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Nota di bibliografia	Includes bibliographical references (p. 271-294) and indexes.
Nota di contenuto	Using Statistical Methods for Water Quality Management; Contents; List of Figures; List of Figures; List of Tables; List of Tables; Preface; Part I Issues; 1 Introduction; 1.1 Conventions; 1.2 The essentials; 1.3 Meeting management's information needs; 1.4 Water quality observations as random variables; 1.5 Samples and populations; 1.6 Special characteristics of water quality data; Accurate observations are both precise and unbiased; 1.7 Data analysis protocols; 2 Basic concepts of probability and statistics; 2.1 Probability rules; 2.2 Representing data; 2.2.1 Types of data 2.2.2 Frequency, bar graph, and histogram Most probable number (MPN) data for shellfish-growing waters; 2.2.3 Describing the distribution of probability; Bar graph of MPN data; 2.2.4 Discrete versus continuous data; Cumulative distribution function of MPN data; 2.2.5 Summary statistics; Summary of terms for sample data; Summary of terms for populations; 2.3 Exploratory and graphical methods; Symmetry and skewness; Lowess fit through data for the Ngakaroa Stream; 2.4 Important distributions; Boxplot for somatic coliphage in recreational waters; 2.5 Continuous distributions

2.5.1 Normal distribution Probability density function (pdf) for the unit normal distribution; Cumulative distribution function (CDF) for the unit normal distribution; 2.5.2 Lognormal distribution; 2.5.3 Gamma distribution; Normal and lognormal probability density functions; 2.5.4 Beta distribution; A variety of shapes for the pdf of the two-parameter gamma distribution; 2.6 Discrete distributions; 2.6.1 Binomial distribution; A variety of shapes for the pdf of the two-parameter beta distribution; Probability mass functions for three common discrete distributions; 2.6.2 Poisson distribution  
2.6.3 Negative binomial distribution 2.6.4 Hypergeometric distribution; 2.6.5 Multinomial distribution; 2.7 Sampling distributions; 2.7.1 Student's t-distribution; 2.7.2 Chi-square distribution; Student t-distributions and the unit normal distribution; 2.7.3 F-distribution; 2.8 Statistical tables; Probability density functions for the  $\chi^2$ - and F-distributions; Five possibilities for reporting areas under the t-distribution; 2.9 Correlation and measures thereof; Possible linear correlations; 2.10 Statistical models and model parameters; 2.11 Serial correlation, seasonality, trend, and scale  
2.11.1 Effect of serial correlation Field Raynes effluent suspended solids data and serial correlation structure; 2.12 Regression; 2.12.1 Applications to water quality; 2.12.2 Nonparametric regression; 2.13 Estimating model parameters; 2.13.1 Point versus interval estimation; 2.13.2 Interval estimates; 2.13.3 Bias; 2.13.4 Percentiles; Problems; Appendix: Conditional probabilities-The Monty Hall dilemma; 3 Intervals; 3.1 Confidence intervals; 3.1.1 For means; Geometric mean confidence limits as a function of sample size; 3.1.2 For prediction; "Error bars"; 3.1.3 For percentiles  
Prediction intervals and confidence intervals for linear regression

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## Sommario/riassunto

STATISTICS IN PRACTICE A practical exploration of alternative approaches to analyzing water-related environmental issues Written by an experienced environmentalist and recognized expert in the field, this text is designed to help water resource managers and scientists to formulate, implement, and interpret more effective methods of water quality management. After presenting the basic foundation for using statistical methods in water resource management, including the use of appropriate hypothesis test procedures and some rapid calculation procedures, the author offers a range of pract

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