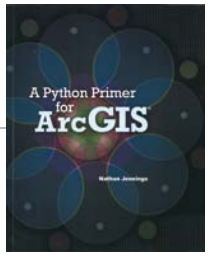
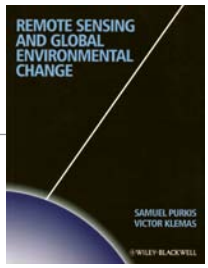
GIS Bookshelf



A Python Primer for ArcGIS

By Nathan Jennings

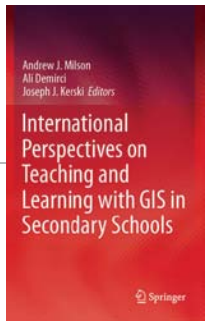
This workbook was written with the GIS user in mind. Rather than a text on the Python language, it is an introduction to using Python for ArcGIS geoprocesses. Written for ArcGIS 10, it teaches how to develop stand-alone Python scripts that accomplish geoprocessing tasks and can be run both inside and outside ArcGIS. It provides a systematic method for learning the elements of Python programming used in ArcGIS. The author, Nathan Jennings, is a full-time GIS professional with the City of Sacramento, California, who teaches courses in GIS programming, remote sensing, web map application development, GPS, and GIS software at American River and Sacramento City Colleges. CreateSpace, 2011, 458 pp., ISBN: 978-1466274594



Remote Sensing and Global Environmental Change

By Sam J. Purkis and Victor V. Klemas

Rather than providing extensive information on sensor specifications and operation, this book presents the fundamentals of remote-sensing technology and concentrates on the application of this technology in assessing the health of atmosphere, cryosphere, oceans, coastal areas, freshwater systems, and land cover and devotes a chapter to each. The target audience for this book is advanced undergraduate and graduate students in earth science, environmental science, or physical geography. However, it is a valuable reference for GIS professionals who use remote-sensing data for monitoring and mapping environmental change at regional and global scales. Wiley-Blackwell, 2011, 384 pp., ISBN: 978-1405182256

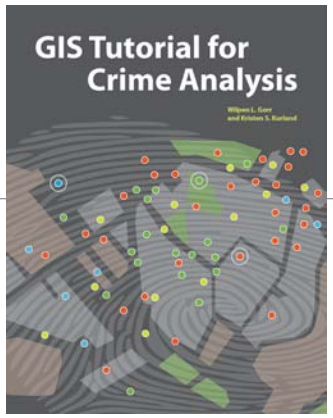


International Perspectives on Teaching and Learning with GIS in Secondary Schools

Edited by Andrew J. Milson, Ali Demirci, and Joseph Kerski

This book is the first publication to provide an international perspective on the pedagogical value of GIS technology in classrooms and offer a range of views on the subject. This book provides a truly global perspective: authors from 33 countries contributed, and countries from six continents are represented. GIS has revolutionized the way people explore and understand the world around them, and its effects are felt in the classroom. Instructors are using this technology in secondary-school classrooms worldwide to teach social and scientific concepts and processes, broaden students' technical skills, and sharpen problem-solving skills. Each country chapter includes a summary of the country's educational context, a case study illustrating how GIS is used in secondary schooling, and an assessment of the opportunities and challenges in teaching and learning with GIS now and in the future. The book ends with some reflections on the progress made in teaching and learning with GIS over the past 20 years, key trends for the remainder of this decade, and recommendations for meeting the goal of engaging all students in thinking spatially. Springer, 2012, 353 pp., ISBN: 978-9400721197

GIS Tutorial for Crime Analysis



By Wilpen L. Gorr and Kristen S. Kurland

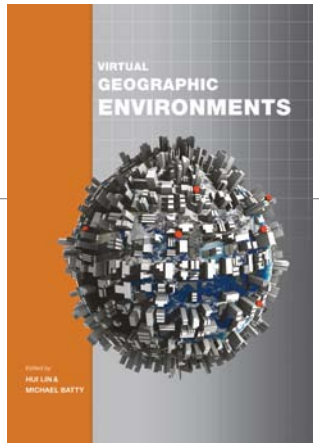
While the goal of this GIS workbook—to teach crime mapping and analysis skills using ArcGIS 10 software—is narrowly defined, the target audience is broad. Working GIS professionals, as well as people new to GIS and crime analysis, can benefit from the exercises in this book. The authors, Wilpen L. Gorr and Kristen S. Kurland, focus not just on crime mapping but also on creating and maintaining an information system that meets the needs of officers, investigators, and police executives for geoinformation products for management, analysis, public information, and media relations.

The book takes a learning by doing approach. Exercises use real crime data from the Pittsburgh Police Bureau and Allegheny County 911 Center in Pennsylvania that has been altered slightly to protect the privacy of individuals. Although exercises build on each other, each chapter is self-contained, so more advanced users can skip early chapters and move to areas of special interest such as hot spot analysis or making animations. Chapters move from basic GIS skills and the use of finished maps to designing and building those maps, performing crime analysis operations, preparing and managing data and updating maps, and automating processes using ModelBuilder. Each chapter includes Your Turn exercises, which reinforce the concepts and methods taught, and a challenging end of chapter assignment.

The authors have extensive experience teaching GIS to students at a variety of levels ranging from high school to graduate school as well as GIS professionals. Gorr is a professor of public policy and management information systems at the School of Public Policy and Management, H. John Heinz III College, Carnegie Mellon University, where he teaches and researches GIS applications. He is also chairman of the school's Master of Science in Public Policy and Management degree program. Kurland is a teaching professor of architecture, information systems, and public policy at the H. John Heinz III College and School of Architecture, Carnegie Mellon University, where she teaches GIS, building information modeling, computer-aided drafting, 3D visualization, and infrastructure management.

This book includes a 180-day trial version of ArcGIS 10 for Desktop software and exercise data. An instructor resource DVD is available on request. Esri Press, 2011, 296 pp., ISBN: 978-1589482142

Virtual Geographic Environments



Edited by Hui Lin and Michael Batty

Virtual Geographic Environments is a collection of papers by leading members of the geospatial community that discusses the development, value, and future of virtual geographic environments (VGEs). As editors Hui Lin and Michael Batty observe, moving GIS to the web has changed the way people interact with GIS and has led to a more decentralized and experimental approach to the use of GIS for problem solving. VGEs extend GIS by creating an environment in which users are immersed. The book's essays are organized into five sections. The first discusses the changes in technology that led to the development of VGEs. The second section serves as a primer on VGE virtual cities and landscapes. The third section covers interface design and public participation. Essays in the fourth section discuss the challenges associated with constructing mobile and networked VGEs. The final section addresses the challenges of combining mobility with VGEs. Lin, professor and director of the Institute of Space and Earth Information Science at the Chinese University of Hong Kong, is also the founding president of the International Association of Chinese Professionals in Geographic Information Science and the chief editor of the journal *Annals of GIS*. Batty is the Bartlett Professor of Planning at University College London, where he directs the Centre for Advanced Spatial Analysis. Esri Press, 2011, 364 pp., ISBN: 978-1589483187