Table of Contents

Preface.................................................................................................................................................. xix

Chapter 1
Assessment of NASA’s Physiographic and Meteorological Datasets as Input to HSPF and SWAT
Hydrological Models ................................................................................................................................ 1
Vladimir J. Alarcon, Geosystems Research Institute & Northern Gulf Institute, Mississippi State
University, USA
Joseph D. Nigro, Science Systems and Applications, Inc., & NASA Goddard Space Flight Center, USA
William H. McAnally, Northern Gulf Institute, Mississippi State University, USA
Charles G. O’Hara, Geosystems Research Institute, Mississippi State University, USA
Edwin T. (Ted) Engman, NASA Goddard Space Flight Center, USA
David Toll, NASA Goddard Space Flight Center, USA

Chapter 2
A Quantitative Methodological Approach for the Definition of the Urban Systems of Benevento
and Salerno............................................................................................................................................... 20
Massimiliano Bencardino, University of Salerno, Italy

Chapter 3
A Comparison of Principal Component-Based and Multivariate Regression of Cardiac Disease ..... 31
Fox Underwood, University of Calgary, Canada
Stefania Bertazzon, University of Calgary, Canada

Chapter 4
Cartography and Geovisualization in Groundwater Modelling .............................................................. 49
E. Cascelli, Saipem SpA (ENI), Italy
E. Crestaz, Saipem SpA (ENI), Italy
F. Tatangelo, Saipem SpA (ENI), Italy

Chapter 5
Studies of Accessibility to Healthcare in Canada ..................................................................................... 68
Olesya Elikan, University of Calgary, Canada
Chapter 6
Indicators of Land Degradation Vulnerability Due to Anthropic Factors: Tools for an Efficient Planning

V. Imbrenda, University of Basilicata, Italy & National Research Council of Italy, Institute of Methodologies for Environmental Analysis (IMAA), Italy
M. D’Emilio, National Research Council of Italy, Institute of Methodologies for Environmental Analysis (IMAA), Italy
M. Lanfredi, National Research Council of Italy, Institute of Methodologies for Environmental Analysis (IMAA), Italy
M. Ragosta, University of Basilicata, Italy
T. Simoniello, National Research Council of Italy, Institute of Methodologies for Environmental Analysis (IMAA), Italy

Chapter 7
Land Cover Analysis for Evapotranspiration Assessment in Catania Metropolitan Region

Paolo La Greca, University of Catania, Italy
Daniele La Rosa, University of Catania, Italy
Francesco Martinico, University of Catania, Italy
Riccardo Privitera, University of Catania, Italy

Chapter 8
Mobile Phone Network Data: New Sources for Urban Studies?

Fabio Manfredini, Politecnico di Milano, Italy
Paola Pucci, Politecnico di Milano, Italy
Paolo Tagliolato, Politecnico di Milano, Italy

Chapter 9
Urban Sprawl and the Quantification of Spatial Dispersion

Federico Martellozzo, McGill University, Canada
Keith C. Clarke, University of California, Santa Barbara, USA

Chapter 10
Cultivated Lands within Urban Area: Cultural Heritage Dying out or New Environment Chance for the Town? The Case of Trieste (Northeastern Italy)

G. Mauro, University of Trieste, Italy

Chapter 11
Insurance in Italy: A Spatial Perspective

Giovanni Millo, Assicurazioni Generali SpA, Italy
Gaetano Carmeci, DEAMS, University of Trieste, Italy
Chapter 12
Urban Environment Quality in the Italian Spatial Data Infrastructure .................................. 179
L. Congedo, Istituto Superiore per la Protezione e la Ricerca Ambientale, Italy
F. Baiocco, Istituto Superiore per la Protezione e la Ricerca Ambientale, Italy
S. Brini, Istituto Superiore per la Protezione e la Ricerca Ambientale, Italy
L. Liberti, Istituto Superiore per la Protezione e la Ricerca Ambientale, Italy
M. Munafò, Istituto Superiore per la Protezione e la Ricerca Ambientale, Italy

Chapter 13
Spatial Clustering Phenomena of the Non-Native Resident Population in Italy .................. 193
Silvestro Montrone, University of Bari, Italy
Paola Perchinunno, University of Bari, Italy

Chapter 14
Can Long-Distance Rail Accessibility Affect the Real Estate Market? .............................. 201
Francesca Pagliara, University of Naples Federico II, Italy
John Preston, University of Southampton, UK

Chapter 15
Sustainability in the Safety Measures of the Historical-Cultural Heritage against Hydraulic Risks ................................................................. 213
Francesca Pirlone, University of Genoa, Italy
Zaira Sotgia, University of Genoa, Italy
Ilenia Spadaro, University of Genoa, Italy

Chapter 16
Integration of Satellite Remote Sensing Techniques and Landscape Metrics to Characterize Land Cover Change and Dynamics ................................................................. 228
Carmelo Riccardo Fichera, ‘Mediterranea’ University of Reggio Calabria, Italy
Giuseppe Modica, ‘Mediterranea’ University of Reggio Calabria, Italy
Maurizio Pollino, ENEA - National Agency for New Technologies, Energy and Sustainable Economic Development, Italy

Chapter 17
Cultural Heritage Management at the Local Level: A Geo-Spatial e-Participation Approach ........ 245
Lorena Rocca, University of Padova & Fondazione Eni Enrico Mattei, Italy
Aline Chiabai, Basque Centre for Climate Change BC3, Spain & Fondazione Eni Enrico Mattei, Italy
Livio Chiarullo, Fondazione Eni Enrico Mattei, Italy

Chapter 18
On the MDBSCAN Algorithm in a Spatial Data Mining Context ....................................... 263
Gabriella Schoier, Università di Trieste, Italy
Chapter 19
A GIS Implementation of a Model of Systemic Vulnerability Assessment in Urbanized Areas Exposed to Combined Risk of Landslide and Flood .................................................................274
   Francesco Sdao, University of Basilicata, Italy
   Ake Sivertun, Swedish National Defence College, Sweden
   Aurelia Sole, University of Basilicata, Italy
   Raffaele Albano, University of Basilicata, Italy
   Stefania Pascale, University of Basilicata, Italy
   Luciana Giosa, University of Basilicata, Italy

Chapter 20
A Dynamic Method and Interactive Software to Monitor and Design Place Identity ..................295
   Marichela Sepe, Consiglio Nazionale delle Ricerche, Istituto di Ricerche sulle Attività Terziarie and Università di Napoli Federico II, Dipartimento di Progettazione Urbana e di Urbanistica, Italy

Chapter 21
Reinforcing the Place of Dynamic Spatialised Indicators in a Generic Socioeconomic Model........313
   Fenintsoa Andriamasinoro, BRGM, France

Chapter 22
Seeking for Connections among Real Estate Economy, Social Value, and Identity inside the Districts of Manhattan .............................................................335
   Carmelo M. Torre, Polytechnic of Bari, Italy
   Palma R. Oliva, Polytechnic of Bari, Italy

Chapter 23
Wiki-Planning: The Experience of Basento Park In Potenza (Italy) ...........................................345
   Beniamino Murgante, University of Basilicata, Italy

Compilation of References ........................................................................................................360

About the Contributors .............................................................................................................390

Index .........................................................................................................................................404