

Siliciclastic Sequence Stratigraphy - Concepts and Applications

by H.W. Posamentier and G.P. Allen, 2000; SEPM Concepts in Sedimentology and Paleontology Series 7, Society for Sedimentary Geology, 1741 E. 71st Street, Tulsa, OK 74136-5108; hardbound, 204 pages; \$67, \$48 for SEPM members; ISBN 1-56576-070-0.

In this book, Posamentier and Allen have presented to the geoscience community a robust and in-depth analysis and discussion of sequence stratigraphy, particularly as it relates to siliciclastic deposition. Underlying their extended discussion of this topic is the view that sequence stratigraphy, at its root level, is an approach to understanding stratigraphic successions which involves the application of geological first principles. They emphasize that sequence stratigraphy is not a rote model, a “cookbook” approach, or a “blackbox” for generating output. The book is written in a style that offers a generous interplay between concepts, principles and case examples. It is richly illustrated.

The book is divided into 7 chapters. These include an overview, fundamental concepts, attributes of key stratigraphic surfaces, facies and log expressions of systems tracts, practical methods, misconceptions and pitfalls, and a concluding chapter. The overview chapter is relatively short and emphasizes the key geologic principles that underpin sequence stratigraphic inquiry. In the chapter on fundamental concepts, topics such as accommodation, sediment supply, relative sealevel, and the division of stratigraphic successions into sequences and system tracts are explored. The chapter on attributes of key stratigraphic surfaces carefully details the characteristics of surfaces that bound sequence-stratigraphic packages. The following two chapters on facies and log expression of systems tracts and practical methods embody a meaty discussion and wealth of case-study examples. The short chapter dealing with misconceptions, confusion, and pitfalls of sequence stratigraphy offers a number of interesting insights, in part from a historical perspective.

This hardcover volume has 210 printed pages, includes 240 figures, is supported by 374 references, and is indexed by subject as well as author. Seventeen reviews assisted the authors in the preparation of the text. Although the authors indicate that they think this work is a “snapshot” of sequence stratigraphy as it is today, this work will clearly be an important reference for years to come. In summary, the book contains a wealth of detailed information and can be mined over and over again for information or as reference needs come up.

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