



***Sediments, morphology and sedimentary processes on continental shelves - advances in technologies, research and applications***, edited by Michael Z. Li, Christopher R. Sherwood & Philip R. Hill., 2012. International Association of Sedimentologists Special Publication 44. Wiley Blackwell. Hardback, 432 pages. Price GBP 90.00. ISBN 978-1-4443-5082-1.

The extended perimeter of each continent and coastal plain, better known as the ‘continental shelf’, is exposed during glaciations and submerged under shallow seas during interglacials. Continental shelves extend in most places from the low-tide area to approx. 200 m below sea level. These are the areas of strong interplay between tide, fair-weather wave base, storm and mass-movement processes. The interpretation of ancient sedimentary successions developed on continental shelves is, understandably, largely based on sedimentological inventories of modern continental shelves, which are consequently of paramount importance,

During the last decade, the application of multi-beam and sediment-transport measurement technologies, as well as adoption of integrated techniques in sedimentologic research have been instrumental in advancing our understanding of the sediments, morphology and sedimentary processes on continental shelves. A comprehensive account of these significant developments was therefore long waited for. Special publication 44 of the International Association of Sedimentologists is logically most welcome.

The volume comprises twenty contributions, which have been grouped into three sections. The first section (seven contributions) is on the sediments and morphology in shelf and coastal systems. The introductory chapter reviews the state-of-the-art of multi-beam technology to continental shelf sedimentology. The following four chapters discuss the integration of multi-beam bathymetric mapping and seismic surveying and coring. Applications of these integrated techniques to the study of sand ridges on modern shelves are presented in the last two chapters of this section.

With eleven contributions, the second section is by far the largest. It deals with sediment-transport processes, sedimentation and modeling. The section starts with an excellent inventory on recent advancements in understanding sediment transport on continental shelves, with emphasis on near-bed measurement technologies. The subsequent six chapters present recent observations and data on seabed forcing, bedform morphology, migration, genesis of stratification and sedimentary structures. The origin, characteristics, seasonal, and spatial variation in suspended-sediment concentrations and transport are discussed in the last four chapters.

Only two chapters are included in the last (third) section. They summarize the application of sedimentologic research of continental shelves to habitat mapping and ocean management. The concluding chapter highlights the importance of multi-beam surveys in benthic-habitat mapping.

In general, the book is well written with up-to-date information that researchers and other professionals will find truly useful. The contributions are structured, well planned, and logically integrate observations with numerical data. I am sure this book will motivate numerous researchers to design and undertake multidisciplinary research on continental shelves and to interpret ancient continental-shelf successions. The references are up-to-date and largely accessible. I must congratulate the editors, authors and publisher for this excellent work and for

the affordable price, although a paperback volume would possibly have attracted many more buyers.

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