

Gis A Computing Perspective Second Edition

This fourth and full colour edition updates and expands a widely-used textbook aimed at advanced undergraduate and postgraduate students taking courses in remote sensing and GIS in Geography, Geology and Earth/Environmental Science departments. Existing material has been brought up to date and new material has been added. In particular, a new chapter, exploring the two-way links between remote sensing and environmental GIS, has been added. New and updated material includes: A website at www.wiley.com/go/mather4 that provides access to an updated and expanded version of the MIPS image processing software for Microsoft Windows, PowerPoint slideshows of the figures from each chapter, and case studies, including full data sets, Includes new chapter on Remote Sensing and Environmental GIS that provides insights into the ways in which remotely-sensed data can be used synergistically with other spatial data sets, including hydrogeological and archaeological applications, New section on image processing from a computer science perspective presented in a non-technical way, including some remarks on statistics, New material on image transforms, including the analysis of temporal change and data fusion techniques, New material on image classification including decision trees, support vector machines and independent components analysis, and Now in full colour throughout. This book provides the material required for a single semester course in Environmental Remote Sensing plus additional, more advanced, reading for students specialising in some aspect of the subject. It is written largely in non-technical language yet it provides insights into more advanced topics that some may consider too difficult for a non-mathematician to understand. The case studies available from the website are fully-documented research projects complete with original data sets. For readers who do not have access to commercial image processing software, MIPS provides a licence-free, intuitive and comprehensive alternative.

From environmental management to land planning and geo-marketing, the number of application domains that may greatly benefit from using data enriched with spatio-temporal features is expanding very rapidly. This book shows that a conceptual design approach for spatio-temporal databases is both feasible and easy to apprehend. While providing a firm basis through extensive discussion of traditional data modeling concepts, the major focus of the book is on modeling spatial and temporal information. This volume contains the post-proceedings of the Second International Workshop on Critical Information Infrastructure Security (CRITIS 2007), that was held during October 3–5, 2007 in Benalmadena-Costa (Malaga), Spain, and was hosted by the University of Malaga, Computer Science Department. In response to the 2007 call for papers, 75 papers were submitted. Each paper was reviewed by three members of the Program Committee, on the basis of significance, novelty, technical quality and critical infrastructures relevance of the work reported therein. At the end of the reviewing process, only 29 papers were selected for presentation. Revisions were not checked and the authors bear full responsibility for the content of their papers. CRITIS 2007 was very fortunate to have four exceptional invited speakers: Adrian Gheorghe (Old Dominion University, USA), Paulo Veríssimo (Universidade de L-boa, Portugal), Donald Dudenhoeffer (Idaho National Labs, USA), and Jacques Bus (European Commission,

INFSO Unit "Security"). The four provided a high added value to the quality of the conference with very significant talks on different and interesting aspects of Critical Information Infrastructures. In 2007, CRITIS demonstrated its outstanding quality in this research area by including ITCIP, which definitively reinforced the workshop. Additionally, the solid involvement of the IEEE community on CIP was a key factor for the success of the event. Moreover, CRITIS received sponsorship from Telecom Italia, JRC of the European Commission, IRRIS, IFIP, and IABG, to whom we are greatly indebted.

Geographic Information Systems (GIS) have been experiencing a steady and unprecedented growth in terms of general interest, theory development, and new applications in the last decade or so. GIS is an inter-disciplinary field that brings together many diverse areas such as computer science, geography, cartography, engineering, and urban planning. Database Issues in Geographic Information Systems approaches several important topics in GIS from a database perspective. Database management has a central role to play in most computer-based information systems, and is expected to have an equally important role to play in managing information in GIS as well. Existing database technology, however, focuses on the alphanumeric data that are required in business applications. GIS, like many other application areas, requires the ability to handle spatial as well as alphanumeric data. This requires new innovations in data management, which is the central theme of this monograph. The monograph begins with an overview of different application areas and their data and functional requirements. Next it addresses the following topics in the context of GIS: representation and manipulation of spatial data, data modeling, indexing, and query processing. Future research directions are outlined in each of the above topics. The last chapter discusses issues that are emerging as important areas of technological innovations in GIS. Database Issues in Geographic Information Systems is suitable as a secondary text for a graduate level course on Geographic Information Systems, Database Systems or Cartography, and as a reference for researchers and practitioners in industry.

GISA Computing Perspective, Second Edition CRC Press

The Encyclopedia of Geographic Information Science covers the essence of this exciting, new, and expanding field in an easily understood but richly detailed style. In addition to contributions from some of the best recognized scholars in GIScience, this volume contains contributions from experts in GIS' supporting disciplines who explore how their disciplinary perspectives are expanded within the context of GIScience—what changes when consideration of location is added, what complexities in analytical procedures are added when we consider objects in 2, 3 or even 4 dimensions, what can we gain by visualizing our analytical results on a map or 3D display?

The complete guide to choosing and using GIS in business Over the last few years, Geographical Information Systems (GIS) have become less expensive and easier to use, and the tremendous potential of GIS to boost business productivity is finally being realized. Incorporating the latest developments in GIS technology and applications, this book explores what GIS has to offer companies in many different areas of industry today and how it can be successfully integrated into existing business operations. Building on the success of its predecessor, this Second Edition covers every key aspect of using GIS in business. It

explains what GIS is and helps readers gain a clear understanding of the costs and benefits of moving to a GIS. New case studies from both the manufacturing and service sectors illustrate how GIS can support tactical and strategic business decision-making, and the book's unbiased coverage of commercially available GIS software is invaluable for anyone involved in selecting a GIS system and getting it up and running. With a practical, real-world approach, the book also addresses the main issues involved in GIS implementation, paying particular attention to the integration of GIS within an organization's existing management information system. An increasingly vital tool for operations and delivery of goods and services, GIS makes terrific business sense for many companies—but only when properly selected and applied. This book gives GIS consultants, practitioners, and others considering the move to GIS the foundation they need to put this powerful technology to work effectively in business.

This open access book offers a summary of the development of Digital Earth over the past twenty years. By reviewing the initial vision of Digital Earth, the evolution of that vision, the relevant key technologies, and the role of Digital Earth in helping people respond to global challenges, this publication reveals how and why Digital Earth is becoming vital for acquiring, processing, analysing and mining the rapidly growing volume of global data sets about the Earth. The main aspects of Digital Earth covered here include: Digital Earth platforms, remote sensing and navigation satellites, processing and visualizing geospatial information, geospatial information infrastructures, big data and cloud computing, transformation and zooming, artificial intelligence, Internet of Things, and social media. Moreover, the book covers in detail the multi-layered/multi-faceted roles of Digital Earth in response to sustainable development goals, climate changes, and mitigating disasters, the applications of Digital Earth (such as digital city and digital heritage), the citizen science in support of Digital Earth, the economic value of Digital Earth, and so on. This book also reviews the regional and national development of Digital Earth around the world, and discusses the role and effect of education and ethics. Lastly, it concludes with a summary of the challenges and forecasts the future trends of Digital Earth. By sharing case studies and a broad range of general and scientific insights into the science and technology of Digital Earth, this book offers an essential introduction for an ever-growing international audience.

As the use of geographical information systems develops apace, a significant strand of research activity is being directed to the fundamental nature of geographic information. This volume contains a collection of essays and discussions on this theme. What is geographic information? What fundamental principles are associated with it? How can

Volume 1.

While high-quality books and journals in this field continue to proliferate, none has yet come close to matching the Handbook of Discrete and Computational Geometry, which in its first edition, quickly became the definitive reference work in its field. But with the rapid growth of the discipline and the many advances made over the past seven years, it's time to bring this standard-setting reference up to date. Editors Jacob E. Goodman and Joseph O'Rourke reassembled their stellar panel of contributors, added many more, and together thoroughly revised their work to make the most important results and methods, both classic and cutting-edge, accessible in one convenient volume. Now over more than 1500 pages, the Handbook of Discrete and Computational

Geometry, Second Edition once again provides unparalleled, authoritative coverage of theory, methods, and applications. Highlights of the Second Edition: Thirteen new chapters: Five on applications and others on collision detection, nearest neighbors in high-dimensional spaces, curve and surface reconstruction, embeddings of finite metric spaces, polygonal linkages, the discrepancy method, and geometric graph theory Thorough revisions of all remaining chapters Extended coverage of computational geometry software, now comprising two chapters: one on the LEDA and CGAL libraries, the other on additional software Two indices: An Index of Defined Terms and an Index of Cited Authors Greatly expanded bibliographies Published on the occasion of the XXIst Congress of the International Society for Photogrammetry and Remote Sensing (ISPRS) in Beijing, China in 2008, Advances in Photogrammetry, Remote Sensing and Spatial Information Sciences: 2008 ISPRS Congress Book is a compilation of 34 contributions from 62 researchers active within the ISPRS. The book covers This book constitutes the refereed proceedings of the International Conference on Spatial Information Theory, COSIT 2005, held in Elliottville, NY, USA in September 2005. The 30 revised full papers presented were carefully reviewed and selected from 82 submissions. The papers are organized in topical sections on vagueness, uncertainty, and gradation; paths and routes; ontologies and semantics; ontologies and spatial relations; spatial reasoning: cognitive maps and spatial reasoning; time, change, and dynamics; landmarks and navigation; geographic information, and spatial behaviour. With the turn of the century our ability to collect and store geospatial information has increased considerably. This has resulted in ever-increasing amounts of heterogeneous geospatial data, an issue that poses new challenges and opportunities. As these rich sources of data are made available, users rely, now more than ever, on the geospatial data Surveys of current research in logical aspects of computer science that apply finite and infinite model-theoretic methods. This book explores the impact of augmenting novel architectural designs with hardware-based application accelerators. The text covers comprehensive aspects of the applications in Geographic Information Science, remote sensing and deploying Modern Accelerator Technologies (MAT) for geospatial simulations and spatiotemporal analytics. MAT in GIS applications, MAT in remotely sensed data processing and analysis, heterogeneous processors, many-core and highly multi-threaded processors and general purpose processors are also presented. This book includes case studies and closes with a chapter on future trends. Modern Accelerator Technologies for GIS is a reference book for practitioners and researchers working in geographical information systems and related fields. Advanced-level students in geography, computational science, computer science and engineering will also find this book useful. This book constitutes the thoroughly refereed post-conference proceedings of the Second International Workshop on Critical Information Infrastructures Security, CRITIS 2007, held in Benalmadena-Costa, Spain, in October 2007 in conjunction with ITCIP 2007, the first conference on Information Technology for Critical Infrastructure Protection. The 29 revised full papers presented were carefully reviewed and selected from a total of 75 submissions. The papers address all security-related heterogeneous aspects of critical information infrastructures and are organized in topical sections on R&D agenda, communication risk and assurance, code of practice and metrics, information sharing

and exchange, continuity of services and resiliency, SCADA and embedded security, threats and attacks modeling, as well as information exchange and modeling.

When used together effectively, computer-aided design (CAD) and geospatial information systems (GIS) have a solid track record for streamlining decision making and reducing inefficiencies in the design, planning, and execution of critical operations and projects. And a growing number of engineering tasks in numerous fields—including design, architecture, construction, and asset management—now require the knowledge of many interrelated yet disconnected CAD/GIS tools and task-specific software. A multidisciplinary resource delineating existing and emerging solutions for CAD/GIS integration issues, *CAD and GIS Integration* provides a clear understanding of the state of the art in this area of growing importance. It brings together in-depth descriptions of existing and emerging techniques, methodologies, and technologies to examine approaches that enable data and operations interoperability between CAD/GIS. Starting with a review of fundamental concepts and theories, the book: Addresses contemporary issues and challenges Provides a collection of helpful methodologies, techniques, and technologies for integrating CAD and GIS Presents balanced coverage of CAD and GIS technologies and applications Highlights emerging trends in CAD/GIS integration Explores the state-of-the-art in the application of CAD and GIS technologies, data, and operations for decision making From early developments to current trends and future directions, this concise resource allows you to get up to speed quickly on what it takes to get the most of these two dynamic technologies. Numerous example applications of effective CAD/GIS integration provide the understanding needed to improve designs, make better decisions, and reduce or even eliminate costly errors in your next project.

Applied Spatial Data Analysis with R, second edition, is divided into two basic parts, the first presenting R packages, functions, classes and methods for handling spatial data. This part is of interest to users who need to access and visualise spatial data. Data import and export for many file formats for spatial data are covered in detail, as is the interface between R and the open source GRASS GIS and the handling of spatio-temporal data. The second part showcases more specialised kinds of spatial data analysis, including spatial point pattern analysis, interpolation and geostatistics, areal data analysis and disease mapping. The coverage of methods of spatial data analysis ranges from standard techniques to new developments, and the examples used are largely taken from the spatial statistics literature. All the examples can be run using R contributed packages available from the CRAN website, with code and additional data sets from the book's own website. Compared to the first edition, the second edition covers the more systematic approach towards handling spatial data in R, as well as a number of important and widely used CRAN packages that have appeared since the first edition. This book will be of interest to researchers who intend to use R to handle, visualise, and analyse spatial data. It will also be of interest to spatial data analysts who do not use R, but who are interested in practical aspects of implementing software for spatial data analysis. It is a suitable companion book for introductory spatial statistics courses and for applied methods courses in a wide range of subjects using spatial data, including human and physical geography, geographical information science and geoinformatics, the environmental sciences, ecology, public health and disease control, economics, public administration and political science. The book has a website where complete code examples, data sets, and other support material may be found: <http://www.asdar-book.org>. The authors have taken part in writing and maintaining software for spatial data handling and analysis with R in concert since 2003.

GIS and Geocomputation for Water Resource Science and Engineering not only provides a comprehensive introduction to the fundamentals of geographic information systems but also demonstrates how GIS and mathematical models can be integrated to develop spatial decision

support systems to support water resources planning, management and engineering. The book uses a hands-on active learning approach to introduce fundamental concepts and numerous case-studies are provided to reinforce learning and demonstrate practical aspects. The benefits and challenges of using GIS in environmental and water resources fields are clearly tackled in this book, demonstrating how these technologies can be used to harness increasingly available digital data to develop spatially-oriented sustainable solutions. In addition to providing a strong grounding on fundamentals, the book also demonstrates how GIS can be combined with traditional physics-based and statistical models as well as information-theoretic tools like neural networks and fuzzy set theory.

This book is a comprehensive collection of chapters focusing on the core areas of computing and their further applications in the real world. Each chapter is a paper presented at the Computing Conference 2021 held on 15-16 July 2021. Computing 2021 attracted a total of 638 submissions which underwent a double-blind peer review process. Of those 638 submissions, 235 submissions have been selected to be included in this book. The goal of this conference is to give a platform to researchers with fundamental contributions and to be a premier venue for academic and industry practitioners to share new ideas and development experiences. We hope that readers find this volume interesting and valuable as it provides the state-of-the-art intelligent methods and techniques for solving real-world problems. We also expect that the conference and its publications is a trigger for further related research and technology improvements in this important subject. .

GIS: A Computing Perspective, Second Edition, provides a full, up-to-date overview of GIS, both Geographic Information Systems and the study of Geographic Information Science. Analyzing the subject from a computing perspective, the second edition explores conceptual and formal models needed to understand spatial information, and examines the representations and data structures needed to support adequate system performance. This volume also covers the special-purpose interfaces and architectures required to interact with and share spatial information, and explains the importance of uncertainty and time. The material on GIS architectures and interfaces as well as spatiotemporal information systems is almost entirely new. The second edition contains substantial new information, and has been completely reformatted to improve accessibility. Changes include: A new chapter on spatial uncertainty Complete revisions of the bibliography, index, and supporting diagrams Supplemental material is offset at the top of the page, as are references and links for further study Definitions of new terms are in the margins of pages where they appear, with corresponding entries in the index

Authoritative and comprehensive, this is the leading text and professional resource on using geographic information systems (GIS) to analyze and address public health problems. Basic GIS concepts and tools are explained, including ways to access and manage spatial databases. The book presents state-of-the-art methods for mapping and analyzing data on population, health events, risk factors, and health services, and for incorporating geographical knowledge into planning and policy. Numerous maps, diagrams, and real-world applications are featured. The companion Web page provides lab exercises with data that can be downloaded for individual or course use. New to This Edition*Incorporates major technological advances, such as Internet-based mapping systems and the rise of data from cell phones and other GPS-enabled devices.*Chapter on health disparities.*Expanded coverage of public participation GIS.*Companion Web page has all-new content.*Goes beyond the United States to encompass an international focus.

Natural and human activities change the environment we are living in and consequently impact the quality of life. Analysing these dynamics leads to a better understanding of urban change and facilitates urban development. Research related to the management of urban data has a long tradition. Through the years a variety of challenging research questions has been investigated related to the collection, storage, use and visualisation of the data representing the urban phenomena in a computer-based environment. The Urban Data Management Symposium

(UDMS) focuses on these issues since 1971. UDMS aims at providing a forum to discuss urban planning processes, exchange ideas, share information on available technology and demonstrate and promote successful information systems in local government. The focus is on urban, regional and rural issues. The UDMS 2009 annual addresses the following themes: 3D modelling, Spatial Data Infrastructures and databases, Risk and Disaster management, Environmental planning, analysis and e-government and Traffic and road monitoring. The book will be a useful source of information for urban data-related professionals, such as scholars, GIS engineers, geomatic professionals, photogrammetrists, land surveyors, mapping specialists, urban planners and researchers, as well as for postgraduate students and lecturers. This volume offers the advice of selected expert contributors on the application of heterogeneous methods for managing uncertainty and imprecision in databases. It contains both survey chapters on classic topics such as "flexible querying in databases", and up to date information on "database models to represent imperfect data". Further, it includes specific contributions on uncertainty management in database integration, and in representing and querying semistructured and spatial data.

The use of geospatial technologies has become ubiquitous since the leading Internet vendors delivered a number of popular map websites. This book covers a wide spectrum of techniques, model methodologies and theories on development and applications of GIS relative to the internet. It includes coverage of business process services, and integration of GIS into global enterprise information systems and service architectures. The world's experts in this emerging field present examples and case studies for location-based services, coastal restoration, urban planning, battlefield planning, rehearsal environmental analysis and assessment.

Modern landscape research uses a panoply of techniques to further our understanding of our changing world, including mathematics, statistics and advanced simulation techniques to combine empirical observations with known theories. This book identifies emerging fields and new challenges that are discussed within the framework of the 'driving forces' of Landscape Development. the book addresses all of the 'hot topics' in this important area of study and emphasizes major contemporary trends in these fields.

"This book offers readers an authoritative reference to the current progress of Chinese language and cultural e-learning"--Provided by publisher.

This book aims to offer research at the cutting edge. The individual chapters are fully revised and updated versions of contributions to the first focused scientific symposium on research in geographic information systems GISRUK. The book provides the reader with a comprehensive outline of the full range and diversity of innovative research programmes in the science of GIS. Chapters address key issues such as computational support; spatial analysis and error; and application and implementation. With spatial technologies ranging from mapping software to the use of location-based services, spatial knowledge is often acquired and communicated through geographic information technologies. This book describes the interplay between spatial cognition research and use of spatial interfaces. It begins by reviewing what is known about how humans process spatial concepts and then moves on to discuss how interfaces can be improved to take advantage of those capabilities by disambiguating cognitive aspects,

conceptual aspects, computational aspects, and communications aspects. Special attention is given to a variety of innovative geographical platforms that provide users with an intuitive understanding and support the further acquisition of spatial knowledge. Alternatives to shortest-path algorithms to explore more scenic routes, as well as individual user differences that can emerge from previous experiences with virtual spaces, are also discussed. The book concludes with a discussion of the number of outstanding issues, including the changing nature of maps as the primary spatial interface, concerns about privacy for spatial information, and looks at the future of user-centered spatial information systems.

As early pioneers in the use of digital geographic data, many local governments in the UK were ahead of their counterparts in central government and the private sector in the application of GIS technology. To meet current challenges, local authorities must coordinate the latest technology with effective information management strategies, human and cultural issues, and organizational structures and processes. *Geographic Information Management in Local Government* examines the factors that are necessary to ensure that real benefits are delivered from the improved availability of geographic information. Written by two practitioners with extensive government experience, this four-part book examines supporting technology, the data that fuels it, and the human factors that help or hinder successful GIS implementation. Exploring the history of geographic information management in local government, this volume offers a pragmatic overview of the subject and what local authorities need to do in order to be successful. The Introduction covers the emergence of Geographic Information Management (GIM) and GIS in local government and explains why they are important. Part 2 explains the key elements of human and organizational issues, data, the technology toolbox, GIS selection and implementation, and coordinating mechanisms. Part 3 provides in-depth analyses of nine case studies on the use of technology by local UK authorities. Part 4 looks forward to the prospects and challenges for further GIM by local governments. With GIS technology increasingly available to a wider audience on devices from apps on smartphones to satnavs in cars, many people routinely use spatial data in a way which used to be the preserve of GIS specialists. However spatial data is stored and analyzed on a computer still tends to be described in academic texts and articles which require specialist knowledge or some training in computer science. Developed to introduce computer science literature to geography students, *GIS Fundamentals, Second Edition* provides an accessible examination of the underlying principles for anyone with no formal training in computer science. See *What's New in the Second Edition: Coverage of the use of spatial data on the Internet* Chapters on databases and on searching large databases for spatial queries Improved coverage on route-finding Improved coverage of heuristic approaches to solving real-world spatial problems International standards for spatial data The book begins with a brief but detailed introduction to how computers work and how they are programmed, giving anyone with no previous computer science background a foundation to understand the remainder of the book. As with all parts of the book there are also suggestions for further sources of reading. The book then describes the ways in which vector and raster data can be stored and how algorithms are designed to perform fundamental operations such as detecting where lines intersect. From these simple beginnings the book moves into the more complex structures used for handling surfaces and networks and contains a detailed account of what it takes to determine

the shortest route between two places on a network. The final sections of the book review problems, such as the "Travelling Salesman" problem, which are so complex that it is not known whether an optimum solution exists. Using clear, concise language, but without sacrificing technical rigour, the book gives readers an understanding of what it takes to produce systems which allow them to find out where to make their next purchase and how to drive to the right place to collect it.

First published in 2003. Routledge is an imprint of Taylor & Francis, an informa company.

This exceptional work provides readers with an introduction to the state-of-the-art research on data warehouse design, with many references to more detailed sources. It offers a clear and a concise presentation of the major concepts and results in the subject area. Malinowski and Zimányi explain conventional data warehouse design in detail, and additionally address two innovative domains recently introduced to extend the capabilities of data warehouse systems: namely, the management of spatial and temporal information.

Since the first symposium in 1984 the International Symposia on Spatial Data Handling (SDH) has become a major resource for recent advances in GIS research. The International Symposium on Spatial Data Handling is regarded as a premier international research forum for GIS. All papers are fully reviewed by an international program committee composed of experts in the field.

This undergraduate and postgraduate text will familiarise readers with interval arithmetic and related tools to gain reliable and validated results and logically correct decisions for a variety of geometric computations plus the means for alleviating the effects of the errors. It also considers computations on geometric point-sets, which are neither robust nor reliable in processing with standard methods. The authors provide two effective tools for obtaining correct results: (a) interval arithmetic, and (b) ESSA the new powerful algorithm which improves many geometric computations and makes them rounding error free. Familiarises the reader with interval arithmetic and related tools to gain reliable and validated results and logically correct decisions for a variety of geometric computations Provides two effective methods for obtaining correct results in interval arithmetic and ESSA

The region of South East Europe (SEE), which is home to both NATO and Partnership for Peace (PfP) countries, serves as an important corridor between Europe and the Middle East, North Africa, and the Caucasus. In recent years, however, SEE has also experienced high levels of cross-border, military and defense-related challenges in the form of migration, smuggling, terrorism, and cyber threats. Furthermore, the use of the new information environment (IE) to further extremism in SEE and elsewhere in NATO and PfP countries has had far-reaching command and control (C2) implications for the Alliance. A collaborative interdisciplinary, international and regional approach is clearly needed to adequately assess and address these hybrid threats. This book presents papers delivered at the NATO Science for

Peace and Security (SPS) event: “Senior Leadership Roundtable on Military and Defense Aspects of Border Security in South East Europe”, held in Berovo, the Former Yugoslav Republic of Macedonia* from 23-30 September 2017. The aim of this special SPS grant was to maximize opportunities for extensive dialogue and collaboration between senior regional members, and the almost 70 distinguished academic and legal experts, as well as current or former senior-level practitioners from various governments, NATO bodies, and international organization that participated. It was the first SPS event of its kind in SEE as well as the first NATO SPS grant to be co-executed by the U.S. Department of Defense via the U.S. National Defense University. Other co-organizers were the C4I and Cyber Center of Excellence at George Mason University and PfP partner institution, the General Mihailo Apostolski Military Academy – Skopje, Associate Member of the University of Goce Del?ev – Stip. The book is divided into five parts: global trends, defining the problem, policy and academic solutions, national and regional case studies, and technological solutions. It will prove an invaluable source of reference for all those with an interest in the SEE region as well as cross-border hybrid threats, in general. * Turkey recognizes the Republic of Macedonia with its constitutional name.

This textbook examines the choices considered when creating geographic representations and cartographic representations, transforming spherical coordinates to planar coordinates, and modeling geographic data. Harvey (geography, University of Minnesota) introduces the three generic options for recording the locations and characteristics of things and events, the principles of remote sensing, map design elements, and geostatistical methods. Fifteen color plates are provided in the middle of the book, while black and white images are scattered throughout.

This collection of individually authored chapters provides cutting-edge approaches to ethnography. Specialized Ethnographic Methods: A Mixed Methods Approach complements the basic inventory of ethnographic data collection tools presented in Book 3 with a number of important additional approaches to conducting ethnography. These include defining and collecting cultural artifacts, collecting secondary and archival data, cultural sorting and comparing methods, spatial research and analysis, network research and analysis, use of multimedia strategies for the collection of ethnographic data, ways to recruit and study “hidden populations,” and participatory ethnographic video production.

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