Desertification: Causes, Impacts & Consequences

Amongst the first in the new Springer-Praxis Earth System Science Series ‘Desertification: The Interplay of Science, Politics and Public Opinion’ describes how the process of desertification, a man-induced process that leads to soil nutrient depletion and reduction of biological productivity has heavily affected Sahelian droughts. The team of global experts takes our current understanding of desertification to a far broader level covering wider environmental science and policy issues. This innovative new book attempts to distinguish between desertification hysteria and the considerable threat that the process poses to many semi-arid landscapes and to those who inhabit them with particular focus on current scientific understandings of the mechanisms that drive desertification and reviews of the regional, continental and world-wide evidence for desertification. The book is structured into six core parts. The first part by Roy Behnke sets the scene and explains the event and related problems. The team explains how spheres and events interact and the related problems. Part 2 by Camilla Toulmin examines the evolution in thinking & ideas about desertification, the confrontation of new data & field experience with policy and legal frameworks set within the context of rising concerns about climate change. Part 3, written by Alessandra Giannini explores the scientific causes of desertification.

Features
► One of the first books in the new Springer-Praxis Earth System Science Series
► Written by a global team of experts with up-to-date knowledge of desertification
► Makes good use of colour images for scientific interpretation
► Unrivaled in approach, this book delivers broad coverage of the topic and tackles possible influences, causes and consequences

Fields of interest
Meteorology/Climatology; Soil Science & Conservation; Nature Conservation

Target groups
Research

Discount group
P

Due June 2011

► approx. $279.00
ISBN 978-3-642-11498-4

Karst Management

Focusing specifically on the management of karst environments, this volume draws together the world’s leading karst experts to provide a vital source for the study and management of this unique physical setting. Although karst landscapes cover 12% of the Earth’s terrain and provide 25% of the world’s drinking water, the resource management of karst environments has only previously received indirect attention. Through a comprehensive approach, Karst Management focuses on engineering issues associated with surface karst such as quarries, dams, and agriculture; subsurface topics such as the management of groundwater, show caves, cave biota, and geoarchaeology projects. Chapters that focus on karst as an integrated system look at IUCN World Heritage sites, national parks, policy and regulation, measuring systematic disturbance, information management, and public environmental education. The text incorporates the most up-to-date research from leading karst scientists such as Derek Ford, Paul Williams, John Gunn, Barry Beck, Stephen Worthington and Mario Parise. This volume provides vital perspectives for university students, educators, geoenigneers, resource managers, and planners who are interested in or work with this unique physical landscape.

Features
► The book focuses specifically on karst management
► It provides comprehensive coverage of topic
► The chapters are written by leading karst researchers of the world
► The book can be readily used as a basis for a course, although not a textbook

Fields of interest
Physical Geography; Geology; Geocology/Natural Processes

Target groups
Research

Discount group
P

Due May 2011

► approx. $179.00
ISBN 978-3-642-19096-4

Geophysics in Mining and Environmental Protection

This book contains contributions to the 32nd Polish-Czech-Slovak Symposium on Mining and Environmental Geophysics held in May 2009 in Piechowice (Poland). The papers are related to various aspects of geophysical science such as induced seismicity, engineering seismology, environmental geophysics and geophysics in geology

Features
► Numerous step-by-step tutorials which help the reader to learn quickly
► A special chapter on next generation
► Flash prepares the reader for the future
► Includes ten tips on how to protect flash sites from hackers

Fields of interest
Geophysics/Geodesy; Industrial Pollution Prevention; Geophysics and Environmental Physics

Target groups
Research

Discount group
P

Due July 2011

► $129.00
ISBN 978-3-642-19096-4
The Measurement and Analysis of Housing Preferences and Choice

What are the current trends in housing? Is my planned project commercially viable? What should be my marketing and advertisement strategies? These are just some of the questions that real estate agents, landlords, and developers ask researchers to answer. But to find the answers, researchers are faced with a wide variety of methods that measure housing preferences and choices. To select and value a valid research method, one needs a well-structured overview of the methods that are used in housing preference and housing choice research. This comprehensive introduction to this field offers just such an overview. It discusses and compares numerous methods, detailing the potential limitations of each one, and it reaches beyond methodology, illustrating how thoughtful consideration of methods and techniques in research can help researchers and other professionals to deliver products and services that are more in line with residents’ needs.

Features
► Contains a descriptive overview of methods and techniques applied in housing preference and choice research
► Includes a description of every method in practice with at least one applied example
► The overview is up-to-date
► Provides comparisons of various methods and techniques
► Discusses the most important topics in the research field of housing

Fields of interest
Housing; Methodology of the Social Sciences; Statistical Theory and Methods

Target groups
Research

Discount group
P

Guide to Process Based Modelling of Lakes and Coastal Seas

Mounting concern about the influence of humans on climate and environmental conditions has increased the need for multi-disciplinary modelling efforts, including systems such as oceans, lakes, land surfaces, ice, rivers, and atmosphere. Scientists have traditionally developed specialized models limited to application within their own disciplines. Increasing effort, however, is now being put into the development of general equation solvers that allow users to create a code applicable to a broad range of problems. The use of computational fluid dynamics to analyse and predict changes in the environment has increased considerably during the past decades. Numerical models are now standard tools in both research and in a wide range of applications.

Features
► Provides a unique teaching tool for the systematic learning of aquatic modelling
► Approaches ocean modeling from a new angle
► Introduces aquatic modelling using a process approach

Fields of interest
Coastal Sciences; Marine & Freshwater Sciences; Physical Geography

Target groups
Research

Discount group
P

Building the Cape Verde Islands

Hotspots are enigmatic surface features that are not easily explained in the framework of plate tectonics. Investigating their origin is the goal of this thesis, using field evidence collected in the Cape Verde Islands, a prominent hotspot archipelago in the eastern Atlantic Ocean. The approach taken is to document uplift of the islands relative to sea level and use the uplift features to test various models of hotspot development. Island uplift is thought to arise from the growth of the anomalously shallow seafloor on which the islands rest, known as the bathymetric swell, which is characteristic of hotspots.

The work comprises a geological summary and detailed mapping of paleo sea level markers on Cape Verde. Isotopic dating of the markers shows that uplift on the islands over the last 6 Myr is up to 400 m, and that the uplift chronology varies among islands. Two processes act to raise the Cape Verde Islands. The dominant process is one that is local to individual islands. The regional, swell-related component is smaller, and possibly episodic. The observations provide strong constraints on swell development and on hotspot models.

Features
► Nominated by University of Bristol for a Springer Theses Prize
► The work comprises a geological summary and detailed mapping of paleo sea level markers on Cape Verde
► The observations described in this thesis provide strong constraints on swell development and on hot spot models

Fields of interest
Geology; Geophysics/Geodesy; Oceanography

Target groups
Research

Discount group
P
Experimental Methods in Hydraulic Research

It is clear that hydraulic research is developing beyond traditional civil engineering to satisfy increasing demands in natural hazards assessment and also environmental research. Our ability to describe processes in nature rests on the observation and experimental methods as well as on theoretical basics of various disciplines. Under such conditions experimental methods draw from various areas of human activities and research, i.e. from physics, biology, chemistry, aerospace research, oceanic research etc. The current volume, is the result of a meeting that took place during the 30th International School of Hydraulics in Poland and presents both the state of the art and ongoing research projects in which experimental methods play a key role. Authors from numerous leading laboratories and from various countries guarantee a representative sample of different studies at the frontier of the field.

Features
- State-of-the-art on experimental methods in hydraulic research
- Description of projects covering a wide range of applications within hydraulics
- Chapters prepared by top world specialists in the field

Fields of interest
Hydrogeology; Structural Foundations, Hydraulic Engineering; Fluid- and Aerodynamics

Target groups
Research

Discount group
P

Remote Sensing of the Changing Oceans

Dr. Tang has organized several international conferences, workshops, and training, she also serves as member of organizing committee for several international scientific organizations; she was the Chairman of the 9th Pan Ocean Remote Sensing Conference (PORSEC 2008), and currently is the President-elect of PORSEC Association.

Features
- Is an introduction to, and a synthesis of various new ideas and theories
- Presents the most comprehensive state of the sciences of global climate change, natural hazards and costal environment, as seen from space by satellite remote sensors
- Couples theories with applications from around the world, with contributions by world-renowned scientists

Fields of interest
Remote Sensing/Photogrammetry; Oceanography; Natural Hazards

Target groups
Professional/practitioner

Discount group
P

Groundwater in the Arab Middle East

The book gives an outline of prevailing hydrogeologic conditions in the Arab Middle East together with the geologic background. Emphasis is given to relationships between the main features influencing the hydrogeologic conditions - regional geologic developments, paleogeographic conditions, morphology, climate and paleo-climate - and the resulting hydrogeologic features: formation of aquifers, distribution of major aquifers, main groundwater flow systems, occurrence of renewable and fossil groundwater. Reported data on hydraulic aquifer parameters, recharge rates and groundwater flow volumes are evaluated with a view to arrive at characteristic values under the specific hydrogeologic and climatic conditions. The area considered covers approximately the Arabian Plate. Information on the following countries is included: Bahrain, Iraq, Jordan, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia, Syria, United Arab Emirates, West Bank and Gaza, Yemen.

Features
- Information is presented on hydrogeologic conditions and groundwater occurrence for the entire Arab Middle East
- Explains relationships between geologic developments on the Arabian Plate and the distribution and characteristics of main aquifers
- Includes evaluations of groundwater quality conditions and quantitative aspects of groundwater regimes for all major aquifers of the Arab Middle East
- Summarizes information on isotope hydrologic data from the Arab Middle East with conclusions on paleo-hydrologic and groundwater recharge conditions

Fields of interest
Hydrogeology; Waste Water Technology / Water Pollution Control / Water Management / Aquatic Pollution; Landscape/Regional and Urban Planning

Target groups
Professional/practitioner

Discount group
P
Spatial Data Analysis: Problems, Techniques and Applications

Applications of spatial data, coupled with geographic information systems, are finding increasing use in the disciplines of geography and geology, as well as environmental science, ecology, epidemiology, economics and the social sciences. Disciplines that are concerned with spatial variations and patterns and the relationships between such patterns. Spatial data is defined here as data where the absolute locations and/or relative spatial locations of the observations are taken into account, in addition to the values relating to the phenomena of interest.

This textbook is aimed at students seeking to apply GIS and spatial data analysis and statistics to their fields of study and focuses on detecting patterns and exploring and modeling relationships between such patterns in order to understand the processes responsible for the observed patterns. It avoids an exhaustive presentation of the whole of spatial data analysis, providing instead a subset of techniques that are both accessible and of practical use. The spatial analysis techniques presented include: visualisation tools, exploratory devices and more formal model-based approaches.

Features
- Introduces undergraduates to statistical techniques used in spatial data analysis
- Provides a set of spatial data analysis techniques which are both accessible and of practical use
- Chapters are accompanied by a set of examples, case studies and computer based exercises

Fields of interest
Geographical Information Systems/Cartography; Computer Applications; Applied Earth Sciences

Target groups
Research

Discount group
P

Due July 2011

2011. 350 p. 50 illus. (Advances in Geographic Information Science) Hardcover

approx. $99.95
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