

An Introduction to Water Quality Modelling

Second Edition

Edited by

A. James
*Department of Civil Engineering
University of Newcastle upon Tyne, UK*

66/81974



JOHN WILEY & SONS
Chichester • New York • Brisbane • Toronto • Singapore

F 6784

Contents

List of Contributors	vi
Preface to First Edition	ix
Preface to Second Edition	xi
Chapter 1 Simulation <i>A. James</i>	1
Chapter 2 Introduction to Computing <i>A. James and S. Markham</i>	19
Chapter 3 Introduction to Numerical Methods <i>D. J. Elliott</i>	31
Chapter 4 Time Series <i>A. James</i>	61
Chapter 5 Modelling the Fate of Pollutants in Natural Waters—Processes and Mechanisms <i>A. James</i>	79
Chapter 6 Kinetic Modelling and Statistics <i>P. M. Berthouex</i>	115
Chapter 7 Models of Water Quality in Rivers <i>A. James and D. J. Elliott</i>	141
Chapter 8 Models of Water Quality in Estuaries <i>A. James and D. J. Elliott</i>	183

Chapter 9 Modelling Water Quality in Lakes and Reservoirs <i>A. James</i>	233
Chapter 10 Groundwater Modelling <i>R. Mackay and M. S. Riley</i>	261
Chapter 11 Modelling of Sewage Outfalls in the Marine Environment <i>S. Markham</i>	293
Index	309