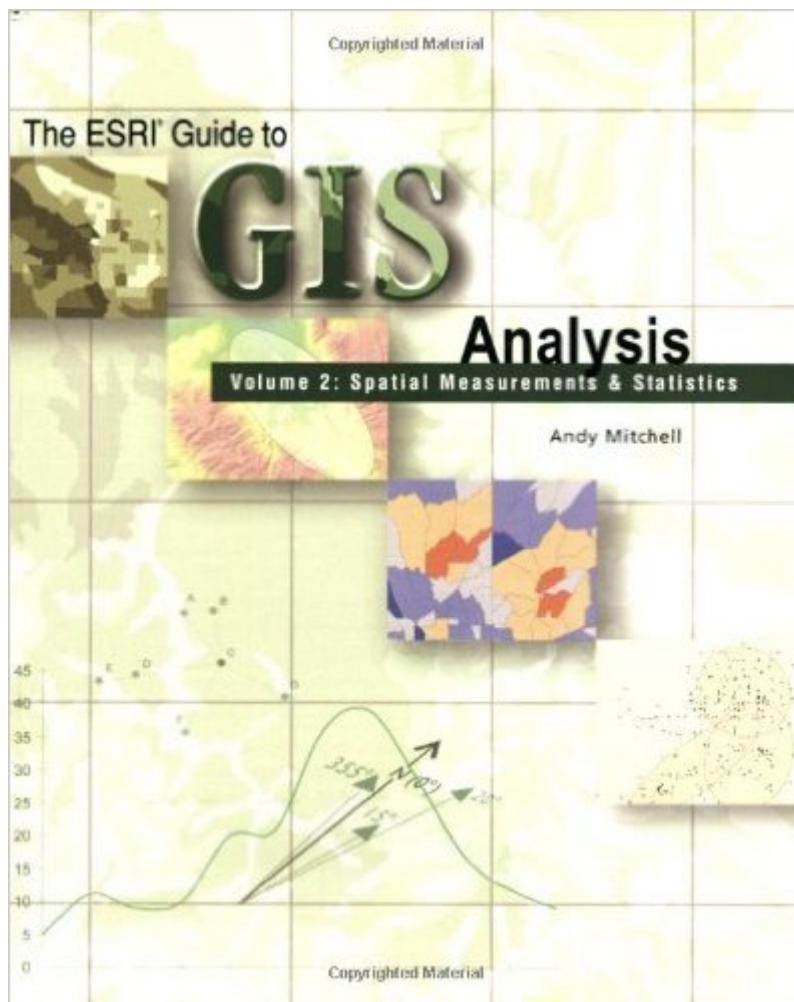


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# The Esri Guide To GIS Analysis, Volume 2: Spatial Measurements And Statistics



## **Synopsis**

Backed by the collective knowledge and experience of the world's leading Geographic Information Systems (GIS) company, the concepts and methods presented in this volume will allow users to unleash the full analytic power of their GIS. The most commonly used spatial statistical tools are described in detail along with their applications in a range of disciplines, from crime analysis to habitat conservation. GIS users will learn how features are distributed, how to analyze the pattern created by the features, and how to determine the relationships between them. Four general statistical concepts are discussed, including testing statistical significance, defining spatial neighborhoods and weights, and using statistics with spatial data. Advice on determining which statistical tool to use in a given situation is also provided.

## **Book Information**

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## **Customer Reviews**

This is definitely not a book for advanced users in spatial statistics or a tutorial-based book of how to use spatial statistics in GIS. As the author described at the very beginning, this is an introductory book for people who have used GIS but know very little about statistics. Personally, I think this book works best if you already took your intro to GIS and basic statistic class so you already know a little bit of both. It explains how two of them can work together to solve the questions you have in mind about the real world problems. Besides the complimentary approach, I give this book five stars because of 1) the writing style is extremely accessible. Even he does not go through all the details on statistics, the author explains the statistic concepts a lot better than any other books I have read

for my statistic class. 2) the graphics, including maps and charts, are extremely helpful to compare the concepts and different methods he describes in the book. 3) the comparison between different spatial statistic are very useful if you are puzzled with different spatial statistic tools available in your ArcGIS toolbox when the "Help" is not helpful at all! 4) it gives you various reference if you are interested in exploring specific topics. If you want to explore your data beyond thematic mapping and want to know whether the patterns you see are statistically significant or not, this is a book that will open the door of spatial statistic to you. If you are a visual person but hate statistics, this book might change that as well!

I was not sure if I should give this book 4 stars or 3. I first decided on 4 because the book only does not go into enough detail about difficult subjects like the null hypothesis, which is crucial to understanding everything that follows, and there were no Z-score or critical t-value tables, which would of been nice. Then as I fumbled around I found out that there are typos which further makes learning a new subject more difficult. For example on one page a symbol is written as  $Ge(d)$  and on the next page  $Gd(e)$ , or sentences are wrong like, "...subtracts the value of each feature from the mean..." and two sentences later it says, "...the mean is subtracted from the value of the feature...". Hmm. The book needs reworking. Because of the typos problem, I settled on 3 stars. Nevertheless, it is an important source about an important subject, and i would recommend it. I just hope the author revisits it and expands it a little more, removes the typos and adds some statistical tables in the back.

This book provides a useful introduction to the concepts of measuring spatial distributions, identifying patterns and clusters, and identifying patterns. There is the basic information about how to identify geographic centers with mean and median, and general statistical distributions and tests of significance. The section on identifying clusters was good, but the nearest neighbor hierarchical clustering is only available in Crime stat. One disappointing thing about this book from ESRI, is there is not a mention of what specific ArcGIS toolbox item can be used to generate the statistic. It was also not always clear what analysis made sense for lines, polygons or points. A further discussion of raster analysis and the connection between measures of mean, and some of the raster neighborhood statistics would have been useful. .

Spatial statistics can be a very cumbersome topic, but Mitchell goes through it in a good, linear fashion. I don't need to know the mathematics behind the statistical methods (although he provides

them) I instead want to know when and how the tools are applied. Even though this is an ESRI book, several of the topics he discusses are actually not available in ArcGIS. It also falls short of showing how to run any particular software package, but that makes it more universal for study with other software. Now it has the added benefit of having a tutorial book that follows it chapter by chapter ... including the ESRI Guide to GIS Analysis Vol 2. The book is GIS Tutorial II, and you can order it and both Mitchell books bundled into a special price! GIS Tutorial II: Spatial Analysis Workbook for version 9.3 and GIS Tutorial 2: Spatial Analysis Workbook for version 10.

Excellent, simple, reference book for GIS analysis. If you are a beginner with GIS analysis this book is ideal, at the same time, if you use more advanced methods, but are not constantly using the technology you will definitely want this as a reference. When in doubt with more complicated methodology, go back to the basics with this book. I lost it and got it again, this is how useful I think it is.

Although the book gives nice examples on ways to analyze spatial data, this ESRI book lacks specifics on how to do this in their base software or extensions. Documentation for CrimeStat by Ned Levine and Associates explains spatial analysis better, is free and is cited in this book. The documentation for CrimeStat is also better.

It is an OK reference book, but I often end up google searching stuff that I know I've read because it is hard to find again with the format of the book. Index does an OK job, but not very specific. Professor switched to this book for our class and seems to still reference the other book she's previously used more than she does this one, so perhaps not a complete book of analysis techniques.

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