
Table of Contents

- 1 Environmental Problems and Statistics
- 2 A Brief Review of Statistics
- 3 Plotting Data
- 4 Smoothing Data
- 5 Seeing the Shape of a Distribution
- 6 External Reference Distributions
- 7 Using Transformations
- 8 Estimating Percentiles
- 9 Accuracy, Bias, and Precision of Measurements
- 10 Precision of Calculated Values
- 11 Laboratory Quality Assurance
- 12 Fundamentals of Process Control Charts
- 13 Specialized Control Charts
- 14 Limit of Detection
- 15 Analyzing Censored Data
- 16 Comparing a Mean with a Standard
- 17 Paired t -Test for Assessing the Average of Differences
- 18 Independent t -Test for Assessing the Difference of Two Averages
- 19 Assessing the Difference of Proportions
- 20 Multiple Paired Comparisons of k Averages

21	Tolerance Intervals and Prediction Intervals
22	Experimental Design
23	Sizing the Experiment
24	Analysis of Variance to Compare k Averages
25	Components of Variance
26	Multiple Factor Analysis of Variance
27	Factorial Experimental Designs
28	Fractional Factorial Experimental Designs
29	Screening of Important Variables
30	Analyzing Factorial Experiments by Regression
31	Correlation
32	Serial Correlation
33	The Method of Least Squares
34	Precision of Parameter Estimates in Linear Models
35	Precision of Parameter Estimates in Nonlinear Models
36	Calibration
37	Weighted Least Squares
38	Empirical Model Building by Linear Regression
39	The Coefficient of Determination, R^2
40	Regression Analysis with Categorical Variables
41	The Effect of Autocorrelation on Regression
42	The Iterative Approach to Experimentation
43	Seeking Optimum Conditions by Response Surface Methodology

- 44 Designing Experiments for Nonlinear Parameter Estimation
- 45 Why Linearization Can Bias Parameter Estimates
- 46 Fitting Models to Multiresponse Data
- 47 A Problem in Model Discrimination
- 48 Data Adjustment for Process Rationalization
- 49 How Measurement Errors Are Transmitted into Calculated Values
- 50 Using Simulation to Study Statistical Problems
- 51 Introduction to Time Series Modeling
- 52 Transfer Function Models
- 53 Forecasting Time Series
- 54 Intervention Analysis
- Appendix — Statistical Tables