Table of Contents

Foreword .............................................................................................................................................. xv

Preface ............................................................................................................................................... xvii

Section 1
Standards

Chapter 1
The Open Geospatial Consortium and Web Services Standards ...................................................... 1
Carl N. Reed, Open Geospatial Consortium, USA

Section 2
Design and Implementation

Chapter 2
Managing Granularity in Design and Implementation of Geospatial Web Services ....................... 18
Elias Z. K. Ioup, Naval Research Laboratory, USA
John T. Sample, Naval Research Laboratory, USA

Chapter 3
Enabling Quality of Geospatial Web Services .................................................................................. 36
Richard Onchaga Moses, Kenya Polytechnic University College, Kenya

Chapter 4
Security and Licensing for Geospatial Web Services ...................................................................... 64
Bastian Schäffer, University of Münster, Germany
Rüdiger Gartmann, Conterra GmbH, Germany
Section 3
Registry and Discovery

Chapter 5
OOSTethys/Oceans IE Service Registry Based on Catalog Service for Web

Manil Maskey, The University of Alabama in Huntsville, USA
Helen Conover, The University of Alabama in Huntsville, USA
Ken Keiser, The University of Alabama in Huntsville, USA
Luis Bermudez, Southeastern Universities Research Association, USA
Sara Graves, The University of Alabama in Huntsville, USA

Chapter 6
Using Distributed Semantic Catalogs for Information Discovery on Spatial Data Infrastructures

Fabio Gomes de Andrade, Federal Institute of Education, Science and Technology of Paraiba, Brazil
Fábio Luiz Leite Jr., Paraiba State University, Brazil
Cláudio de Souza Baptista, Federal University of Campina Grande, Brazil

Section 4
Semantic Web

Chapter 7
VISION: An Infrastructure for Semantic Geospatial Web Services

Sven Schade, Institute for Environment and Sustainability, Italy

Chapter 8
Geospatial Semantic Web Services: A Case for Transit Trip Planning Systems

Zhong-Ren Peng, University of Florida, USA & Tongji University, China
Tian Zhao, University of Wisconsin – Milwaukee, USA
Chuanrong Zhang, University of Connecticut, USA

Chapter 9
Linked Data: Connecting Spatial Data Infrastructures and Volunteered Geographic Information

Carlos Granell, Universitat Jaume I, Spain
Sven Schade, Institute for Environment and Sustainability, Italy
Gobe Hobona, University of Nottingham, UK

Chapter 10
Ontological and Semantic Technologies for Geospatial Portals

Naijun Zhou, University of Maryland College Park, USA
Chapter 17
Using Geospatial Web Services Holistically in Emergency Management ........................................ 401
  Ning An, Oracle America, Inc., USA
  Gang Liu, Lanzhou University, China
  Baris Kazar, Oracle America, Inc., USA

Chapter 18
A SOA-Based System for Territory Monitoring ................................................................. 426
  Elena Roglia, Turin University, Italy
  Rosa Meo, Turin University, Italy

Chapter 19
GeoBrain Online Analysis System: A SOA-Based Geospatial Web Portal .............................. 455
  Weiguo Han, George Mason University, USA
  Liping Di, George Mason University, USA
  Peisheng Zhao, George Mason University, USA
  Xiaoyan Li, George Mason University, USA

Compilation of References ........................................................................................................ 475

About the Contributors ............................................................................................................. 512

Index ........................................................................................................................................ 521