Oceanographic and Marine Cross-Domain Data Management for Sustainable Development

Table of Contents

Section 1: Theory
Chapter 1: Oceanographic Data Management; Quills and Free Text to the digital age and ‘Big Data’
Justin JH Buck, Nation Oceanography Centre, UK
Roy K Lowry, Nation Oceanography Centre, UK

Chapter 2: Balancing Formalization and Representation in Cross-Domain Data Management for Sustainable Development
Paolo Diviacco, Istituto Nazionale di Oceanografia e di Geofisica Sperimentale, Italy
Adam Leadbetter, Marine Institute, Ireland

Chapter 3: Developing a Common Global Framework for Marine Data Management
Helen M Glaves, British Geological Survey, UK

Chapter 4: Linked Ocean Data 2.0
Adam Leadbetter, Marine Institute, Ireland
Michelle Cheatham, Wright State University, USA
Adam Shepherd, Woods Hole Oceanographic Institution, USA
Rob Thomas, British Oceanographic Data Centre, USA

Chapter 5: Documenting Provenance for Reproducible Marine Ecosystem Assessment in Open Science
Xiaogang Ma, Rensselaer Polytechnic Institute, USA
Stace E Beaulieu, Woods Hole Oceanographic Institution, USA
Linyun Fu, Rensselaer Polytechnic Institute, USA
Peter Fox, Rensselaer Polytechnic Institute, USA
Massimo Di Stefano, Rensselaer Polytechnic Institute; University of New Hampshire, USA
Patrick West, Rensselaer Polytechnic Institute, USA

Section 2: Technologies

Chapter 6: Semantic Search Engine for Data Management and Sustainable Development: Marine Planning Service Platform
Giuseppe Manzella, ETT SpA, Italy
Roberto Bartolini, CNR ILC, Italy
Franco Bustaffa, Delta Progetti, Italy
Paolo D'Angelo, ETT SpA, Italy
Maurizio De Mattei, Delta Progetti, Italy
Francesca Frontini, CNR ILC, Italy
Maurizio Maltese, Delta Progetti, Italy
Daniele Medone, Delta Progetti, Italy
Chapter 7: SeaDataNet – Towards a Pan-European Infrastructure for Marine and Ocean Data Management
Dick Schaap, Marine Information Service (MARIS), Netherlands

Chapter 8: Repositioning Data Management Near Data Acquisition
Paolo Diviacco, Istituto Nazionale di Oceanografia e di Geofisica Sperimentale, Italy
Jordi Sorribas, CSIC, Spain
Karien De Cauwer, RBINS, Belgium
Jean Marc Sinquin, Ifremer, France
Raquel Casas, CSIC, Spain
Alessandro Busato, OGS, Italy
Yvan Stoyanov, RBINS, Belgium
Serge Scory, RBINS, Belgium

Chapter 9: Interoperability in marine sensor networks through SWE services: The RITMARE experience
Alessandro Oggioni, CNR - Institute for Electromagnetic Sensing of the Environment (IREA), Italy
Paolo Tagliolato, CNR - Institute of Marine Science (ISMAR), Italy
Cristiano Fugazza, CNR - Institute for Electromagnetic Sensing of the Environment (IREA), Italy
Monica Pepe, CNR - Institute for Electromagnetic Sensing of the Environment (IREA), Italy
Stefano Menegon, CNR - Institute of Marine Science, Italy
Fabio Pavesi, CNR - Institute for Electromagnetic Sensing of the Environment (IREA), Italy
Paola Carrara, CNR - Institute for Electromagnetic Sensing of the Environment (IREA), Italy

Section 3: Case Studies

Chapter 10: Building a 4D Voxel-Based Decision Support System for a Sustainable Management of Marine Geological Resources
Vera Van Lancker, Royal Belgian Institute of Natural Sciences, OD Nature, Belgium
Frederic Francken, Royal Belgian Institute of Natural Sciences, OD Nature, Belgium
Lars Kint, Royal Belgian Institute of Natural Sciences, OD Nature, Belgium
Nathan Terseleer, Royal Belgian Institute of Natural Sciences, OD Nature, Belgium
Dries Van den Eynde, Royal Belgian Institute of Natural Sciences, OD Nature, Belgium
Lies De Mol, FPS Economy, Belgium
Guy De Tré-, Ghent University, Belgium
Robin De Mol, Ghent University, Belgium
Tine Missiaen, Ghent University, Belgium
Vasileios Hademenos, Ghent University, Belgium
Marcel Bakker, TNO - Geological Survey of the Netherlands, Netherlands
Chapter 11: Providing Oceanographic Data and Information to Pacific Island Communities
James Potemra, University of Hawaii, USA
John Maurer, University of Hawaii, USA
Echelle S. Burns, University of Hawaii, USA

Chapter 12: Marine environment data management related to human activity in the south-eastern Baltic Sea (Lithuanian segment)
Algimantas Grigelis, Nature Research Centre, Institute of Geology and Geography, Lithuania
Nerijus Blažauskas Klaipėda University, Lithuania
Leonora Živilė Gelumbauskaitė, Nature Research Centre, Institute of Geology and Geography, Lithuania
Saulius Gulbinskas, Klaipėda University, Lithuania
Sergej Suzdalev, Klaipėda University, Lithuania
Christian Ferrarin, Institute of Marine Sciences-National Research Council, Italy

Chapter 13: Data and Operational Oceanography. A Review in Support of Responsible Fisheries and Aquaculture
Enrique Wulff, Andalusian Institute for Marine Sciences (CSIS), Spain

Niels Kinneging, Deltares, Netherlands
Meinte Blaas, Deltares, Netherlands
Arjen Boon, Deltares, Netherlands
Kees Borst, Rijkswaterstaat, Netherlands
Gerrit Hendriksen, Deltares, Netherlands
Gerard Van der Kolff, Deltares, Netherlands
Theo C. Prins, Deltares, Netherlands
Willem Stolte, Deltares, Netherlands

Chapter 15: Analysis of Ocean in Situ Observations and Web-Based Visualization: From Individual Measurements to an Integrated View
Alexander Barth, University of Liege, Belgium
Sylvain Watelet, University of Liege, Belgium
Charles Troupin, Balearic Islands Coastal Ocean Observing and Forecasting System (SOCIB), Spain
Aida Alvera-Azcarate, University of Liege, Belgium
Jean-Marie Beckers, University of Liege, Belgium