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6.4 Laser Fluorosensors; 6.5 Microwave Sensors; 6.6 Slick Thickness Determination; 6.7 Acoustic Systems; 6.8 Integrated Airborne Sensor Systems; 6.9 Satellite Remote Sensing; 6.10 Oil under Ice Detection; 6.11 Underwater Detection and Tracking; 6.12 Small Remote-controlled Aircraft; 6.13 Real-time Displays and Printers; 6.14 Routine Surveillance; 6.15 Future Trends; 6.16 Recommendations; References; Chapter 7 Laser Fluorosensors; 7.1 Principles of Operation; 7.2 Oil Classification; 7.3 Existing Operational Units; 7.4 Aircraft Requirements; 7.5 Cost Estimates; 7.6 Conclusions; References Part IV -Behaviour of Oil in the Environment and Spill Modeling Chapter 8 Introduction to Spill Modeling; 8.1 Introduction; 8.2 An Overview of Weathering; 8.3 Movement of Oil and Oil Spill Modeling; References; Chapter 9 Evaporation Modeling; 9.1 Introduction; 9.2 Review of Theoretical Concepts; 9.3 Development of New Diffusion-Regulated Models; 9.4 Complexities to the Diffusion-Regulated Model; 9.5 Use of Evaporation Equations in Spill Models; 9.6 Comparison of Model Approaches; 9.7 Summary; References; Chapter 10 Models for Water-in-Oil Emulsion Formation; 10.1 Introduction 10.2 Early Modeling of Emulsification 10.3 First Two Model Developments; 10.4 New Model Development; 10.5 Development of an Emulsion Kinetics Estimator; 10.6 Discussion; 10.7 Conclusions; References; Chapter 11 Oil Spill Trajectory Forecasting Uncertainty and Emergency Response; 11.1 Introduction: The Importance of Forecast Uncertainty; 11.2 The Basics of Oil Spill Modeling; 11.3 Trajectory Model Uncertainties; 11.4 Trajectory Forecast Verification; 11.5 Summary and Conclusions; References; Part V -Physical Spill Countermeasures on Water; Chapter 12 Physical Spill Countermeasures 12.1 Containment on Water

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### Sommario/riassunto

The National Academy of Sciences estimate that 1.7 to 8.8 million tons of oil are released into world's water every year, of which more than 70% is directly related to human activities. The effects of these spills are all too apparent: dead wildlife, oil covered marshlands and contaminated water chief among them. This reference will provide scientists, engineers and practitioners with the latest methods use for identify and eliminating spills before they occur and develop the best available techniques, equipment and materials for dealing with oil spills in every environment. Topics covered inc

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