

Reviews

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Bishop, Wade and Grubestic, Tony H. 2016. *Geographic Information: Organization, Access, and Use*. New York: Springer International. 214 pp. ISBN 978-3-319-22789-4. Hardcover 86,99 €/US\$99; also available as an e-book.

Geographic Information: Organization, Access, and Use is part of the Springer Geography series. It is a comprehensive text on all aspects of the “life” of geographic/spatial information in its many forms. Co-authored by Wade Bishop and Tony H. Grubestic, the book discusses the who, what, where and how, but most important the “why” of geographic information, or GI, as it is a part of many disciplines (and growing). However, the two primary disciplines or professions that provide both background and context for this book are map librarianship and the information sciences.

Arguably, geographic information—when viewed as “location information”—is a part of nearly all kinds of information, thus informing one of the first “whys” of the book. Because this type of information is nearly ubiquitous in nature, it thus needs to be understood in its fullness before the aspects of organization, access, and use of it can be applied. “At its core, this book is intended to serve as a resource for educators and students who work with GI by addressing the knowledge, skills, and abilities required to efficiently create, access, organize, curate, and redistribute GI” (7).

1.0 Details

The book’s ten chapters begin with an introduction, both to the topic itself and to the arrangement of the book. The latter aspect is very helpful because it shows how the authors assimilated diverse topics into three coherent divisions. Part I is about geographic information itself and the people and organizations who create and work with it; Part II focuses on topics related to finding and using geographic information (i.e., access to), including standards and a specific look at “human information seeking behavior,” which is extremely relevant to those who create the information as well as those attempting to find it; and Part III covers an “educational roadmap” as it relates to GI. It is the latter aspect that forms the impetus and *raison d’être* for the book: the authors created and launched

the Geographic Information Librarianship (GIL) Project in 2012 as a grant-funded initiative from the Institute of Museum and Library Services. They developed the curriculum for a new and still unique course, taught it, and then pulled together all aspects from the course into this book, serving as the final project outcome. Their efforts added a much-needed aspect to the librarianship education curriculum at the University of Tennessee. By extension, and because of the explosion of geographic information tools and platforms, all library schools should follow their example.

What is extremely useful about this book is the coverage of topics related to geographic information that are usually “hidden,” or at least behind the scenes. Students of cartography and others see and work with GI components such as grid systems, projection and coordinates, and learn about the impacts of symbols and how to manipulate data within Geographic Information Systems to create visual outcomes (maps), but who creates the policies for use of GI data? Where and how does one discover existing geographic information, whether as datasets or maps, that can be re-purposed for new uses or simply brought up-to-date? Who are the key “players” in the GI world, and what are their roles across the entire range of the GI data lifecycle? All of this and more is clearly expounded on in chapters 4 (information policy, spatial data infrastructures and communities, GI frameworks and clearinghouses), 5 (an expansive look at metadata, metadata creation/interoperability standards and its core importance related to geographic information discovery, analysis, and use), and 6 (introducing the Geoweb and how GI is organized and made discoverable (or not) across this part of the Internet).

Probably the favored part of this book is information found in chapters 2 (“Geographic Information, Maps, and GIS”) and 5 (“Metadata” and in particular the aspects of knowledge organization and cataloging). But that is to be expected from a practicing librarian, and yet this long-time cataloger learned some new things along the way. This is mentioned because it reinforces the nature and impact of the authors’ work—dedication to details and depth regarding a broad range of aspects related to geographic information. In chapter 5 in particular (though also a recurring theme throughout the book), the

authors explicitly share the importance of human understanding, human interaction, and human-based processes that make geographic information possible and useful.

One of the most useful features of this book is that each chapter begins with an abstract to share what is covered within, and concludes with a list of references that allow the reader to further explore an idea or topic in more depth. Thus, in a manner, each chapter could be considered a scholarly article complete with in-text call-outs pointing to the citations at the end of the chapter and useful visual illustrations, including maps, tables, and graphs. Indeed, if one were only interested in one aspect of geographic information, let's say the details on geographic representation, they can turn to chapter 3 and dig into the differences between vector and raster GI, learn what geodesy is and how it is used and informs things such as accuracy of distances on a map, and how map projections fit into the scheme of mapping and even geo-referencing. While the authors' aim is to have the reader use the full extent of the book, this duality in arrangement and focus is of benefit to an even broader audience and is to be applauded.

2.0 A Few Issues

For all of the positives shared so far, some negatives exist, though when compared to the overall body of work these could be considered relatively minor. The one that immediately drew attention after reading both the introduction and first chapter is the overuse of abbreviating throughout. Early on, "geographic information" becomes "GI" and thus only "GI" is used throughout the rest of the book. In this author's opinion, while the moniker "geographic information" is a bit cumbersome to mentally say during the reading process it becomes easy to lose track of just what GI actually stands for as one moves from context to context. Most egregious is beginning a sentence with an abbreviation, including "GI." It would have been helpful to semi-regularly use the words instead of the abbreviation to keep the reader on track, particularly if one is not able to read the book from cover to cover in one sitting. Related to this is the over-reliance on abbreviations or acronyms in general.

The other issue encountered was a host of errors throughout; while minor if taken on their own, collectively they became a distraction. Perhaps the most serious of these is a passage in which it is obvious that a phrase or group of words is missing from a sentence. Errors or omissions scattered throughout include missing a word within a sentence such as "the" or "a," the occasional overuse or underuse of commas, or, better placement of a comma within a sentence that would have enhanced the flow an idea or ideas, and a couple of misspelled words.

Where the blame lies is not known, but much of this should have been discovered and rectified at the copyediting stage before the book was published.

3.0 Related Resources

A perusal of literature related to GI and its organization, access, and use uncovered what was highly suspected when first reading the book—there are quite a number of articles and books on specific elements from *Geographic Information* but nothing comparable in terms of breadth and scope. As one can imagine, a huge assortment of books, articles, manuals, etc. related to Geographic Information Systems (GIS) exists, some of which are extremely detailed and many of which focus on specific aspects of this tool. Ultimately, far too many GIS resources exist to even begin to choose a few to share as a possible comparison. And, in fact, GIS is simply a single component of the GI ecosystem, and therefore would not make a good comparison. Other scholarly resources include ontologies, semantics, and public participation in gathering GI data (volunteered geographic information, or VGI), analysis of geographic information, and various histories of spatial data standards and infrastructures. And finally, of course, there are the standards themselves related to both hardcopy and digital descriptions of GI or for metadata schemas.

A search for geographic information education turns up a spate of resources on educational opportunities for learning GIS (e.g., Penn State Department of Geography 2017; University of Washington Professional & Continuing Education 2017) or GIS education aimed at teachers (Alibrandi and Palmer-Moloney 2001). It is only a short leap to resources about geography education, neither of which approach the topic of GI in the manner that Bishop and Grubestic do.

A somewhat more closely related resource to this book is a position paper for the Advancement of Geographic Information Science (Gould et al. 2008), though its focus is on extending policies and spatial data infrastructures beyond the initially proposed Digital Earth initiative proposed by Al Gore in 1998. Even similar works by Bishop and/or Grubestic focus on a given area, such as geographic knowledge organization (Bishop, Moulaison, and Burwell 2015, for example).

Suffice it to say that this book can be considered unique and cutting-edge based on its overall coverage of all topics related to geographic information and its focus on educating information professionals. Hopefully others will be forthcoming, whether from the librarianship profession or an allied discipline.

4.0 Conclusion

To summarize, this book is well written and well organized. It is a comprehensive look at geographic information from its many angles and aspects. The book touches on every topic necessary to understand the full range of the data cycle of GI, from details related to its creation, to the importance of metadata and preservation, to the educational components. In addition, the book importantly maintains the human factor in all of this even though computers are allowing us to do so much in the way of GI data creation, sharing, preservation, and use. The way the book is formatted is also very helpful, i.e., each chapter is like a scholarly article unto itself. There are minor glitches, but more important, it “hits its intended target,” in other words by the time one completes reading they are fully aware of the broad scope and a manageable depth of geographic information. For someone who has a solid understanding of GI metadata and a broad awareness of things such as spatial data infrastructures, I learned quite a bit myself in reading this book, for which my thanks go to the authors.

5.0 Recommendations

In closing, *Geographic Information: Organization, Access, and Use* will be most useful to students at the university level working on a degree in librarianship or the information sciences. However, and in large part due to the topic-specific arrangement of this book, middle school and high school educators can use aspects of the book to introduce the basics of map creation and use. Likewise, a range of students or researchers in other disciplines will find the book to be similarly useful within the context of one or more topics delivered.

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