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Planetary Crusts - S. Ross Taylor 2009
This comprehensive reference volume surveys the development of crusts on solid planets and satellites in the solar system.
Advances in Tourism, Technology and Systems - António Abreu 2020-11-19

This book features a collection of high-quality research papers presented at the International Conference on Tourism, Technology & Systems (ICOTTS 2020), held at the University of Cartagena, in Cartagena de Indias, Colombia, from 29th to 31st October 2020. The book is divided into two volumes, and it covers the areas of technology in tourism and the tourist experience, generations and technology in tourism, digital marketing applied to tourism and travel, mobile technologies applied to sustainable tourism, information technologies in tourism, digital transformation of tourism business, e-tourism and tourism 2.0, big data and management for travel and tourism, geotagging and tourist mobility, smart destinations, robotics in tourism, and information systems and technologies.

Volcanic Rocks and Soils - Tatiana Rotonda 2015-09-03

Volcanic rocks and soils show a peculiar mechanical behaviour at both laboratory and in-situ scale due to their typical structural characters. Volcanic rocks and soils contains keynote lectures and papers from the International Workshop held in Ischia (Italy), 24-25 September 2015. The book deals with recent developments and advancements, as well as case histories, in the geotechnical characterization and engineering applications related to volcanic formations. It covers a variety of themes, including: • Geotechnical characterization under both static and cyclic/dynamic loading conditions, with special regard to structural properties at different scales (microstructural features; field and laboratory characterization; construction materials); • Geotechnical aspects of natural hazards (slope stability; seismic risk); • Geotechnical problems of engineering structures (foundations; embankments; excavations and tunnels). Volcanic Rocks and Soils is of interest to scientists and practitioners in the fields of rock and soil mechanics, geotechnical

engineering, engineering geology and geology.
Managing aquifer recharge - UNESCO 2021-11-25

Engineering Properties of Rocks - Lianyang Zhang 2016-09-06
More often than not, it is difficult or even impossible to obtain directly the specific rock parameters of interest using in situ methods. The procedures for measuring most rock properties are also time consuming and expensive. Engineering Properties of Rocks, Second Edition, explores the use of typical values and/or empirical correlations of similar rocks to determine the specific parameters needed. The book is based on the author's extensive experience and offers a single source of information for the evaluation of rock properties. It systematically describes the classification and characterization of intact rock, rock discontinuities, and rock masses, and presents the various indirect methods for estimating the deformability, strength, and permeability of these components as well as the in situ rock stresses. Presents a single source for the correlations on rock properties Saves time and resources invested on in situ testing procedures Fully updated with current literature Expanded coverage of rock types and geographical locations
Perspectives on the Eastern Margin of the Cretaceous Western Interior Basin - George W. Shurr 1994
Contains papers on cretaceous rocks in the northern Rocky Mountains, the Great Plains region, the Gulf Coastal Plain of eastern Alabama, and southwestern Minnesota; the Dakota formation; evolutionary and paleological implications of fossil plants from the lower cretaceous Cheyenne sandstone; and fau
The Martian Surface - Jim Bell 2008-06-05
Phenomenal new observations from Earth-based telescopes and Mars-based orbiters, landers, and rovers have dramatically advanced our

understanding of the past environments on Mars. These include the first global-scale infrared and reflectance spectroscopic maps of the surface, leading to the discovery of key minerals indicative of specific past climate conditions; the discovery of large reservoirs of subsurface water ice; and the detailed in situ roving investigations of three new landing sites. This an important, new overview of the compositional and mineralogic properties of Mars since the last major study published in 1992. An exciting resource for all researchers and students in planetary science, astronomy, space exploration, planetary geology, and planetary geochemistry where specialized terms are explained to be easily understood by all who are just entering the field.

Engineering Computation with MATLAB - David M. Smith 2013

Introduces computer programming to engineering students through MATLAB.

Engineering Rock Mass Classification - R K Goel 2011-08-09

Rock mass classification methods are commonly used at the preliminary design stages of a construction project when there is very little information. It forms the bases for design and estimation of the required amount and type of rock support and groundwater control measures. Encompassing nearly all aspects of rock mass classifications in detail, Civil Engineering Rock Mass Classification: Tunnelling, Foundations and Landsides provides construction engineers and managers with extensive practical knowledge which is time-tested in the projects in Himalaya and other parts of the world in complex geological conditions. Rock mass classification is an essential element of feasibility studies for any near surface construction project prior to any excavation or disturbances made to earth. Written by an author team with over 50 years of experience in some of the most difficult mining regions of the world, Civil Engineering Rock Mass Classification: Tunnelling, Foundations and

Landsides provides construction engineers, construction managers and mining engineers with the tools and methods to gather geotechnical data, either from rock cuts, drifts or core, and process the information for subsequent analysis. The goal is to use effective mapping techniques to obtain data can be used as input for any of the established rock classification systems. The book covers all of the commonly used classification methods including: Barton's Q and Q' systems, Bieniawski's RMR, Laubscher's MRMR and Hoek's and GSI systems. With this book in hand, engineers will be able to gather geotechnical data, either from rock cuts, drifts or core, and process the information for subsequent analysis. Rich with international case studies and worked out equations, the focus of the book is on the practical gathering information for purposes of analysis and design. Identify the most significant parameters influencing the behaviour of a rock mass Divide a particular rock mass formulation into groups of similar behaviour, rock mass classes of varying quality Provide a basis of understanding the characteristics of each rock mass class Relate the experience of rock conditions at one site to the conditions and experience encountered at others Derive quantitative data and guidelines for engineering design Provide common basis for communication between engineers and geologists

Blue Carbon - C. Nellemann 2009

This report explores the potential for mitigating the impacts of climate change by improved management and protection of marine ecosystems and especially the vegetated coastal habitat, or blue carbon sinks. The objective of this report is to highlight the critical role of the oceans and ocean ecosystems in maintaining our climate and in assisting policy makers to mainstream an oceans agenda into national and international climate change initiatives. While emissions' reductions are currently at the centerof the climate change discussions, the

critical role of the oceans and ocean ecosystems has been vastly overlooked.--Publisher's description.

Bibliography and Index of Geology - 1992

Advances in Natural Hazards and Hydrological Risks: Meeting the Challenge - Francisco Fernandes 2020-01-02

This book gathers the proceedings of the 2nd International Workshop on Natural Hazards (NATHAZ'19), held in Lajes do Pico, Pico Island, Azores in 2019. Natural hazards constitute the threat of a naturally occurring event having a negative effect on human beings. These effects are often called natural disasters. Among the natural hazards and potential disasters to be considered are: earthquakes, volcanic eruptions, landslides, subsidence, floods, droughts and coastal erosion. In addition, there are anthropogenic hazards that occur as a result of human interactions with the environment. They include technological hazards, which occur due to exposure to hazardous substances in the environment. Grasping the behaviour of natural systems requires a comprehensive understanding of climatology, geology and hydrology data and dynamics. Thus, it is important to conduct hazard and risk assessment studies for meaningful hazard mitigation. Further, the book demonstrates that an accurate understanding of natural systems and interactions between engineering and natural resources is of vital significance to the entire socio-economic sector. This volume offers an overview of natural hazards in model regions in Europe, America, and Atlantic islands. Providing new insights on the characterisation, assessment, protection and modelling of geological hazards, water systems, urban areas and coastal zones, it represents a valuable resource for all researchers and practitioners in the fields of Geosciences, Hydrology, Water Resources, Natural Hazards, Environments and Engineering. Main topics include:1. Natural

Hazards and Disasters2. Sustainable Water Systems and Climate Change3. Technological Hazards and Engineering Design

Innovative Biosystems Engineering for Sustainable Agriculture, Forestry and Food Production - Antonio Coppola 2020-03-19

This book gathers the latest advances, innovations, and applications in the field of innovative biosystems engineering for sustainable agriculture, forestry and food production. Focusing on the challenges of implementing sustainability in various contexts in the fields of biosystems engineering, it shows how the research has addressed the sustainable use of renewable and non-renewable resources. It also presents possible solutions to help achieve sustainable production. The Mid-Term Conference of the Italian Association of Agricultural Engineering (AIIA) is part of a series of conferences, seminars and meetings that the AIIA organizes, together with other public and private stakeholders, to promote the creation and dissemination of new knowledge in the sector. The contributions included in the book were selected by means of a rigorous peer-review process, and offer an extensive and multidisciplinary overview of interesting solutions in the field of innovative biosystems engineering for sustainable agriculture.

30th European Symposium on Computer Aided Chemical Engineering - Sauro Pierucci 2020-10-23

30th European Symposium on Computer Aided Chemical Engineering, Volume 47 contains the papers presented at the 30th European Symposium of Computer Aided Process Engineering (ESCAPE) event held in Milan, Italy, May 24-27, 2020. It is a valuable resource for chemical engineers, chemical process engineers, researchers in industry and academia, students, and consultants for chemical industries. Presents findings and discussions from the 30th European Symposium of Computer Aided Process Engineering (ESCAPE) event Offers a

valuable resource for chemical engineers, chemical process engineers, researchers in industry and academia, students, and consultants for chemical industries

Earthquake Geotechnical Engineering for Protection and Development of Environment and Constructions - Francesco Silvestri 2019-07-19

Earthquake Geotechnical Engineering for Protection and Development of Environment and Constructions contains invited, keynote and theme lectures and regular papers presented at the 7th International Conference on Earthquake Geotechnical Engineering (Rome, Italy, 17-20 June 2019. The contributions deal with recent developments and advancements as well as case histories, field monitoring, experimental characterization, physical and analytical modelling, and applications related to the variety of environmental phenomena induced by earthquakes in soils and their effects on engineered systems interacting with them. The book is divided in the sections below: Invited papers Keynote papers Theme lectures Special Session on Large Scale Testing Special Session on Liquefact Projects Special Session on Lessons learned from recent earthquakes Special Session on the Central Italy earthquake Regular papers Earthquake Geotechnical Engineering for Protection and Development of Environment and Constructions provides a significant up-to-date collection of recent experiences and developments, and aims at engineers, geologists and seismologists, consultants, public and private contractors, local national and international authorities, and to all those involved in research and practice related to Earthquake Geotechnical Engineering.

Engineering Geology for Tomorrow's Cities - International Association for Engineering Geology and the Environment. International Congress 2009

Summing up knowledge and understanding of engineering geology as is applies to the urban

environment at the start of the 21st century, this volume demonstrates that: working standards are becoming internationalised; risk assessment is driving decision-making; geo-environmental change is becoming better understood; greater use of underground space is being made; and IT advances are improving subsurface visualization. --

Soil Physics - William A. Jury 2004-03-25

The completely revised and updated edition of the classic guide to soil physics The revised edition of an environmental soil science classic, Soil Physics, Sixth Edition presents updated and expanded material on the latest developments in the industry, providing the best preparation for students and a state-of-the-art reference for professionals. Through a systemic use of physical principles, Soil Physics, Sixth Edition demonstrates how to simplify the general theory used in transport processes for specific applications. With broad coverage of the role soil plays in the environment, this Sixth Edition offers more than seventy worked problems illustrating specific lessons in the book, and features: * New material on soil's influence on the health of an ecosystem * Expanded coverage of modern in-site and noninvasive field-scale subsurface measurement techniques * Discussions on the latest advances in regional and watershed hydrology * Up-to-date information on the use of algorithms and computers in the study and modeling of soil processes * New coverage of preferential flow Soil Physics, Sixth Edition is an essential volume for students and professionals in soil science, natural resource management, forestry, agriculture, hydrology, and civil and environmental engineering.

Mathematics of Planet Earth - Eulogio Pardo-Igúzquiza 2013-10-07

It is widely recognized that the degree of development of a science is given by the transition from a mainly descriptive stage to a more quantitative stage. In this transition,

qualitative interpretations (conceptual models) are complemented with quantification (numerical models, both, deterministic and stochastic). This has been the main task of mathematical geoscientists during the last forty years - to establish new frontiers and new challenges in the study and understanding of the natural world. Mathematics of Planet Earth comprises the proceedings of the International Association for Mathematical Geosciences Conference (IAMG2013), held in Madrid from September 2-6, 2013. The Conference addresses researchers, professionals and students. The proceedings contain more than 150 original contributions and give a multidisciplinary vision of mathematical geosciences.

Engineering Geology - Richard E. Goodman 1993-01-18

Using an engineer's perspective, it offers a concrete account of the basic facts and experiences regarding the behavior of different rock types in engineering construction. Details geological exploration techniques, stressing drilling and logging core samples. Features a chapter on active faults in engineering projects including legal arguments about project sites. Illustrative case studies, ranging from the Auburn Dam controversy to international examples of single collapse problems, aid in students' awareness of rock mass propensities and structures.

Mechanical Engineering - 1919

Geotechnical Earthquake Engineering - Steven L.. Kramer 2013-11-01

Appropriate for courses in Structural Dynamics, Earthquake Engineering or Seismology. This is the first book on the market focusing specifically on the topic of geotechnical earthquake engineering. Also covers fundamental concepts in seismology, geotechnical engineering, and structural engineering.

Soil Strength and Slope Stability - J. Michael Duncan 2014-09-22

The definitive guide to the critical issue of slope stability and safety Soil Strength and Slope Stability, Second Edition presents the latest thinking and techniques in the assessment of natural and man-made slopes, and the factors that cause them to survive or crumble. Using clear, concise language and practical examples, the book explains the practical aspects of geotechnical engineering as applied to slopes and embankments. The new second edition includes a thorough discussion on the use of analysis software, providing the background to understand what the software is doing, along with several methods of manual analysis that allow readers to verify software results. The book also includes a new case study about Hurricane Katrina failures at 17th Street and London Avenue Canal, plus additional case studies that frame the principles and techniques described. Slope stability is a critical element of geotechnical engineering, involved in virtually every civil engineering project, especially highway development. Soil Strength and Slope Stability fills the gap in industry literature by providing practical information on the subject without including extraneous theory that may distract from the application. This balanced approach provides clear guidance for professionals in the field, while remaining comprehensive enough for use as a graduate-level text. Topics include: Mechanics of soil and limit equilibrium procedures Analyzing slope stability, rapid drawdown, and partial consolidation Safety, reliability, and stability analyses Reinforced slopes, stabilization, and repair The book also describes examples and causes of slope failure and stability conditions for analysis, and includes an appendix of slope stability charts. Given how vital slope stability is to public safety, a comprehensive resource for analysis and practical action is a valuable tool. Soil Strength and Slope Stability is the definitive guide to the subject, proving useful both in the classroom and in the field.

From Fundamentals to Applications in Geotechnics - D. Manzanal 2015-12-11
The work of geotechnical engineers contributes to the creation of safe, economic and pleasant spaces to live, work and relax all over the world. Advances are constantly being made, and the expertise of the profession becomes ever more important with the increased pressure on space and resources. This book presents the proceedings of the 15th Pan-American Conference on Soil Mechanics and Geotechnical Engineering (XV PCSMGE), held in Buenos Aires, Argentina, in November 2015. This conference, held every four years, is an important opportunity for international experts, researchers, academics, professionals and geo-engineering companies to meet and exchange ideas and research findings in the areas of soil mechanics, rock mechanics, and their applications in civil, mining and environmental engineering. The articles are divided into nine sections: transportation geotechnics; in-situ testing; geo-engineering for energy and sustainability; numerical modeling in geotechnics; foundations and ground improvement; unsaturated soil behavior; embankments, dams and tailings; excavations and tunnels; and geo-risks, and cover a wide spectrum of issues from fundamentals to applications in geotechnics. This book will undoubtedly represent an essential reference for academics, researchers and practitioners in the field of soil mechanics and geotechnical engineering. In this proceedings, approximately 65% of the contributions are in English, and 35% of the contributions are in Spanish or Portuguese.

Geoheritage - Emmanuel Reynard 2017-12-05
For the last 20 years there has been a growing interest in the geosciences for topics related to geoheritage: geoconservation, geotourism and geoparks. Geoheritage: Assessment, Protection, and Management is the first and only reference book to cover these main topics as well as the

relationship of geoheritage to other subjects such as landscapes, conservation, and tourism. The book also includes methodologies for assessment, mapping, and visualisation, along with case studies and colour images of some of the most important global geosites. This book is an essential resource for geoscientists, park and geopark managers, tourism and regional planning managers, as well as university students interested in geoheritage, geosites, geomorphosites, geoconservation, and geotourism. It also includes critical information on UNESCO's Global Geoparks, World Heritage and Biosphere Reserve sites, national parks and protected areas in general, land-use planning and nature conservation policies, and in the general contribution of geodiversity for sustainable development. Winner of the 2019 AESE Award for Outstanding Publication Written by a panel of 46 authors from 14 countries in all continents Based on conceptual, methodological, and applied research carried out by academics and practitioners Includes 160 colour images and maps of geoheritage sites Features six case studies from sites in Africa, Asia, Australia, Europe, North America and South America

Bulletin of the Association of Engineering Geologists - Association of Engineering Geologists 1977

Craig's Soil Mechanics - Jonathan Knappett 2012-02-09

Now in its eighth edition, this bestselling text continues to blend clarity of explanation with depth of coverage to present students with the fundamental principles of soil mechanics. From the foundations of the subject through to its application in practice, Craig's Soil Mechanics provides an indispensable companion to undergraduate courses and b

The World of Learning 2001 - Europa Publications 2000

First published in 2000. Routledge is an imprint of Taylor & Francis, an informa company.

Fundamentals of Soil Behavior - James K. Mitchell 1993
Explains the factors which determine and control the engineering properties of soils--particularly volume change, deformation, strength and permeability. New to this edition: expanded coverage of residual and tropical soils, environmental aspects of soil behavior, material on partly saturated soils, revised treatment of direct or coupled hydraulic, chemical, thermal and electrical flows through soil.
Hydraulics in Civil and Environmental Engineering, Fourth Edition - Andrew John Chadwick 1998-07-09
The third edition of this best-selling textbook combines thorough coverage of fundamental theory with a wide ranging treatment of contemporary applications. The chapters on sediment transport, river engineering, wave theory and coastal engineering have been extensively updated, and there is a new chapter on computational modelling. The authors illustrate applications of computer and physical simulation techniques in modern design. The book is an invaluable resource for students and practitioners of civil, environmental, and public health engineering and associated disciplines. It is comprehensive, fully illustrated and contains many worked examples, taking a holistic view of the water cycles, many aspects of which are critical for future sustainable development.
Geological Engineering - Luis Gonzalez de Vallejo 2011-07-06
A thorough knowledge of geology is essential in the design and construction of infrastructures for transport, buildings and mining operations; while an understanding of geology is also crucial for those working in urban, territorial and environmental planning and in the prevention and mitigation of geohazards.Geological Engineering provides an inte
Critical Mineral Resources of the United States - K. J. Schulz 2017
As the importance and dependence of specific

mineral commodities increase, so does concern about their supply. The United States is currently 100 percent reliant on foreign sources for 20 mineral commodities and imports the majority of its supply of more than 50 mineral commodities. Mineral commodities that have important uses and face potential supply disruption are critical to American economic and national security. However, a mineral commodity's importance and the nature of its supply chain can change with time; a mineral commodity that may not have been considered critical 25 years ago may be critical today, and one considered critical today may not be so in the future. The U.S. Geological Survey has produced this volume to describe a select group of mineral commodities currently critical to our economy and security. For each mineral commodity covered, the authors provide a comprehensive look at (1) the commodity's use; (2) the geology and global distribution of the mineral deposit types that account for the present and possible future supply of the commodity; (3) the current status of production, reserves, and resources in the United States and globally; and (4) environmental considerations related to the commodity's production from different types of mineral deposits. The volume describes U.S. critical mineral resources in a global context, for no country can be self-sufficient for all its mineral commodity needs, and the United States will always rely on global mineral commodity supply chains. This volume provides the scientific understanding of critical mineral resources required for informed decisionmaking by those responsible for ensuring that the United States has a secure and sustainable supply of mineral commodities.

Natural and Artificial Rockslide Dams - Stephen G. Evans 2011-08-28

In the last one hundred years, a number of catastrophic events associated with rockslide dam formation and failure have occurred in the mountain regions of the world. This book

presents a global view of the formation, characteristics and behaviour of natural and artificial rockslide dams. Chapters include a comprehensive state-of-the-art review of our global understanding natural and artificial rockslide dams, overviews of approaches to rockslide dam risk mitigation, regional studies of rockslide dams in India, Nepal, China, Pakistan, New Zealand, and Argentina. Rockslide dams associated with large-scale instability of volcanoes are also examined. Detailed case histories of well-known historic and prehistoric rockslide dams provide examples of investigations of rockslide dam behaviour, stability, and characteristics. The formation and behaviour of rockslide-dammed lakes ("Quake Lakes") formed during the 2008 Wenchuan Earthquake, China are also comprehensively summarised. The formation, sedimentology and stability of rockslide dams is examined in several analytical papers. An analysis of break-out floods from volcanogenic lakes and hydrological methods of estimating break-out flood magnitude and behavior are reviewed. The use of remote sensing data in rockslide-dammed lake characterisation is explored and a new approach to the classification of rockslide dams is introduced. Finally, a unique section of the book summarises Russian and Kyrgyz experience with blast-fill dam construction in two papers by leading authorities on the technology. The volume contains 24 papers by 50 authors from 16 countries including most of the recognised world authorities on the subject.

Geology of Cuba - Manuel Enrique Pardo Echarte 2021-05-04

The evolution of geological cartography in Cuba in its more than 135 years of history has been possible through the consultation of numerous archival reports, publications, maps and personal interviews with different authors and geologists of vast experience. A brief critical analysis is made of the increase in the degree of geological knowledge of the country since the

elaboration of the Geological Sketch of the Cuban Island at a scale of 1: 2 000 000 (Fernández de Castro, 1883), first of Cuba and of Ibero-America, until the most recent Digital Geological Map of Cuba at scale 1: 100 000 (Pérez Aragón, 2016). Cuba and its surroundings are a geological mosaic in the southeast corner of the North American plate with rocks from many different origins, from Proterozoic to Quaternary, extended along the southern border of the plate. From the Eocene, this belt has been dissected by several great faults, related to the development of some great oceanic depressions (Cayman trough and Yucatan basin). The fossil record of Cuba, which covers approximately the last 200 million years of life on Earth, is rich in very varied fossils, witnessing a wide diversity of organisms, both animals and plants, that inhabited the Antillean and Caribbean region; and that constitute the inheritance of the biological diversity that the current Cuban archipelago exhibits. As a result of the preparation of the Cuban Metallogenic Map at scale 1: 250 000, forty-one models and eight sub-models of metallic mineral deposits were identified. These models, of descriptive–genetic type, together with the analysis of their spatial distribution and their relationship with geology, allowed the identification and mapping of ten mineral systems, linked to the geodynamic environments present in the Cuban territory. Cuba has large deposits of limestone, loam, dolomite, kaolin, gypsum and anhydrite, rock salt, marbles, sands and clays of different types, zeolites, peat, therapeutic peloids and many more. There are manifestations of decorative and precious rocks such as jasper, jadeite, different varieties of quartz and even xylopals. A compilation of geochemical data of oceanic basalt samples from previous works, together with data of analyzed samples during this study in order to discuss geochemical criteria based on immobile element (proxies for fractionation indices, alkalinity, mantle flow and subduction

addition), provide a comprehensive ophiolite classification according to their tectonic setting. This book addresses different facets of the geological knowledge of Cuba: history of its cartography, marine geology, fossil record, stratigraphy, tectonics, classification of its ophiolites, quaternary deposits, metallogeny and minerageny.

South-Central Section of the Geological Society of America - O.T. Hayward 1988

Landscapes and Landforms of Spain - Francisco Gutiérrez 2014-04-18

The Landscapes and Landforms of Spain provides an informative and inviting overview of the geology and geomorphology of Spain. It incorporates a diverse range of topics, ranging from the fiery landscapes of the Canary Islands and its volcanic formations to the glacial scenery of the Pyrenees. The book devotes attention to granite landforms, karst terrains, coastal dunes and marshes, as well as to heritage and conservation, with the objective of offering the reader a comprehensive insight into the Spanish geological setting. The book presents readers with the opportunity to explore Spanish landforms in detail through its highly illustrated pages and maps, making this an appealing text on the subject field.

Petrophysics - Erle C. Donaldson 2004-01-24

The petroleum geologist and engineer must have a working knowledge of petrophysics in order to find oil reservoirs, devise the best plan for getting it out of the ground, then start drilling. This book offers the engineer and geologist a manual to accomplish these goals, providing much-needed calculations and formulas on fluid flow, rock properties, and many other topics that are encountered every day. New updated material covers topics that have emerged in the petrochemical industry since 1997. Contains information and calculations that the engineer or geologist must use in daily activities to find oil and devise a plan to get it out of the ground

Filled with problems and solutions, perfect for use in undergraduate, graduate, or professional courses Covers real-life problems and cases for the practicing engineer

Biochar for Environmental Management - Johannes Lehmann 2012-05-16

Biochar is the carbon-rich product when biomass (such as wood, manure or crop residues) is heated in a closed container with little or no available air. It can be used to improve agriculture and the environment in several ways, and its stability in soil and superior nutrient-retention properties make it an ideal soil amendment to increase crop yields. In addition to this, biochar sequestration, in combination with sustainable biomass production, can be carbon-negative and therefore used to actively remove carbon dioxide from the atmosphere, with major implications for mitigation of climate change. Biochar production can also be combined with bioenergy production through the use of the gases that are given off in the pyrolysis process. This book is the first to synthesize the expanding research literature on this topic. The book's interdisciplinary approach, which covers engineering, environmental sciences, agricultural sciences, economics and policy, is a vital tool at this stage of biochar technology development. This comprehensive overview of current knowledge will be of interest to advanced students, researchers and professionals in a wide range of disciplines.

Geological Engineering - Luis Gonzalez de Vallejo 2012-02-28

A thorough knowledge of geology is essential in the design and construction of infrastructures for transport, buildings and mining operations; while an understanding of geology is also crucial for those working in urban, territorial and environmental planning and in the prevention and mitigation of geohazards. Geological Engineering provides an interpretation of the geological setting, integrating geological conditions into engineering design and

construction, and provides engineering solutions that take into account both ground conditions and environment. This textbook, extensively illustrated with working examples and a wealth of graphics, covers the subject area of geological engineering in four sections: Fundamentals: soil mechanics, rock mechanics and hydrogeology Methods: site investigations, rock mass characterization and engineering geological mapping Applications: foundations, slope stability, tunnelling, dams and reservoirs and earth works Geohazards: landslides, other mass movements, earthquake hazards and prevention and mitigation of geological hazards As well as being a textbook for graduate and postgraduate students and academics, Geological Engineering serves as a basic reference for practicing engineering geologists and geological and geotechnical engineers, as well as civil and mining engineers dealing with design and construction of foundations, earth works and excavations for infrastructures, buildings, and mining operations.

Foundations of Engineering Geology - Tony Waltham 2018-10-08

Now in full colour, the third edition of this well established book provides a readable and highly illustrated overview of the aspects of geology that are most significant to civil engineers. Sections in the book include those devoted to the main rock types, weathering, ground investigation, rock mass strength, failures of old mines, subsidence on peats and clays, sinkholes on limestone and chalk, water in landslides, slope stabilization and understanding ground conditions. The roles of both natural and man-induced processes are assessed, and this understanding is developed into an appreciation of the geological environments potentially hazardous to civil engineering and construction projects. For each style of difficult ground, available techniques of site investigation and remediation are reviewed and evaluated. Each topic is presented as a double page spread with

a careful mix of text and diagrams, with tabulated reference material on parameters such as bearing strength of soils and rocks. This new edition has been comprehensively updated and covers the entire spectrum of topics of interest for both students and practitioners in the field of civil engineering.

Unsaturated Soils: Theoretical and numerical advances in unsaturated soil mechanics - Olivier Buzzi 2010