

1. Record Nr.	UNINA9910253883103321
Titolo	Biological Soil Crusts: An Organizing Principle in Drylands / / edited by Bettina Weber, Burkhard Büdel, Jayne Belnap
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2016
ISBN	3-319-30214-0
Edizione	[1st ed. 2016.]
Descrizione fisica	1 online resource (540 p.)
Collana	Ecological Studies, Analysis and Synthesis, , 2196-971X ; ; 226
Disciplina	574.90948
Soggetti	Conservation biology Ecology Soil science Soil conservation Geobiology Conservation Biology/Ecology Soil Science & Conservation Biogeosciences
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 at the end of each chapters and indexes.
Nota di contenuto	Biological soil crusts as a critical zone of global importance -- How biological soil crusts became studied as a community -- Fossil crusts -- Cyanobacteria and algae within biological soil crusts -- Fungi and bacteria within biological soil crusts -- Bryophytes within biological soil crusts -- Lichens within biological soil crusts -- Microfauna within biological soil crusts -- Composition and structure of biological soil crusts -- Controls on distribution patterns of biological soil crusts at the micro-, macro-, and global scale -- Hypolithic communities -- Remote sensing of biological soil crusts at different scales -- Microstructure and weathering processes within biological soil crusts -- Patterns and controls on nitrogen cycling of biological soil crusts -- Carbon budgets of biological soil crusts at micro- meso-, and global scales -- Biological soil crusts as soil stabilizers -- Effects of biological soil crusts on arid land hydrology -- Response of biological soil crust

organisms to light, temperature, and water conditions -- Interactions of biological soil crusts with vascular plants -- Biological soil crusts as model to study plant interactions and functional roles -- Effects of disturbance on biological soil crusts -- Effects of climate change on biological soil crusts -- Natural recovery of biological soil crusts after disturbance -- Enhanced recovery of biological soil crusts after disturbance -- Synthesis on biological soil crust research.

---

#### Sommario/riassunto

This volume summarizes our current understanding of biological soil crusts (biocrusts), which are omnipresent in dryland regions. Since they cover the soil surface, they influence, or even control, all surface exchange processes. Being one of the oldest terrestrial communities, biocrusts comprise a high diversity of cyanobacteria, algae, lichens and bryophytes together with uncounted bacteria, and fungi. The authors show that biocrusts are an integral part of dryland ecosystems, stabilizing soils, influencing plant germination and growth, and playing a key role in carbon, nitrogen and water cycling. Initial attempts have been made to use biocrusts as models in ecological theory. On the other hand, biocrusts are endangered by local disruptions and global change, highlighting the need for enhanced recovery methods. This book offers a comprehensive overview of the fascinating field of biocrust research, making it indispensable not only for scientists in this area, but also for land managers, policy makers, and anyone interested in the environment.

---