ASSOCIATION OF CANADIAN MAP LIBRARIES AND ARCHIVES

BULLETIN

Book Reviews

Edited by Sarah Simpkin

Books Reviewed in this Issue:

Focus on Geodatabases in ArcGIS Pro
by David W. Allen
Reviewed by Barbara Znamirowski

GIS for Science: Applying Mapping and Spatial Analytics
by DawnWright and Harder, Christian (editors).
Reviewed by Martin Chandler

Focus on Geodatabases in ArcGIS Pro

Barbara Znamirowski
Trent University

Allen, David W. ***Focus on Geodatabases in ArcGIS Pro.*** Redlands, California: Esri Press, 2019. 251p. $59.99 US, ISBN 9781589484450, eISBN: 9781589484467.

Focus on Geodatabases in ArcGIS Pro is a detailed workbook that surveys the creation, editing, and sharing of ArcGIS geodatabases in ArcGIS Pro. David W. Allen has an established record with Esri Press: his previous publications include *Tutorial 2: Spatial Analysis Workbook* (2016), *GIS Tutorial for Python Scripting* (2014*), Getting to Know ArcGIS® ModelBuilder*™ (2011), and *GIS Tutorial 3: Advanced Workbook* (co-authored with Jeffrey M. Coffey, 2010). He brings considerable experience to his latest book, including 30 years of GIS work for the City of Euless, Texas, and 18 years as an adjunct professor at Tarrant County College in Fort Worth, Texas.[i]

The book has seven chapters. The first chapter emphasizes the need for initial planning of geodatabase models before using software, and introduces key geodatabase elements such as feature datasets, feature classes, fields, attribute domains and subtype categories. The chapter's exercises involve in-depth design of geodatabase schema on spreadsheets using paper and pen. As with subsequent chapters, design elements are considered as they pertain to a described project. In Chapter 2 we begin working with ArcGIS Pro, building a geodatabase based on previously discussed concepts. Exercises include establishing feature classes for point, line and polygon data types, setting spatial references, and assigning domain rules to ensure data integrity. Chapter 3 covers populating geodatabases, reviewing procedures for bringing in existing data to established geodatabases and feature class structures. Chapter 4 discusses extending data formats, including sharing data in ArcGIS Online and converting

2D data to 3D views. It provides instructions for hosting feature classes, web maps and 3D scenes in ArcGIS Online. Chapters 5 and 6 explain how to create new features, advanced editing using diverse tools, and the use of templates. The final chapter is on building and maintaining topologies within a geodatabase.

The book comes with an EVA code providing access to a 180-day trial of ArcGIS Desktop Pro software. Data sets for each chapter's exercises are available for download through ArcGIS Online and instructors' resources may be requested from Esri Press.[ii]

This book's strength is its sound pedagogical method and clarity. It's a deep dive into geodatabases in which all chapters have a similar organization: statements of learning objectives, an introduction to concepts, tutorial and "your turn" exercises, sections on "what to turn in" (assuming the work is being done for a course), study questions, and suggestions for other study topics. Software screen shots are clear and exercises are well structured and easy to follow. The progressive-learning exercise format, with each chapter including tutorials that walk you through all the steps in detail and follow-up exercises that require more independent work, helps to ensure students are not just "clicking" without taking in or understanding processes. Finally, it is worth noting that though there is a natural progression of information in the text, chapter instructions and exercises can stand alone and be used independently of other chapters, if desired. For example, Chapter 4 would complement curricula on ArcGIS Online training.

The shelf life of software-based workbooks is always a concern. Introductory information within the book indicates pre-publication testing was done in ArcGIS Pro 2.3. While still relevant, rapid versioning of ArcGIS Pro could become a problem for students trying exercises, if tools and graphic interfaces change. Hopefully, some form of online updates will be introduced to ensure exercises remain up to date thereby extending the useful life of this workbook.

Although there are other books on geodatabases, I'm not familiar with a similar workbook specifically written for ArcGIS Pro. Other training support does exist, notably a range of briefer online training opportunities as well as ArcGIS Pro web help. Whereas this book focuses on feature datasets and classes using point, polygon and linear data structures, additional material on managing raster mosaics within geodatabases and importing non-SHP formats such as CAD files would complement it. For example, Esri Academy's 3.5 hour online course "Getting Started with the Geodatabases" could serve as an initial overview to supplement this more detailed workbook.

Focus on Geodatabases in ArcGIS Pro is suitable for classroom use and self-learners and is recommended for academic libraries, education programs and GIS practitioners.

Barbara Znamirowski
Head, Maps, Data & Government Information Centre
Trent University Library
Peterborough, Ontario

---

[i] Taken from Esri Press Author Bio (provided with text)
[ii] Non-US customers are advised that procedures for obtaining these materials may vary.

GIS for Science: Applying Mapping and Spatial Analytics

Martin Chandler
McGill University

Wright, Dawn and Harder, Christian (editors). ***GIS for Science: Applying Mapping and Spatial Analytics.*** Redlands, California: Esri Press, 2019. 252p. $39.99 US. ISBN 9781589485303.

GIS for Science offers a title that aptly describes the broad focus of this book. While the book offers different modes and methods of applying GIS in various scientific disciplines, these are presented more as a structure around which to highlight GIS as a tool, rather than methodologies for employing the tool in different situations. GIS is the cake, with science as the marzipan decoration.

The content of *GIS for Science* is a series of highlights, demonstrating how GIS is currently being used in various endeavours that fall under the pan-"science" moniker. This includes research in atmospheric conditions, oceanography, wildfires, and more. While a cynic might view this as merely a promotional text showcasing how Esri products are useful in research, the information within does offer a nice beginner's guide for incorporating geospatial thinking in scientific research. The presentation appears as something of a coffee-table book, however the ideas presented are interesting, and the examples could easily be used to spur new avenues for researchers to pursue.

To create the book, the editors engaged with many authors. Each chapter is written by a different individual or group of individuals, all from different working institutions. This includes researchers with USGS, Redlands University, the American Red Cross, the Audubon Society, and Esri's own employees. The work is, rather noticeably, United States-focused, either in the locations of research or in the work of U.S.-based researchers, occasionally with a partner or two.

As a research tool, *GIS for Science* cannot be highly rated. While it presents some interesting ideas of how researchers are using GIS, its presentation is more a showcase of some current projects. It could be of use to a researcher who is considering incorporating GIS into their work, or an educator looking for an easy showcase of the uses of GIS more broadly, however it is unlikely to draw one in for much more than a casual perusal.

The quality of the cartography and imagery overall is quite high, as would be expected in this sort of text. From historical Audubon Society paintings to current LiDAR imagery, the graphics are the true showcase of the book, perhaps to the detriment of the text. The content is interesting, but the layout intends to pull the eye to the graphical elements.

As a text for the library, this falls in line with the yearly Esri Map Book. It offers a fine showpiece of high-quality imagery to draw in the GIS-curious; it could also be a method of finding new projects for a GIS librarian to develop or suggest to their local researchers. It is not high academia, and will likely not leave a lasting impression beyond "nice". Nice does have its place, though.

Martin Chandler
Data Services Librarian
McGill University Library
Montreal, Quebec