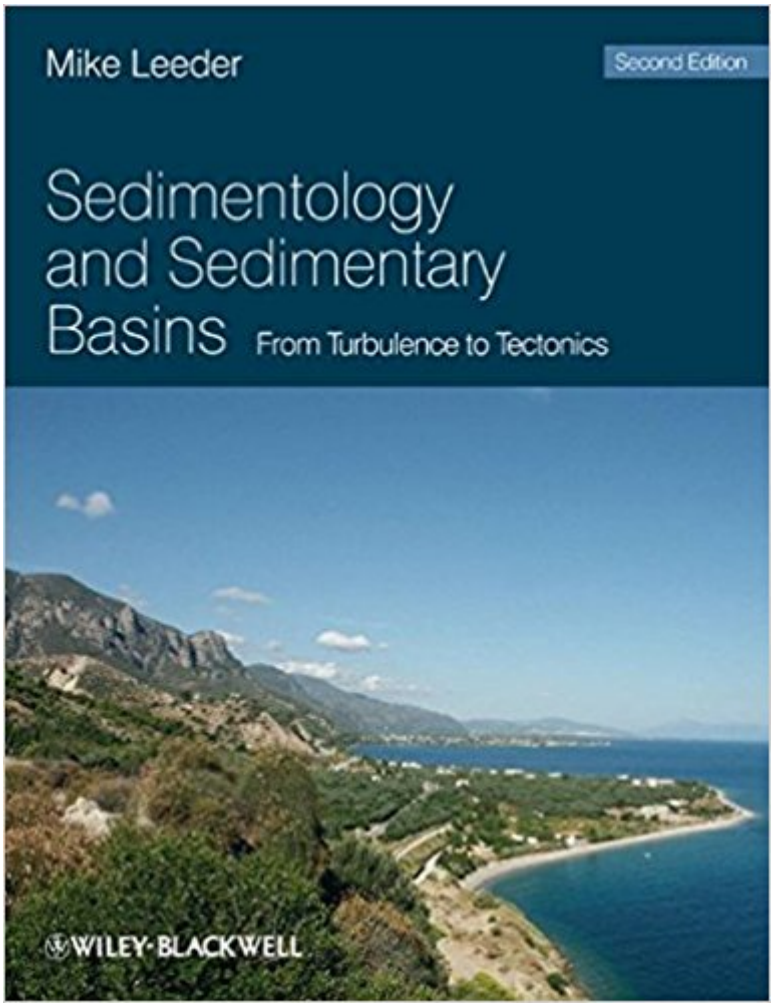
Sedimentology And Sedimentary Basins: From Turbulence To Tectonics



Synopsis

The sedimentary record on Earth stretches back more than 4.3 billion years and is present in more abbreviated forms on companion planets of the Solar System, like Mars and Venus, and doubtless elsewhere. Reading such planetary archives correctly requires intimate knowledge of modern sedimentary processes acting within the framework provided by tectonics, climate and sea or lake level variations. The subject of sedimentology thus encompasses the origins, transport and deposition of mineral sediment on planetary surfaces. The author addresses the principles of the subject from the viewpoint of modern processes, emphasising a general science narrative approach in the main text, with quantitative background derived in enabling Ã¢â ¬Ëœcookieà¢â ¬â„¢ appendices. The book ends with an innovative chapter dealing with how sedimentology is currently informing a variety of cognate disciplines, from the timing and extent tectonic uplift to variations in palaeoclimate. Each chapter concludes with a detailed guide to key further reading leading to a large bibliography of over 2500 entries. The book is designed to reach an audience of senior undergraduate and graduate students and interested academic and industry professionals.

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Customer Reviews

Ã¢â ¬Å“For them, I cannot recommend it too highly, this being a lifetime of scholarly endeavour encapsulated in one volume. It will, I am sure, be a standard reference for years to come.Ã¢â ¬Â•Ã Â (Geology Today, 1 May 2011) "The book is designed to reach an audience of senior undergraduate and graduate students and interested academic and industry professionals." (Solid Waste & Recycling, 8 March 2011)

Sedimentology and Sedimentary Basins provides an intermediate/advanced text that outlines the principle explanations for sedimentary and related processes. The author's philosophy is to provide clear physical and/or chemical explanations for sedimentary phenomena, and to show how sedimentary processes apply to various other earth science disciplines, particularly the evolution of sedimentary basins. --This text refers to an out of print or unavailable edition of this title.

dense and technical...for upper level undergrad and graduate level students

It's a goog book but the chapters could be organized better, anyway it is complete.

I think Leeder's textbook will appeal to anyone who's striving to learn more about sedimentology and dynamic stratigraphy. It's a concise, yet thorough introduction to many topics selected within the vast, ever-expanding (and worryingly so!) field of sedimentary geology... The author's main goal was probably to provide readers with a clear sense of how well integrated sedimentary geology now is with many other branches of earth and life sciences, physics and chemistry. And in my opinion that aim is succesfully achieved. The book will be suitable read to all those who have already taken an introductory, comprehensive course in sedimentology, on the look for something else to be inspired in their reflections. Reading through many of the chapters, newcomers will learn how sedimentology gained many precious contributions from other sciences, as well as just how much of a contribution the discipline itself can be to the whole bandwagon of geology. It takes a holistic approach to Earth system science to highlight this, and the book hits this mark real well... I appreciated particularly a brief, separate chapter dealing with the properties and stuctures of fine, cohesive sediments, which is a refreshing perspective on the physical and dynamical sedimentology of muds... And a longer one introducing sediment sources as resulting from the interaction of tectonics and erosional processes. What left me rather disappointed was a too cursory mention of base-level control on sedimentary successions, and its logical development into sequence stratigraphy, not as a preconceived model but as a new philosophy in tackling with the complexity of the stratigraphical record. But something had to be probably neglected or the tome would have become real cumbersome to handle physically! Also, I wonder whether Coriolis force really bears any influence upon such small-scale systems as lakes...? But this is an aside... All in all, the book is enjoyable and informative, the author's style pleasant and clear, the artwork excellent, and if you wanted to try out something alternative for mumbling on the hidden meanings of sands, muds and

other slimy stuff we like so much, having a go at this book would be very much worth the price...

Sedimentology and Sedimentary Basins: From Turbulence to Tectonics Tectonics of Sedimentary Basins Lithosphere Dynamics and Sedimentary Basins of the Arabian Plate and Surrounding Areas (Frontiers in Earth Sciences) Pressure Regimes in Sedimentary Basins and Their Prediction: An Outgrowth of the International Forum Sponsored by the Houston Chapter of the American ... ... Houston, TX, September 2-4, (AAPG Memoir) Principles of Sedimentary Deposits: Stratigraphy and Sedimentology Sulfidic Sediments and Sedimentary Rocks, Volume 65 (Developments in Sedimentology) Sedimentary Geology: An Introduction to Sedimentary Rocks and Stratigraphy Turbulence Turbulence: The Legacy of A. N. Kolmogorov Wake Turbulence: An Obstacle to Increased Air Traffic Capacity The Misbehavior of Markets: A Fractal View of Financial Turbulence The Water Gardening Idea Book: How to Build, Plant, and Maintain Ponds, Fountains, and Basins The Ocean Basins: Their Structure and Evolution, Second Edition (Open University Oceanography) Rocks and Minerals of The World: Geology for Kids - Minerology and Sedimentology (Children's Rocks & Minerals Books) Sedimentology and Sequence Stratigraphy of Reefs and Carbonate Platforms Principles of Sedimentology and Stratigraphy (3rd Edition) Geology and hydrogeology of carbonate islands, Volume 54 (Developments in Sedimentology) Carbonate Sediments and their Diagenesis, Second Edition (Developments in Sedimentology) Principles of Sedimentology and Stratigraphy (5th Edition) Sedimentology and Stratigraphy