Advances in Critical Zone Science

Timothy White
Antonello Provenzale *Editors*

Critical Zone and Ecosystem Dynamics

Springer

Advances in Critical Zone Science

Series Editor

Steven Banwart, The University of Sheffield, Sheffield, UK

Earth's critical zone (CZ) is the near-surface layer of the planet which determines the availability of life-sustaining resources - extending from the surface of unaltered bedrock to the atmospheric boundary layer. Critical zone science is the interdisciplinary study of the natural processes that shape the critical zone and determine its evolution and the effects of natural and human-induced change.

The rapid expansion of CZ science and its growing relevance across a range of disciplines means the time is ripe for a new series of books that will synthesise the current state of knowledge in key areas of CZ science, highlight new research results, and suggest exciting avenues for future investigation. Books in the series will be edited or authored by leading international experts at the forefront of critical zone science. Each volume will be relatively short, on the order of 150-300 pages in length, and have a target audience comprising advanced students, researchers, and applied scientists engaged with the research agenda.

The aim of the Series is to present the study of Earth's critical zone as a new field of integrating science. The scientific content draws on interdisciplinary research and subject expertise from the basic sciences of physics, chemistry, biology and mathematics, and applied sciences such as geological sciences, ecological sciences, environmental sciences, human and physical geography, engineering and expertise at the interface of applied research with policy and practice.

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We dedicate this book to Steve Banwart.
Devoted husband, father, son, friend, colleague.
Critical zone science ambassador to the world.
1959–2023

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