Google Earth Engine

Computational Science and Its Applications – ICCSA 2023 Workshops
Advances and Trends in Geodesy, Cartography and Geoinformatics II
Examining International Land Use Policies, Changes, and Conflicts
Proceedings of International Conference on Data, Electronics and Computing
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Earth Engine and Geemap
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Google Earth Engine Applications
Application of Remote Sensing and GIS in Natural Resources and Built Infrastructure Management
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Digital Innovations, Business and Society in Africa
IoT Sensors, ML, AI and XAI: Empowering A Smarter World
Geospatial Analysis Applied to Mineral Exploration
Information and Communication Technologies and Sustainable Development
Google Earth: Outreach and Activism
Advances in Networks, Intelligence and Computing
Remote Sensing for Environmental Monitoring
The Future of Artificial Intelligence and Robotics

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Computational Science and Its Applications – ICCSA 2023 Workshops Springer Nature
This volume presents select proceedings of the International Conference on Innovative Technologies for Clean and Sustainable Development (ICITCSD – 2021), held at the National Institute of Technical Teachers Training & Research and Chitkara University, Himachal Pradesh, India. It covers several important aspects of sustainable civil engineering practices, dealing with effective waste and material management, natural resources, industrial products, energy, food, transportation and shelter, environmental impact mitigation, waste minimization and management, sustainable infrastructure, and geospatial technology for sustainable and clean environment. Emphasis is placed on conserving and protecting the environment and the natural resource base essential for future development. The book includes case studies and ongoing research work from various fields related to civil engineering presented by academicians, scientists, and researchers. The book also discusses engineering solutions to sustainable development and green design issues. Special emphasis is given on qualitative guidelines for the generation, treatment, handling, transport, disposal, and recycling of wastes. The book is intended as a practice-oriented reference guide for researchers and practitioners. It will be useful for anyone working in sustainable civil engineering and related fields.
Advances and Trends in Geodesy, Cartography and Geoinformatics II Springer Nature
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 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.
Examining International Land Use Policies, Changes, and Conflicts African Sun Media
This book guides its audience—which can range from novice users to experts— though a 55-chapter tour of Google Earth Engine. A sequenced and diverse set of lab materials, this is the product of more than a year of effort from more than a hundred individuals, collecting new exercises from professors, undergraduates, master's students, PhD students, postdocs, and independent consultants. Cloud Based Remote Sensing with Google Earth Engine is broadly organized into two halves. The first half, Fundamentals, is a set of 31 labs designed to take the reader from being a complete Earth Engine novice to being a quite advanced user. The second half, Applications, presents a tour of the world of Earth Engine across 24 chapters, showing how it is used in a very wide variety of settings that rely on remote-sensing data This is an open access book.
Proceedings of International Conference on Data, Electronics and Computing Frontiers Media SA
FAO Pakistan in collaboration with the FAO headquarters Geospatial Unit is inviting to an introductory course on Google Earth Engine with the objective to provide the basic skills to operate the platform, select, pre-process and analyze satellite imagery relevant to agriculture and food security, in particular for the identification of specific crops in the land and more broadly for land cover mapping, by using an automatic classification approach. The Workshop is thought for specialists in the technical Departmental Units of Agriculture and Food Security. It requires an understanding of the main satellite missions and basic concepts of Remote Sensing. Limited knowledge of scripting language (e.g. Python, R) is a plus. It has the structure of a theoretical presentation and hands-on exercises on the Google Earth Engine code editor.
Proceedings of International Conference on Innovative Technologies for Clean and Sustainable Development (ICITCSD – 2021) Springer Nature
Remote sensing has been successfully applied in monitoring of protected areas around the world. With intensified impacts of climate and environmental change, protected areas become increasingly important to serve as indicators of and buffers against the impacts of the disturbances. Remote sensing plays an irreplaceable role in this frontline of challenges. The subjects and contents of the articles collected in this book reflect the state-of-the-art applications of remote sensing for capturing dynamics of environmental and ecological variations of the protected areas. The examples include revealing the level, growth rate, trend, and distribution pattern of the night-time light of global protected areas; quantifying the energy budget, water cycle, and carbon sink over the Three-River Headwaters Region in the hinterland of the Tibetan Plateau; monitoring wetland change in a cross-boundary zone between Northeast China and the Russian Far East; and monitoring applications and change analyses in protected areas of boreal forests, dryland shrubs, coastal salt marshes, large lakes, and temperate semi-humid to semi-arid transitional agricultural regions, using a variety of sensor data with innovative approaches. Also included in this collection is a bibliometric analysis that suggests the intellectual structure in remote sensing of protected areas from the perspective of journal publications.
Agro-geoinformatics MDPI
Remote Sensing will continue to replace slower, more costly data collection on the ground, providing fast and repetitive coverage of extremely large areas for everyday applications. With the fast-paced nature of the modern world economy, archaic data is rendered seemingly useless. Decision-makers and researchers alike need to analyse and present data in real time. The use of remotely sensed

data has opened many unexplored opportunities for exciting and innovative research. It was Star Trek creator, Gene Roddenberry's character, Captain James T. Kirk of the Starship Enterprise who said, "to boldly go where no man has gone before". The View From Space: A Beginner's Guide was written and designed to assist you in accomplishing just that. The View From Space lays the foundation for the understanding of the basic principles of remote sensing and the various open data courses available. The focus of The View From Space takes you on an interstellar journey, focusing predominantly on the use of the Google Earth Engine application. The public data catalogue contains nearly 600 datasets from more than 50 different data providers from across the world, and the list continues to grow. The View From Space contains numerous Google Earth Engine scripts or codes that will assist in accessing the data and information directly from the Google Earth Engine application. You don't have to be a coding genius to access the wonderful world that is the Google Earth Engine. It is all included. The View From Space further engages in the open-source GIS software QGIS and statistical open-source R and R-Studio software as a crucial element of the journey into space. The View From Space delicately illustrates the wonderful world of remote sensing through the application of the Google Earth Engine and open-source software to several case studies. This completes your initial journey into space, having boldly gone where you have not gone before. I trust you will find this experience worthwhile. Our exhilarating exploration of remote sensing has just begun. Happy reading at maximum warp!

Google Earth Engine Applications Springer Nature

This book focuses on the application of geospatial technologies for resource planning and management for the key natural resources, e.g. water, agriculture and forest as well as the decision support system (DSS) for infrastructure development. We have seen in the past four decades that the growing complexities of sustainable management of natural resources management have been very challenging. The book has been written to leverage the current geospatial technologies that integrate the remotely sensed data available from various platforms, the precise locational data providing geospatial intelligence, and the advanced integration tools of Geographical Information Systems (GIS). Geospatial technologies have been used for water resources management employing geomorphological characteristics, analysis of river migration pattern, understanding the large-scale hydrological process, wet land classification and monitoring, analysis of glacial lake outburst flood (GLOF), assessment of environmental flow and soil erosion studies, water quality modelling and assessment and rejuvenation of paleochannels through groundwater recharge. Geospatial technologies have been applied for crop classification and mapping, soil moisture determination using RISAT-1 C-band and PALSAR-2 L-band sensors, inventory of horticulture plantations, management of citrus orchards, crop yield forecasting, rice yield estimation, estimation of evapotranspiration and its evaluation against lysimeter and satellite-based evapotranspiration product for India to address the various issues of the agricultural system management. Geospatial technologies have been used for generation of digital elevation model, urban dynamics assessment, mobile GIS application at grass root level planning, cadastral level developmental planning and e-governance applications, system dynamics for sustainable development, micro-level water resources planning, site suitability for sewage treatment plant, traffic density assessment, geographical indications of India, archaeological applications and disasters interventions to elaborate various issues of DSS for infrastructure development and management. Geospatial technologies have been employed for the generation and reconciliation of the notified forest land boundaries, and also the land cover changes analysis within notified forest areas, forest resource assessment, management and monitoring and wildlife conservation and management. This book aims to present high-quality technical case studies representing the recent developments in the "application of geospatial technologies for resource planning and management". The editors hope that this book will serve as a valuable resource for scientists and researchers to plan and manage land and water resources sustainably.

Introduction to Information Systems Springer Nature

Geospatial Analysis Applied to Mineral Exploration: Remote Sensing, GIS, Geochemical, and Geophysical Applications to Mineral Resources presents state-of-the-art approaches on recent remote sensing and GIS-based mineral prospectivity modeling for Earth scientists, researchers, mineral exploration communities and mining companies. This book will help readers solve high complexity issues in remote sensing data processing, geochemical data analysis, geophysical data analysis, and appropriate applications of GIS techniques for data fusion designed for mineral exploration purposes. It contains updated knowledge of remote sensing imagery, geochemistry, geophysics and geospatial techniques that can assist in delineating the signatures and patterns linked to deep-seated, covered, blind or buried mineral deposits. - Covers advances in remote sensing data processing algorithms and geochemical data analysis - Includes sections on geophysical data analysis and machine learning algorithms for mineral exploration - Introduces the suite of geo-spatial tools currently available for mineral exploration - Presents case studies to provide real-world examples of the theories covered

Innovations in Computational Intelligence and Computer Vision Springer Nature

Cloud-Based Remote Sensing with Google Earth EngineSpringer Nature

Cloud-Based Remote Sensing with Google Earth Engine Springer Nature

Though conflicts continue to arise over land use and land cover changes, the conversion of forest land to cropland or other land uses such as housing and urban development have been on the rise in recent years. Decisions regarding land use and land cover influence climate change as well as various natural processes. While proper changes can minimize the effects and speed of climatic changes, the continued adverse changes may be accelerating the deterioration of the world's condition. Examining International Land Use Policies, Changes, and Conflicts presents the latest research on the present status of land use and land cover changes throughout the world in order to determine appropriate land use policies that can protect earth's present and future condition. The findings of the studies investigate the conflicts behind the land tenure and land uses in different countries of the world and examines existing policies and the reasons behind changes in them. Ultimately, the book provides readers with knowledge on how land can be managed in a sustained manner, how landscape models are helpful for predicting and determining future land uses, how land can be managed with the best architectural measures, and how urban forestry is helpful for better environmental management and adapting or mitigating climate change effects. Land users, agriculturalists, urban planners, policymakers, government officials, researchers, academicians, and students looking to improve their understanding of this topic for better use of land in the future will

find this book to be an asset to their current research.
The View from Space Springer Nature
This volume collects and presents the fundamentals, tools, and processes of utilizing geospatial information technologies to process remotely sensed data for use in agricultural monitoring and management. The issues related to handling digital agro-geoinformation, such as collecting (including field visits and remote sensing), processing, storing, archiving, preservation, retrieving, transmitting, accessing, visualization, analyzing, synthesizing, presenting, and disseminating agro-geoinformation have never before been systematically documented in one volume. The book is edited by International Conference on Agro-Geoinformatics organizers Dr. Liping Di (George Mason University), who coined the term “Agro-Geoinformatics” in 2012, and Dr. Berk Üstündağ (Istanbul Technical University) and are uniquely positioned to curate and edit this foundational text. The book is composed of eighteen chapters that can each stand alone but also build on each other to give the reader a comprehensive understanding of agro-geoinformatics and what the tools and processes that compose the field can accomplish. Topics covered include land parcel identification, image processing in agricultural observation systems, databasing and managing agricultural data, crop status monitoring, moisture and evapotranspiration assessment, flood damage monitoring, agricultural decision support systems and more.
Disaster Risk, Resilient Agriculture and Livelihood Springer Nature
This book is a collection of high-quality peer reviewed contributions from the academicians, researchers, practitioners, and industry professionals, accepted in the International Conference on Advances in Data Computing, Communication and Security (I3CS2021) organized by the Department of Electronics and Communication Engineering in collaboration with the Department of Computer Engineering, National Institute of Technology, Kurukshetra, India during 08-10 Sep 2021. The fast pace of advancing technologies and growing expectations of the next-generation requires that the researchers must continuously reinvent themselves through new investigations and development of the new products. The theme of this conference is devised as "Embracing Innovations" for the next-generation data computing and secure communication system.
Environmental Information Systems: Concepts, Methodologies, Tools, and Applications
Cloud-Based Remote Sensing with Google Earth Engine
This book highlights several opportunities that exist in satellite remote sensing of large-scale terrestrial hydrology. It lays bare the novel concept of remote sensing hydrology and demonstrates key applications of advance satellite technology and new methods in advancing our fundamental understanding of environmental systems. This includes, using state-of-the-art satellite hydrology missions like the Gravity Recovery and Climate Experiment and other multi-mission satellite systems as important tools that underpin water resources planning and accounting. This book discusses and demonstrates how the efficacy, simplicity, and sophistication in novel computing platforms for big earth observation data can help facilitate environmental monitoring and improve contemporary understanding of climate change impacts on freshwater resources. It also provides opportunities for practitioners and relevant government agencies to leverage satellite-based information in a transdisciplinary context to address several environmental issues affecting society. This book provides a general framework and highlights methods to help improve our understanding of hydrological processes and impact analysis from extreme events (e.g., droughts, floods) and climate change.
Proceedings of Ninth International Congress on Information and Communication Technology Elsevier
This book presents an interdisciplinary approach to autonomous driving technology design and development. It discusses a methodology of simulation that allows specialists to evaluate autonomous vehicle sensors functionality and integration, energy flow, efficiency, range, and service under public transport. The design, calibration, and physical model behind each autonomous vehicle sensor and component is explained. For each specific vehicle, the powertrain is analyzed, and output results are presented through the use of specific automotive industrial software (IPG CarMaker). The book gives the reader a clear perspective of the key factors influencing the global functionality of autonomous shuttle buses with respect to both their inner components the variable exterior factors and an exhaustive legal perspective in relation of their presence on public roads.
Geospatial Technologies for Resources Planning and Management Springer Nature
Environmental information and systems play a major role in environmental decision making. As such, it is vital to understand the impact that they have on different aspects of sustainable environmental management, as well as to understand the opportunism they might present for further improvement. Environmental Information Systems: Concepts, Methodologies, Tools, and Applications is an innovative reference source containing the latest research on the use of information systems to track and organize environmental data for use in an overall environmental management system. Highlighting a range of topics such as environmental analysis, remote sensing, and geographic information science, this multi-volume book is designed for engineers, data scientists, practitioners, academicians, and researchers interested in all aspects of environmental information systems.
Autonomous Vehicles for Public Transportation BoD – Books on Demand
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 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.

ICT Systems and Sustainability MDPI
This book presents high-quality, peer-reviewed papers from the International Conference on “Innovations in Computational Intelligence and Computer Vision (ICICV 2021),” hosted by Manipal University Jaipur, Rajasthan, India, on August 5–6, 2021. Offering a collection of innovative ideas from researchers, scientists, academics, industry professionals and students, the book covers a variety of topics, such as artificial intelligence and computer vision, image processing and video analysis, applications and services of artificial intelligence and computer vision, interdisciplinary areas combining artificial intelligence and computer vision, and other innovative practices.
Satellite Remote Sensing of Terrestrial Hydrology Springer Nature
This nine-volume set LNCS 14104 – 14112 constitutes the refereed workshop proceedings of the 23rd International Conference on Computational Science and Its Applications, ICCSA 2023, held at Athens, Greece, during July 3–6, 2023. The 350 full papers and 29 short papers and 2 PHD showcase papers included in this volume were carefully reviewed and selected from a total of 876 submissions. These nine-volumes includes the proceedings of the following workshops: Advances in Artificial Intelligence Learning Technologies: Blended Learning, STEM, Computational Thinking and Coding (AAILT 2023); Advanced Processes of Mathematics and Computing Models in Complex Computational Systems (ACMC 2023); Artificial Intelligence supported Medical data examination (AIM 2023); Advanced and Innovative web Apps (AIWA 2023); Assessing Urban Sustainability (ASUS 2023); Advanced Data Science Techniques with applications in Industry and Environmental Sustainability (ATELIERS 2023); Advances in Web Based Learning (AWBL 2023); Blockchain and Distributed Ledgers: Technologies and Applications (BDLTA 2023); Bio and Neuro inspired Computing and Applications (BIONCA 2023); Choices and Actions for Human Scale Cities: Decision Support Systems (CAHSC-DSS 2023); and Computational and Applied Mathematics (CAM 2023).

Best Sellers - Books :
• If Animals Kissed Good Night
• Jackie: Public, Private, Secret
• Things We Hide From The Light (knockemout Series, 2) By Lucy Score
• It Starts With Us: A Novel (2) (it Ends With Us)
• Meditations: A New Translation By Marcus Aurelius
• Our Class Is A Family (our Class Is A Family & Our School Is A Family) By Shannon Olsen
• The Ballad Of Songbirds And Snakes (a Hunger Games Novel) (the Hunger Games)
• Twisted Games (twisted, 2)
• The Democrat Party Hates America By Mark R. Levin
• Young Forever: The Secrets To Living Your Longest, Healthiest Life (the Dr. Hyman Library, 11)

Recent Advances in Civil Engineering Springer Nature
In order to be able to communicate and engage with each other via new communicative spaces such as Google Earth, we need to understand as much as possible about how they work as cultural texts: how and why we make them and how we respond to them. Launched in 2005, Google Earth is a virtual globe, map and geographical information program, mapping the Earth by the superimposition of images obtained from satellite imagery and aerial photography. By addressing the sociopolitical issues at stake in society's use of social websites, the author provides the first ever extended close reading of Google Earth as a powerful player in the communication realm of social media. By grounding the context of its military pre-history, its construction, its links to other similar world-making sites such as Google Maps and how it is perceived critically by social scientists, it is imperative to understand how social networking and information sites work in socio and geo-political contexts if society is to use these sites effectively and for the public good.
Open GIS Springer Nature
Google Earth Engine and Artificial Intelligence for Earth Observation: Algorithms and Sustainable Applications explores a wide range of transformative data fusion techniques of Artificial Intelligence (AI) technologies applied to Google Earth Engine (GEE) techqnieus. It includes a wide range of scientific domains that can utilise remote sensing and geographic information systems (GIS) through detailed case studies. The book delves into the challenges of AI-driven tools and technologies for Earth observation data analysis, offering possible solutions and directly addressing current and upcoming needs within Earth Observation. Google Earth Engine and Artificial Intelligence for Earth Observation is a useful reference for geospatial scientists, remote sensing experts, and environmental scientists utilising remote sensing to apply the latest AI techniques to data obtained from GEE for their research and teaching.