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KEY=VIVA - SANTOS HUFFMAN

CANADIAN JOURNAL OF FOREST RESEARCH

JOURNAL CANADIEN DE LA RECHERCHE FORESTIÈRE

LIVING ALONG GRADIENTS: PAST, PRESENT, FUTURE

Frontiers Media SA

ADVANCES IN METEOROLOGY, CLIMATOLOGY AND ATMOSPHERIC PHYSICS

Springer Science & Business Media This book essentially comprises the proceedings of the 11th International Conference of Meteorology, Climatology and Atmospheric Physics (COMCAP 2012) that is held in Athens from 30 May to 1 June 2012. The Conference addresses researchers, professionals and students interested in the following topics: Agricultural Meteorology and Climatology, Air Quality, Applied Meteorology and Climatology, Applications of Meteorology in the Energy Sector, Atmospheric Physics and Chemistry, Atmospheric Radiation, Atmospheric Boundary Layer, Biometeorology and Bioclimatology, Climate Dynamics, Climatic Changes, Cloud Physics, Dynamic and Synoptic Meteorology, Extreme Events, Hydrology and Hydrometeorology, Mesoscale Meteorology, Micrometeorology/Urban Microclimate, Remote Sensing/ Satellite Meteorology and Climatology, Weather Analysis and Forecasting. The book includes all papers that have been accepted for presentation at the conference.

3D LASER SCANNING FOR HERITAGE

ADVICE AND GUIDANCE ON THE USE OF LASER SCANNING IN ARCHAEOLOGY AND ARCHITECTURE

The first edition of 3D Laser Scanning for Heritage was published in 2007 and originated from the Heritage3D project that in 2006 considered the development of professional guidance for laser scanning in archaeology and architecture. Publication of the second edition in 2011 continued the aims of the original document in providing updated guidance on the use of three-dimensional (3D) laser scanning across the heritage sector. By reflecting on the technological advances made since 2011, such as the speed, resolution, mobility and portability of modern laser scanning systems and their integration with other sensor solutions, the guidance presented in this third edition should assist archaeologists, conservators and other cultural heritage professionals unfamiliar with the approach in making the best possible use of this now highly developed technique.

STATE PLANE COORDINATE SYSTEM OF 1983

FILE STATIONS

GEOMETRIC GEODETIC ACCURACY STANDARDS AND SPECIFICATIONS FOR USING GPS RELATIVE POSITIONING TECHNIQUES

GLOBAL POSITIONING SYSTEM

DIANE Publishing Inc.

AUSPLOTS RANGELANDS SURVEY PROTOCOLS MANUAL

PHOTOGRAMMETRIC APPLICATIONS FOR CULTURAL HERITAGE

GUIDANCE FOR GOOD PRACTICE

This guidance covers the practical application of photogrammetry in recording cultural heritage, with particular reference to structure from motion (SfM) techniques. Our audience for this document includes survey contractors, archaeological contractors, voluntary organisations and specialists. Photogrammetric image acquisition and processing, until recently requiring a considerable investment in hardware and software, are now possible at a fraction of their former cost. This has led to a huge increase in the use of photogrammetry in cultural heritage recording. The skills required to apply the techniques successfully and accurately are discussed, and background information on how various parts of the process work is provided so that better results can be achieved through better understanding. Photogrammetry is characterised by its versatility, and is applicable over a wide range of scales, from landscapes to small objects. The particular requirements needed at these different scales are outlined, and both imaging techniques and useful ancillary equipment are described. The different types of outputs are discussed, including their suitability for further interrogation using a range of established analytical techniques and the presentation options available. A range of case studies illustrates the application of photogrammetry across a variety of projects that broadly reflect the areas discussed in the text. This document is one of a number of Historic England technical advice documents on how to survey historic places.

NEW APPROACH OF INDOOR AND OUTDOOR LOCALIZATION SYSTEMS

BoD - Books on Demand Accurate determination of the mobile position constitutes the basis of many new applications. This book provides a detailed account of wireless systems for positioning, signal processing, radio localization techniques (Time Difference Of Arrival), performances evaluation, and localization applications. The first section is dedicated to Satellite systems for positioning like GPS, GNSS. The second section addresses the localization applications using the wireless sensor networks. Some techniques are introduced for localization systems, especially for indoor positioning, such as Ultra Wide Band (UWB), WIFI. The last section is dedicated to Coupled GPS and other sensors. Some results of simulations, implementation and tests are given to help readers grasp the presented techniques. This is an ideal book for students, PhD students, academics and engineers in the field of Communication, localization

SURVEYING

PRINCIPLES AND APPLICATIONS

SURVEYING: PRINCIPLES & APPLICATIONS, 9/e is the clearest, easiest to understand, and most useful introduction to surveying as it is practiced today. It brings together expert coverage of surveying principles, remote sensing and other new advances in technological instrumentation, and modern applications for everything from mapping to engineering. Designed for maximum simplicity, it also covers sophisticated topics typically discussed in advanced surveying courses. This edition has been reorganized and streamlined to align tightly with current surveying practice, and to teach more rapidly and efficiently. It adds broader and more valuable coverage of aerial, space and ground imaging, GIS, land surveying, and other key topics. An extensive set of appendices makes it a useful reference for students entering the workplace.

STATISTICAL ORBIT DETERMINATION

Elsevier Statistical Orbit Determination presents fundamentals of orbit determination--from weighted least squares approaches (Gauss) to today's high-speed computer algorithms that provide accuracy within a few centimeters. Numerous examples and problems are provided to enhance readers' understanding of the material. Covers such topics as coordinate and time systems, square root filters, process noise techniques, and the use of fictitious parameters for absorbing un-modeled and incorrectly modeled forces acting on a satellite. Examples and exercises serve to illustrate the principles throughout each chapter.

UNSTABLE SINGULARITIES AND RANDOMNESS

THEIR IMPORTANCE IN THE COMPLEXITY OF PHYSICAL, BIOLOGICAL AND SOCIAL SCIENCES

Elsevier Traditionally, randomness and determinism have been viewed as being diametrically opposed, based on the idea that causality and determinism is complicated by "noise. Although recent research has suggested that noise can have a productive role, it still views noise as a separate entity. This work suggests that this not need to be so. In an informal presentation, instead, the problem is traced to traditional assumptions regarding dynamical equations and their need for unique solutions. If this requirement is relaxed, the equations admit for instability and stochasticity evolving from the dynamics itself. This allows for a decoupling from the "burden of the past and provides insights into concepts such as predictability, irreversibility, adaptability, creativity and multi-choice behaviour. This reformulation is especially relevant for biological and social sciences whose need for flexibility a propos of environmental demands is important to understand: this suggests that many system models are based on randomness and nondeterminism complicated with a little bit of determinism to ultimately achieve concurrent flexibility and stability. As a result, the statistical perception of reality is seen as being a more productive tool than classical determinism. The book addresses scientists of all disciplines, with special emphasis at making the ideas more accessible to scientists and students not traditionally involved in the formal mathematics of the physical sciences. The implications may be of interest also to specialists in the philosophy of science. · Presents the ideas in an informal language. · Provides tools for exploring data for singularities.

VALLEY OF THE QUEENS ASSESSMENT REPORT

ASSESSMENT OF THE 18TH, 19TH, AND 20TH DYNASTY TOMBS

The Valley of the Queens Project is a collaboration of the Supreme Council of Antiquities and the Getty Conservation Institute from 2006-2011. The project involved comprehensive research, planning and assessment culminating in the development of detailed plans for conservation and management of the site. Volume 2 of the report is the condition summary of the 111 tombs from the 18th,19th, and 20th Dynasties in the Valley of the Queens. This includes a summary of tomb architectural development, the geological and hydrological context, wall painting technique and condition assessment of the paintings and structural stability of the tombs.

GPS FOR LAND SURVEYORS, THIRD EDITION

CRC Press The GPS Signal - Biases and Solutions - The Framework - Receivers and Methods - Coordinates - Planning a Survey - Observing - Postprocessing - RTK and DGPS.

AUTODESK CIVIL 3D 2020: FUNDAMENTALS (IMPERIAL UNITS)

AUTODESK AUTHORIZED PUBLISHER

Ascent, Center for Technical Knowledge The Autodesk(R) Civil 3D(R) 2020: Fundamentals guide is designed for Civil Engineers and Surveyors who want to take advantage of the Autodesk(R) Civil 3D(R) software's interactive, dynamic design functionality. The Autodesk Civil 3D software permits the rapid development of alternatives through its model-based design tools. You will learn techniques enabling you to organize project data, work with points, create and analyze surfaces, model road corridors, create parcel layouts, perform grading and volume calculation tasks, and layout pipe networks. Topics Covered Learn the Autodesk Civil 3D 2020 user interface. Create and edit parcels and print parcel reports. Create points and point groups and work with survey figures. Create, edit, view, and analyze surfaces. Create and edit alignments. Create data shortcuts. Create sites, profiles, and cross-sections. Create assemblies, corridors, and intersections. Create grading solutions. Create gravity fed and pressure pipe networks. Perform quantity takeoff and volume calculations. Use plan production tools to create plan and profile sheets. Prerequisites Access to the 2020 version of the software. The practices and files included with this guide might not be compatible with prior versions. Experience with AutoCAD(R) or AutoCAD-based products and a sound understanding and knowledge of civil engineering terminology.

PRINCIPLES OF REMOTE SENSING

AN INTRODUCTORY TEXTBOOK

URBAN WATER CYCLE MODELLING AND MANAGEMENT

MDPI This book is a printed edition of the Special Issue "Urban Water Cycle Modelling and Management" that was published in Water

UAV PHOTOGRAMMETRY AND REMOTE SENSING

MDPI The concept of remote sensing as a way of capturing information from an object without making contact with it has, until recently, been exclusively focused on the use of Earth observation satellites. The emergence of unmanned aerial vehicles (UAV) with Global Navigation Satellite System (GNSS) controlled navigation and sensor-carrying capabilities has increased the number of publications related to new remote sensing from much closer distances. Previous knowledge about the behavior of the Earth's surface under the incidence different wavelengths of energy has been successfully applied to a large amount of data recorded from UAVs, thereby increasing the special and temporal resolution of the products obtained. More specifically, the ability of UAVs to be positioned in the air at pre-programmed coordinate points; to track flight paths; and in any case, to record the coordinates of the sensor position at the time of the shot and at the pitch, yaw, and roll angles have opened an interesting field of applications for low-altitude aerial photogrammetry, known as UAV photogrammetry. In addition, photogrammetric data processing has been improved thanks to the combination of new algorithms, e.g., structure from motion (SfM), which solves the collinearity equations without the need for any control point, producing a cloud of points referenced to an arbitrary coordinate system and a full camera calibration, and the multi-view stereopsis (MVS) algorithm, which applies an expanding procedure of sparse set of matched keypoints in order to obtain a dense point cloud. The set of technical advances described above allows for geometric modeling of terrain surfaces with high accuracy, minimizing the need for topographic campaigns for georeferencing of such products. This Special Issue aims to compile some applications realized thanks to the synergies established between new remote sensing from close distances and UAV photogrammetry.

ENVIRONMENTALLY SUSTAINABLE VITICULTURE

PRACTICES AND PRACTICALITY

CRC Press This title includes a number of Open Access chapters. As climate change becomes a growing reality, more industries must grapple with how to implement sustainable business practices at every step of the production process. This is especially true for viticulture, where every step of production can take years to come to fruition, and any decision made

CHINA SATELLITE NAVIGATION CONFERENCE (CSNC) 2012 PROCEEDINGS

Springer Science & Business Media Proceedings of the 3rd China Satellite Navigation Conference (CSNC2012) presents selected research papers from CSNC2012, held on 15-19 May in Guanzhou, China. These papers discuss the technologies and applications of the Global Navigation Satellite System (GNSS), and the latest progress made in the China BeiDou system especially. They are divided into 9 topics to match the corresponding sessions in CSNC2012, which broadly covered key topics in GNSS. Readers can learn about the BeiDou system and keep abreast of the latest advances in GNSS techniques and applications. SUN Jiadong is the Chief Designer of the Compass/BeiDou system, and the Academician of Chinese Academy of Sciences; LIU Jingnan is a professor at Wuhan University, and the Academician of Chinese Academy of Engineering; YANG Yuanxi is a professor at China National Administration of GNSS and Applications, and the Academician of Chinese Academy of Sciences; FAN Shiwei is a researcher on satellite navigation.

ENGINEER'S FIELD BOOK (CLASSIC REPRINT)

Forgotten Books Excerpt from Engineer's Field Book In the columns, under the head of degrees and opposite the mini utes, are given the distances in feet from the intersection of tan gents to the beginning of one degree curve. To ascertain the distance for any given degree of curve, divide the distance given in the tables for a One degree curve, by the degrees of the required curve, and you have the distance from the point of intersection to the beginning or end of curve. About the Publisher Forgotten Books publishes hundreds of thousands of rare and classic books. Find more at www.forgottenbooks.com This book is a reproduction of an important historical work. Forgotten Books uses state-of-the-art technology to digitally reconstruct the work, preserving the original format whilst repairing imperfections present in the aged copy. In rare cases, an imperfection in the original, such as a blemish or missing page, may be replicated in our edition. We do, however, repair the vast majority of imperfections successfully; any imperfections that remain are intentionally left to preserve the state of such historical works.

UAV PHOTOGRAMMETRY

ADVANCES IN WHEAT GENETICS: FROM GENOME TO FIELD

PROCEEDINGS OF THE 12TH INTERNATIONAL WHEAT GENETICS SYMPOSIUM

Springer This proceedings is a collection of 46 selected papers that were presented at the 12th International Wheat Genetics Symposium (IWGS). Since the launch of the wheat genome sequencing project in 2005, the arrival of draft genome sequences has marked a new era in wheat genetics and genomics, catalyzing rapid advancement in the field. This book provides a comprehensive review of the forefront of wheat research, across various important topics such as germplasm and genetic diversity, cytogenetics and allopolyploid evolution, genome sequencing, structural and functional genomics, gene function and molecular biology, biotic stress, abiotic stress, grain quality, and classical and molecular breeding. Following an introduction, 9 parts of the book are dedicated to each of these topics. A final, 11th part entitled "Toward Sustainable Wheat Production" contains 7 excellent papers that were presented in the 12th IWGS Special Session supported by the OECD. With rapid population growth and radical climate changes, the world faces a global food crisis and is in need of another Green Revolution to boost yields of wheat and other widely grown staple crops. Although this book focuses on wheat, many of the newly developed techniques and results presented here can be applied to other plant species with large and complex genomes. As such, this volume is highly recommended for all students and researchers in wheat sciences and related plant sciences and for those who are interested in stable food production and food security.

GPS SATELLITE SURVEYING

John Wiley & Sons Employ the latest satellite positioning tech with this extensive guide GPS Satellite Surveying is the classic text on the subject, providing the most comprehensive coverage of global navigation satellite systems applications for surveying. Fully updated and expanded to reflect the field's latest developments, this new edition contains new information on GNSS antennas, PrecisePoint Positioning, Real-time Relative Positioning, Lattice Reduction, and much more. New contributors offer additional insight that greatly expands the book's reach, providing readers with complete, in-depth coverage of geodetic surveying using satellite technologies. The newest, most cutting-edge tools, technologies, and applications are explored in-depth to help readers stay up to date on best practices and preferred methods, giving them the understanding they need to consistently produce more reliable measurement. Global navigation satellite systems have an array of uses in military, civilian, and commercial applications. In surveying, GNSS receivers are used to position survey markers, buildings, and road construction as accurately as possible with less room for human error. GPS Satellite Surveying provides complete guidance toward the practical aspects of the field, helping readers to: Get up to speed on the latest GPS/GNSS developments Understand how satellite technology is applied to surveying Examine in-depth information on adjustments and geodesy Learn the fundamentals of positioning, lattice adjustment, antennas, and more The surveying field has seen quite an evolution of technology in the decade since the last edition's publication. This new edition covers it all, bringing the reader deep inside the latest tools and techniques being used on the job. Surveyors, engineers, geologists, and anyone looking to employ satellite positioning will find GPS Satellite Surveying to be of significant assistance.

GNSS - GLOBAL NAVIGATION SATELLITE SYSTEMS

GPS, GLONASS, GALILEO, AND MORE

Springer Science & Business Media This book extends the scientific bestseller "GPS - Theory and Practice" to cover Global Navigation Satellite Systems (GNSS) and includes the Russian GLONASS, the European system Galileo, and additional systems. The book refers to GNSS in the generic sense to describe the various existing reference systems for coordinates and time, the satellite orbits, the satellite signals, observables, mathematical models for positioning, data processing, and data transformation. This book is a university-level introductory textbook and is intended to serve as a reference for students as well as for professionals and scientists in the fields of geodesy, surveying engineering, navigation, and related disciplines.

RADAR INSTRUCTION MANUAL

Since 1958 the Maritime Administration has continuously conducted instructions in use of collision avoidance radar for qualified U.S. seafaring personnel and representatives of interested Federal and State Agencies. Beginning in 1963, to facilitate the expansion of training capabilities and at the same time to provide the most modern techniques in training methods, radar simulators were installed in Maritime Administration's three region schools. It soon became apparent that to properly instruct the trainees, even with the advanced equipment, a standardize up-to-date instruction manual was needed. The first manual was later revised to serve both as a classroom textbook and as an onboard reference handbook. This newly updated manual, the fourth revision, in keeping with Maritime Administration policy, has been restructured to include improved and more effective methods of plotting techniques for use in Ocean, Great Lakes, Coastwise and Inland Waters navigation. Robert J. Blackwell Assistant Secretary for Maritime Affairs

SATELLITE GEODESY

FOUNDATIONS, METHODS, AND APPLICATIONS

Walter de Gruyter Completely revised and updated edition. The book covers the entire field of satellite geodesy (status spring/break summer 2002). Basic chapters on reference systems, time, signal propagation, and satellite orbits are updated. All currently important observation methods are included and also all newly launched satellites of interest to geodesy. Particular emphasis is given to the current status of the Global Positioning System (GPS), which covers now about one third of the book. A new chapter on Differential GPS and active GPS reference networks is included. The GPS modernization plans, GLONASS, the forthcoming European system GALILEO, modern developments in GPS data analysis, error modelling, precise real time methods and ambiguity resolution are dealt with in detail. New satellite laser ranging missions, new altimetry missions (e.g. TOPEX/Poseidon, ERS-1/2, GFO, JASON), and new and forthcoming gravity field missions (CHAMP, GRACE, GOCE) are also considered. The book serves as a textbook for advanced undergraduate and graduate students, as well as a reference for professionals and scientists in the field of engineering and geosciences such as geodesy.

surveying, geo-information, navigation, geophysics and oceanography.

CHINA SATELLITE NAVIGATION CONFERENCE (CSNC 2021) PROCEEDINGS

VOLUME III

Springer Nature China Satellite Navigation Conference (CSNC 2021) Proceedings presents selected research papers from CSNC 2021 held during 22nd-25th May, 2021 in Nanchang, China. These papers discuss the technologies and applications of the Global Navigation Satellite System (GNSS), and the latest progress made in the China BeiDou System (BDS) especially. They are divided into 10 topics to match the corresponding sessions in CSNC2021 which broadly covered key topics in GNSS. Readers can learn about the BDS and keep abreast of the latest advances in GNSS techniques and applications.

STANDARD GUIDELINE FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA

Amer Society of Civil Engineers CI/ASCE Standard 38-02 presents a credible system for classifying the quality of utility location information that is placed in design plans. The Standard addresses issues such as: how utility information can be obtained, what technologies are available to obtain that information; how that information can be conveyed to the information users; who should be responsible for typical collection and depiction tasks; what factors determine which utility quality level attribute to assign to data; and what the relative costs and benefits of the various quality levels are. Used as a reference or as part of a specification, the Standard will assist engineers, project and utility owners, and constructors in developing strategies to reduce risk by improving the reliability of information on existing subsurface utilities in a defined manner.

PRINCIPLES OF MARKETING

An introduction to marketing concepts, strategies and practices with a balance of depth of coverage and ease of learning. Principles of Marketing keeps pace with a rapidly changing field, focussing on the ways brands create and capture consumer value. Practical content and linkage are at the heart of this edition. Real local and international examples bring ideas to life and new feature 'linking the concepts' helps students test and consolidate understanding as they go. The latest edition enhances understanding with a unique learning design including revised, integrative concept maps at the start of each chapter, end-of-chapter features summarising ideas and themes, a mix of mini and major case studies to illuminate concepts, and critical thinking exercises for applying skills.

ENGINEERING SURVEYING TECHNOLOGY

CRC Press This book examines the major changes in the technology now used for the measurement and processing of topographic and non-topographic spatial data, with emphasis on the new and emerging technology and its applications. Fundamental principles are introduced to explain the basic operation of different types of equipment.

EUROPEAN GNSS (GALILEO) OPEN SERVICE

SIGNAL IN SPACE INTERFACE CONTROL DOCUMENT

Office for Official Publications of the European Communities

MOTION MOUNTAIN - VOL. 1 - THE ADVENTURE OF PHYSICS

FALL, FLOW AND HEAT

CreateSpace How high can animals jump? What are the fastest thrown balls? How fast can aeroplanes and butterflies fly? What does the sea level tell us about the sun? What are temperature and heat? What is self-organization? This free colour pdf on introductory physics guarantees to be entertaining, surprising and challenging on every page. The text presents the best stories, images, movies and puzzles in mechanics, gravity and thermodynamics - with little mathematics, always starting from observations of everyday life. This first volume also explains conservation laws and the reversibility of motion, explores mirror symmetry, and presents the principle of cosmic laziness: the principle of least action. This popular series has already more than 160 000 readers. If you are between the age of 16 and 106 and want to understand nature, you will enjoy it! To achieve wonder and thrill on every page, the first volume includes the various "colour of the bear" puzzles and the "picture on the wall" puzzle, explains about the many types of water waves, introduces the art of laying rope, tells about the dangers of aeroplane toilets, explores the jumping height of different animals, presents the surprising motion of moguls on skiing slopes, explains why ultrasound imaging is not safe for a foetus, gives the ideal shape of skateboard half-pipes, estimates the total length of all capillaries in the human body, explains how it is possible to plunge a bare hand into molten lead, includes a film of an oscillating quartz inside a watch, includes the "handcuff puzzle" and the "horse pulling a rubber with a snail on it" puzzle, explains how jet pilots frighten civilians with sonic superbooms produced by fighter planes, presents the most beautiful and precise sundial available today, shows leap-frogging vortex rings, tells the story of the Galilean satellites of Jupiter, mentions the world records for running backwards and the attempts to break the speed sailing record, and tells in detail how to learn from books with as little effort as possible. Enjoy the reading!

R3 IN GEOMATICS: RESEARCH, RESULTS AND REVIEW

FIRST INTERNATIONAL WORKSHOP IN MEMORY OF PROF. RAFFAELE SANTAMARIA ON R3 IN GEOMATICS: RESEARCH, RESULTS AND REVIEW, R3GEO 2019, NAPLES, ITALY, OCTOBER 10-11, 2019, REVISED SELECTED PAPERS

Springer Nature This book constitutes the refereed proceedings of the First International Workshop in memory of Prof. Raffaele Santamaria on R3 in Geomatics: Research, Results and Review, R3GEO 2019, held in Naples, Italy*, in October 2019. The 27 full papers along with the 2 short papers presented were carefully reviewed and selected from 39 submissions. The papers are organized in topical sections on: GNSS and geodesy; photogrammetry and laser scanning; GIS and remote sensing.

REMOTE SENSING AND GIS

OUP India Remote Sensing and GIS 2e is a comprehensive textbook specially designed to meet the requirements of undergraduate courses in civil, geoinformatics/geomatics, geotechnical, survey, and environmental engineering. It will equally meet the requirements of undergraduate courses in geological science, environmental science, earth sciences, geography, geophysics, earth resources management, environmental management, and disaster management.

SOIL SCIENCE

STEP-BY-STEP FIELD ANALYSIS

ASA-CSSA-SSSA

KARST HYDROLOGY AND PHYSICAL SPELEOLOGY

Springer Science & Business Media The present publication on karst hydrology and physical speleology combines two subjects which have up to now been treated separately. The two fields of knowledge have gone their separate ways, less as a result of differences in subject matter than of varying approaches. The focal point in karst hydrology lies in the description of subterranean water with its physical and chemical properties, whereas physical speleology describes subterranean cavities with their contents (air, water, and sediments), which generally have been created by water. Such cavities

can be correctly interpreted only by means of a knowledge of karst hydrology, yet they in turn yield indications of the properties of karst water. Karst hydrology and physical speleology are thus two aspects of the subterranean karst phenomenon and should be viewed congruently. This book addresses geologists, hydrologists, geomorphologists, geographers, and karstologists, above all speleologists, as well as all friends of caves, especially the cavers among them. Its contents must therefore appeal to two groups: on one hand to the academically trained, whether university faculty, graduates, or students, who as a rule have the necessary basic knowledge to be able to understand the theoretical comments; on the other hand to the laymen, who have first-hand experience from their own observations in caves, but who often do not dispose over the scientific foundation necessary for an understanding of the phenomena. Therefore occasionally more attention will be given to problems of a simpler nature and to questions of technical terminology.

COAL AND PEAT FIRES: A GLOBAL PERSPECTIVE

VOLUME 5: CASE STUDIES - ADVANCES IN FIELD AND LABORATORY RESEARCH

Elsevier Coal and Peat Fires: A Global Perspective, Volume Five: Case Studies - Advances in Field and Laboratory Research, the companion to volumes 1-4, includes the latest research findings about coal and peat fires in the United States, China, India, France, Spain, Poland, and Ireland. Included are chapters about the discovery of microarthropods at two mine fires, the oldest recorded uses of burning coal, the effects of combustion and coal waste on a riverine system, remote sensing analysis of coal fires, gas explosion and spontaneous combustion experiments, and phases associated with the by-products of combustion. This essential reference, along with volumes 1-4, includes a companion website with an interactive world map of coal and peat fires, a collection of slide presentations, research data, and videos: <https://www.elsevier.com/books-and-journals/book-companion/9780128498859>
Authored by world-renowned experts in coal and peat fires Global in scope -- covers case studies about fires around the world Includes beautiful color illustrations, valuable research data, a companion website with additional resources, and a periodically updated world map of coal and peat fires