GIS and Cartographic Modeling

C. Dana Tomlin
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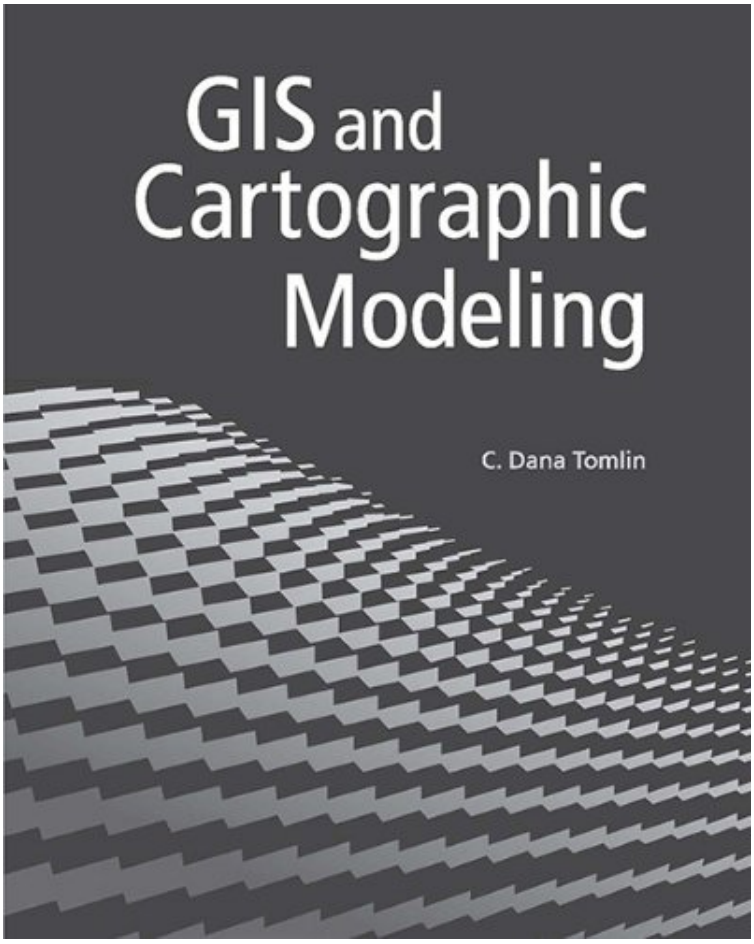

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C. Dana Tomlin : GIS and Cartographic Modeling before purchasing it in order to gage whether or not it would be worth my time, and all praised GIS and Cartographic Modeling:

16 of 16 people found the following review helpful. This is a high quality update of a classic book on spatial analysisBy R. CheethamI have been working in GIS for more than 17 years. I caught the bug in graduate school, where a brief few weeks in a plenary studio with Dana Tomlin convinced me that this was some interesting stuff about which I wanted to learn a lot more. Learning GIS from Dana Tomlin was quite a privilege. He has a unique teaching style that uses a combination of rich metaphor and creative descriptions of physical scenarios in order to describe complex concepts. It was a formative experience for me, and caused a significant shift in my career toward geospatial analysis.Dana built his academic reputation around the development of Map Algebra, a conceptual framework for processing geographic data that he originally articulated in his doctoral thesis. This work, which he referred to as "Cartographic Modeling" (Map Algebra has since become a more popular moniker) was outlined in a book released in 1990.The book itself was important, but the influence of Dana's work was enhanced by his decision to openly share the source code that demonstrated the concepts as well as a number of elegant algorithms for implementing the

computation in efficient ways. As a consequence, Map Algebra concepts and algorithms became part of every commercial and open source GIS platform that supported raster processing.When I first took a class with Dana in 1995, the book was already becoming tough to find, and there are still used copies of the Prentice Hall edition floating around, but it's been out of print for several years. So I was thrilled when I learned that Dana was going to collaborate with Esri Press to re-publish a revised version of the book. This book is the fruits of that collaboration, and I couldn't wait to crack it open.This is not just a republication - it's a significant update on the original book. Unlike many contemporary GIS books, Dana and the editors elected to eschew color illustrations in favor of the original gray-scale approach. However, every illustration and map has been redrawn, and they a wonderful compliment to the text. I think the decision to stick with gray-scale illustrations was a smart one, though I am somewhat less sanguine about the gray-scale maps; many are quite successful, but some of have only a narrow range of b/w values and the resulting lack of contrast causes them to look muddy to my eye.Dana has also retained the original data sets around the "Brown's Pond" site located near his home in western Massachusetts. By using the same site to illustrate the concepts, the chapters have a great deal of continuity, enabling the reader to focus on the material, rather than interpreting the data. The book also retains its focus on teaching and learning; each chapter ends with a series of questions to help the learner apply the material.The book ends with an appendix that describes some of the nuances of the cartographic modeling language. At this point, it is important to note that while Esri Press is publishing the book, it is not tied to Esri's ArcGIS software in any way. While every raster processing software has adopted Dana's overall modeling framework, the terminology has rarely remained intact. Esri's implementations have not been an exception, and the current set of tools in the ArcGIS Spatial Analyst extension have their own unique nomenclature and categorization system.But Esri has resisted the urge to turn this into a self-serving book that supports their own ArcGIS software platform. Rather, similar to some of the other Esri Press books that focus on foundational concepts in GIS (Semiology of Graphics and The Look of Maps come to mind), the book is aimed at all learners of GIS. Esri deserves a great deal of credit for demonstrating a generosity of spirit that compliment's Tomlin's own commitment to openly sharing his work.So regardless of the GIS platform you use, if you want to learn about spatial modeling, this book is a great place to start.0 of 0 people found the following review helpful. You should have this in your libraryBy CustomerThis is an excellent book to have in your GIS library, but I would not recommend it as an introduction to GIS.The first chapter is like a data dictionary of GIS term. Each one is defined, along with discussion of the ramifications of various implemations. It really opened my eyes to some considerations I had not thought of.The rest continues in a manner that continues to cover the ramifications of various choices.A great reference, but to dry and slow for a first GIS book.0 of 0 people found the following review helpful. The most dry technical book I have read in awhile.By SurfsupI had to read this book for a graduate class and struggled to get through it each week. The writing was extremely technical (as to be expected I suppose) and was very dry. I understand it is a very technical topic, but I have read very technical books on GIS that are not this dry. I needed to take breaks after a few paragraphs. The information was beneficial to any GIS professional, but I just feel as though the material could have been presented in a better fashion. More real world examples would have helped to drive home the information this book presented.

GIS and Cartographic Modeling is a foundational work in the field of geographic information systems (GIS). An introduction to the concepts, conventions, and capabilities of map algebra as a general language, this book describes the analytical use of raster-based GIS. By focusing on the fundamentals of cartographic modeling techniques, C. Dana Tomlin illustrates concepts that can be applied to any GIS. This publication of GIS and Cartographic Modeling contains updated graphics and a new preface.

About the AuthorC. Dana Tomlin is a professor of landscape architecture at the University of Pennsylvania School of Design and an adjunct professor of GIS at the Yale School of Forestry and Environmental Studies. He is founder and co-director of Penn's Cartographic Modeling Laboratory. Tomlin is a recipient of the Perkins and the Lindback awards for distinguished teaching.