

Preliminary Comparison Of Sentinel 2 And Landsat 8 Imagery

This book provides a comprehensive and up-to-date review of all aspects of childhood Acute Lymphoblastic Leukemia, from basic biology to supportive care. It offers new insights into the genetic pre-disposition to the condition and discusses how response to early therapy and its basic biology are utilized to develop new prognostic stratification systems and target therapy. Readers will learn about current treatment and outcomes, such as immunotherapy and targeted therapy approaches. Supportive care and management of the condition in resource poor countries are also discussed in detail. This is an indispensable guide for research and laboratory scientists, pediatric hematologists as well as specialist nurses involved in the care of childhood leukemia.

Many of the pollutants discharged into the sea are directly or indirectly the result of human activities. Some of these substances are biodegradable, while others are not. This study is devoted to monitoring areas of the environment. Methods assessment is based on monitoring data and an evaluation of the impact of pollution. Surveillance provides a scientific basis for standards development and application. The methodology of marine pollution control is governed by algorithms and models. A monitoring

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strategy should be put in place, coupled with an environmental assessment concept, through targeted research activities in areas identified at local and regional levels. This concept will make it possible to diagnose the state of "health" of these zones and consequently to correct any anomalies. Monitoring of the marine and coastal environment is based on recent methods and validated after experiments in the field of marine pollution. This book is published open access under a CC BY 4.0 license. Over the past decades, rapid developments in digital and sensing technologies, such as the Cloud, Web and Internet of Things, have dramatically changed the way we live and work. The digital transformation is revolutionizing our ability to monitor our planet and transforming the way we access, process and exploit Earth Observation data from satellites. This book reviews these megatrends and their implications for the Earth Observation community as well as the wider data economy. It provides insight into new paradigms of Open Science and Innovation applied to space data, which are characterized by openness, access to large volume of complex data, wide availability of new community tools, new techniques for big data analytics such as Artificial Intelligence, unprecedented level of computing power, and new types of collaboration among researchers, innovators, entrepreneurs and citizen scientists. In

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addition, this book aims to provide readers with some reflections on the future of Earth Observation, highlighting through a series of use cases not just the new opportunities created by the New Space revolution, but also the new challenges that must be addressed in order to make the most of the large volume of complex and diverse data delivered by the new generation of satellites.

The Common Agricultural Policy (CAP) Checks by Monitoring (CbM) replaces the on-the-spot-checks presently used to verify that area-based direct aid is granted correctly to EU farmers. This alternative control method is implemented through Article 40a of the implementing regulation (EU) 809/2014, and is used since 2018 by some Member States (MS).

CbM primarily relies on automatic methods to conclude on the CAP eligibility criteria, commitments and obligations from regular and systematic Copernicus Sentinel imagery. For some agricultural parcels, the spatial resolution of the Sentinel imagery (10m) could be insufficient to conclude on the support (eligibility, compliance). For this reason, the use of High High Resolution (HHR) image data as source to the Time Stacks (TSs) has been considered to verify and possibly complement the results obtained using Sentinel data. Earlier results [ref i] show that there is little to no evidence that there is a wealth of "extra" processing-ready information for use within CbM inside the HHR TSs

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compared to those of the Sentinel-2 (S2), even for small and narrow parcels (typically

The natural disasters are the killer agents which can/can't be predicted even though we have modern technology. Every year, in one place or another, disasters striking which is devastating the area and surroundings, leading to ecological disruption besides huge loss of life and property. India is vulnerable to cyclones, landslides/avalanches, earthquakes, floods, droughts, forest fires, epidemics, etc. The 5700-km long coast of India, with its dense population is vulnerable to cyclones/low depressions, tsunamis, etc. The 2400-km long rugged Himalayan terrain is vulnerable to landslides, avalanches and earthquakes. India is not only vulnerable to natural disasters, it is also experiencing industrial accidents. The Bhopal Gas tragedy is one of the major man-made disasters in the world. The state of Andhra Pradesh has 970-km long coastline with two major rivers, etc. The conference is conducted in Visakhapatnam, is famous for industries and tourism. Recently, several industrial accidents took place, besides major natural disasters like Hud-Hud, etc. Disaster management shall be implemented from the grass root level in vulnerable areas to improve the capacity building, so as to minimize the losses. The capacity building coupled with technology results in reduction of loss of life and property.

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We live on a dynamic Earth shaped by both natural processes and the impacts of humans on their environment. It is in our collective interest to observe and understand our planet, and to predict future behavior to the extent possible, in order to effectively manage resources, successfully respond to threats from natural and human-induced environmental change, and capitalize on the opportunities " social, economic, security, and more " that such knowledge can bring. By continuously monitoring and exploring Earth, developing a deep understanding of its evolving behavior, and characterizing the processes that shape and reshape the environment in which we live, we not only advance knowledge and basic discovery about our planet, but we further develop the foundation upon which benefits to society are built. Thriving on Our Changing Planet presents prioritized science, applications, and observations, along with related strategic and programmatic guidance, to support the U.S. civil space Earth observation program over the coming decade.

George Orwell's celebrated novella, *Animal Farm*, is a biting, allegorical, political satire on totalitarianism in general and Stalinism in particular. One of the most famous works in modern English literature, it is a telling comment on Soviet Russia under Stalin's brutal dictatorship based on a cult of personality which was enforced through a reign of terror. The

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book tells a seemingly simple story of farm animals who rebel against their master in the hope of stopping their exploitation at the hand of humans and creating a society where animals would be equal, free and happy. Ultimately, however, the rebellion is betrayed and the farm ends up in a state as bad as it was before. The novel thus demonstrates how easily good intentions can be subverted into tyranny. Orwell has himself said that it was the first book in which he had tried, with full consciousness of what he was doing, 'to fuse political purpose and artistic purpose into one whole.' The book was first published in England in 1945, and has since then remained a favourite with readers all over the world, and has consistently been included in all prestigious bestseller lists for the past many years.

Acquiring knowledge is a life-long process; we constantly need to keep abreast of developments and progress in science and other disciplines. Embracing a scholarship of teaching and learning (SoTL) means practicing constant self-reflection, involving evaluation of the academic career and the ways in which strategies are designed to examine, interpret, and share learning about teaching. This practice not only yields benefits to the lecturer but also enriches the scholarly community in the discipline. In general, SoTL is regarded as a vibrant practice of ongoing self-criticism and sharing, which

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results in accumulated teaching experiences for teachers, students, and the teaching community at large. This book is a contribution from authors sharing their experiences, how their teaching portfolios reflect their personal development as teachers, and how their teaching experiences are embedded in the scholarship of teaching and learning.

Precision agriculture is a reality in agriculture and is playing a key role as the industry comes to terms with the environment, market forces, quality requirements, traceability, vehicle guidance and crop management. Research continues to be necessary, and needs to be reported and disseminated to a wide audience. These proceedings contain reviewed papers presented at the 12th European Conference on Precision Agriculture, held at Montpellier SupAgro, France. The papers reflect the wide range of disciplines that impinge on precision agriculture - technology, crop science, soil science, agronomy, information technology, decision support, remote sensing and others. The broad range of research topics reported will be a valuable resource for researchers, advisors, teachers and professionals in agriculture long after the conference has finished. Global Flood Hazard Flooding is a costly natural disaster in terms of damage to land, property and infrastructure. This volume describes the latest tools and technologies for modeling, mapping, and

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predicting large-scale flood risk. It also presents readers with a range of remote sensing data sets successfully used for predicting and mapping floods at different scales. These resources can enable policymakers, public planners, and developers to plan for, and respond to, flooding with greater accuracy and effectiveness. Describes the latest large-scale modeling approaches, including hydrological models, 2-D flood inundation models, and global flood forecasting models Showcases new tools and technologies such as Aqueduct, a new web-based tool used for global assessment and projection of future flood risk under climate change scenarios Features case studies describing best-practice uses of modeling techniques, tools, and technologies Global Flood Hazard is an indispensable resource for researchers, consultants, practitioners, and policy makers dealing with flood risk, flood disaster response, flood management, and flood mitigation.

This book constitutes the thoroughly refereed proceedings of the Third International Conference on Geographical Information Theory, Application and Management, GISTAM 2017, held in Porto, Portugal, in April 2017. The 11 full papers presented were carefully reviewed and selected from 70 submissions. The papers are centered around photogrammetry, spatio-temporal data acquisition, spectroscopy and spectroradiometry, hyperspectral

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imaging, Earth observation and satellite data, computational geometry, web applications, geographic information retrieval, urban and regional planning.

This book presents the proceedings of the 1st International Conference on Water Energy Food and Sustainability – ICoWEFS 2021, a major forum to foster innovation and exchange knowledge in the water-energy-food nexus, embracing the Sustainable Development Goals (SDGs) of the United Nations, bringing together leading academics, researchers and industrial experts. It contains the work of authors from 33 countries.

As the third leading cause of death in the United States, stroke accounts for one in every fifteen deaths and is the major cause of disability in the country. Compiled by a renowned editorial team, this reference bridges the gap between basic science and patient care protocols, and collects 43 expertly written chapters that range from laboratory-ba

Soil and water salinity is a major challenge for the agricultural community and policy makers in terms of meeting the burgeoning population's demand for food and other agricultural commodities. In coastal regions, climate change and sea level rise will aggravate the problem with more and more areas becoming saline due to intrusion of sea water. As such there is a pressing need for modern tools and innovative techniques for the identification of salty

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soils and poor-quality waters, crop production, soil reclamation and lowering the water table in waterlogged areas. Tackling next-generation problems such as contamination of soil and underground water due to fluoride and arsenic, as well as developing multi-stress tolerant crops is also a high priority. Further, techniques for domesticating halophytes, mangrove-based aquacultures, using seaweed cultures as agricultural crops and integrated farming systems need to be perfected. This book addresses all these aspects in detail, highlighting the diverse solutions to tackle the complex problem of salinity and waterlogging and safer management of poor-quality waters. With chapters written by leading experts, it is a valuable resource for researchers planning future investigations, policy makers, farmers and other stakeholders, and for students wanting insights into vital issues of environment.

It is increasingly apparent that human activities are not suitable for sustaining a healthy global environment. From energy development to resource extraction to use of land and water, humans are having a devastating effect on the earth's ability to sustain human societies and quality lives. Many approaches to changing the negative environmental consequences of human activities focus on one of two options, emphasizing either technological fixes or individual behavior change to reduce

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environmental harms through sustainable consumption habits. This book takes a different approach, focusing on the role of environmental policy in shaping the possibilities for and creating hindrances to pursuing more sustainable use of environmental resources. This unique compilation examines environmental policy through empirical case studies, demonstrating through each particular example how environmental policies are formed, how they operate, what they do in terms of shaping behaviors and future trajectories, and how they intersect with other social dynamics such as politics, power, social norms, and social organization. By providing case studies from both the United States and Mexico, this book provides a cross-national perspective on current environmental policies and their role in creating and limiting sustainable human futures. Organized around four key parts – Water; Land; Health and Wellbeing; and Resilience – and with a central theme of environmental justice and equity, this book will be of great interest to students and scholars of environmental policy and sustainability.

What determines whether complex life will arise on a planet, or even any life at all? Questions such as these are investigated in this groundbreaking book. In doing so, the authors synthesize information from astronomy, biology, and paleontology, and apply it to what we know about the rise of life on Earth and to

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what could possibly happen elsewhere in the universe. Everyone who has been thrilled by the recent discoveries of extrasolar planets and the indications of life on Mars and the Jovian moon Europa will be fascinated by Rare Earth, and its implications for those who look to the heavens for companionship.

This public domain book is an open and compatible implementation of the Uniform System of Citation.

This book demonstrates the measurement, monitoring, mapping, and modeling of forest resources. It explores state-of-the-art techniques based on open-source software & R statistical programming and modeling specifically, with a focus on the recent trends in data mining/machine learning techniques and robust modeling in forest resources. Discusses major topics such as forest health assessment, estimating forest biomass & carbon stock, land use forest cover (LUFC), dynamic vegetation modeling (DVM) approaches, forest-based rural livelihood, habitat suitability analysis, biodiversity and ecology, and biodiversity, the book presents novel advances and applications of RS-GIS and R in a precise and clear manner. By offering insights into various concepts and their importance for real-world applications, it equips researchers, professionals, and policy-makers with the knowledge and skills to tackle a wide range of issues related to geographic data, including those with scientific, societal, and environmental implications.

Volcanic eruptions are common, with more than 50

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volcanic eruptions in the United States alone in the past 31 years. These eruptions can have devastating economic and social consequences, even at great distances from the volcano. Fortunately many eruptions are preceded by unrest that can be detected using ground, airborne, and spaceborne instruments. Data from these instruments, combined with basic understanding of how volcanoes work, form the basis for forecasting eruptions—where, when, how big, how long, and the consequences. Accurate forecasts of the likelihood and magnitude of an eruption in a specified timeframe are rooted in a scientific understanding of the processes that govern the storage, ascent, and eruption of magma. Yet our understanding of volcanic systems is incomplete and biased by the limited number of volcanoes and eruption styles observed with advanced instrumentation. *Volcanic Eruptions and Their Repose, Unrest, Precursors, and Timing* identifies key science questions, research and observation priorities, and approaches for building a volcano science community capable of tackling them. This report presents goals for making major advances in volcano science.

The reprint book of the “Remote Sensing of Snow and Its Applications” Special Issue provides recent studies on all aspects of remote sensing of snow, from retrieving the data to the application. These studies mainly address the following: (a) New opportunities (Copernicus Sentinels) and emerging remote sensing methods, (b) use of snow data in modeling, and (c) characterization of snowpack.

This book constitutes the refereed proceedings of the

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13th IFIP WG 5.11 International Symposium on Environmental Software Systems, ISESS 2020, held in Wageningen, The Netherlands, in February 2020. The 22 full papers and 3 short papers were carefully reviewed and selected from 29 submissions. The papers cover a wide range of topics on environmental informatics, including data mining, artificial intelligence, high performance and cloud computing, visualization and smart sensing for environmental, earth, agricultural and food applications.

This annotated bibliography documents literature addressing the design and implementation of vegetation monitoring. It provides resources managers, ecologists, and scientists access to the great volume of literature addressing many aspects of vegetation monitoring: planning and objective setting, choosing vegetation attributes to measure, sampling design, sampling methods, statistical and graphical analysis, and communication of results. Over half of the 1400 references have been annotated. Keywords pertaining to the type of monitoring or method are included with each bibliographic entry. Keyword index.

A conceptual introduction and practical primer to the application of imagery and remote sensing data in GIS (geographic information systems).

Building on the traditional concept of nuclear medicine, this textbook presents cutting-edge concepts of hybrid imaging and discusses the close interactions between nuclear medicine and other clinical specialties, in order to achieve the best possible outcomes for patients.

Today the diagnostic applications of nuclear medicine

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are no longer stand-alone procedures, separate from other diagnostic imaging modalities. This is especially true for hybrid imaging guided interventional radiology or surgical procedures. Accordingly, today's nuclear medicine specialists are actually specialists in multimodality imaging (in addition to their expertise in the diagnostic and therapeutic uses of radionuclides). This new role requires a new core curriculum for training nuclear medicine specialists. This textbook is designed to meet these new educational needs, and to prepare nuclear physicians and technologists for careers in this exciting specialty.

This useful resource deals with satellite orbits, showing how the wide range of available orbits can be used in communications, positioning, remote-sensing, meteorology, and astronomy.

Bio-optical Modeling and Remote Sensing of Inland Waters presents the latest developments, state-of-the-art, and future perspectives of bio-optical modeling for each optically active component of inland waters, providing a broad range of applications of water quality monitoring using remote sensing. Rather than discussing optical radiometry theories, the authors explore the applications of these theories to inland aquatic environments. The book not only covers applications, but also discusses new possibilities, making the bio-optical theories operational, a concept that is of great interest to both government and private sector organizations. In addition, it addresses not only the physical theory

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that makes bio-optical modeling possible, but also the implementation and applications of bio-optical modeling in inland waters. Early chapters introduce the concepts of bio-optical modeling and the classification of bio-optical models and satellite capabilities both in existence and in development. Later chapters target specific optically active components (OACs) for inland waters and present the current status and future direction of bio-optical modeling for the OACs. Concluding sections provide an overview of a governance strategy for global monitoring of inland waters based on earth observation and bio-optical modeling. Presents comprehensive chapters that each target a different optically active component of inland waters Contains contributions from respected and active professionals in the field Presents applications of bio-optical modeling theories that are applicable to researchers, professionals, and government agencies

An intuitive, ingenious and powerful technique, sentinel lymph node biopsy has entered clinical practice with astonishing rapidity and now represents a new standard of care for melanoma and breast cancer patients, while showing great promise for the treatment of urologic, colorectal, gynecologic, and head and neck cancers. This text, written by international experts in the technique, provides a clear and comprehensive guide, presenting a

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detailed overview and discussing the various mapping techniques available and how these are applied in a number of leading institutions. This essential resource for surgical oncologists, pathologists, and specialists in nuclear medicine will also provide key information for those planning to start a sentinel lymph node program.

Drug overdose, driven largely by overdose related to the use of opioids, is now the leading cause of unintentional injury death in the United States. The ongoing opioid crisis lies at the intersection of two public health challenges: reducing the burden of suffering from pain and containing the rising toll of the harms that can arise from the use of opioid medications. Chronic pain and opioid use disorder both represent complex human conditions affecting millions of Americans and causing untold disability and loss of function. In the context of the growing opioid problem, the U.S. Food and Drug Administration (FDA) launched an Opioids Action Plan in early 2016. As part of this plan, the FDA asked the National Academies of Sciences, Engineering, and Medicine to convene a committee to update the state of the science on pain research, care, and education and to identify actions the FDA and others can take to respond to the opioid epidemic, with a particular focus on informing FDA's development of a formal method for incorporating individual and societal considerations into its risk-

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benefit framework for opioid approval and monitoring.

What is the Mediterranean? The perception of the Mediterranean leans equally on the nature, culture, history, lifestyle, and landscape. To approach the question of identity, it seems that we have to give importance to all of these. There is no Mediterranean identity, but Mediterranean identities. Mediterranean is not about the homogeneity and uniformity, but about the unity that comes from diversities, contacts, and interconnections. The book tends to embrace the environment, society, and culture of the Mediterranean in their multiple and unique interconnections over the millennia, contributing to the better understanding of the essential human-environmental interrelations. The choice of 17 chapters of the book, written by a number of prominent scholars, clearly shows the necessity of the interdisciplinary approach to the Mediterranean identity issues. The book stresses the most serious concerns of the Mediterranean today - threats to biodiversity, risks, and hazards - mostly the increasing wildfires and finally depletion of traditional Mediterranean practices and landscapes, as constituent parts of the Mediterranean heritage. This is a print on demand edition of a hard to find publication. Explores whether sufficient data exists to examine the temporal and spatial relationships that existed in terrorist group planning, and if so, could

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patterns of preparatory conduct be identified? About one-half of the terrorists resided, planned, and prepared for terrorism relatively close to their eventual target. The terrorist groups existed for 1,205 days from the first planning meeting to the date of the actual/planned terrorist incident. The planning process for specific acts began 2-3 months prior to the terrorist incident. This study examined selected terrorist groups/incidents in the U.S. from 1980-2002. It provides for the potential to identify patterns of conduct that might lead to intervention prior to the commission of the actual terrorist incidents. Illustrations.

Monitoring with high resolution land cover and especially of urban areas is a key task that is more and more required in a number of applications (urban planning, health monitoring, ecology, etc.). At the moment, some operational products, such as the “Copernicus High Resolution Imperviousness Layer”, are available to assess this information, but the frequency of updates is still limited despite the fact that more and more very high resolution data are acquired.

Information modelling and knowledge bases have become ever more essential in recent years because of the need to handle and process the vast amounts of data which now form part of everyday life. The machine to machine communication of the Internet of Things (IoT), in particular, can generate

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unexpectedly large amounts of raw data. This book presents the proceedings of the 27th International Conference on Information Modelling and Knowledge Bases (EJC2017), held in Krabi, Thailand, in June 2017. The EJC conferences originally began in 1982 as a co-operative initiative between Japan and Finland, but have since become a world-wide research forum bringing together researchers and practitioners in information modelling and knowledge bases for the exchange of scientific results and achievements. Of the 42 papers submitted, 29 were selected for publication here, and these cover a wide range of information-modelling topics, including the theory of concepts, semantic computing, data mining, context-based information retrieval, ontological technology, image databases, temporal and spatial databases, document data management, software engineering, cross-cultural computing, environmental analysis, social networks, and WWW information. The book will be of interest to all those whose work involves dealing with large amounts of data.

In a rapidly changing world, there is an ever-increasing need to monitor the Earth's resources and manage it sustainably for future generations. Earth observation from satellites is critical to provide information required for informed and timely decision making in this regard. Satellite-based earth observation has advanced rapidly over the last 50 years, and there is a plethora of satellite

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sensors imaging the Earth at finer spatial and spectral resolutions as well as high temporal resolutions. The amount of data available for any single location on the Earth is now at the petabyte-scale. An ever-increasing capacity and computing power is needed to handle such large datasets. The Google Earth Engine (GEE) is a cloud-based computing platform that was established by Google to support such data processing. This facility allows for the storage, processing and analysis of spatial data using centralized high-power computing resources, allowing scientists, researchers, hobbyists and anyone else interested in such fields to mine this data and understand the changes occurring on the Earth's surface. This book presents research that applies the Google Earth Engine in mining, storing, retrieving and processing spatial data for a variety of applications that include vegetation monitoring, cropland mapping, ecosystem assessment, and gross primary productivity, among others. Datasets used range from coarse spatial resolution data, such as MODIS, to medium resolution datasets (Worldview -2), and the studies cover the entire globe at varying spatial and temporal scales.

Building on more than a decade of innovative research into multi-source forest inventory (MS-NFI) this book presents full details of the development, outputs and applications of the improved k-NN method. The method, which was pioneered in Finland in 1990, is rapidly becoming a world standard in forest inventory, having been adopted as standard in Finland and Sweden, and recently introduced in Austria and across the US. The book describes in detail the full MS-NFI process, and the

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input data used – including field data, satellite images, and digital map data, as well as coarse-scale variation of forest variables. It also presents comprehensive information on the types of outputs which can be derived, including maps and statistics, describing, for example, stock volumes and development, dominant tree species, age-class distribution, and large and small-scale variation. The book will provide an invaluable resource for those involved in forest inventory, including government departments and bodies involved in forest policy, management and monitoring, forest managers, and researchers and graduate students interested in forest inventory, modelling and analysis. It will find an additional market among those interested in Earth observation, ecology and broader areas of environmental and natural resource management. Erkki Tomppo was the winner of the 1997 Marcus Wallenberg Prize for his work on the k-NN method.

Written by world renowned scientists, this book provides an excellent overview of a wide array of methods and techniques for the processing and analysis of multitemporal remotely sensed images. These methods and techniques include change detection, multitemporal data fusion, coarse-resolution time series processing, and interferometric SAR multitemporal processing, among others. A broad range of multitemporal datasets are used in their methodology demonstrations and application examples, including multispectral, hyperspectral, SAR and passive microwave data. This book features a variety of application examples covering both land and aquatic environments. Land applications

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include urban, agriculture, habitat disturbance, vegetation dynamics, soil moisture, land surface albedo, land surface temperature, glacier and disaster recovery. Aquatic applications include monitoring water quality, water surface areas and water fluctuation in wetland areas, spatial distribution patterns and temporal fluctuation trends of global land surface water, as well as evaluation of water quality in several coastal and marine environments. This book will help scientists, practitioners, students gain a greater understanding of how multitemporal remote sensing could be effectively used to monitor our changing planet at local, regional, and global scales.

This report examines the scientific basis for the use of remotely sensed data, particularly Normalized Difference Vegetation Index (NDVI), primarily for the assessment of land degradation at different scales and for a range of applications, including resilience of agro-ecosystems. Evidence is drawn from a wide range of investigations, primarily from the scientific peer-reviewed literature but also non-journal sources. The literature review has been corroborated by interviews with leading specialists in the field. The report reviews the use of NDVI for a range of themes related to land degradation, including land cover change, drought monitoring and early warning systems, desertification processes, greening trends, soil erosion and salinization, vegetation burning and recovery after fire, biodiversity loss, and soil carbon. This SpringerBrief also discusses the limits of the use of NDVI for land degradation assessment and potential for future directions of use. A substantial body of peer-reviewed

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research lends unequivocal support for the use of coarse-resolution time series of NDVI data for studying vegetation dynamics at global, continental and sub-continental levels. There is compelling evidence that these data are highly correlated with biophysically meaningful vegetation characteristics such as photosynthetic capacity and primary production that are closely related to land degradation and to agroecosystem resilience.

Dear Colleagues, The composition, structure and function of forest ecosystems are the key features characterizing their ecological properties, and can thus be crucially shaped and changed by various biotic and abiotic factors on multiple spatial scales. The magnitude and extent of these changes in recent decades calls for enhanced mitigation and adaption measures. Remote sensing data and methods are the main complementary sources of up-to-date synoptic and objective information of forest ecology. Due to the inherent 3D nature of forest ecosystems, the analysis of 3D sources of remote sensing data is considered to be most appropriate for recreating the forest's compositional, structural and functional dynamics. In this Special Issue of Forests, we published a set of state-of-the-art scientific works including experimental studies, methodological developments and model validations, all dealing with the general topic of 3D remote sensing-assisted applications in forest ecology. We showed applications in forest ecology from a broad collection of method and sensor combinations, including fusion schemes. All in all, the studies and their focuses are as broad as a forest's

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ecology or the field of remote sensing and, thus, reflect the very diverse usages and directions toward which future research and practice will be directed.

"It is close to midnight on a Saturday night when Jack Reacher gets off a bus at the Greyhound station in Nashville. Reacher is in no hurry. He has no appointments to keep. No people to see. No scores to settle. Not yet anyway. But in the early morning hours, under particular circumstances, a familiar thought will be snaking through his sharp, instinctual lizard brain: A voice in his head telling him to walk away. Of course, this wouldn't be the first time he listened to his gut instead. Meanwhile, seventy-five miles south and west of Music City is a sleepy little town where a recently-fired guy nurses a grudge that will fester into fury--and a desire for payback. But who is watching him, standing guard over a long-buried secret, ready to strike before it can be revealed? If you don't have a sense of the danger you're in, then it's best to have Reacher"--

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