

'Quantitative Geography: The Basics delivers exactly what the title promises. An engaging overview of the field that makes a strong case that all geographers can and should be exposed to statistical methods, if they are to fully engage with the contemporary discipline, and to participate effectively in wider, number-saturated, public debates.'

**David O'Sullivan, Associate Professor of Geography,
Berkeley, University of California**

'This important book makes a compelling case for why fluency with data, its collection, analysis and interpretation, is essential for geographers and geography today. It is relevant for all students whether interested in social, cultural or economic geography, or hydrology, geomorphology or biogeography. This is a valuable addition to any introductory undergraduate geography reading list.'

**Catherine Souch, Head of Research and Higher Education,
Royal Geographical Society**


Numerical data are everywhere. Charts and statistics appear not just in geography journals but also in the media, in public policy, and in business and commerce too. To engage with quantitative geography, we must engage with the quantitative methods used to collect, analyse, present and interpret these data.

Quantitative Geography: The Basics is the perfect introduction for undergraduates beginning any quantitative methods course. Written in short, user-friendly chapters with full-colour diagrams, the book guides the reader through a wide range of topics from the basic to the more advanced, including:

- Statistics
- Maths
- Graphs and Visualisations
- Statistical Modelling
- Mapping and GIS
- Computing (in R)

Closely aligned with the Q-Step quantitative social science programme, **Quantitative Geography: The Basics** is the ideal starting point for understanding and exploring this fundamental area of Geography.

Richard Harris is Professor of Quantitative Social Geography at the University of Bristol.

 **SAGE** www.sagepublishing.com
Los Angeles | London | New Delhi | Singapore | Washington DC | Melbourne



Cover design by Stephanie Guyaz

List of Figures	ix
List of Tables	xvi
About the Author	xviii
Preface	xix

PART 1: ABOUT QUANTITATIVE GEOGRAPHY **1**

1 Introducing Quantitative Geography	3
2 The Use and Abuse of Statistics	14

PART 2: FOUNDATIONS OF QUANTITATIVE GEOGRAPHY **29**

3 Principles of Statistics (or, How Statistics Work)	31
4 Some Maths and Notation	47
5 Descriptive and Inferential Statistics	75
6 Statistical Testing, Statistical Significance and Why They Are Contentious	96

PART 3: DOING QUANTITATIVE GEOGRAPHY **113**

7 Data Presentation and Graphics	115
8 Mapping and GIS	145
9 Looking at Relationships and Creating Models	169
10 Multiple regression and geography	192

11	Analysing Geographical Patterns and Differences	218
12	An Introduction to R	250
	Postscript	287
	References	289
	Index	297