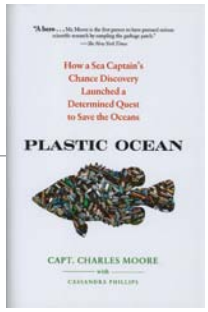
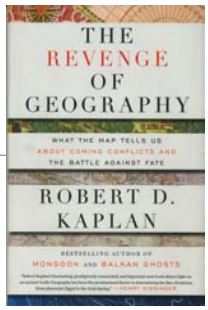
GIS Bookshelf



Plastic Ocean: How a Sea Captain's Chance Discovery Launched a Determined Quest to Save the Oceans

By Charles Moore with Cassandra Phillips

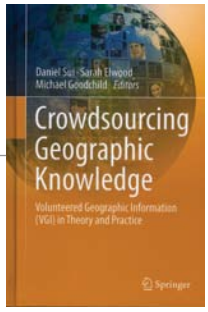
In 1997, Charles Moore was stunned by the quantities of plastic debris he found far out in the Pacific Ocean while sailing from Honolulu to California. The experience led him to found the Algalita Marine Research Foundation and become an internationally recognized pollution expert. He has worked tirelessly to save the oceans from this "plastic plague." His work has been the impetus for a global reassessment of the effects of plastics. This book recounts how plastics have come to pervade our lives, his findings on the threat they pose, and his research and activist work. Penguin Publishing, 2011, 368 pp., ISBN 978-1583334249



The Revenge of Geography: What the Map Tells Us about Coming Conflicts and the Battle against Fate

By Robert D. Kaplan

GIS practitioners, who in college had to fend off questions about why they were studying geography, may find this book particularly compelling. Using both trenchant analysis and historical anecdotes, it examines the importance of geography in shaping history. Kaplan discusses not only how pivotal geography has been but how its influence will likely shape human behavior in the future. A former member of Defense Policy Board under Secretary of Defense Robert Gates from 2009 to 2011, he is the author of 14 books on foreign affairs. Random House, 2012, 432 pp., ISBN-13: 978-1400069835



Crowdsourcing Geographic Knowledge: Volunteered Geographic Information (VGI) in Theory and Practice

Edited by Daniel Sui, Sarah Elwood, and Michael Goodchild

Volunteered geographic information (VGI), a term coined by Michael Goodchild, one of this book's three editors, is transforming how we gather, use, and interact with geospatial information. The 20 articles in this book deal with both the theory and application of VGI. Some discuss the aspects of crowdsourcing that are novel and offer new strategies for dealing with the big problems faced by science and governments and the big problem of big data itself. Some discuss challenges that VGI shares with more mainstream GIS: incorporating time and 3D data. Metadata, which has always been important, now becomes invaluable in qualifying the data and integrating it with spatial data that has been gathered using more traditional methods. Springer, 2013, 396 pp., ISBN-13: 978-9400745872

Economic Development and GIS

Economic Development and GIS, a new book from Esri Press, demonstrates how the geographic approach is applied to analysis using Esri Business Analyst Desktop, Esri Business Analyst Online, and spatial statistics extensions for ArcGIS for Desktop. According to the book's authors, J. M. Pogodzinski and Richard M. Kos, "GIS is an essential tool in analysis because of its data management and data manipulation capabilities, analytic tools, potential for reporting and collaboration, and scalability."

The first section, which supplies background on GIS use in economic development, concludes with a chapter on best GIS practices for economic development analysis that provides an excellent working methodology. In addition to the familiar steps—ask, acquire, examine, analyze, and act—the chapter discussion includes caveats on examining the data being considered for inclusion in the analysis and evaluating the accuracy and validity of results. It also provides advice on documenting project methodology and presenting results effectively.

The approach outlined in the first section is applied to the analyses discussed in the second. Chapters focus on optimal site selection, determining enterprise and other zones, and addressing the mismatch between job location and housing and the costs of commuting. Each chapter emphasizes the importance of understanding the data being analyzed and challenges that may be inherent in it.

The third section addresses aspects of GIS of particular interest in economic development: geocoding, statistics and statistical methods, and the use of raster data and imagery.

Throughout the book, the authors stress the effective use of GIS tools and the application of automation through models when appropriate. Pogodzinski, a professor of economics at San Jose State University who also teaches at City College of San Francisco in California, has served as a consultant to the US Treasury Department on estimating tax revenues in developing countries and to the General Accountability Office (formerly the General Accounting Office) on the impact of federal programs on urban sprawl. Kos is a certified urban planner who specializes in the use of GIS to study land-use change, alternatives to suburban sprawl, and public transportation. He teaches graduate-level courses in community-directed urban planning and GIS at San Jose State University and GIS workshops at City College of San Francisco. Esri Press, 2012, 244 pp., ISBN-13: 978-1589482180