboration with remote sensing specialists, providing guidance on all phases from the planning of remote sensing projects for conservation to the interpretation and validation of the images.

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