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Nota di contenuto	Cover; Statistics in Practice; Title Page; Copyright; Preface; Contributing authors; Part I: Methodology; Chapter 1: Introduction; 1.1 What is a Trend?; 1.2 Why Analyse Trends?; 1.3 Some Simple Examples; 1.4 Considerations and Difficulties; 1.5 Scope of the Book; 1.6 Further Reading; References; Chapter 2: Exploratory Analysis; 2.1 Data Visualisation; 2.2 Simple Smoothing; 2.3 Linear Filters; 2.4 Classical Test Procedures; 2.5 Concluding Comments; References; Chapter 3: Parametric Modelling-Deterministic Trends; 3.1 The Linear Trend; 3.2 Multiple Regression Techniques 3.3 Violations of Assumptions3.4 Nonlinear Trends; 3.5 Generalised Linear Models; 3.6 Inference with Small Samples; References; Chapter 4: Nonparametric Trend Estimation; 4.1 An Introduction to Nonparametric Regression; 4.2 Multiple Covariates; 4.3 Other Nonparametric Estimation Techniques; 4.4 Parametric or Nonparametric?; References; Chapter 5: Stochastic Trends; 5.1 Stationary Time Series Models and Their Properties; 5.2 Trend Removal via Differencing; 5.3 Long Memory Models; 5.4 Models for Irregularly Spaced Series; 5.5 State Space and Structural Models; 5.6 Nonlinear Models; References Chapter 6: Other Issues6.1 Multisite Data; 6.2 Multivariate Series; 6.3 Point Process Data; 6.4 Trends in Extremes; 6.5 Censored Data;

References; Part II: Case Studies; Chapter 7: Additive Models for Sulphur Dioxide Pollution in Europe; 7.1 Introduction; 7.2 Additive Models with Correlated Errors; 7.3 Models for the SO<sub>2</sub> Data; 7.4 Conclusions; 7.5 Acknowledgement; References; Chapter 8: Rainfall Trends in Southwest Western Australia; 8.1 Motivation; 8.2 The Study Region; 8.3 Data Used in the Study; 8.4 Modelling Methodology; 8.5 Results; 8.6 Summary and Conclusions; References  
Chapter 9: Estimation of Common Trends for Trophic Index Series9.1 Introduction; 9.2 Data Exploration; 9.3 Common Trends and Additive Modelling; 9.4 Dynamic Factor Analysis to Estimate Common Trends; 9.5 Discussion; 9.6 Acknowledgement; References; Chapter 10: A Space-Time Study on Forest Health; 10.1 Forest Health: Survey and Data; 10.2 Regression Models for Longitudinal Data with Ordinal Responses; 10.3 Spatiotemporal Models; 10.4 Spatiotemporal Modelling and Analysis of Forest Health Data; 10.5 Acknowledgements; References; Index; Statistics in Practice

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### Sommario/riassunto

"Statistical methodology itself has made some significant developments in areas that are highly relevant to the problems faced by environmentalists; thus this book fills a gap in the market in which there is currently a lot of interest. Split into two parts, part 1 - Theory and methods - introduces the basis for and scope of the book, and covers amongst others the chief topics of exploratory analysis, non-parametric estimation and testing, and parametric modeling. Part 2 - Case Studies - introduces a number of co-authors, specialists in their own areas of environmental science, to illustrate the application of the theory and methods in practice. The accompanying website develops the practical aspects raised in the book, and provides a useful complementary tool."--Provided by publisher.

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