# Gis And Public Health Second Edition

GIS in Public Health PracticeImpact Evaluation in PracticeCitrusMastering QGISQuantitative Methods and Socio-Economic Applications in GISThe GIS Management HandbookSecondary Analysis of Electronic Health RecordsGeospatial Analysis of Environmental HealthExploring the Urban CommunityInternational Encyclopedia of Public HealthAn Introduction to the Geography of HealthGIS and Public HealthMapping Across AcademiaGIS TutorialGIS and Public HealthIn Time of WarIntroduction to Geospatial TechnologiesGIS for Health OrganizationsIntroduction to Geographic Information Systems in Public HealthPython Scripting for ArcGISSpatial Analysis in EpidemiologyGIS in Sustainable Urban Planning and Management (Open Access)Understanding the Changing PlanetGeospatial Information System Use in Public OrganizationsTime Series AnalysisMapping the NationGIS Tutorial for HealthGIS and Public Health, Second EditionA Primer of GIS, Second EditionThe ArcGIS BookApplied Spatial Data Analysis with RGeographic Information Systems (GIS) for Disaster ManagementEnvironmental HealthPublic Health Informatics and Information SystemsSpringer Handbook of Geographic InformationHandbook of Spatial EpidemiologyGeographies of HealthA Primer of GIS, Second EditionGIS Tutorial for HealthGIS Tutorial for Crime Analysis

## GIS in Public Health Practice

The second edition of a bestseller, Quantitative Methods and Socio-Economic Applications in GIS (previously titled Quantitative Methods and Applications in GIS) details applications of quantitative methods in social science, planning, and public policy with a focus on spatial perspectives. The book integrates GIS and quantitative (computational) methods and demonstrates them in various policy-relevant socio-economic applications with step-by-step instructions and datasets. The book demonstrates the diversity of issues where GIS can be used to enhance the studies related to socio-economic issues and public policy. See What's New in the Second Edition: All project instructions are in ArcGIS 10.2 using geodatabase datasets New chapters on regionalization methods and Monte Carlo simulation Popular tasks automated as a convenient toolkit: Huff Model, 2SFCA accessibility measure, regionalization, Garin-Lowry model, and Monte Carlo based spatial simulation Advanced tasks now implemented in user-friendly programs or ArcGIS: centrality indices, wasteful commuting measure, p-median problem, and traffic simulation Each chapter has one subject theme and introduces the method (or a group of related methods) most relevant to the theme. While each method is illustrated in a special case of application, it can also be used to analyze different issues. For example, spatial regression is used to examine the relationship between job access and homicide patterns; systems of linear equations are analyzed to predict urban land use patterns; linear programming is introduced to solve the problem of wasteful commuting and allocate healthcare facilities; and Monte Carlo technique is illustrated in simulating urban traffic. The book illustrates the range of computational methods and covers common tasks and major issues encountered in a spatial environment. It provides a platform for learning technical skills

and quantitative methods in the context of addressing real-world problems, giving you instant access to the tools to resolve major socio-economic issues.

## Impact Evaluation in Practice

This clear and accessible text helps public health students and officials gain a solid understanding of geographic information systems technology. Using examples drawn from public health practice, the author shows how to best harness the opportunities of this exciting technological development.

## Citrus

This text shows how health may be studied from geographical perspectives and reviews a wide range of studies linking health outcomes with social and physical environments. The structure of the book is designed to guide the reader through the relevant theoretical perspectives, methodologies and research. Shows how health may be studied from geographical perspectives and reviews a wide range of studies linking health outcomes with social and physical environments. Designed to guide the reader through the relevant theoretical perspectives, methodologies, and research. Supported by current examples of research in a range of geographical settings. Pedagogical features include text boxes, directed further reading at the end of each chapter, a comprehensive bibliography and a guide to useful Internet resources.

## Mastering QGIS

Significant advances in the evaluation and use of geographic information have had a major effect on key elements of public health. Strides in mapping technology as well as the availability and accuracy of health information enable public health practitioners to link and analyze data in new ways at international, regional, and even street levels. This geographical perspective generates new approaches in the study of communicable disease control, environmental health protection, health needs assessment, planning and policy, operational public health management, and many other areas. GIS in Public Health Practice includes contributions from the leading researchers in the field who participated in the First European Conference on Geographic Information Sciences and Public Health. This event promoted the use of GIS within the realm of public health. Specifically selected and expanded contributions illustrate particular areas of application and address issues of major importance. Many of the chapters have a UK or European focus, but examine issues, principles, and methods that are relevant worldwide. GIS in Public Health Practice is the first book to treat GIS as more than a mere technology. It recognizes GIS as a science that encompasses the development and application of scientific methods toward solving societal problems, an emerging facet of public health research and practice. This compilation is beneficial to all

practitioners and researchers with an interest in public health.

## Quantitative Methods and Socio-Economic Applications in GIS

From the oceans to continental heartlands, human activities have altered the physical characteristics of Earth's surface. With Earth's population projected to peak at 8 to 12 billion people by 2050 and the additional stress of climate change, it is more important than ever to understand how and where these changes are happening. Innovation in the geographical sciences has the potential to advance knowledge of place-based environmental change, sustainability, and the impacts of a rapidly changing economy and society. Understanding the Changing Planet outlines eleven strategic directions to focus research and leverage new technologies to harness the potential that the geographical sciences offer.

## The GIS Management Handbook

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.

## Secondary Analysis of Electronic Health Records

This book shows how Geospatial Information Systems (GIS) can be used for operations management in public institutions. It covers theory and practical applications, ranging from tracking public health trends to mapping transportation routes to charting the safest handling of hazardous materials. Along with an expert line-up of contributors and case studies, the editor provides a complete overview of how to use GIS as part of a successful, collaborative data analysis, and how to translate the information into cost-saving decisions, or even life-saving ones.

## Geospatial Analysis of Environmental Health

This book offers an accessible introduction to the topic of impact evaluation and its practice in development. While the book is geared principally towards development practitioners and policymakers designing prospective impact evaluations, we trust that it will be a valuable resource for students and others interested in using impact evaluation. Prospective impact evaluations should be used selectively to assess whether or not a program has achieved its intended results, or to test alternatives for achieving those results. We consider that more and better impact evaluation will help strengthen the evidence base for development policies and programs around the world. If governments and development practitioners can make policy decisions based on evidence - including evidence generated through impact evaluation - our hope is that development resources will be spent more effectively, and ultimately have a greater impact on reducing poverty and improving people's lives. The three chapters in this handbook provide a non-technical introduction to impact evaluations, including "Why Evaluate" in Chapter 1, "How to Evaluate" in Chapter 2 and "How to Implement Impact Evaluations" in Chapter 3. These elements are the basic 'tools' needed in order to successfully carry out an impact evaluation. From a methodological standpoint our approach to impact evaluation is largely pragmatic: we think that the most appropriate methods should be identified to fit the operational context, and not the other way around. This is best achieved at the outset of the program, through the design of prospective impact evaluation that can be built into the project's implementation. We argue that gaining consensus between key stakeholders and identifying an evaluation design that fits the political and operational context is as important as the method itself. We also believe strongly that impact evaluations should be upfront about their limitations and caveats. Finally, we strongly encourage policymakers and program managers to consider impact evaluations in a logical framework that clearly sets out the causal pathways by which the program works to produce outputs and influence final outcomes, and to combine impact evaluations with monitoring and selected complementary evaluation approach to gain a full picture of performance. This book builds on a core set of teaching materials developed for the "Turning Promises to Evidence" workshops organized by the office of the Chief Economist for Human Development (HDNCE) in partnership with regional units and the Development Economics Research Group (DECRG) at the World Bank.

## Exploring the Urban Community

Now in its second edition, Geographic Information Systems (GIS) for Disaster Management has been completely updated to take account of new developments in the field. Using a hands-on approach grounded in relevant GIS and disaster management theory and practice, this textbook continues the tradition of the benchmark first edition, providing coverage of GIS fundamentals applied to disaster management. Real-life case studies demonstrate GIS concepts and their applicability to the full disaster management cycle. The learning-by-example approach helps readers see how GIS for disaster management operates at local, state, national, and international scales through government, the private sector, non-governmental organizations, and volunteer groups. New in the second edition: a chapter on allied technologies that

includes remote sensing, Global Positioning Systems (GPS), indoor navigation, and Unmanned Aerial Systems (UAS); thirteen new technical exercises that supplement theoretical and practical chapter discussions and fully reinforce concepts learned; enhanced boxed text and other pedagogical features to give readers even more practical advice; examination of new forms of world-wide disaster faced by society; discussion of new commercial and open-source GIS technology and techniques such as machine learning and the Internet of Things; new interviews with subject-matter and industry experts on GIS for disaster management in the US and abroad; new career advice on getting a first job in the industry. Learned yet accessible, Geographic Information Systems (GIS) for Disaster Management continues to be a valuable teaching tool for undergraduate and graduate instructors in the disaster management and GIS fields, as well as disaster management and humanitarian professionals. Please visit http://gisfordisastermanagement.com to view supplemental material such as slides and hands-on exercise video walkthroughs. This companion website offers valuable hands-on experience applying concepts to practice.

## International Encyclopedia of Public Health

GIS Tutorial for Health, fifth edition, teaches GIS and analysis skills to health professionals and students. Using health-care scenarios, the book demonstrates how to process and visualize health data to better manage services and support health-care policy. GIS Tutorial for Health includes lessons and exercises on mapping basics, including creating map layers, editing features, and using spatial data. The fifth edition is compatible with ArcGIS® 10.2 for Desktop. Exercise data is available for downloaded. Instructor resources are available separately.

## An Introduction to the Geography of Health

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 Public Health

This revised edition covers all aspects of public health informatics and discusses the creation and management of an information technology infrastructure that is essential in linking state and local organizations in their efforts to gather data for the surveillance and prevention. Public health officials will have to understand basic principles of information resource management in order to make the appropriate technology choices that will guide the future of their organizations. Public health continues to be at the forefront of modern medicine, given the importance of implementing a population-based health approach and to addressing chronic health conditions. This book provides informatics principles and examples of practice in a public health context. In doing so, it clarifies the ways in which newer information technologies will improve individual and community health status. This book's primary purpose is to consolidate key information and promote a strategic approach to information systems and development, making it a resource for use by faculty and students of public health, as well as the practicing public health professional. Chapter highlights include: The Governmental and Legislative Context of Informatics; Assessing the Value of Information Systems; Ethics, Information Technology, and Public Health; and Privacy, Confidentiality, and Security. Review questions are featured at the end of every chapter. Aside from its use for public health professionals, the book will be used by schools of public health, clinical and public health nurses and students, schools of social work, allied health, and environmental sciences.

## Mapping Across Academia

International Encyclopedia of Public Health, Second Edition is an authoritative and comprehensive guide to the major issues, challenges, methods, and approaches of global public health. Taking a multidisciplinary approach, this new edition combines complementary scientific fields of inquiry, linking biomedical research with the social and life sciences to address the three major themes of public health research, disease, health processes, and disciplines. This book helps readers solve real-world problems in global and local health through a multidisciplinary and comprehensive approach. Covering all dimensions of the field, from the details of specific diseases, to the organization of social insurance agencies, the articles

included cover the fundamental research areas of health promotion, economics, and epidemiology, as well as specific diseases, such as cancer, cardiovascular diseases, diabetes, and reproductive health. Additional articles on the history of public health, global issues, research priorities, and health and human rights make this work an indispensable resource for students, health researchers, and practitioners alike. Provides the most comprehensive, high-level, internationally focused reference work available on public health Presents an invaluable resource for both researchers familiar with the field and non-experts requiring easy-to-find, relevant, global information and a greater understanding of the wider issues Contains interdisciplinary coverage across all aspects of public health Incorporates biomedical and health social science issues and perspectives Includes an international focus with contributions from global domain experts, providing a complete picture of public health issues

# GIS Tutorial

Go beyond the basics and unleash the full power of QGIS with practical, step-by-step examples About This Book This book is your one-stop solution to all of your GIS needs using the open source QGIS Master QGIS by learning about database integration, geoprocessing tools, Python scripts, advanced cartography, and custom plugins This example-rich, practical guide will help you create sophisticated analyses and maps Who This Book Is For If you are a GIS professional, a consultant, a student, or perhaps a fast learner who wants to go beyond the basics of QGIS, then this book is for you. It will prepare you to realize the full potential of QGIS. What You Will Learn Create and manage a spatial database Get to know advanced techniques to style GIS data Prepare both vector and raster data for processing Add heat maps, live layer effects, and labels to your maps Master LAStools and GRASS integration with the Processing Toolbox Edit and repair topological data errors Automate workflows with batch processing and the QGIS Graphical Modeler Integrate Python scripting into your data processing workflows Develop your own QGIS plugin In Detail QGIS is an open source solution to GIS. It is widely used by GIS professionals all over the world. It is the leading alternative to the proprietary GIS software. Although QGIS is described as intuitive, it is also by default complex. Knowing which tools to use and how to apply them is essential to producing valuable deliverables on time. Starting with a refresher on the QGIS basics, this book will take you all the way through to creating your first custom QGIS plugin. From the refresher, we will recap how to create, populate, and manage a spatial database. You'll also walk through styling GIS data, from creating custom symbols and color ramps to using blending modes. In the next section, you will discover how to prepare vector, heat maps, and create live layer effects, labeling, and raster data for processing. You'll also discover advanced data creation and editing techniques. The last third of the book covers the more technical aspects of QGIS such as using LAStools and GRASS GIS's integration with the Processing Toolbox, how to automate workflows with batch processing, and how to create graphical models. Finally, you will see how to create and run Python data processing scripts and write your own QGIS plugin with pyqgis. By the end of the book, you will understand how to work with all the aspects of QGIS, and will be ready to use it for any type of GIS work. Style and

approach This step-by-step comprehensive guide will let you dig your teeth into working with spatial databases, creating your own QGIS plugins, and creating your own custom graphical models.

## GIS and Public Health

This book addresses the role and importance of space in the respective fields of the social sciences and the humanities. It discusses how map representations and mapping processes can inform ongoing intellectual debates or open new avenues for scholarly inquiry within and across disciplines, including a wide array of significant developments in spatial processes, including the Internet, global positioning system (GPS), affordable digital photography and mobile technologies. Last but not least it reviews and assesses recent research challenges across disciplines that enhance our understanding of spatial processes and mapping at scales ranging from the molecular to the galactic.

## In Time of War

"Python Scripting for ArcGIS is a guide to help experienced users of ArcGIS for Desktop get started with Python scripting. This book teaches how to write Python code that works with spatial data to automate geoprocessing tasks in ArcGIS. Readers can thuslearn the skill set needed to create custom tools. Key topics in this book include Python language fundamentals, automating geoprocessing tasks,exploring and manipulating spatial data, working with geometries and rasters, map scripting, debugging and error handling, creating functions and classes, and creating and sharing script tools"--

## Introduction to Geospatial Technologies

Providing a practical, comprehensive and up-to-date overview of the use of spatial statistics in epidemiology, this book examines spatial analytical methods in conjunction with GIS and remotely sensed data to provide insights into the patterns and processes that underlie disease transmission.

## GIS for Health Organizations

Designed to benefit health management students and practitioners, this illustrated tutorial is an introduction to help students investigate patterns of uninsured and poor populations, prepare spatial data to analyze environmental hazards, analyze youth pedestrian injuries, and more. This edition is updated for ArcGIS 9.2.

# Introduction to Geographic Information Systems in Public Health

# Python Scripting for ArcGIS

This book trains the next generation of scientists representing different disciplines to leverage the data generated during routine patient care. It formulates a more complete lexicon of evidence-based recommendations and support shared, ethical decision making by doctors with their patients. Diagnostic and therapeutic technologies continue to evolve rapidly, and both individual practitioners and clinical teams face increasingly complex ethical decisions. Unfortunately, the current state of medical knowledge does not provide the guidance to make the majority of clinical decisions on the basis of evidence. The present research infrastructure is inefficient and frequently produces unreliable results that cannot be replicated. Even randomized controlled trials (RCTs), the traditional gold standards of the research reliability hierarchy, are not without limitations. They can be costly, labor intensive, and slow, and can return results that are seldom generalizable to every patient population. Furthermore, many pertinent but unresolved clinical and medical systems issues do not seem to have attracted the interest of the research enterprise, which has come to focus instead on cellular and molecular investigations and single-agent (e.g., a drug or device) effects. For clinicians, the end result is a bit of a "data desert" when it comes to making decisions. The new research infrastructure proposed in this book will help the medical profession to make ethically sound and well informed decisions for their patients.

## Spatial Analysis in Epidemiology

This clearly written resource provides a comprehensive introduction to the use of geographic information systems (GIS) in analyzing and addressing public health problems. The book guides the reader through basic GIS concepts and methods, with an emphasis on practical applications. Described are ways that GIS can be used to map health events, identify disease clusters, investigate environmental health problems, understand the spread of communicable and vector-borne infectious disease, and more. Numerous tables, figures, and concrete examples are included. The companion website features downloadable GIS databases that allow readers to practice a variety of spatial analytical techniques.

## GIS in Sustainable Urban Planning and Management (Open Access)

## Understanding the Changing Planet

This accessible text prepares students to understand and work with geographic information systems (GIS), offering a detailed introduction to essential theories, concepts, and skills. The book is organized in four modular parts that can be used in any sequence in entry-level and more specialized courses. Basic cartographic principles are integrated with up-to-date discussions of GIS technologies and applications. Coverage includes everything from what geographic information is to its many uses and societal implications. Practical examples and exercises invite readers to explore the choices involved in producing reliable maps and other forms of geographic information. Illustrations include 170 figures (with 15 in color). The companion website provides links to Web resources for each chapter, plus downloadable PowerPoint slides of most of the figures. New to This Edition *Chapter on online mapping and Big Data. *New and updated discussions of remote sensing, vector and raster data models, location privacy, uses of geocoding, and other timely topics. *Chapter on the many uses of GIS, such as in market analyses, emergency responding, and tracking of epidemics. *Section overviews and an end-of-book glossary. Pedagogical Features *Modules and individual chapters can be used sequentially or in any order. *End-of-chapter review questions with answers, exercises, and extended exercises for applying theories and concepts. *"In-Depth" sidebars offering a closer look at key concepts and applications. *End-of-chapter links to relevant Web resources.

## Geospatial Information System Use in Public Organizations

Health issues such as the emergence of infectious diseases, the potential influence of global warming on human health, and the escalating strain of increasing longevity and chronic conditions on healthcare systems are of growing importance in an increasingly peopled and interconnected world. A geographic approach to the study of health offers a critical perspective to these issues, considering how changing relationships between people and their environments influence human health. An Introduction to the Geography of Health provides an accessible introduction to this rapidly growing field, covering theoretical and methodological background. The text is divided into three sections which consider distinct approaches and techniques related to health geographies. Section one introduces ecological approaches, with a focus on how natural and built environments affect human health. For instance, how have irrigation projects influenced the spread of water-borne diseases? How can modern healthcare settings, such as hospitals, affect the spread and evolution of pathogens? Section two discusses social aspects of health and healthcare, considering health as not merely a biological interaction between a pathogen and human host, but as a process that is situated among social factors which ultimately drive who suffers from what, and where disease occurs. Section three then considers spatial techniques and approaches to exploring health, giving special focus to the growing role of cartography and geographic information systems (GIS) in the study of health. This clearly written text contains a range of pedagogical features including a wealth of global case studies, discussion questions and suggestions for further reading at the end of each chapter, a colour plate section and over eighty diagrams and figures. The accompanying website also provides presentations, exercises, further resources, and tables and figures. This book is an essential introductory text for undergraduate students studying Geography, Health and Social Studies.

## Time Series Analysis

This book presents an accessible approach to understanding time series models and their applications. The ideas and methods are illustrated with both real and simulated data sets. A unique feature of this edition is its integration with the R computing environment.

## Mapping the Nation

Handbook of Spatial Epidemiology explains how to model epidemiological problems and improve inference about disease etiology from a geographical perspective. Top epidemiologists, geographers, and statisticians share interdisciplinary viewpoints on analyzing spatial data and space–time variations in disease incidences. These analyses can provide important information that leads to better decision making in public health. The first part of the book addresses general issues related to epidemiology, GIS, environmental studies, clustering, and ecological analysis. The second part presents basic statistical methods used in spatial epidemiology, including fundamental likelihood principles, Bayesian methods, and testing and nonparametric approaches. With a focus on special methods, the third part describes geostatistical models, splines, quantile regression, focused clustering, mixtures, multivariate methods, and much more. The final part examines special problems and application areas, such as residential history analysis, segregation, health services research, health surveys, infectious disease, veterinary topics, and health surveillance and clustering. Spatial epidemiology, also known as disease mapping, studies the geographical or spatial distribution of health outcomes. This handbook offers a wide-ranging overview of state-of-the-art approaches to determine the relationships between health and various risk factors, empowering researchers and policy makers to tackle public health problems.

## GIS Tutorial for Health

GIS Tutorial for Crime Analysis, second edition presents state-of-the-art crime mapping and analysis methods that can be incorporated into any police department's current practices.

## GIS and Public Health, Second Edition

This is a hands-on book about ArcGIS that you work with as much as read. By the end, using Learn ArcGIS lessons, you'll be able to say you made a story map, conducted geographic analysis, edited geographic data, worked in a 3D web scene, built a 3D model of Venice, and more.

## A Primer of GIS, Second Edition

The Open Access version of this book, available at http://www.tandfebooks.com/doi/view/10.1201/9781315146638, has been made available under a Creative Commons Attribution-Non Commercial-No Derivatives 3.0 license. GIS is used today to better understand and solve urban problems. GIS in Sustainable Urban Planning and Management: A Global Perspective, explores and illustrates the capacity that geo-information and GIS have to inform practitioners and other participants in the processes of the planning and management of urban regions. The first part of the book addresses the concept of sustainable urban development, its different frameworks, the many ways of measuring sustainability, and its value in the urban policy arena. The second part discusses how urban planning can shape our cities, examines various spatial configurations of cities, the spread of activities, and the demands placed on different functions to achieve strategic objective. It further focuses on the recognition that urban dwellers are increasingly under threat from natural hazards and climate change. Written by authors with expertise on the applications of geo-information in urban management, this book showcases the importance of GIS in better understanding current urban challenges and provides new insights on how to apply GIS in urban planning. It illustrates through real world cases the use of GIS in analyzing and evaluating the position of disadvantaged groups and areas in cities and provides clear examples of applied GIS in urban sustainability and urban resilience. The idea of sustainable development is still very much central in the new development agenda of the United Nations, and in that sense, it is of particular importance for students from both the Global South and Global North. Professionals, researchers, and students alike will find this book to be an invaluable resource for understanding and solving problems relating to sustainable urban planning and management.

## The ArcGIS Book

Laszlo traces the spectacular rise and spread of citrus across the globe, from southeast Asia in 4000 BC to modern Spain and Portugal, whose explorers inroduced the fruit to the Americas. This book explores the numerous roles that citrus has played in agriculture, horticulture, cooking, nutrition, religion, and art.

## Applied Spatial Data Analysis with R

Computer science provides a powerful tool that was virtually unknown three generations ago. Some of the classical fields of knowledge are geodesy (surveying), cartography, and geography. Electronics have revolutionized geodetic methods. Cartography has faced the dominance of the computer that results in simplified cartographic products. All three fields make use of basic components such as the Internet and databases. The Springer Handbook of Geographic Information is organized in three parts, Basics, Geographic Information and Applications. Some parts of the basics belong to the larger

field of computer science. However, the reader gets a comprehensive view on geographic information because the topics selected from computer science have a close relation to geographic information. The Springer Handbook of Geographic Information is written for scientists at universities and industry as well as advanced and PhD students.

## Geographic Information Systems (GIS) for Disaster Management

This book focuses on a range of geospatial applications for environmental health research, including environmental justice issues, environmental health disparities, air and water contamination, and infectious diseases. Environmental health research is at an exciting point in its use of geotechnologies, and many researchers are working on innovative approaches. This book is a timely scholarly contribution in updating the key concepts and applications of using GIS and other geospatial methods for environmental health research. Each chapter contains original research which utilizes a geotechnical tool (Geographic Information Systems (GIS), remote sensing, GPS, etc.) to address an environmental health problem. The book is divided into three sections organized around the following themes: issues in GIS and environmental health research; using GIS to assess environmental health impacts; and geospatial methods for environmental health. Representing diverse case studies and geospatial methods, the book is likely to be of interest to researchers, practitioners and students across the geographic and environmental health sciences. The authors are leading researchers and practitioners in the field of GIS and environmental health.

## Environmental Health

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.

## Public Health Informatics and Information Systems

This study guide meets a growing demand for effective GIS training by combining ArcGIS tutorials and self-study exercises

that start with the basics and progress to more difficult functionality. Presented in a step-by-step format, the book can be adapted to a reader's specific training needs, from a classroom of graduate students to individaul study. Readers learn to use a range of GIS functionality from creating maps and collecting data to using geoprocessing tools and models for advanced analysis. the authors have incorporated three proven learning methods: scripted exercises that use detailed step-by-step insturctions and result graphics, Your Turn exercises that require users to perform tasks without steo-by-step instructions, and exercise assignements that pose real-world problem scenarios. A fully functioning, 180-day trial version of ArcView 9.2 software, data for working through the tutorials, and Web-based teacher resources are also included.

## Springer Handbook of Geographic Information

Written for both majors and non-majors alike, Introduction to Geospatial Technologies demonstrates the wide range of geographic technologies available to and used by geographers today. Each chapter contains an introduction to the key concepts and a lab activity, so that in addition to gaining a basic foundation of knowledge students also obtain hands-on experience with the relevant software. This new edition stays current with its rapidly moving field, with coverage and lab activities revised to reflect is the most up-to-date ideas and innovations in GST.

## Handbook of Spatial Epidemiology

An annual compilation of GIS success stories in the federal government, awakens officials to the potential of GIS.

## Geographies of Health

This accessible text prepares students to understand and work with geographic information systems (GIS), offering a detailed introduction to essential theories, concepts, and skills. The book is organized in four modular parts that can be used in any sequence in entry-level and more specialized courses. Basic cartographic principles are integrated with up-to-date discussions of GIS technologies and applications. Coverage includes everything from what geographic information is to its many uses and societal implications. Practical examples and exercises invite readers to explore the choices involved in producing reliable maps and other forms of geographic information. Illustrations include 170 figures (with 15 in color). The companion website provides links to Web resources for each chapter, plus downloadable PowerPoint slides of most of the figures. New to This Edition *Chapter on online mapping and Big Data. *New and updated discussions of remote sensing, vector and raster data models, location privacy, uses of geocoding, and other timely topics. *Chapter on the many uses of GIS, such as in market analyses, emergency responding, and tracking of epidemics. *Section overviews and an end-of-book glossary. Pedagogical Features *Modules and individual chapters can be used sequentially or in any order. *End-of-chapter

review questions with answers, exercises, and extended exercises for applying theories and concepts. *"In-Depth" sidebars offering a closer look at key concepts and applications. *End-of-chapter links to relevant Web resources.

## A Primer of GIS, Second Edition

Authored by accomplished urban geographers and GIS experts, Exploring the Urban Community: A GIS Approach leverages the modern geographer's toolset, employing the latest GIS methodology to the study of urban geography. The Second Edition expands upon this timely, applied approach by incorporating new "internet GIS" Google Earth™ activities, which do not require students to own expensive software or travel to a school lab. New exercises are also provided for ArcGIS 9.3 and 10, the latest version of the industry-dominant software. Coupled with current examples and applications from around the world, including a greater focus on India and China, Exploring the Urban Community presents an engaging and uniquely hands-on applied approach to the study of urban geography.

## GIS Tutorial for Health

From World War II to the war in Iraq, periods of international conflict seem like unique moments in U.S. political history—but when it comes to public opinion, they are not. To make this groundbreaking revelation, In Time of War explodes conventional wisdom about American reactions to World War II, as well as the more recent conflicts in Korea, Vietnam, the Gulf, Afghanistan, and Iraq. Adam Berinsky argues that public response to these crises has been shaped less by their defining characteristics—such as what they cost in lives and resources—than by the same political interests and group affiliations that influence our ideas about domestic issues. With the help of World War II–era survey data that had gone virtually untouched for the past sixty years, Berinsky begins by disproving the myth of "the good war" that Americans all fell in line to support after the Japanese bombed Pearl Harbor. The attack, he reveals, did not significantly alter public opinion but merely punctuated interventionist sentiment that had already risen in response to the ways that political leaders at home had framed the fighting abroad. Weaving his findings into the first general theory of the factors that shape American wartime opinion, Berinsky also sheds new light on our reactions to other crises. He shows, for example, that our attitudes toward restricted civil liberties during Vietnam and after 9/11 stemmed from the same kinds of judgments we make during times of peace. With Iraq and Afghanistan now competing for attention with urgent issues within the United States, In Time of War offers a timely reminder of the full extent to which foreign and domestic politics profoundly influence—and ultimately illuminate—each other.

## GIS Tutorial for Crime Analysis

Lang explores how geographic information systems can help health care administrators plan, understand, and combat problems in the community. These GIS systems develop graphical models between the environmental landscape and the health condition of individuals living in that landscape.

ROMANCE  ACTION & ADVENTURE  MYSTERY & THRILLER  BIOGRAPHIES & HISTORY  CHILDREN'S  YOUNG ADULT  FANTASY  HISTORICAL FICTION  HORROR  LITERARY FICTION  NON-FICTION  SCIENCE FICTION