

Contents

Preface

<i>H.G. Greene and B.J. Todd</i>	iii
--	-----

MODERN TECHNOLOGIES

Seafloor imagery, remote sensing and bathymetry: Acoustic Ground Discrimination Systems (AGDS)	
<i>C.J. Brown</i>	3
Satellite and airborne imagery including aerial photography for benthic habitat mapping	
<i>A. Dekker, R. Mount and A. Jordan</i>	11
Canadian imaging and sampling technology for studying benthic habitat and biological communities	
<i>D.C. Gordon, Jr., D.L. McKeown, G. Steeves, W.P. Vass, K. Bentham and M. Chin-Yee</i>	29
Automated textural image analysis of seabed backscatter mosaics: A comparison of four methods	
<i>R.D. Müller, S. Eagles, P. Hogarth and M. Hughes</i>	39

MAPPING TECHNIQUES

Mosaics of benthic habitats using laser line scan technology	
<i>M.R. Amend, M.M. Yoklavich, Y. Rzhanov, C.B. Grimes and W.W. Wakefield</i>	61
A rapid method to characterize seabed habitats and associated macro-organisms	
<i>T.J. Anderson, G.R. Cochrane, D.A. Roberts, H. Chezar and G. Hatcher</i>	71
Marine facies mapping using multibeam backscatter	
<i>O. Christensen, O. Longva, T. Thorsnes and A. Karlsen</i>	81
Exploratory surveys of seabed habitats in Australia's deep ocean using remote sensing – needs and realities	
<i>R.J. Kloser, A. Williams and A.J. Butler</i>	93
A quantitative approach for using multibeam sonar data to map benthic habitats	
<i>C.E. Whitmire, R.W. Embley, W.W. Wakefield, S.G. Merle and B.N. Tissot</i>	111

CLASSIFICATION SCHEMES

Marine classification, mapping, and biodiversity analysis	
<i>C.B. Cogan and T.T. Noji</i>	129
Construction of digital potential marine benthic habitat maps using a coded classification scheme and its application	
<i>H.G. Greene, J.J. Bizzarro, V.M. O'Connell and C.K. Brylinsky</i>	141

Addressing spatial uncertainty in mapping southern Australian coastal seabed habitats <i>V. Halley and A. Jordan</i>	157
Process-driven characterization and mapping of seabed habitats <i>V.E. Kostylev and C.G. Hannah</i>	171
A framework for a coastal/marine ecological classification standard (CMECS) <i>C.J. Madden and D.H. Grossman</i>	185
The use of geological data in developing a framework for the mapping of marine habitats on a national scale in English waters <i>S.L. Philpott, J.W.C. James, C.V.L. Poulton, E.J. Bee, C. Graham and L. Jones</i>	211
Development of a regional seafloor surficial geologic habitat map for the continental margins of Oregon and Washington, USA <i>C.G. Romsos, C. Goldfinger, R. Robison, R.L. Milstein, J.D. Chaytor and W.W. Wakefield</i>	219

CASE HISTORIES

Geophysical variables as predictors of megabenthos assemblages from the Northern Great Barrier Reef, Australia <i>R.J. Beaman and P.T. Harris</i>	247
Complex deep shelf habitat: Sponge reefs in the Pacific northwest <i>K.W. Conway, J.V. Barrie and M. Krautter</i>	265
The offshore Edgecumbe lava field, southeast Alaska: Geologic and habitat characterization of a commercial fishing ground <i>H.G. Greene, V.M. O'Connell, W.W. Wakefield and C.K. Brylinsky</i>	277
Habitat mapping of a cold-water coral reef off Norway: A comparison of visual and computer-assisted methods to interpret sidescan sonar data <i>V. Hühnerbach, Ph. Blondel, V.A.I. Huvenne and A. Freiwald</i>	297
A method for seabed habitat mapping: Integrating acoustic information with biogeophysical observations; case study – Scott Reef <i>I. McLeod, T.D. Skewes, S.R. Gordon and C.R. Pitcher</i>	309
The use of geophysical survey data in fisheries management: A case history from southeast Alaska <i>V.M. O'Connell, C.K. Brylinsky and H.G. Greene</i>	319
Benthic foraminifera as environmental indicators in Torres Strait–Gulf of Papua <i>A.L. Post, L. Sbaffi, V. Passlow and D.C. Collins</i>	329

Mapping marine benthic habitat in the Gulf of Alaska: Geological habitat, fish distributions, and fishing intensity	
<i>S.K. Shotwell, J. Heifetz, D.L. Courtney and H.G. Greene</i>	349

Video analysis of megabenthos assemblages in the central Gulf of Maine	
<i>L. Watling and C. Skinder</i>	369

SEAFLOOR DISTURBANCES

Marine mining and habitat	
<i>J.V. Barrie and T.M. Good</i>	381

Impact of offshore aggregate extraction in the Prince Rupert area of British Columbia, Canada	
<i>T.M. Good, J.V. Barrie and B.D. Bornhold</i>	389

Impacts of bay floor disturbances on benthic habitats in San Francisco Bay	
<i>H.G. Greene, T.L. Vallier, J.J. Bizzarro, S. Watt and B.E. Dieter</i>	401

Impacts of mobile fishing gear on continental shelf sedimentary habitat characterization	
<i>L. Watling</i>	421

The effects of dredge material disposal on marine benthic habitats of the Santa Cruz Bight, California	
<i>S. Watt and H.G. Greene</i>	427

MARINE POLICY

Ocean management of Queen Charlotte Basin, British Columbia, Canada	
<i>J.V. Barrie and K.W. Conway</i>	441

Applying marine habitat data to fishery management on the US west coast: Initiating a policy-science feedback loop	
<i>S.L. Copps, M.M. Yoklavich, G.B. Parkes, W.W. Wakefield, A. Bailey, H.G. Greene, C. Goldfinger and R.W. Burn</i>	451

Applications of geophysical information to the design of a representative system of marine protected areas in southeastern Australia	
<i>P.T. Harris</i>	463

Habitat mapping and national seafloor mapping strategies in Canada	
<i>R.A. Pickrill and V.E. Kostylev</i>	483

European marine geoscience database projects – giving access to existing collections	
<i>A.G. Stevenson and T. Thorsnes</i>	497

Index	505
--------------------	-----