Spatial Analysis: Statistics, Visualization, and Computational Methods

By Tonny J. Oyana, Florence Margai

Spatial Analysis: Statistics, Visualization, and Computational Methods By Tonny J. Oyana, Florence Margai

An introductory text for the next generation of geospatial analysts and data scientists, **Spatial Analysis: Statistics, Visualization, and Computational Methods** focuses on the fundamentals of spatial analysis using traditional, contemporary, and computational methods. Outlining both non-spatial and spatial statistical concepts, the authors present practical applications of geospatial data tools, techniques, and strategies in geographic studies. They offer a problem-based learning (PBL) approach to spatial analysis—containing hands-on problem-sets that can be worked out in MS Excel or ArcGIS—as well as detailed illustrations and numerous case studies.

The book enables readers to:

- Identify types and characterize non-spatial and spatial data
- Demonstrate their competence to explore, visualize, summarize, analyze, optimize, and clearly present statistical data and results
- Construct testable hypotheses that require inferential statistical analysis
- Process spatial data, extract explanatory variables, conduct statistical tests, and explain results
- Understand and interpret spatial data summaries and statistical tests

Spatial Analysis: Statistics, Visualization, and Computational Methods incorporates traditional statistical methods, spatial statistics, visualization, and computational methods and algorithms to provide a concept-based problem-solving learning approach to mastering practical spatial analysis. Topics covered include: spatial descriptive methods, hypothesis testing, spatial regression, hot spot analysis, geostatistics, spatial modeling, and data science.

Spatial Analysis: Statistics, Visualization, and Computational Methods

By Tonny J. Oyana, Florence Margai

Spatial Analysis: Statistics, Visualization, and Computational Methods By Tonny J. Oyana, Florence Margai

An introductory text for the next generation of geospatial analysts and data scientists, **Spatial Analysis: Statistics, Visualization, and Computational Methods** focuses on the fundamentals of spatial analysis using traditional, contemporary, and computational methods. Outlining both non-spatial and spatial statistical concepts, the authors present practical applications of geospatial data tools, techniques, and strategies in geographic studies. They offer a problem-based learning (PBL) approach to spatial analysis—containing hands-on problem-sets that can be worked out in MS Excel or ArcGIS—as well as detailed illustrations and numerous case studies.

The book enables readers to:

- Identify types and characterize non-spatial and spatial data
- Demonstrate their competence to explore, visualize, summarize, analyze, optimize, and clearly present statistical data and results
- Construct testable hypotheses that require inferential statistical analysis
- Process spatial data, extract explanatory variables, conduct statistical tests, and explain results
- Understand and interpret spatial data summaries and statistical tests

Spatial Analysis: Statistics, Visualization, and Computational Methods incorporates traditional statistical methods, spatial statistics, visualization, and computational methods and algorithms to provide a concept-based problem-solving learning approach to mastering practical spatial analysis. Topics covered include: spatial descriptive methods, hypothesis testing, spatial regression, hot spot analysis, geostatistics, spatial modeling, and data science.

Spatial Analysis: Statistics, Visualization, and Computational Methods By Tonny J. Oyana, Florence Margai Bibliography

- Sales Rank: #1154181 in eBooks
- Published on: 2015-07-28
- Released on: 2015-07-28
- Format: Kindle eBook

Download and Read Free Online Spatial Analysis: Statistics, Visualization, and Computational Methods By Tonny J. Oyana, Florence Margai

Editorial Review

Review

"Spatial analysis is at the core of quantitative geography and geographic information systems (GIS). Oyana and Margai effectively explain the foundation of spatial analysis and progressively lead readers ways to apply fundamental and advanced methods for geographic problem solving. The book provides a good balance between concepts and practicums of spatial statistics with a comprehensive coverage of the most important approaches to understand spatial data, analyze spatial relationships and spatial patterns, and predict spatial processes. The book will be an excellent textbook for undergraduate courses in quantitative geography or spatial analysis. Graduate students new to geospatial sciences will also find the book useful for self-study."
?May Yuan, University of Texas at Dallas

"Right from the first page this book reads differently. It's not only the writing style which is so different from your run-of-the-mill dry statistical textbook but also the combination of theoretical presentations with study questions and challenge assignments, making the reading so much more enjoyable while forcing the reader to pause and reflect on the content of each Chapter. Another feature of this book is its breadth, encompassing the analysis of point, areal and geostatistical data before ending with a short chapter devoted to the hot topic of Big data, including data management and data mining. The illustration of different concepts using data from environmental and social sciences adds to the general appeal of the presentation. Tonny and Florence must be commended for writing a textbook that should make spatial analysis more accessible to geographers!"
?Pierre Goovaerts, BioMedware, Inc, PGeostat, LLC, University of Florida

About the Author

Dr. Tonny J. Oyana received his Ph.D and his postdoctoral training from the University of Buffalo, New York, USA. He is currently the director of spatial analytics and informatics, Research Center for Health Disparities, Equity, and the Exposome; and a professor of spatial information systems in the Department of Preventive Medicine at the University of Tennessee Health Science Center, Knoxville, USA. His research focuses on establishing the relationship between environmental health and exposure; advancing GIS methods, algorithm design, and spatial analytical methods; and understanding the factors that contribute toward land systems change. In addition, he has authored more than 80 scientific works.

Dr. Florence M. Margai (now deceased) was a professor in the Department of Geography at Binghamton University, New York, USA, where she taught courses that reflected her areas of specialization: advanced statistics, environmental health hazards, health disparities, and environmental analysis using geospatial and visualization technologies. She also served as the associate dean of Harpur College of Arts and Sciences, Vestal, New York, USA. Margai obtained her Ph.D from Kent State University, Ohio, USA, and worked with nonprofit organizations to assist in the geographic targeting of vulnerable population groups for disease intervention and health promotional campaigns, sustainability, and capacity development initiatives.

Users Review

From reader reviews:

Yasmin Parker:

Have you spare time for a day? What do you do when you have much more or little spare time? That's why, you can choose the suitable activity with regard to spend your time. Any person spent their very own spare time to take a go walking, shopping, or went to the actual Mall. How about open or perhaps read a book titled Spatial Analysis: Statistics, Visualization, and Computational Methods? Maybe it is for being best activity for you. You already know beside you can spend your time with your favorite's book, you can cleverer than before. Do you agree with it has the opinion or you have other opinion?

Derek Wire:

This Spatial Analysis: Statistics, Visualization, and Computational Methods are generally reliable for you who want to be a successful person, why. The reason why of this Spatial Analysis: Statistics, Visualization, and Computational Methods can be one of many great books you must have is definitely giving you more than just simple looking at food but feed a person with information that possibly will shock your previous knowledge. This book will be handy, you can bring it everywhere you go and whenever your conditions at e-book and printed kinds. Beside that this Spatial Analysis: Statistics, Visualization, and Computational Methods giving you an enormous of experience such as rich vocabulary, giving you test of critical thinking that we all know it useful in your day pastime. So , let's have it and revel in reading.

Mary Perez:

This Spatial Analysis: Statistics, Visualization, and Computational Methods is great book for you because the content that is certainly full of information for you who all always deal with world and get to make decision every minute. This specific book reveal it information accurately using great plan word or we can say no rambling sentences included. So if you are read the item hurriedly you can have whole facts in it. Doesn't mean it only will give you straight forward sentences but tricky core information with wonderful delivering sentences. Having Spatial Analysis: Statistics, Visualization, and Computational Methods in your hand like obtaining the world in your arm, info in it is not ridiculous 1. We can say that no guide that offer you world throughout ten or fifteen moment right but this e-book already do that. So , this really is good reading book. Heya Mr. and Mrs. active do you still doubt in which?

Carol Anthony:

As a college student exactly feel bored to reading. If their teacher requested them to go to the library or even make summary for some guide, they are complained. Just tiny students that has reading's internal or real their pastime. They just do what the educator want, like asked to go to the library. They go to at this time there but nothing reading seriously. Any students feel that reading through is not important, boring along with can't see colorful pics on there. Yeah, it is for being complicated. Book is very important in your case. As we know that on this period of time, many ways to get whatever you want. Likewise word says, many ways to reach Chinese's country. So , this Spatial Analysis: Statistics, Visualization, and Computational Methods can

make you really feel more interested to read.

Download and Read Online Spatial Analysis: Statistics, Visualization, and Computational Methods By Tonny J. Oyana, Florence Margai #FERZWCD9BQ0

Read Spatial Analysis: Statistics, Visualization, and Computational Methods By Tonny J. Oyana, Florence Margai for online ebook

Spatial Analysis: Statistics, Visualization, and Computational Methods By Tonny J. Oyana, Florence Margai Free PDF d0wnl0ad, audio books, books to read, good books to read, cheap books, good books, online books, books online, book reviews epub, read books online, books to read online, online library, greatbooks to read, PDF best books to read, top books to read Spatial Analysis: Statistics, Visualization, and Computational Methods By Tonny J. Oyana, Florence Margai books to read online.

Online Spatial Analysis: Statistics, Visualization, and Computational Methods By Tonny J. Oyana, Florence Margai ebook PDF download

Spatial Analysis: Statistics, Visualization, and Computational Methods By Tonny J. Oyana, Florence Margai Doc

Spatial Analysis: Statistics, Visualization, and Computational Methods By Tonny J. Oyana, Florence Margai Mobipocket

Spatial Analysis: Statistics, Visualization, and Computational Methods By Tonny J. Oyana, Florence Margai EPub

FERZWCD9BQ0: Spatial Analysis: Statistics, Visualization, and Computational Methods By Tonny J. Oyana, Florence Margai