

EARSeL

ADVANCES IN REMOTE SENSING

Remote Sensing and GIS for Coastal Zone Management

Vol. 4, No. 1, September 1995

Editor-in-Chief
EARSeL Publications

Dr. Robin Vaughan

A.P.E.M.E.
University of Dundee
Dundee DD1 4HN
Scotland, U.K.

Guest Editors

Dr. Roeland Allewijn
and Dr. Ir. Lucas Janssen

Rijkswaterstaat,
Survey Department
P. O. Box 5023
2600 GA Delft
The Netherlands

Editorial Assistant

Madeleine Godefroy

EARSeL Secretariat
Bureau 418
2, avenue Rapp
F-75340 Paris Cedex 07
France

EARSeL Advances in Remote Sensing 'RS and GIS for CZM'

Volume 4 Number 1 September 1995

FOREWORD

Dr R. Allewijn and Dr Ir L.L.F. Janssen V

SENSING THE COASTAL ZONES REMOTELY

R.A. Vaughan 1

I – GEOMORPHOLOGY AND SEDIMENTS

3-D DESKTOP MAPPING AND VOLUME CHANGE ESTIMATION OF THE NORTHERN AMELAND COAST, THE NETHERLANDS

J.P.G. Bakx, R.A. van Zuidam, N.J. Mulder 8

THE USE OF OPTICAL SATELLITE OBSERVATIONS TO OPTIMISE SHIP-BASED SAND INVENTORIES IN COASTAL AREAS

G.H.F.M. Hesselmanns, G.J. Wensink 15

THE USE OF ERS-1 SAR DATA TO SUPPORT BATHYMETRIC SURVEYS

G.H.F.M. Hesselmanns, G.J. Wensink, C.J. Calkoen 21

COASTLINE MANAGEMENT WITH GIS IN THE NETHERLANDS

T. van Heuvel, R. Hillen 27

MAPPING OF INTERTIDAL SURFACE SEDIMENTS USING HIGH RESOLUTION REMOTE SENSING (A STUDY IN THE WESTERSCHELDT AREA, THE NETHERLANDS)

J.M.M. Kokke 35

MONITORING TIDAL FLAT CHANGES USING ERS-1 SAR IMAGES AND GIS IN THE WESTERN WADDEN SEA AREA, THE NETHERLANDS

Y. Wang, B.N. Koopmans 45

II – WATER QUALITY

MODELLING OF REMOTE SENSING REFLECTANCE SPECTRA FOR SUSPENDED MATTER CONCENTRATION DETECTION IN COASTAL WATERS

I.J. A. Althuis, S. Shimwell 53

THE USE OF SPACEBORNE SAR IMAGERY FOR OIL SLICK DETECTION AT THE NORTH SEA

W.G. Bos, H. Konings, A.H.J.M. Pellemans, L.L.F. Janssen, R.W. van Swol 60

EVALUATION OF DIFFERENT METHODOLOGICAL APPROACHES FOR MONITORING WATER QUALITY PARAMETERS IN THE COASTAL WATERS OF ANDALUSIA (SPAIN)

A. Fernández-Palacios, J.M. Moreira Madueño, E. Sánchez Rodríguez, J. Ojeda Zújar 67

WATER QUALITY AND BOTTOM FEATURES IN AN OLIGOTROPHIC COASTAL LAGOON FROM AIRBORNE MULTISPECTRAL DATA: AN EVALUATION OF ALGORITHMS

J. Gilabert, A. Pérez-Ruzafa, J.M. Gutiérrez, A. Bel-lan, V. Moreno 76

A GROUND-TRUTH-DATA METHOD FOR THE DETECTION OF ORGANIC SUBSTANCES IN WATERS <i>K.H. Mittenzwey, G. Sinn</i>	87
COAST (COASTAL EARTH OBSERVATION APPLICATION FOR SEDIMENT TRANSPORT) <i>T.M. Peck, R.J.M. Sweet, H.N. Southgate, S. Boxall, A. Matthews, R. Nash, J. Aiken, H. Bottrell</i>	96
AVHRR IMAGERY REVEALS INTERANNUAL VARIATIONS OF SURFACE CYANOBACTERIAL ACCUMULATIONS IN THE BALTIC SEA <i>O. Rud, M. Kahru</i>	101

III – VEGETATION AND ECOLOGY

SPATIO-TEMPORAL MODELLING OF THE VEGETATION STRUCTURE IN THE AMSTERDAM WATERWORKS DUNES USING FALSE COLOUR ORTHOPHOTOS <i>W.J. Drogen, M. van Til, D. Assendorp</i>	106
GROUNDWATER MODELLING OF A COASTAL DUNE USING REMOTE SENSING AND GIS <i>T.W. Hobma, R.C. Bottelier, L.L.F. Janssen</i>	115
MONITORING OF <i>POSIDONIA OCEANICA</i> MEADOWS NEAR THE OUTFALL OF THE SEWAGE TREAT- MENT PLANT AT MARSEILLES (MEDITERRANEAN - FRANCE) <i>C. Pergent-Martini, V. Pasqualini, G. Pergent</i>	128
INTERTIDAL MAPPING OF THE WASH ESTUARY <i>D.C. Reid-Thomas, D.N.M. Donoghue, I. Shennan</i>	135

FOREWORD

The EARSeL workshop "Remote Sensing and GIS for Coastal Zone Management" was held in Delft, the Netherlands, from October 24-26, 1994.

The Rijkswaterstaat is the entity responsible for coastal zone management in the Netherlands. As such we are involved in the operational management as well as in the development and operationalisation of methods and techniques for coastal zone management. The Survey Department focuses on new applications based on remote sensing techniques and (geo-) information systems.

Apart from the national activities carried out by the Survey Department and the National Centre for Coastal and Marine Management (RIKZ) the Rijkswaterstaat is also involved in international activities. As such, Roeland Allewijn is Secretary General of the European Association of Remote Sensing Laboratories. Another example is the Coastal Zone Management Centre, based at the RIKZ, one of whose goals is to act as a reference centre for international organisations dealing with the coastal zones.

During the EARSeL workshop a large number of papers were presented which were all published in the proceedings that were handed out during the workshop. From these papers a selection was made for publication in the EARSeL Advances in Remote Sensing. All of these papers have been peer reviewed by at least two experts in that specific field. Please find 18 papers which have been categorised into three broad classes: (i) geomorphology and sediments, (ii) water quality and (iii) vegetation and ecology.

The results of the discussion held during the workshop have been published in a separate EARSeL expert report which may be acquired from the Survey Department.

We look back to a fruitful workshop and want to thank again all participants and reviewers for their contributions.

Dr Roeland Allewijn and Dr Ir Lucas Janssen
Rijkswaterstaat, Survey Department
P.O.Box 5023
2600 GA Delft
The Netherlands

voice: +31 15 2691 111
fax: +31 15 2618 962
e-mail: l.l.f.janssen@mdi.rws.minvenw.nl