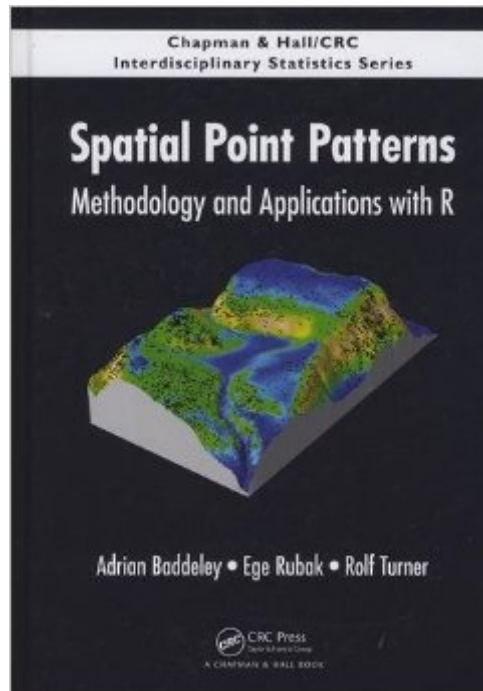# Spatial Point Patterns: Methodology And Applications With R (Chapman & Hall/CRC Interdisciplinary Statistics)

# Synopsis

Modern Statistical Methodology and Software for Analyzing Spatial Point Patterns Spatial Point Patterns: Methodology and Applications with R shows scientific researchers and applied statisticians from a wide range of fields how to analyze their spatial point pattern data. Making the techniques accessible to non-mathematicians, the authors draw on their 25 years of software development experiences, methodological research, and broad scientific collaborations to deliver a book that clearly and succinctly explains concepts and addresses real scientific questions. Practical Advice on Data Analysis and Guidance on the Validity and Applicability of Methods  The first part of the book gives an introduction to R software, advice about collecting data, information about handling and manipulating data, and an accessible introduction to the basic concepts of point processes. The second part presents tools for exploratory data analysis, including non-parametric estimation of intensity, correlation, and spacing properties. The third part discusses model-fitting and statistical inference for point patterns. The final part describes point patterns with additional "structure," such as complicated marks, space-time observations, three- and higher-dimensional spaces, replicated observations, and point patterns constrained to a network of lines. Easily Analyze Your Own Data  Throughout the book, the authors use their spatstat package, which is free, open-source code written in the R language. This package provides a wide range of capabilities for spatial point pattern data, from basic data handling to advanced analytic tools. The book focuses on practical needs from the userâ ™s perspective, offering answers to the most frequently asked questions in each chapter.

# Book Information

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Baddeley, Rubak and Turner had the capability to explain and illustrated the theory, math, principles and applications of spatial point pattern analysis in such way that people in different disciplines have the capability to grasp all this information and applied into their own fields. Their contribution goes beyond the theoretical background, it is supported by the spatstat package. The book is well organized, the reader would find background, examples and implementation. Even for people who is not fully comfortable with R. Go to the book's website to find few corrections in the text and full code.

Best book in the field of the point pattern.

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