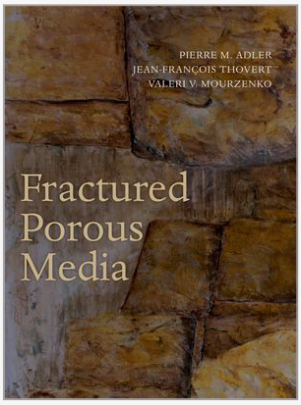
SPECIAL EDITION

Fractured Porous Media



By Pierre M. Adler, Jean-François Thovert, and Valeri V. Mourzenko

OXFORD UNIVERSITY PRESS

184 pages | Hardback
1st edition | October 2012
ISBN 978-0-19-966651-5

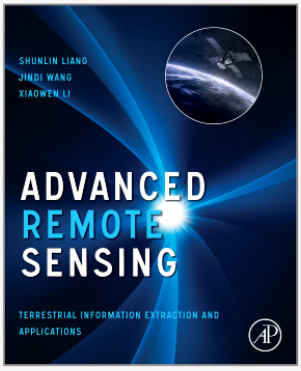
Price: £45 (~€56) -or- £36 (~€45) with EGU discount

Publisher's summary

This book provides a systematic treatment of the geometrical and transport properties of fractures, fracture networks, and fractured porous media. A concise introduction to a topical field, it provides a unique theoretical view point on fractured porous media based on percolation theory for students and professionals in Geophysics, Materials Science, and Earth Sciences.

EGU members can claim the special discount by visiting the OUP website at www.oup.co.uk, adding the book to the shopping basket, and entering the code **AAFLY12** in the promotional code box. For further information on this offer, please contact jennifer.winders@oup.com.

Advanced Remote Sensing: Terrestrial Information Extraction and Applications



By Shunlin Liang, Xiaowen Li, and Jindi Wang

ACADEMIC PRESS (ELSEVIER)

800 pages | Hardback
1st edition | August 2012
ISBN 978-0-12-385954-9

Price: €108

Publisher's summary

Advanced Remote Sensing is an application-based reference that provides a single source of mathematical concepts necessary for remote sensing data gathering and assimilation. It presents state-of-the-art techniques for estimating land surface variables from a variety of data types, including optical sensors such as radar and lidar. Scientists in a number of different fields including geography, geology, atmospheric science, environmental science, planetary science and ecology will have access to critically-important data extraction techniques and their virtually unlimited applications. While rigorous enough for the most experienced of scientists, the techniques are well designed and integrated, making the book's content intuitive, clearly presented, and practical in its implementation.

The Open Access Journals of the European Geosciences Union

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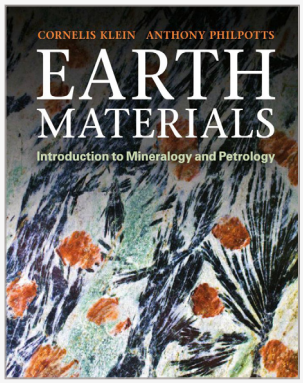
SPECIAL EDITION

Earth Materials: Introduction to Mineralogy and Petrology



By Cornelis Klein and Tony Philpotts

CAMBRIDGE UNIVERSITY PRESS

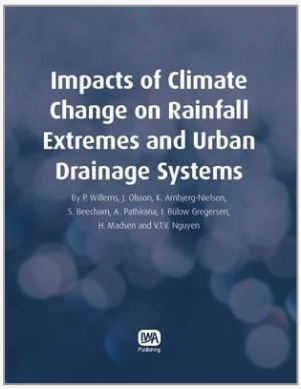
552 pages | Paperback
1st edition | September 2012
ISBN 978-0-52-114521-3

Price: £40 (~€50)

Publisher's summary

The fundamental concepts of mineralogy and petrology are explained in this highly illustrated, full-color textbook to create a concise overview for students studying Earth materials. The relationship between minerals and rocks and how they relate to the broader Earth, materials and environmental sciences is interwoven throughout. Beautiful photos of specimens and Crystal-Maker's 3-D illustrations allow students to easily visualise minerals, rocks and crystal structures. Review questions at the end of chapters allow students to check their understanding. The importance of Earth materials to human cultural development and the hazards they pose to humans are discussed in later chapters. This ambitious, wide-ranging book is written by two world-renowned textbook authors each with over 40 years of teaching experience, who bring that experience to clearly convey the important topics.

Impacts of Climate Change on Rainfall Extremes and Urban Drainage Systems



By Patrick Willems et al. (Eds.)

IWA PUBLISHING

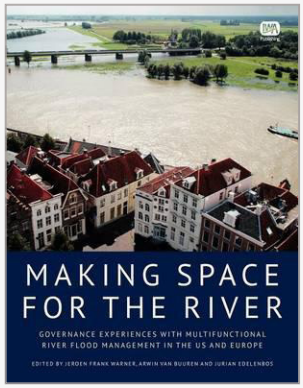
238 pages | Paperback
1st edition | September 2012
ISBN 978-1-78-040125-6

Price: €120.15 -or- €90.11 for IWA members

Publisher's summary

Impacts of Climate Change on Rainfall Extremes and Urban Drainage Systems provides a state-of-the-art overview of existing methodologies and relevant results related to the assessment of the climate change impacts on urban rainfall extremes as well as on urban hydrology and hydraulics. This overview focuses mainly on several difficulties and limitations regarding the current methods and discusses various issues and challenges facing the research community in dealing with the climate change impact assessment and adaptation for urban drainage infrastructure design and management.

Making Space for the River



By Jeroen Frank Warner, Arwin van Buuren and Jurian Edelenbos (Eds.)

IWA PUBLISHING

218 pages | Paperback
1st edition | November 2012
ISBN 978-1-78-040112-6

Price: €120.15 -or- €90.11 for IWA members

Publisher's summary

This book examines recent developments in river (flood) management from the viewpoint of Making Space for the River and the resulting challenges for water governance. Different examples from Europe and the United States of America are discussed that aim to 'green' rivers, including increasing river discharge for flood management, enhancing natural and landscape values, promoting local or regional economic development, and urban regeneration.

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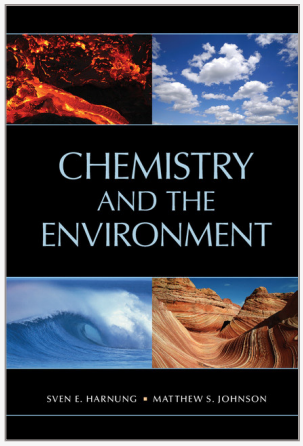
SPECIAL EDITION

Chemistry and the Environment



By Sven E. Harnung and Matthew S. Johnson

CAMBRIDGE UNIVERSITY PRESS

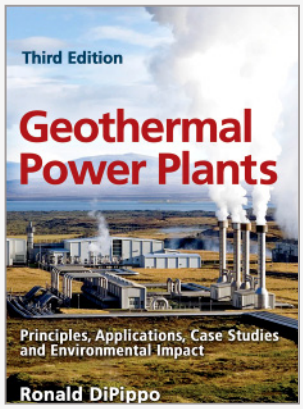
440 pages | Hardback
1st edition | October 2012
ISBN 978-1-10-702155-6

Price: £80 (~€99)

Publisher's summary

This textbook presents the chemistry of the environment using the full strength of physical, inorganic and organic chemistry, in addition to the necessary mathematics and physics. It provides a broad yet thorough description of the environment and the environmental impact of human activity using scientific principles. It gives an accessible account while paying attention to the fundamental basis of the science, showing derivations of formulas and giving primary references and historical insight. The authors make consistent use of professionally accepted nomenclature (IUPAC and SI), allowing transparent access to the material by students and scientists from other fields. This textbook has been developed through many years of feedback from students and colleagues. It includes more than 400 online student exercises that have been class tested and refined. The book will be invaluable in environmental chemistry courses for advanced undergraduate and graduate students and professionals in chemistry and allied fields.

Geothermal Power Plants: Principles, Applications, Case Studies and Environmental Impact



By Ronald DiPippo

BUTTERWORTH-HEINEMANN (ELSEVIER)

624 pages | Hardback
3rd edition | May 2012
ISBN 978-0-08-098206-9

Price: €92.95

Publisher's summary

Now in its third edition, this single resource covers all aspects of the utilisation of geothermal energy for power generation using fundamental scientific and engineering principles. Its practical emphasis is enhanced by the use of case studies from real plants that increase the reader's understanding of geothermal energy conversion and provide a unique compilation of hard-to-obtain data and experience. Important new chapters cover Hot Dry Rock, Enhanced Geothermal Systems, and Deep Hydrothermal Systems. New, international case studies provide practical, hands-on knowledge.

Sustainable Water Ecosystems Management in Europe

By Carlo Sessa (Ed.)

IWA PUBLISHING

148 pages | Paperback
1st edition | August 2012
ISBN 978-1-78-040114-0

Price: €114.75 -or- €86.06 for IWA members

Publisher's summary

Sustainable Water Ecosystems Management in Europe examines the anthropogenic deterioration of water ecosystems, in particular in coastal areas. It proposes a new approach to enhance connectivity between research and policy-making. The book exploits the concept of integrated adaptive ecosystem management, by engaging scientists, policy makers and the public (the latter including both stakeholders and lay citizens/water users) in comparable case studies. Emphasis is given to the role of the public to enlarge the concept of organisational learning to the wider concept of social learning.

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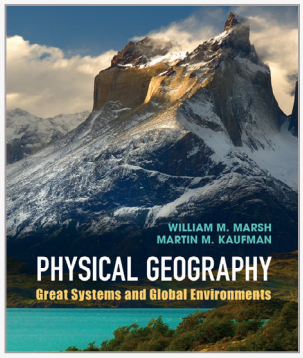
Physical Geography

A book review



By William M. Marsh and Martin M. Kaufman

CAMBRIDGE UNIVERSITY PRESS

720 pages | Hardback
1st edition | August 2012
ISBN 978-0-52-176428-5

Price: £45.00 (~€55.00)

In this special issue of *GeoQ* it was only appropriate to review a volume that covers the majority of the Union's divisions and reflects the multidisciplinarity of the EGU. Physical Geography, by two Earth scientists with a wealth of experience in teaching and textbook writing, fits the bill and much more.

The authors, William M. Marsch and Martin M. Kaufman, are renowned academics who have been teaching geosciences for over 20 years. Marsch is a professor at the University of British Columbia in Vancouver, Canada, and an experienced textbook author with half a dozen books in physical geography and land-use applications. Kaufman is the Chair of the Earth and Resource Sciences Department at the University of Michigan, Flint, US, where he teaches physical geography courses.

Marsch and Kaufman devised an all-encompassing textbook filled with stunning pictures and dozens of single-concept diagrams (many designed by Marsch himself) that, combined with clear text, eloquently describe Earth's physical geography. It uses an 'arm-in-arm' page design, where images appear alongside the text passages they relate to, to tell the story of the planet's great systems and global environments. The book leads the reader to discover the nature of geographic change on our planet and is a great tool to teach about naturogenic and anthropogenic factors of change, such as volcanic eruptions or human-made pollution, to science and non-science undergraduates alike.

Much as the classic volume by Chorley & Kennedy (1971), this interdisciplinary book uses the systems approach to describe Earth's physical geography. Rather than analysing the planet's global environments (atmosphere, hydrosphere, geosphere, and so forth) as isolated spheres, the book argues that the Earth's physical geography is best explained by means of the interconnected systems that shape the world's atmosphere, waters, and land. All of these 'great systems' are dealt with in the book's five parts: Earth's Energy, Climate, and Ocean Systems; Earth's Life Support Systems; Earth's Water Systems; Earth's Rock and Mountain Systems; and Earth's Erosional and Landform Systems.

The chapters of Part I introduce the reader to the systems approach and to the planet as a whole and ends with interesting chapters on global climate ("a system of systems") and climate change ("one of the most pressing issues of our time"). Part II is dedicated to the biosphere, including soil system sciences, and the agents that support and change it. Part III gives a glimpse into the 'big picture' of water on our planet, where Earth's immense oceans and the atmosphere ("the planet's central water-distribution machine") play lead roles. Freshwater systems are the focus of the last two chapters of Part III, which have sections on floods and on the human impact on water resources. Part IV focuses on the solid Earth and the forces that shape it, with chapters dedicated to plate tectonics, and to mountains, volcanoes, and earthquakes. The fifth and final part of the book explains erosional and landform systems: geomorphic, stream, coastal, glacial, and wind systems.

This division in parts is useful to separate the different groups of chapters regarding each of the Earth's great systems and to direct a reader interested in, e.g., Earth's water systems, to the relevant part of the book. However, while present in the Contents pages, the parts division is absent (perhaps due to an editorial mistake) in the remainder of the book: there are no division pages marking the end of a part and the beginning of another, making a reader who missed the Table of Contents unaware of the parts division. This is a minor point of criticism on an otherwise excellent volume.

The book is overall very well presented and organised: the structure of individual chapters and their presentation are excellent. Each starts with an overview and an introduction (often including the authors' personal stories), which draw the reader in and pave the ground for the material presented in the following pages. To keep the reader abreast of the topics taught in each section, chapters also feature short yet useful in-chapter summaries. The last few pages of each chapter contain a more extensive summary and overview, often including enlightening diagrams, as well as review questions to help students reflect on and retain the material learned.

The usefulness of Physical Geography as a teaching resource is further displayed in the companion volume and online materials. The Instructor's Guidebook highlights the key topics of each chapter and suggests teaching strategies. The extensive online resources include flashcards, to help students understand the meaning of the textbook's most important concepts, and Powerpoints, with figures from the book for instructors to use in presentations.

The planet, shaped by nature and humankind, is now changing faster than ever. Any textbook that encourages students to be the environmentally conscious citizens of tomorrow is welcome – and Physical Geography is an ideal volume.

Bárbara Ferreira
Chief Editor & EGU Media and Communications Officer

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