

## **Current Releases (2009-2011)**

Updated 13 December 2011

This document is intended to provide the reader with a list of all books included in the Current Subscription to the digital library. Books are listed by series and include volume number, title, first editor/author, ISSN/ISBN (when applicable), and a brief description.

To view *free* book contents and *free* book and chapter abstracts, links to the online versions are provided below.

- Geophysical Monograph Series (ISSN: 0065-8448) [[Online](#)]
- Special Publications [[Online](#)]
- Water Resources Monograph (ISSN: 1070-9600) [[Online](#)]



**Geophysical Monograph Series (ISSN: 0065-8448)**



Vol. 195, *Monitoring and Modeling the Deepwater Horizon Oil Spill: A Record-Breaking Enterprise* (Liu)

ISBN: 978-0-87590-485-6

This book presents an overview of some of the significant work that was conducted in immediate response to the oil spill in the Gulf of Mexico in 2010. It includes studies of in situ and remotely sensed observations and laboratory and numerical model studies on the four-dimensional oceanographic conditions in the gulf and their influence on the distribution and fate of the discharged oil.



Vol. 194, *Stream Restoration in Dynamic Fluvial Systems: Scientific Approaches, Analyses, and Tools* (Simon)

ISBN: 978-0-87590-483-2

This book brings together leading contributors in stream restoration science to provide comprehensive consideration of process-based approaches, tools, and applications of techniques useful for the implementation of sustainable restoration strategies. Stream restoration is a catchall term for modifications to streams and adjacent riparian zones undertaken to improve geomorphic and/or ecologic function, structure, and integrity of river corridors, and it has become a multibillion dollar industry.



Vol. 193, *Abrupt Climate Change: Mechanisms, Patterns, and Impacts* (Rashid) ISBN: 978-0-87590-484-9

This book brings together a diverse group of paleoproxy records such as ice cores, marine sediments, terrestrial (lakes and speleothems) archives, and coupled ocean-atmosphere climate models to document recent advances in understanding the mechanisms of abrupt climate changes. Since the discovery of the Dansgaard-Oeschger events in Greenland ice cores and the subsequent discovery of their contemporary events in the marine sediments of the North Atlantic, the search for these abrupt, millennial-scale events across the globe has intensified, and as a result, the number of paleoclimatic records chronicling such events has increased.





Vol. 192, *Antarctic Subglacial Aquatic Environments* (Siegert) ISBN: 978-0-87590-482-5

This is the first volume on this important and fascinating subject. With its underlying theme of bridging existing knowledge to future research, it is a benchmark in the history of subglacial lake exploration and study, containing up-to-date discussions about the history and background of subglacial aquatic environments and future exploration.



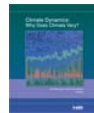
Vol. 191, *Rainfall: State of the Science* (Testik) ISBN: 978-0-87590-481-8

This book offers the most up-to-date knowledge on the fundamental and practical aspects of rainfall. Each chapter, self-contained and written by prominent scientists in their respective fields, provides three forms of information: fundamental principles, detailed overview of current knowledge and description of existing methods, and emerging techniques and future research directions.



Vol. 190, *The Stratosphere: Dynamics, Transport, and Chemistry* (Polvani) ISBN: 978-0-87590-479-5

This book is the first volume in 20 years that offers a comprehensive review of the Earth's stratosphere, increasingly recognized as an important component of the climate system. The volume addresses key advances in our understanding of the stratospheric circulation and transport and summarizes the last two decades of research to provide a concise yet comprehensive overview of the state of the field.



Vol. 189, *Climate Dynamics: Why Does Climate Vary?* (Sun) ISBN: 978-0-87590-480-1

This book presents the major climate phenomena within the climate system to underscore the potency of dynamics in giving rise to climate change and variability. These phenomena include deep convection over the Indo-Pacific warm pool and its planetary-scale organization: the Madden-Julian Oscillation, the monsoons, the El Niño-Southern Oscillation, the Pacific Decadal Oscillation, and the low-frequency variability of extratropical circulations.





Vol. 188, *Diversity of Hydrothermal Systems on Slow Spreading Ocean Ridges* (Rona) ISBN: 978-0-87590-478-8

This book presents a multidisciplinary overview of the remarkable emerging diversity of hydrothermal systems on slow spreading ocean ridges in the Atlantic, Indian, and Arctic oceans. When hydrothermal systems were first found on the East Pacific Rise and other Pacific Ocean ridges beginning in the late 1970s, the community consensus held that the magma delivery rate of intermediate to fast spreading was necessary to support black smoker-type high-temperature systems and associated chemosynthetic ecosystems and polymetallic sulfide deposits.



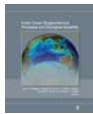
Vol. 187, *Surface Ocean—Lower Atmosphere Processes* (Le Quéré) ISBN: 978-0-87590-477-1

The focus of this book is biogeochemical interactions between the surface ocean and the lower atmosphere. This volume is an outgrowth of the Surface Ocean-Lower Atmosphere Study (SOLAS) Summer School. The volume is designed to provide graduate students, postdoctoral fellows, and researchers from a wide range of academic backgrounds with a basis for understanding the nature of ocean-atmosphere interactions and the current research issues in this area.



Vol. 186, *Amazonia and Global Change* (Keller) ISBN: 978-0-87590-476-4

This book synthesizes results of the Large-Scale Biosphere-Atmosphere Experiment in Amazonia (LBA) for scientists and students of Earth system science and global environmental change. LBA, led by Brazil, asks how Amazonia currently functions in the global climate and biogeochemical systems and how the functioning of Amazonia will respond to the combined pressures of climate and land use change.



Vol. 185, *Indian Ocean Biogeochemical Processes and Ecological Variability* (Wiggert) ISBN: 978-0-87590-475-7

This book provides a synthesis of current knowledge on Indian Ocean biogeochemistry and ecology and an introduction to new concepts and topical paradigm challenges. It also reports on the development of more extensive/frequent observational capacity being deployed in the Indian Ocean.





Vol. 184, *Carbon Cycling in Northern Peatlands* (Baird) ISBN: 978-0-87590-449-8

This book examines the role that northern peatlands play in regulating the atmospheric carbon budget. It summarizes current research in four interconnected areas: large-scale peatland dynamics and carbon cycling; plant and microbial dynamics and their effect on carbon fluxes to the atmosphere; methane accumulation in, and loss from, peatlands; and water and dissolved carbon fluxes through peatlands.



Vol. 183, *Carbon Sequestration and Its Role in the Global Carbon Cycle* (McPherson) ISBN: 978-0-87590-448-1

For carbon sequestration the issues of monitoring, risk assessment, and verification of carbon content and storage efficacy are perhaps the most uncertain. Yet these issues are also the most critical challenges facing the broader context of carbon sequestration as a means for addressing climate change.



### Special Publications



*Navigating Graduate School and Beyond: A Career Guide for Graduate Students and a Must Read for Every Advisor* (Christopher) ISBN: 978-0-87590-736-9

Graduate school can be an exciting, challenging time for students, but it can be scary and intimidating at the same time. This book outlines the steps and skills necessary to succeed in graduate school and in your career. “Insider tips” help students better understand their advisors, leading to more productive advisor/student relationships.



*Tectonic, Climatic, and Cryospheric Evolution of the Antarctic Peninsula* (Anderson) ISBN: 978-0-87590-734-5

This book presents the analysis of data collected during the SHALDRIL program, which sampled the most complete Cenozoic stratigraphic section in the Antarctic Peninsula. The stratigraphic intervals sampled fill major gaps in the existing stratigraphic record in the region, which is believed to have been the last place in Antarctica to become fully glaciated and, as such, the last refugium for plants and animals living on the continent.



*Opening Space Research: Dreams, Technology, and Scientific Discovery* (Ludwig) ISBN: 978-0-87590-733-8

This book is George Ludwig's account of the early development of space-based electromagnetic physics, with a focus on the first U.S. space launches and the discovery of the Van Allen radiation belts. Narrated by the person who developed many of the instruments for the early Explorer spacecraft during the 1950s and participated directly in the scientific research, it draws heavily upon the author's voluminous collection of laboratory notes and other papers, upon the Van Allen archive, and upon a wide array of other sources.



*Range and Richness of Vascular Land Plants: The Role of Variable Light* (Eagleson) ISBN: 978-0-87590-732-1

This is a research monograph and not a textbook. Here Eagleson demonstrates analytically how the observed, opposing, latitudinal gradients in the average range and richness of local vascular land plant species are (outside the moist-tropical zone, at least) driven primarily by the local temporal and spatial variability of shortwave radiative flux at the canopy top.



**Water Resources Monograph (ISSN: 1070-9600)**



Vol. 19, *Mountain Rivers Revisited* (Wohl) ISBN: 978-0-87590-323-1

What are the forms and processes characteristic of mountain rivers and how do we know them? This book, an expanded and updated version of the earlier volume *Mountain Rivers*, answers these questions and more. Here is the only comprehensive synthesis of current knowledge about mountain rivers available.

