

1. Record Nr.	UNINA9910458718303321
Autore	Hillel Daniel
Titolo	Introduction to environmental soil physics [[electronic resource] /] / Daniel Hillel
Pubbl/distr/stampa	Amsterdam ; ; Boston, : Elsevier Academic Press, c2004
ISBN	1-281-01170-3 9786611011703 0-08-049577-X
Descrizione fisica	1 online resource (511 p.)
Disciplina	631.4/3
Soggetti	Soil physics Soil moisture Soils - Environmental aspects Electronic books.
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. 443-484) and index.
Nota di contenuto	Cover; CONTENTS; LIST OF TEXT BOXES; PREFACE; PART I: BASIC RELATIONSHIPS; CHAPTER 1. SOIL PHYSICS AND SOIL PHYSICAL CHARACTERISTICS; CHAPTER 2. WATER PROPERTIES IN RELATION TO POROUS MEDIA; PART II: THE SOLID PHASE; CHAPTER 3. PARTICLE SIZES, SHAPES, AND SPECIFIC SURFACE; CHAPTER 4. CLAY, THE COLLOIDAL COMPONENT; CHAPTER 5. SOIL STRUCTURE AND AGGREGATION; PART III: THE LIQUID PHASE; CHAPTER 6. WATER CONTENT AND POTENTIAL; CHAPTER 7. WATER FLOW IN SATURATED SOIL; CHAPTER 8. WATER FLOW IN UNSATURATED SOIL; CHAPTER 9. SOLUTE MOVEMENT AND SOIL SALINITY; PART IV: THE GASEOUS PHASE CHAPTER 10. GAS CONTENT AND COMPOSITION CHAPTER 11. GAS MOVEMENT AND EXCHANGE; PART V: COMPOSITE PHENOMENA; CHAPTER 12. SOIL TEMPERATURE AND HEAT FLOW; CHAPTER 13. STRESS, STRAIN, AND STRENGTH OF SOIL BODIES; PART VI: THE FIELD WATER CYCLE; CHAPTER 14. WATER ENTRY INTO SOIL; CHAPTER 15. SURFACE RUNOFF AND WATER EROSION; CHAPTER 16. REDISTRIBUTION AND RETENTION OF SOIL MOISTURE; CHAPTER 17. GROUNDWATER DRAINAGE AND POLLUTION; CHAPTER 18. EVAPORATION FROM BARE

SOIL AND WIND EROSION; PART VII: SOIL-PLANT-WATER RELATIONS;
CHAPTER 19. PLANT UPTAKE OF SOIL MOISTURE
CHAPTER 20. WATER BALANCE AND ENERGY BALANCE IN THE
FIELDCHAPTER 21. IRRIGATION AND WATER-USE EFFICIENCY;
GLOSSARY; BIBLIOGRAPHY; INDEX

Sommario/riassunto

An abridged, student-oriented edition of Hillel's earlier published Environmental Soil Physics, this is a more succinct elucidation of the physical principles and processes governing the behavior of soil and the vital role it plays in both natural and managed ecosystems. The textbook is self-contained and self-explanatory, with numerous illustrations and sample problems. Based on sound fundamental theory, the textbook leads to a practical consideration of soil as a living system in nature and illustrates the influences of human activity upon soil structure and function. Students, as well as
