

1. Record Nr.	UNINA9910784608303321
Autore	Waring Richard H
Titolo	Forest ecosystems [[electronic resource]] : analysis at multiple scales / / Richard H. Waring, Steven W. Running
Pubbl/distr/stampa	Amsterdam ; ; Boston, : Elsevier/Academic Press, c2007
ISBN	1-281-30726-2 9786611307264 0-08-054608-0
Edizione	[3rd ed.]
Descrizione fisica	1 online resource (467 p.)
Altri autori (Persone)	RunningS. W
Disciplina	577.3
Soggetti	Forest ecology Forest management
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references (p. 347-408) and index.
Nota di contenuto	Front cover; Forest Ecosystems: Analysis at Multiple Scales, Third Edition; Copyright page; Table of Contents; PREFACE TO THE THIRD EDITION; PREFACE TO THE SECOND EDITION; PREFACE TO THE FIRST EDITION; ACKNOWLEDGMENTS; CHAPTER 1: Forest Ecosystem Analysis at Multiple Time and Space Scales; I. INTRODUCTION; II. THE SCIENTIFIC DOMAIN OF FOREST ECOSYSTEM ANALYSIS; III. THE SPACE/TIME DOMAIN OF ECOSYSTEM ANALYSIS; IV. TIME AND SPACE SCALING FROM THE STAND/SEASONAL LEVEL; V. MANAGEMENT APPLICATIONS OF ECOSYSTEM ANALYSIS; VI. RELATED TEXTBOOKS; VII. WEB SITE FOR UPDATED MATERIALS SECTION I: Introduction to Analysis of Seasonal Cycles of Water, Carbon, and Minerals through Forest Stands CHAPTER 2: Water Cycle; I. INTRODUCTION; II. HEAT AND WATER VAPOR TRANSFER FROM VEGETATION; III. WATER FLOW THROUGH TREES; IV. WATER STORAGE AND LOSSES FROM SNOW; V. WATER FLOW ACROSS AND THROUGH SOIL; VI. COUPLED WATER BALANCE MODELS; VII. SUMMARY; CHAPTER 3: Carbon Cycle; I. INTRODUCTION; II. PHOTOSYNTHESIS; III. AUTOTROPHIC RESPIRATION; IV. HETEROTROPHIC RESPIRATION; V. MODELING PHOTOSYNTHESIS AND RESPIRATION; VI. NET PRIMARY PRODUCTION AND ALLOCATION VII. COMPARISON OF FOREST ECOSYSTEM MODELS VIII. SUMMARY;

CHAPTER 4: Mineral Cycles; I. INTRODUCTION; II. PLANT PROCESSES AFFECTING NUTRIENT CYCLING; III. SOURCES OF NUTRIENTS; IV. SOIL AND LITTER PROCESSES; V. MASS BALANCE AND MODELS OF MINERAL CYCLES; VI. SUMMARY; SECTION II: Introduction to Temporal Scaling; CHAPTER 5: Temporal Changes in Forest Structure and Function; I. INTRODUCTION; II. STRUCTURAL STAGES IN STAND DEVELOPMENT; III. FUNCTIONAL RESPONSES OF STANDS AT DIFFERENT STAGES IN DEVELOPMENT; IV. LOOKING BACK IN TIME; V. ECOSYSTEM MODELS, PROJECTIONS FORWARD IN TIME; VI. SUMMARY
CHAPTER 6: Susceptibility and Response of Forests to Disturbance I. INTRODUCTION; II. BIOTIC FACTORS; III. ABIOTIC FACTORS; IV. SUMMARY; COLOR PLATE; SECTION III: Introduction to Spatial Scaling and Spatial/Temporal Modeling; CHAPTER 7: Spatial Scaling Methods for Landscape and Regional Ecosystem Analysis; I. INTRODUCTION; II. ABIOTIC SITE VARIABLES; III. PROVIDING THE DRIVING VARIABLES, CLIMATOLOGY; IV. DESCRIBING THE ECOSYSTEM; V. SPATIALLY EXPLICIT LANDSCAPE PATTERN ANALYSIS; VI. DATA LAYER INCONSISTENCIES; VII. SUMMARY; COLOR PLATE; CHAPTER 8: Regional and Landscape Ecological Analysis
I. INTRODUCTION II. HORIZONTAL CONNECTIONS: BIOTIC ANALYSIS OF FOREST PATTERNS; COLOR PLATE; III. VERTICAL CONNECTIONS: FOREST-ATMOSPHERE INTERACTIONS; IV. VERTICAL AND HORIZONTAL CONNECTIONS: REGIONAL BIOGEOCHEMISTRY; V. SUMMARY; CHAPTER 9: The Role of Forests in Global Ecology; I. INTRODUCTION; II. GLOBAL FOREST DISTRIBUTION; III. FOREST-CLIMATE INTERACTIONS; IV. FORESTS IN THE GLOBAL CARBON CYCLE; V. FORESTS AND BIODIVERSITY; VI. SUSTAINABILITY OF GLOBAL FORESTS; VII. SUMMARY; CHAPTER 10: Advances in Eddy-Flux Analyses, Remote Sensing, and Evidence of Climate Change; I. INTRODUCTION
II. EDDY-COVARIANCE FLUXES

Sommario/riassunto

This revision maintains the position of Forest Ecosystems as the one source for the latest information on the advanced methods that have enhanced our understating of forest ecosystems. Further understanding is given to techniques to explore the changes in climatic cycles, the implications of wide-scale pollution, fire and other ecological disturbances that have a global effect. The inclusion of models, equations, graphs, and tabular examples provides readers with a full understanding of the methods and techniques.* Includes a revised section on important advances in regional scale
