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Nota di contenuto	QUANTITATIVE ENVIRONMENTAL RISK ANALYSIS FOR HUMAN HEALTH; CONTENTS; Preface; 1 Introduction; 1.1 Risk Analysis; 1.2 Risk; 1.3 Contaminants in the Environment; 1.4 Uses of Environmental Risk Assessment; 1.5 Risk Assessment Process; References; Additional Reading; Problems; 2 Fundamental Aspects of Environmental Modeling; 2.1 Introduction; 2.2 Modeling Process; 2.3 Physical and Mathematical Basis for Risk Assessment Models; 2.4 Contaminant Transport Equation; References; Problems; 3 Release Assessment; 3.1 Introduction; 3.2 Conceptual Model; 3.3 Contaminant Identification 3.4 Emission-Rate QuantificationReferences; Additional Reading; Problems; 4 Environmental Transport Theory; 4.1 Introduction; 4.2 One-Dimensional Solutions of the Contaminant Transport Equation; 4.3 Three-Dimensional Contaminant Transport; 4.4 Advanced Solution Methods; References; Additional Reading; Problems; 5 Surface Water Transport; 5.1 Introduction; 5.2 Types of Surface Water Bodies; 5.3

Sorption; 5.4 Transport Modeling; References; Additional Reading; Problems; 6 Groundwater Transport; 6.1 Introduction; 6.2 Subsurface Characterization; 6.3 Saturated Flow in Porous Media; 6.4 Sorption 6.5 Subsurface Contaminant Transport Modeling6.6 Other Considerations in Groundwater Transport; References; Additional Reading; Problems; 7 Atmospheric Transport; 7.1 Introduction; 7.2 Atmospheric Dispersion; 7.3 Atmospheric Transport Models; 7.4 Other Considerations; References; Additional Reading; Problems; 8 Food Chain Transport; 8.1 Introduction; 8.2 Concentration in Soil; 8.3 Concentration in Vegetation; 8.4 Concentration in Animals; References; Problems; 9 Exposure Assessment; 9.1 Introduction; 9.2 Dose; 9.3 Contaminant Intake; 9.4 Dose Calculations; References; Problems 10 Basic Human Toxicology10.1 Introduction; 10.2 Fundamentals of Anatomy and Physiology; 10.3 Mechanisms and Effects of Toxicity; References; Additional Reading; Problems; 11 Dose-Response and Risk Characterization; 11.1 Introduction; 11.2 Biological Basis of Dose-Response Modeling; 11.3 Elements of Quantitative Dose-Response Analysis; 11.4 Dose-Response Modeling; 11.5 Risk Characterization; 11.6 Regulatory Implementation; References; Additional Reading; Problems; 12 Uncertainty and Sensitivity Analyses; 12.1 Introduction; 12.2 Types and Sources of Uncertainty; 12.3 Statistical Fundamentals 12.4 Uncertainty PropagationReferences; Problems; 13 Stakeholder Involvement and Risk Communication; 13.1 Introduction; 13.2 Stakeholder Involvement; 13.3 Risk Communication; References; Problems; 14 Environmental Risk Management; 14.1 Introduction; 14.2 Risk Management Process; 14.3 Risk Management Methods; References; Problems; 15 Environmental Laws and Regulations; 15.1 Introduction; 15.2 General Legal and Regulatory Structure for Environmental Protection; 15.3 Major Federal Environmental Laws and Regulations; 15.4 CERCLA Process; 15.5 Additional Regulations; References; Problems
Appendix A Mathematical Tools

Sommario/riassunto

A COMPREHENSIVE TEXTBOOK AND REFERENCE FOR QUANTITATIVE ENVIRONMENTAL RISK ANALYSIS FOR BOTH CHEMICAL AND RADIOACTIVE CONTAMINANTS Environmental risk analysis is complex and interdisciplinary; this book explains the fundamental concepts and analytical methods in each essential discipline. With an emphasis on concepts and applications of quantitative tools plus coverage of analysis of both chemical and radioactive contaminants, this is a comprehensive resource. After an introduction and an overview of the basics of environmental modeling, the book covers key elements in environmental
