Geosciences

Geology
Palaeontology
Geochemistry
Mineralogy and Petrology
Geophysics
Seismology
Structural Geology and Faulting
Planetary Science
Mathematics for Geoscientists

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2005
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Message from the Press Editors

We are delighted to present the new Geosciences catalogue from Cambridge University Press, announcing our new titles in geology, mineralogy, geochemistry, palaeontology, geophysics, planetary science, mathematics/computing for geoscientists, and more. Our range covers undergraduate and graduate textbooks, academic monographs, and popular science from some of the best authors in the geosciences today.

Highlights include

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- Essential reference textbook for all students and researchers using the petrographic microscope
- An Introduction to the Solar System by Neil McBride and Iain Gilmour (p. 12)
- A colour-throughout textbook designed for elementary university courses in planetary science
- Soils: Genesis and Geomorphology by Randall Schaetzl and Sharon Anderson (p. 17)
- A comprehensive and accessible textbook for courses in soils, pedology and geomorphology. It will be an invaluable reference text for researchers
- The Evolution and Extinction of the Dinosaurs by David Fastovsky and David Weishampel (p. 4)
- A new edition of this popular textbook with completely new artwork by John Sibbick, one of the best palaeontology illustrators in the world

Look inside to find out more about these and other exciting new titles.

The Press Editors for this prestigious part of our publishing programme are Matt Lloyd and Susan Francis. We are very keen to continue to expand on the Cambridge University Press tradition of excellence in the earth sciences, and look forward to hearing from you if you have ideas for new books or wish to comment on our present publications. We hope to meet many of you at meetings and on campus throughout 2005 and beyond.

All the very best,

Dr Matt Lloyd
Publisher, Earth and Space Sciences
mlloyd@cambridge.org

Dr Susan Francis
Commissioning Editor, Earth and Planetary Sciences
sfrancis@cambridge.org

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Climate Change in Prehistory
William J. Burroughs
formerly UK Department of Energy

This book explores the challenges that faced humankind in a glacial climate and the opportunities that arose when the climate improved dramatically after the Ice Age. It weaves together studies of the climate with anthropological, archaeological and historical studies, and will fascinate all those interested in climate and human development.

- Gives a detailed and coherent presentation of how the climate around the world has changed over last 100,000 years
- Provides a global assessment of how the genetic history of modern humans can be interpreted in terms of evidence of climate change
- Shows from a global perspective how the evolution of human economic and social structures has been governed by climatic factors
- Weaves together climatological analysis with anthropological, archaeological and historical studies to provide a unique perspective on ancient human history

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‘…a book whose clarity and breadth of vision set it apart.’

Scientific American

‘… neatly written and excellently presented piece of popular science.’

Keith Shine, Times Higher Education Supplement

Contents: 1. Introduction; 2. The climate of the last 100,000 years; 3. Life in the Ice Age; 4. The evolutionary implications of living with the Ice Age; 5. Emerging from the Ice Age; 6. Recorded history; 7. Our climatic inheritance; 8. The future; Appendix; Bibliography; References.

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Climate: Into the 21st Century
Edited by William Burroughs

The WMO draws on an unrivalled selection of leading experts to provide a balanced and global coverage of climate issues. Lavishly illustrated and engagingly written, this book will be attractive to a general audience, and will also be valuable as a teaching resource for students in school and university.

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Inevitable Humans in a Lonely Universe
Simon Conway Morris
University of Cambridge

The eminent evolutionary palaeobiologist Simon Conway Morris challenges the accepted view that if the tape of life were wound back, the replay would be very different. He also asks: are we alone?

‘Life’s Solution is an absorbing presentation written to challenge and inform the mind of the reader. Life’s Solution is a superb contribution to both Contemporary Philosophy Studies and Evolutionary Biology reading lists.’

Library Bookwatch

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On the Shores of the Unknown
A Short History of the Universe
Joseph Silk
University of Oxford

In this fascinating book, astronomer Joseph Silk explores the Universe from its beginnings to its ultimate fate. He shows how cosmologists study cosmic fossils and relics from the distant past to construct theories of the birth, evolution and future of the Universe. Stars, galaxies, dark matter and dark energy are described, as successive chapters detail the evolution of the Universe from a fraction of a microsecond after the Big Bang. Silk describes how physicists apply theories of subatomic particles to recreate the first moments of the Big Bang, and how astronomers chart the vast depths of space to glimpse how the most distant galaxies formed. He describes the search for dark matter and the dark energy that will determine the ultimate fate of the Universe. This highly readable account will appeal to all those with an interest in the story of the Universe.

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A Geologic Time Scale

2004
Felix Gradstein
Universitetet i Oslo
Jim Ogg
Purdue University, Indiana
and Alan Smith
University of Cambridge

An international team of over forty stratigraphic experts have helped to build the most up to date international stratigraphic framework for the Precambrian and Phanerozoic. This successor to A Geologic Time Scale 1989 by W. Brian Harland et al. (CUP 0521 387655) begins with an introduction to the theory and methodology behind the construction of the new time scale. The main part of the book is devoted to the scale itself, systematically presenting the standard subdivisions at all levels using a variety of correlation markers. Extensive use is made of isotope geochronology, geomathematics and orbital tuning to produce a standard geologic scale of unprecedented detail and accuracy with a full error analysis. A wallchart summarising the whole time scale, with paleogeographic reconstructions throughout the Phanerozoic, is included in the back of the book. The time scale will be an invaluable reference source in the back of the book. The time scale throughout the Phanerozoic, is included paleogeographic reconstructions summarising the whole time scale, with a full error analysis. A wallchart unprecedented detail and accuracy with produce a standard geologic scale of geomathematics and orbital tuning to of correlation markers. Extensive use is subdivisions at all levels using a variety book is devoted to the scale itself, the new time scale. The main part of the methodology behind the construction of introduction to the theory and 0521 387655) begins with an successor to A Geologic Time Scale
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- Most detailed international geologic time scale
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Henry N. Pollack
University of Michigan, Ann Arbor

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Paul Crutzen, Winner of the 1995 Nobel Prize for Chemistry for work on the Ozone hole

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David Johnson
James Cook University, North Queensland

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TEXTBOOK

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A Journey Through Two Billion Years of Plate-Tectonic History

W. Scott Baldridge
Los Alamos National Laboratory

The Southwest USA is considered a geologist’s ‘dream’, and attracts a large number of undergraduate field classes, and amateur geologists. This book provides the first concise and accessible account of the geology and landscape of the region, and will prove invaluable to students and amateurs alike.


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Kevin D. Church
The Open University, Milton Keynes
Stephen S. Flint
University of Liverpool
John A. Howell
Univerisitetet i Bergen, Norway
R. Chris L. Wilson
The Open University, Milton Keynes
This lavishly illustrated textbook on sequence stratigraphy has been designed for use on undergraduate and graduate courses. It includes case studies set aside for focus boxes, and bulleted questions and answers. The book is also supported by a website hosting sample pages, illustrations and worked exercises.

'The writing is clear and straightforward and the illustrations are truly excellent.'
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The Cretaceous World
Peter W. Skelton
The Open University, Milton Keynes
Robert A. Spicer
The Open University, Milton Keynes
Simon P. Kelley
The Open University, Milton Keynes
Iain Gilmour
The Open University, Milton Keynes

This richly illustrated textbook on the Cretaceous world has been designed for use as a case study in undergraduate and graduate courses on Earth System Science. Features include focus boxes, bulleted questions and answers, and chapter summaries. There is also a supporting website hosting sample pages, illustrations and worked exercises.

‘...it is a textbook but it's how a textbook should be. To begin with it is actually a joy to look at: a happy marriage of Cambridge University Press’s publishing know-how and the Open University’s experience in producing lively, informative and well-structured texts for students that are also accessible to the general reader. At under £30 in paperback with use of full colour in both diagrams and photos, it’s an outstanding bargain. Now, if only the same team could address themselves to the remaining dozen or so periods of geological time …’
Douglas Palmer, New Scientist


— 2003 243 x 210 mm 360pp
— 0 521 85112 1 Hardback £75.00
— 0 521 53843 2 Paperback £30.00

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Volcanoes and the Environment
Edited by Joan Marti
Institut de Ciències de la Terra ‘Jaume Almera’, Barcelona
and Gerald G. J. Ernst
Universiteit Gent, Belgium

Volcanoes and the Environment is a comprehensive and accessible text incorporating contributions from some of the world’s authorities in volcanology. This book is an indispensable guide for those interested in how volcanism affects our planet’s environment. It spans a wide variety of topics from geology to climatology and ecology. It also considers the economic and social impacts of volcanic activity on humans. Topics covered include how volcanoes shape the environment, their effect on the geological cycle, atmosphere and climate, impacts on health of living on active volcanoes, volcanism and early life, effects of eruptions on plant and animal life, large eruptions and mass extinctions, and the impact of volcanic disasters on the economy. This book is intended for students and researchers interested in environmental change from the fields of earth and environmental science, geography, ecology and social science. It will also interest policy makers and professionals working on natural hazards.

— 2005 246 x 189 mm 500pp 18 tables 234 figures
— 0 521 59254 2 Hardback £50.00
— Publication May 2005
1. Introduction; 2. The Mesozoic

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Trends in Ecology and Evolution
Michael J. Benton,

sidelines on popular attitudes to
there are many amusing anecdotes and
superb. The writing style is lively, and
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• Comprehensive and detailed, yet
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• Brings together biological and
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than in other major modern texts

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2. The biostratigraphy of fossil
microplankton; 3. Biostratigraphy: its
integration into modern geochronology;
4. Biostratigraphy and biohistorical theory I:
evolution and correlation; 5. Systemic
stratigraphy: beyond classical
biostratigraphy; 6. Biostratigraphy and
biohistorical theory II: carving nature at the
joints; 7. Biostratigraphy and
chronostratigraphic classification; 8. On
biostratigraphy and biohistorical.

— 2005 246 x 189 mm 512pp 225 line
diagrams 25 half-tones 200 figures
— 0 521 81172 4 Hardback £38.00
— Publication March 2005

Graduate textbook
Biostratigraphy
Microfossils and Geological Time
Brian McGowran
University of Adelaide

Using fossils to tell geological time,
biostatigraphy balances biology with
geology. In modern geochronology —
meaning timescale-building and making
correlations between oceans, continents and 
hemispheres — the microfossil
record of speciations and extensions is
integrated with numerical dates from
radioactive decay, geomagnetic reversals
through time, and the cyclical wobbles of
the earth-sun-moon system. This
important modern synthesis follows the
development of biostratigraphy from
classical origins into petroleum
exploration and deep-ocean drilling. It
explores the three-way relationship
between species of microorganisms,
their environment and their evolution
through time as expressed in skeletons
preserved as fossils. This book is
essential reading for advanced students
and researchers working in basin
analysis, sequence stratigraphy,
palaeoceanography, palaeobiology and
related fields.

— 2004 228 x 152 mm 204pp 53 line
diagrams 9 half-tones
— 0 521 84242 7 Hardback £40.00

The Evolution of North American Rhinoceroses
Donald Prothero
Occidental College, Los Angeles

The family Rhinocerotidae has a long
and amazing history in North America.
From their first appearance about 40
million years ago, they diversified into
an incredible array of taxa, with a
variety of ecologies that don’t resemble
any of the five living species. They
ranged from delicate long-legged dog-
sized forms, to huge hippo-like forms
that apparently lived in rivers and lakes.
This book includes a systematic review
of the entire North American
Rhinocerotidae, with complete
descriptions, measurements, and figures
of every bone in every species — the first
such review in over a century. More
importantly, it discusses the
biogeographic patterns of rhinos, their
evolutionary patterns and paleoecology,
and what rhinos tell us about the
evolution of North American landscapes
and faunas over 35 million years. It is
a complete and authoritative volume
that will be a reference of interest to a
variety of scientists for years to come.

— 2005 276 x 219 mm 247pp 247 line
diagrams 9 half-tones
— 0 521 83240 3 Hardback £60.00
— Publication February 2005

Extinctions in the History of Life
Edited by Paul D. Taylor
Natural History Museum, London

Extinction is the ultimate fate of all
biological species — over 99% of the
species that have ever inhabited the
Earth are now extinct. The long fossil
record of life provides scientists with
vital information about when species
became extinct, which species were
most vulnerable to extinction, and what
processes may have brought about
extinctions in the geological past. Key
aspects of extinctions in the history of
life are here reviewed by six leading
palaeontologists, providing a source text
for geology and biology undergraduates
as well as more advanced scholars.
Topics include such as the causes of
mass extinctions and how animal and
plant life has recovered from these
cataclysmic events that have shaped
biological evolution are dealt with. This
helps us to view the current biodiversity
in a broader context, and shows
how large-scale extinctions have had
profound and long-lasting effects on the
Earth’s biosphere.

— 2004 228 x 152 mm 154pp 53 line
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— 0 521 82783 7 Hardback £42.00
— Publication September 2004
Add the following text to the document:

**American Paleontologist**


There is no comparable work on crinoids that so concisely introduces them into the paleontological literature. There are natural history museums all over the world with large crinoid collections, and what there is of crinoid research is scattered among the journals of the biological sciences. Fossil Crinoids is certain to be popular and authoritative in its treatment.

Fossil Crinoids is certain to be popular and authoritative in its treatment. The book is stunning in appearance and practical exercises, it is the first exclusively pedagogical CD-ROM devoted to this topic.

**Contents:** Introduction; Part I. First Principles: 1.1 Reconstructing evolutionary history from observed differences; 1.2 Parsimony and tree construction; Part II. Characters and Homology: 2.1 Homology and homoplasies; 2.2 Homology in molecular data; 2.3 Character definition; 2.4 Weighting; Part III. Cladograms and Trees: 3.1 Rooting procedures and character polarity; 3.2 Cladograms, phylograms, and phylogenetic trees; 3.3 Monophyly, paraphyly, and polyphyly; 3.4 Consensus trees; Part IV. Fit and Robustness: 4.1 Measuring goodness of fit; 4.2 Tests of robustness; Part V. Practical Exercise: 5.1 Phylogenetic analysis of eight species of sea-urchins; 5.2 Cladistic analysis of morphological characters; 5.3 Cladistic analysis of molecular characters; 5.4 Comparison of results and conclusions.

Subscriptions—Volume 3 in 2005: March, June, September, December
Institutions print and electronic: £140/$226
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Institutions print only: £124/$204
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'The authors should be congratulated for compiling and publishing this important and useful guide.'
Raphael Ikan, Organic Geochemistry

Volume 1: Biomarkers and Isotopes in the Environment and Human History
Second edition

Volume 2: Biomarkers and Isotopes in Petroleum Systems and Earth History
Second edition

Graduate Textbook
Radiogenic Isotope Geology
Second edition
Alan P. Dickin
McMaster University, Ontario
A new and fully updated edition of this popular advanced level textbook reviewing geological applications of techniques involving natural radioactive elements. Comprehensive coverage is given to rock dating and isotopic tracer studies. The new edition places more emphasis on applications to the environmental sciences. Fully illustrated with over 600 diagrams.

Handbook of Isotopes in the Cosmos
Donald Clayton
Clemson University, South Carolina
Focusing on current scientific knowledge, this Handbook of Isotopes in the Cosmos provides a unique information resource for scientists wishing to learn about the isotopes and their place in the cosmos. Suitable for astronomers, physicists, chemists, geologists and planetary scientists, complete with a glossary of essential technical terms.

Textbook
Geochemistry
Francis Albarède
Ecole Normale Supérieure, Lyon
Foreword by Albrecht W. Hofmann
This textbook deals with geochemistry at an introductory level, covering a broad range of applications in the Earth Sciences. The first chapters cover the basic principles. 'Geochemistry' is suitable for undergraduate teaching, but can also be used as a quick review of geochemical concepts by scientists from other fields.

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Vol. 1: £85.00
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Graduate Textbook: £65.00

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Handbook: c. £45.00

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Textbook: £60.00
Mineralogy and Petrology

**Trace Elements in Magmas**
A Theoretical Treatment
Denis M. Shaw
McMaster University, Ontario

Studying the distribution of certain elements, present in very low concentrations in igneous and metamorphic rocks, can yield important clues about the rocks' origin and evolution. Trace elements do not give rise to characteristic minerals, but their behaviour can be modelled to provide historical information about the source magma. This book brings together the essential theory required to understand the behaviour of trace elements in magmas, and magma-derived rocks. It presents a wide range of models and mechanisms which explain trace element distribution. *Trace Elements in Magmas* provides an excellent resource for graduate students, petrologists, geochemists and mineralogists, as well as researchers in geophysics and materials science.

- 2005 247 x 174 mm 200pp 119 line diagrams 2 half-tones 15 tables
- 0 521 82214 9 Hardback c. £60.00
- Publication August 2005

**Evolution and Differentiation of the Continental Crust**
Edited by Michael Brown
University of Maryland, Baltimore and Tracy Rushmer
University of Vermont

The evolution and differentiation of the continental crust pose fundamental questions that are being addressed by new research concerning melting, melt extraction and transport through the crust, and the effect of melt on crustal rheology. Insights into crustal processes have been triggered by combined field observations and laboratory experiments, supported by developments in numerical modeling. Opening chapters cover the structure of the continents, controls on heat production and the composition, differentiation and evolution of continental crust. The role of arc magmatism in the Phanerozoic and crustal generation in the Archean are addressed. Two regional examples illustrate the modification and differentiation of continental crust.

Process-oriented chapters cover melting, melt extraction and migration, and crustal rheology. The final chapters review the emplacement and growth of plutons and outline a modeling approach to the physical controls on crustal differentiation. This is a valuable summary of recent advances for graduate students and research workers.

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- 0 521 78237 6 Hardback c. £75.00
- Publication October 2005

**Igneous Rocks: A Classification and Glossary of Terms**
Recommenitons of the International Union of Geological Sciences
Subcommission on the Systematics of Igneous Rocks
Second edition
Edited by R. W. Le Maitre
University of Tasmania
A. Streckeisen
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and P. Bateman

The International Union of Geological Sciences (IUGS) recommendations for igneous rock classification and nomenclature.

‘... an indispensable reference and cook book for up-to-date petrographers and regional mappers.’
Tomas Feininger, The Canadian Mineralogist

- 2002 276 x 219 mm 252pp 21 line diagrams 20 tables
- 0 521 66215 X Hardback £48.00

**Crystals**
Growth, Morphology & Perfection
Ichiro Sunagawa
Tohoku University, Japan

How do crystals nucleate and grow? Why and how do crystals form such a wide variety of morphologies, from polyhedral to dendritic and spherulitic forms? These are questions that have been posed since the seventeenth century, and are still of vital importance today both for modern technology, and to understand the Earth’s interior and the formation of minerals by living organisms. In this book, Ichiro Sunagawa sets out clearly the atomic processes behind crystal growth, and describes case studies of complex systems from diamond, calcite and pyrite, to crystals formed through biomineralization, such as the aragonite of shells, and apatite of teeth. Essential reading for advanced graduates and researchers in mineralogy and materials science.

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- Publication April 2005

**NEW EDITION**

**Electron Microprobe Analysis and Scanning Electron Microscopy in Geology**
Second edition
S. J. B. Reed
University of Cambridge

Now fully updated to cover recent developments, this book covers the closely related techniques of electron microprobe analysis (EMPA) and scanning electron microscopy (SEM) specifically from a geological viewpoint. Topics discussed include: principles of electron-target interactions, electron beam instrumentation, X-ray spectrometry, general principles of SEM image formation, production of X-ray ‘maps’ showing elemental distributions, procedures for qualitative and quantitative X-ray analysis (both energy-dispersive and wavelength-dispersive), the use of both ‘true’ electron microprobes and SEMs fitted with X-ray spectrometers, and practical matters such as sample preparation and treatment of results. Throughout, there is an emphasis on geological aspects not mentioned in similar books aimed at a more general readership. The book avoids unnecessary technical detail in order to be easily accessible, and forms an up-to-date text on EMPA and SEM for geological postgraduate and postdoctoral researchers, as well as those working in industrial laboratories.

‘The subject is treated in a clear and logical fashion … Dr Reed has produced an excellent and thoroughly readable book … highly recommended for all those who use the electron microprobe.’

Allan Pring, Geological Magazine

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The Solid Earth
An Introduction to Global Geophysics
Second edition
C. M. R. Fowler
Royal Holloway, University of London
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Seismology

Fundamentals of Seismic Wave Propagation
Chris Chapman
Schlumberger Cambridge Research Ltd

Fundamentals of Seismic Wave Propagation presents a comprehensive introduction to the propagation of high-frequency body-waves in elastodynamics. The theory of seismic wave propagation in acoustic, elastic and anisotropic media is developed to allow seismic waves to be modelled in complex, realistic three-dimensional Earth models. This book provides a consistent and thorough development of modelling methods widely used in elastic wave propagation ranging from the whole Earth, through regional and crustal seismology, exploration seismics to borehole seismics, sonics and ultrasonics. Particular emphasis is placed on developing a consistent notation and approach throughout, which highlights similarities and allows more complicated methods and extensions to be developed without difficulty. This book is intended as a text for graduate courses in theoretical seismology, and as a reference for all academic and industrial seismologists using numerical modelling methods. Exercises and suggestions for further reading are included in each chapter.
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Quantitative Seismic Interpretation
Applying Rock Physics Tools to Reduce Interpretation Risk
Per Avseth
Tapan Mukerji
Stanford University, California
and Gary Mavko
Stanford University, California

Quantitative Seismic Interpretation demonstrates how rock physics can be applied to predict reservoir parameters, such as lithologies and pore fluids, from seismically derived attributes. The authors provide an integrated methodology and practical tools for quantitative interpretation, uncertainty assessment, and characterization of subsurface reservoirs using well-log and seismic data. They illustrate the advantages of these new methodologies, while providing advice about limitations of the methods and traditional pitfalls. This book is aimed at graduate students, academics and industry professionals working in the areas of petroleum geoscience and exploration seismology. It will also interest environmental geophysicists seeking a quantitative subsurface characterization from shallow seismic data. The book includes problem sets and a case-study, for which seismic and well-log data, and Matlab codes are provided on a website (http://publishing.cambridge.org/resourc es/0521816017). These resources will allow readers to gain a hands-on understanding of the methodologies.
- 2005 247 x 174 mm 416pp 171 line diagrams 7 tables
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- Publication March 2005

Early Earthquakes of the Americas
Robert L. Kovach
Stanford University, California

There is emerging interest amongst researchers from various subject areas in understanding the interplay of earthquake and volcanic occurrences, archaeology and history. This discipline has become known as archeseismology. Ancient earthquakes often leave their mark in the myths, legends, and literary accounts of ancient peoples, the stratigraphy of their historical sites, and the structural integrity of their constructions. Such information leads to a better understanding of the irregularities in the time-space patterns of earthquake and volcanic occurrences and whether they could have been a factor contributing to some of the enigmatic catastrophes in ancient times. This book focuses on the historical earthquakes of North and South America, and describes the effects those earthquakes have had with illustrated examples of recent structural damage at archaeological sites. It is written at a level that will appeal to students and researchers in the fields of earth science, archaeology, and history. ‘...a very companionable initiation into the complexities of teasing out meaningful information on early earthquake experience in the Western Hemisphere. It will serve as a stimulus for anyone who is interested in, and prepared to tackle, the difficult challenges of unravelling the earthquake past in the particular and special circumstances of the Americas.’
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3-D seismic data have become the key tool used in the petroleum industry to understand the subsurface. This book aims to help geoscientists new to the technique to interpret 3-D seismic data while avoiding common pitfalls. It’s an indispensable guide for graduate students, researchers, and petroleum industry professionals.

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Geological Magazine

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Fundamentals of Structural Geology
David Pollard
Stanford University, California
and Ray Fletcher
University of Colorado, Boulder

Fundamentals of Structural Geology provides a new framework for the investigation of geological structures by integrating field mapping and mechanical analysis. Assuming a basic knowledge of physical geology, introductory calculus and physics, it emphasizes the observational data, modern mapping technology, principles of continuum mechanics, and the mathematical and computational skills necessary to quantitatively map, describe, model, and explain deformation in Earth’s lithosphere. By starting from the fundamental conservation laws of mass and momentum, the constitutive laws of material behavior, and the kinematic relationships for strain and rate of deformation, the authors demonstrate the relevance of solid and fluid mechanics to structural geology. This book offers a modern quantitative approach to structural geology for advanced students and researchers in structural geology and tectonics. It is supported by a website hosting images from the book, additional colour images, student exercises and MATLAB scripts. Solutions to the exercises are available to instructors.

Contents:
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Planetary Science

Thrustbelts
Structural Architecture, Thermal Regimes and Petroleum Systems
Michal Nemcok
University of Utah
and Steven Schamel
University of Utah

Thrustbelts are likely to be productive sources of hydrocarbons well into the future. Many new technical tools are enabling new discoveries, or the more efficient recovery of known reserves. The authors provide a comprehensive account of thrust systems, including orogenic thrustbelts, transtensional ranges and accretionary prisms and discuss both thin skin thrust systems and thick skin inversion structures. The book includes major sections on the basic concepts, definitions and mechanics of thrust systems, the roles of syn-tectonic stratigraphy and fluid flow in determining structural style, the origins and nature of evolving thermal regimes in thrustbelts, and a thorough analysis of petroleum systems and hydrocarbon plays in thrustbelts. Case studies are presented with discussion of the potential applications of the technique, possible limitations and future developments. A comprehensive database of thrustbelts is available to download. This book will be an invaluable resource for research scientists, oil company managers and students.

Contents:

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Editors: Simon Milton
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Astrobiology combines the sciences of biology, chemistry, palaeontology, geology, atmospheric physics, planetary science, astrophysics and cosmology in the study of the origin, evolution and distribution of life in the universe. The International Journal of Astrobiology is a new journal which acts as an important forum for practitioners in this rapidly expanding field. Coverage includes cosmic prebiotic chemistry, planetary evolution, the search for planetary systems and habitable zones, extremophile biology and experimental simulation of extraterrestrial environments, life detection in our solar system and beyond, intelligent life and societal aspects of astrobiology.

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