

1. Record Nr.	UNINA9910457817503321
Titolo	Handbook of soil sciences : resource management and environmental impacts // edited by Pan Ming Huang, Yuncong Li, Malcolm E. Sumner
Pubbl/distr/stampa	Boca Raton, Fla. : , : CRC Press, , 2012
ISBN	0-429-09599-6 1-283-34990-6 9786613349903 1-4398-0308-0
Edizione	[2nd ed.]
Descrizione fisica	1 online resource (821 p.)
Collana	Handbook of Soil Science
Altri autori (Persone)	HuangP. M LiYuncong SumnerM. E <1933-> (Malcolm E.)
Disciplina	631.4
Soggetti	Soil science 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 and index.
Nota di contenuto	Front Cover; Contents; Preface; Editors; Associate Editors; Contributors; Introduction; Chapter 1: The Role of Synchrotron Radiation in Elucidating the Biogeochemistry of Metal(loids) and Nutrients at Critical Zone Interfaces; Chapter 2: Clay-Organic Interactions in Soil Environments; Chapter 3: Nanoscale Science and Technology in Soil Science; Chapter 4: Impacts of Environmental Nanoparticles on Chemical, Biological, and Hydrological Processes in Terrestrial Ecosystems; Chapter 5: Enzymatic Activity as Influenced by Soil Mineral and Humic Colloids and Its Impact on Biogeochemical Processes Chapter 6: Biogeochemical, Biophysical, and Biological Processes in the RhizosphereChapter 7: Mineralogical, Physicochemical, and Microbiological Controls on Soil Organic Matter Stabilization and Turnover; Chapter 8: Impact of Soil Physical, Chemical, and Biological Interactions on the Transformation of Metals and Metalloids; Chapter 9: Soil Physicochemical and Biological Interfacial Processes Governing the Fate of Anthropogenic Organic Pollutants; Chapter 10: Impact of Soil

Physicochemical and Biological Reactions on Transport of Nutrients and Pollutants in the Critical Zone

Chapter 11: Bioavailability of N, P, K, Ca, Mg, S, Si, and

Micronutrients Chapter 12: Soil Acidity and Liming; Chapter 13: Soil Fertility Evaluation; Chapter 14: Fundamentals of Fertilizer Application;

Chapter 15: Nutrient and Water Use Efficiency; Chapter 16: Nutrient

Interactions in Soil Fertility and Plant Nutrition; Chapter 17: Saline and

Boron-Affected Soils; Chapter 18: Sodidity; Chapter 19: Soil Water

Repellency; Chapter 20: Biogeochemistry of Wetlands; Chapter 21: Acid

Sulfate Soils; Chapter 22: Water Erosion; Chapter 23: Wind Erosion;

Chapter 24: Land Application of Wastes

Chapter 25: Conservation Tillage Chapter 26: Soil Quality; Chapter 27:

Qualitative and Quantitative Aspects of World and Regional Soil

Databases and Maps; Chapter 28: United States Soil Survey Databases;

Chapter 29: Integrated Digital, Spatial, and Attribute Databases for

Soils in Brazil; Chapter 30: Development and Use of Soil Maps and

Databases in China; Chapter 31: Soil Geographic Database of Russia;

Chapter 32: Soil Databases in Africa; Chapter 33: Learning about Soil

Resources with Digital Soil Maps; Back Cover

---

### Sommario/riassunto

An evolving, living organic/inorganic covering, soil is in dynamic equilibrium with the atmosphere above, the biosphere within, and the geology below. It acts as an anchor for roots, a purveyor of water and nutrients, a residence for a vast community of microorganisms and animals, a sanitizer of the environment, and a source of raw materials for construction and manufacturing. To develop lasting solutions to the challenges of balanced use and stewardship of the Earth, we require a fundamental understanding of soil—from its elastic, porous three-phase system to its components, processes, and re

---