

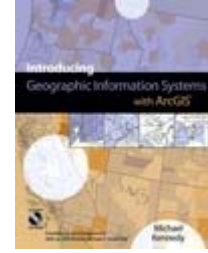


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Colin P. North and Kitty L. Milliken, Editors
A.J. (Tom) van Loon, Associate Editor for Book Reviews
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Introducing Geographical Information Systems with ArcGIS – Featuring GIS Software from Environmental Systems Research Institute, by Michael Kennedy, 2006. John Wiley and Sons, Inc. Hoboken, New Jersey, USA. Paperback, 588 pages + CD Rom. Price GBP 33.00. ISBN 978-0-471-79229-1.



This book intends to offer a unique approach to GIS instruction with the main purposes to acquaint the reader with the central concepts of GIS, to provide the reader a considerable ability to operate important tools in ArcGIS, and to lay a basis for the reader to go on the advanced study of GIS. The book is basically a stack of GIS exercises and can be separated in two parts: Basic Concepts of GIS, and Spatial Analysis and Synthesis with GIS.

The 588 pages of this book use a practical step-by-step approach to teach the reader ArcGIS. The first part, Basic Concepts of GIS, is split into five chapters and explains the fundamentals of cartography, the characteristics and structures of spatial data models, and the concept of database management. The second part, Spatial Analysis and Synthesis with GIS, is more focused on spatial analysis and the use of GIS as a decision support system. It shows spatial analysis for both vector and raster models, including several data-comparison techniques, buffering, data interpolation, density mapping, cost distance functions, and a variety of hydrological tools.

This practical step-by-step approach is actually very successful. The exercises are clear and the book learns the reader basic GIS skills and tools without much effort. The first part of the book is the best part, with original exercises that clearly explain difficult concepts like topology. In this part of the book, the author convinces the reader with the usefulness of the ArcGIS geodatabase and demonstrates numerous helpful tools to become a skilled database manager.

The spatial analysis part is a less comprehensive, and some fundamental geostatistical techniques like spatial autocorrelation and kriging are hardly explained. However, most basic spatial analyses are exemplified, which is very useful for a practical GIS user.

In Chapter 7, a classical example illustrates how to use GIS as a decision-support system. The so-called Getrich Saga exercise brings you on a journey to find gold in a remote area. Based on a set of criteria and the use of different spatial-analysis tools, you will be able to narrow the search area. At the end of this exercise, you fully start to understand the power of GIS because it clearly shows how you can combine different datasets in order to fulfill your task.

As a GIS teacher I can recommend this book as an excellent reference to teach environmental students (or scientists) ArcGIS. It consists of a large amount of exercises that can be used in the classroom to explain the concepts of database management, spatial analysis and how you can use GIS as a decision-support system. This book is mainly focused on the practical GIS user and is therefore an added value in the GIS literature.

Richard A.M. De Jeu
Vrije Universiteit Amsterdam
Department of Hydrology and GeoEnvironmental Sciences
De Boelelaan 1085
1081 HV Amsterdam
The Netherlands
e-mail: richard.de.jeu@falw.vu.nl

