## Contents

Preface vii

**Part 1 Sediments and morphology in shelf and coastal systems**

Optimal use of multibeam technology in the study of shelf morphodynamics 3  
*John E. Hughes Clarke*

Palaeogeographic reconstruction of Hecate Strait British Columbia: changing sea levels and sedimentary processes reshape a glaciated shelf 29  
*J. Vaughn Barrie and Kim W. Conway*

Changes in submarine channel morphology and slope sedimentation patterns from repeat multibeam surveys in the Fraser River delta, western Canada 47  
*Philip R. Hill*

Recent sedimentary processes in the Cap de Creus canyon head and adjacent continental shelf, NE Spain: evidence from multibeam bathymetry, sub-bottom profiles and coring 71  

Geology metrics for predicting shoreline change using seabed and sub-bottom observations from the surf zone and nearshore 99  
*Jesse E. McNinch and Jennifer L. Miselis*

Re-examination of sand ridges on the middle and outer New Jersey shelf based on combined analysis of multibeam bathymetry and backscatter, seafloor grab samples and chirp seismic data 121  
*John A. Goff and Catherine S. Duncan*

Sedimentary facies of shoreface-connected sand ridges off the East Frisian barrier-island coast, southern North Sea: climatic controls and preservation potential 143  
*Chang Soo Son, Burghard W. Flemming and Tae Soo Chang*

**Part 2 Sediment transport processes, sedimentation and modelling**

Recent advances in understanding continental shelf sediment transport 161  
*L.D. Wright*

Recent advances in instrumentation used to study sediment transport 173  
*Jon J. Williams*

Seabed disturbance and bedform distribution and mobility on the storm-dominated Sable Island Bank, Scotian Shelf 197  
*Michael Z. Li, Edward L. King and Robert H. Prescott*

Temporal variability, migration rates and preservation potential of subaqueous dune fields generated in the Agulhas Current on the southeast African continental shelf 229  
*Burghard W. Flemming and Alexander Bartholomä*

Measurement of bedload transport in a coastal sea using repeat swath bathymetry surveys: assessing bedload formulae using sand dune migration 249  
*Garret P. Duffy and John E. Hughes-Clarke*

Analyzing bedforms mapped using multibeam sonar to determine regional bedload sediment transport patterns in the San Francisco Bay coastal system 273  
*Patrick L. Barnard, Li Erikson, David M. Rubin, Pete Dartnell and Rikk G. Kvitek*
Sediment transport on continental shelves: storm bed formation and preservation in heterogeneous sediments 295
*T. R. Keen, R. L. Slingerland, S. J. Bentley, Y. Furukawa, W. J. Teague and J. D. Dykes*

Tidal influence on the transport of suspended matter in the southwestern Yellow Sea at 6 ka 311
*Katsuto Uehara and Yoshiki Saito*

Origin, transport processes and distribution pattern of modern sediments in the Yellow Sea 321
*Xuefa Shi, Yanguang Liu, Zhihua Chen, Jianwei Wei, Sulan Ge, Kunshan Wang, Guoqing Wang, Shouye Yang, Shuqing Qiao, Deling Cai, Zhenbo Cheng, Wenrui Bu and Hi-Ii Yi*

Seasonal and spatial variation in suspended sediment characteristics off the Changjiang estuary 351
*Guoqing Wang, Xuefa Shi, Yanguang Liu, Xisheng Fang and Gang Yang*

Factors controlling downward fluxes of particulate matter in glacier-contact and non-glacier contact settings in a subpolar fjord (Billefjorden, Svalbard) 369
*Witold Szczuciński and Marek Zajączkowski*

**Part 3  Application and management**

On seabed disturbance, marine ecological succession and applications for environmental management: a physical sedimentological perspective 389
*Peter T. Harris*

Benthic habitat mapping from seabed acoustic surveys: do implicit assumptions hold? 405
*Vladimir E. Kostylev*

List of Reviewers 417
Index 419