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Nota di contenuto	Exploring Spatial Scale in Geography; Contents; Preface; Acknowledgements; About the Companion Website; 1 Introduction; 1.1 The purpose of the book; 1.1.1 What this book adds; 1.1.2 Scales of analysis and alternative definitions; 1.3 Case studies and examples; 1.4 Why is spatial scale important?; 1.5 Structure of the book; 1.6 Further reading; References; 2 Scale in Spatial Data Analysis: Key Concepts; 2.1 Definitions of spatial scale; 2.2 Spatial autocorrelation and spatial dependence; 2.3 Scale dependence; 2.4 Scale and data models; 2.5 Spatial scales of inquiry 2.6 Scale and spatial data analysis2.7 Scale and neighbourhoods; 2.8 Scale and space; 2.9 Scale, spatial data analysis and physical processes; 2.10 Scale, spatial data analysis and social processes; 2.11 Summary; 2.12 Further reading; References; 3 The Modifiable Areal Unit Problem; 3.1 Basic concepts; 3.2 Scale and zonation effects; 3.3 The ecological fallacy; 3.4 The MAUP and univariate statistics; 3.4.1 Case study: segregation in Northern Ireland; 3.4.2 Spatial approaches to segregation; 3.5 Geographical weighting and the MAUP; 3.6 The MAUP and multivariate statistics

3.6.1 Case study: population variables in Northern Ireland 3.7 Zone design; 3.8 Summary; 3.9 Further reading; References; 4 Measuring Spatial Structure; 4.1 Basic concepts; 4.2 Measures of spatial autocorrelation; 4.2.1 Neighbourhood size; 4.2.2 Spatial autocorrelation and kernel size; 4.2.3 Spatial autocorrelation and lags; 4.2.4 Local measures; 4.2.5 Global and local and spatial scale; 4.3 Geostatistics and characterising spatial structure; 4.3.1 The theory of regionalised variables; 4.4 The variogram; 4.4.1 Bias in variogram estimation; 4.5 The covariance function and correlogram 4.6 Alternative measures of spatial structure 4.7 Measuring dependence between variables; 4.8 Variograms of risk; 4.9 Variogram clouds and h-scatterplots; 4.10 Variogram models; 4.11 Fitting variogram models; 4.12 Variogram case study; 4.12 Variogram case study; 4.13 Anisotropy and variograms; 4.13.1 Variogram surfaces; 4.13.2 Geometric and zonal anisotropy; 4.14 Variograms and non-stationarity; 4.14.1 Variograms and long-range trends; 4.14.2 Variogram non-stationarity; 4.15 Space-time variograms; 4.16 Software; 4.17 Other methods; 4.18 Point pattern analysis 4.18.1 Spatial dependence and point patterns 4.18.2 Local function; 4.18.3 Cross function; 4.19 Summary; 4.20 Further reading; References; 5 Scale and Multivariate Data; 5.1 Regression frameworks; 5.2 Spatial scale and regression; 5.3 Global regression; 5.4 Spatial regression; 5.5 Regression and spatial data; 5.5.1 Generalised least squares; 5.5.2 Spatial autoregressive models; 5.5.3 Spatially lagged dependent variable models and spatial error models case study; 5.6 Local regression and spatial scale; 5.6.1 Spatial expansion method; 5.6.2 Geographically weighted regression; 5.6.3 Scale and GWR 5.6.4 GWR case study: fixed bandwidths

Sommario/riassunto

Exploring Spatial Scale in Geography provides a conceptual and practical guide to issues of spatial scale in all areas of the physical and social sciences. Scale is at the heart of geography and other spatial sciences. Whether dealing with geomorphological processes, population movements or meteorology, a consideration of spatial scale is vital. Exploring Spatial Scale in Geography takes a practical approach with a core focus on real world problems and potential solutions. Links are made to appropriate software environments with an associated website providing access to guidance