

Table of Contents

Editorial	VII
Advances in Geographic Information Science and Geographic Information Technology	1
<i>Edited by Adrijana Car and Gerald Griesebner</i>	
<i>Armin Costa, Tania P. Firdausy, Markus Innerebner and Roberto Monsorno</i> EURAC SDI: A Near Real Time and Offline Automatic Metadata Generation Processing Chain	2
<i>*Teresa Batista, Cármen Caballero, Fernando Ceballos and Cristina Carriço</i> IDE-OTALEX: The First Crossborder SDI Between Portugal and Spain.....	6
<i>Enrico Boi, Chiara Dell’Orto, Marco Raffaldi and Paolo Viskanic</i> Finding the Right Approach for a National Underground Infrastructure Register Object	15
<i>*Manfred Schrenk, Wolfgang W. Wasserburger, Barbara Mušič and Linda Dörrzapf</i> SUNSHINE: Smart Urban Services for Higher eEnergy Efficiency.....	18
<i>Johannes Scholz, Roland Grillmayer and Manfred Mittlböck</i> shareOGD: An Approach for Integrating Semantic Information in Open Government Data.....	25
<i>*Daniela Zocher</i> Building Restoration: A GIS Task?	29
<i>*Hartwig Hochmair and Dennis Zielstra</i> Development and Completeness of Points Of Interest in Free and Proprietary Data Sets: A Florida Case Study	39
<i>*Mari Laakso, Hanna-Marika Halkosaari, Tapani Sarjakoski and L.Tiina Sarjakoski</i> User Experiences with Voice-Based Descriptive Map Content in a Hiking Context	49
<i>*Mariana Belgiu, Thomas J. Lampoltshammer and Barbara Hofer</i> An Extension of an Ontology-Based Land Cover Designation Approach for Fuzzy Rules	59

* Papers marked with * have participated in a full review process with a minimum of 2 reviewers. Other contributions are based on the evaluation of extended abstracts.

<i>*Auriol Degbelo</i>	
Modelling the Spatial and Temporal Resolution of a Sensor Observation	71
<i>*Tobias Sturn, Dietmar Pangerl, Linda See, Steffen Fritz and Michael Wimmer</i>	
Landspotting: A Serious iPad Game for Improving Global Land Cover	81
<i>Alexis Comber, Chris Brunsdon, Linda See and Steffen Fritz</i>	
Evaluating Global Land Cover Datasets: Comparing VGI on cropland with formal data	91
<i>Christoph Perger, Ian Mccallum, Franziska Albrecht, Linda See, Steffen Fritz and David Thau</i>	
Improved Cropland Mapping in Ethiopia	96
<i>Franziska Albrecht, Christoph Perger, Christian Schill, Linda See, Ian McCallum, Ruth Collins and Steffen Fritz</i>	
Using Crowdsourcing to Examine Land Acquisitions in Ethiopia	100
<i>Oliver Gunawan, Richard P. Armitage and Philip James</i>	
The Ecosystem Approach as a Means to Characterise Urban Green Spaces	105
<i>Michael Schlund, Felicitas von Poncet, Steffen Kuntz and Dirk H. Hoekman</i>	
Relationship of Canopy Cover with TanDEM-X Features in a Tropical Peat Swamp Forest	109
<i>Heino Rudolf</i>	
Geographical Information System “Meets” Environmental Data Management: Exemplified at Practical Projects	113
<i>*Marco Helbich, Jamal Jokar Arsanjani and Michael Leitner</i>	
Driving Forces of Non-Violent Crime in Houston, TX: A Spatially Filtered Negative Binomial Model.....	117
<i>*Michael Leitner and Diansheng Guo</i>	
Analyzing the Impact of One Important Unplanned Exceptional Event, Hurricanes, on Crime in Louisiana, U.S. Using a Visual Analytics Approach	127
<i>*John-Paul Glutting</i>	
Excess Heat-Related Mortality in Micro-Urban Heat Islands: A Case-only Study in Barcelona	137
<i>*Agnieszka Wypych</i>	
Using GIS Methods in Spatial Modelling of Climatic Water Balance Index	147
<i>*Bakhtiar Feizizadeh, Piotr Jankowski and Thomas Blaschke</i>	
A Spatially Explicit Approach for Sensitivity and Uncertainty Analysis of GIS-Multicriteria Landslide Susceptibility Mapping	157

<i>Ionuț Șandric and Zenaida Chițu</i>	
Landsat Time Series Analysis for Modelling Temporal Probability for Landslide Occurrences in Curvature Subcarpathians, Romania.....	165
<i>*Peter Ranacher and Adam Rousell</i>	
An Adaptive Sampling Approach for Trajectories Based on the Concept of Error Ellipses	169
<i>*Eva Haslauer, Dagmar Schnürch and Thomas Prinz</i>	
A Spotlight on Mobility and Interconnection in Rural vs. Urban Areas.....	177
<i>*Josef Hecher, Anthony Filippi, Inci Guneralp and Gernot Paulus</i>	
Extracting River Features from Remotely Sensed Data: An Evaluation of Thematic Correctness	187
<i>*Ihab Hijazi and Bryan Hemphen</i>	
Simplifying and Exchanging 3D Utility Network Objects Using City Models.....	197
<i>*Martin Schuster and Christopher Gomez</i>	
Evacuation Routing Out of Tsunami Hazard Zones	206
<i>*Christian Neuwirth, Sebastian D'Oleire-Oltmanns and Clemens Eisank</i>	
A Proposal for Mapping Historic Irrigation Channels to Reveal Insights into Agro-Climatic Systems: A Case Study in Upper Austria	216
<i>Marius Herrmann and Adrijana Car</i>	
Creating a Geodatabase for Tourism Research in the Sultanate of Oman	224
<i>*Stefan Schabus, Melanie Tomintz and Jan Rigby</i>	
The Influence of Distance and Neighbourhood Surroundings on Children`s Travel Mode to School.....	229
<i>Sandro Arcidiacono</i>	
Implementation of a Web-based NASA World Wind Tool for the Visualization of Climate Data	239
<i>*Thomas Bahr and Bill Okubo</i>	
A New Cloud-based Deployment of Image Analysis Functionality.....	243
<i>*Johannes Liebermann, Gerhard Navratil and Florian Kressler</i>	
Tracking Quality of Low-Cost GNSS-Receivers.....	251

Spatial Citizenship	261
<i>Edited by Dorothee Quade, Tilo Felgenhauer and Nicole Ferber</i>	
<i>Dorothee Quade and Tilo Felgenhauer</i>	
Section Editorial: Geoinformation and Society: Practising and Comprehending Geomedia	262
<i>Francis Harvey</i>	
A New Age of Discovery: The Post-GIS Era	272
<i>*Inga Gryl, Uwe Schulze and Detlef Kanwischer</i>	
Spatial Citizenship: The Concept of Competence	282
<i>*Anke Uhlenwinkel</i>	
Spatial Thinking or Thinking Geographically? On the Importance of Avoiding Maps without Meaning	294
<i>*Vânia Carlos and Inga Gryl</i>	
Where Do Critical Thinking and Spatial Citizenship Meet? Proposing a Framework of Intersections	306
<i>*Robert Vogler and Sabine Hennig</i>	
Providing Geomedia Skills beyond (Post)Secondary Education	317
<i>*Dražen Odošašić, Damir Medak and Mario Miler</i>	
Gamification of Geographic Data Collection	328
<i>*Pablo Abend</i>	
The Uses of Geomedia: An Object-Centered and Situated Approach	338
<i>Francis Harvey and Gianluca Miscione</i>	
Irreductionally Real Information Infrastructures: Practices beyond Universals	349
<i>*Renate Steinmann, Elisabeth Häusler, Silvia Klettner, Manuela Schmidt and Yuwei Lin</i>	
Gender Dimensions in UGC and VGI: A Desk-Based Study	355
<i>*Nicole Ferber and Thomas Jekel</i>	
Visualising the Re-Production of Space with Multi-Layer Maps	365
Education for Digital Earth	377
<i>Edited by Robert Vogler, Alfons Koller and Karl Donert</i>	
<i>*Elisa Michel and Angela Hof</i>	
Promoting Spatial Thinking and Learning with Mobile Field Trips and eGeo-Riddles	378

<i>*Martin Düren and Thomas Bartoschek</i> Assessing the Usability of WebGIS for Schools	388
<i>*Thomas Schauppenlehner, Anna Höglhammer, Andreas Muhar and Renate Eder</i> Rethinking Urban Space: GPS Drawing as a Tool to Examine Spatial Patterns and Relationships.....	399
<i>*Jérôme Staub</i> How to Map Audio Data with Students after Doing Fieldwork Using Mobile Devices?	407
<i>*Frederik von Reumont and Alexandra Budke</i> Using Versatile Cartographic Means in a Virtual Field Trip to Cologne	418
<i>*Josef Hofer</i> Preparing a Vienna Project Week in Web 2.0 (from Approved Forms of Preparation to E-Learning Resulting in E-Content).....	428
<i>*Thomas Bartoschek and Vânia Carlos</i> What Happens when Teacher Training in Digital Geomedia is over? Case Studies Analyzing Levels of Pedagogical Integration.....	437
<i>*Wim Daems, Jan Dierckx, Karl Donert and Danny van der Veken</i> Experience with the GIS Mobility Project at KOGEKA: An Example of Co-operation between Primary and Secondary Schools on School Mobility and Traffic Safety.....	447
<i>Roland Goetzke, Henryk Hodam, Andreas Rienow and Kerstin Voß</i> Tools and Learning Management Functions for a Competence-Oriented Integration of Remote Sensing in Classrooms	458
<i>Durval Silva</i> Mathematics and Geography with Digital-Earth	463
<i>Matthias Groessler, Detlef Kanwischer and Engelbert Niehaus</i> Spatial Orientation, Geomedia and Learning: The design of a Comparative Empirical Study	467
<i>Luc Zwartjes and Karl Donert</i> I-Use Statistics in Education.....	473

Ecosystem and Biodiversity Monitoring: Best Practice in Europe and Globally (EO4Hab)	477
<i>Edited by Stefan Lang and Lena Pernkopf</i>	
<i>Stefan Lang, Christina Corbane and Lena Pernkopf</i>	
Earth Observation for Habitat and Biodiversity Monitoring	478
<i>Maria Adamo, Cristina Tarantino, Vasiliki Kosmidou, Zisis Petrou, Ioannis Manakos, Valeria Tomaselli, Richard Lucas, Sander Muncher and Palma Blonda</i>	
Exploitation of Remote Sensing Data for Land Cover to Habitat Map Translation: A Case Study	487
<i>Palma Blonda</i>	
An Introduction to the BIO_SOS Project: BIOdiversity Multi-Source Monitoring System – from Space to Species	492
<i>Francisco J. Bonet-García, Ramón Pérez-Pérez, Antonio J. Pérez-Luque and Pedro J. Magaña-Redondo</i>	
An Ontological Indicator System Based on MODIS Images to Detect Changes in Habitats Functioning in Sierra Nevada (Spain) Natura 2000 Site	496
<i>Pedro Castro, Joaquim Alonso, Carlos Guerra, João Gonçalves, Isabel Pôças, Bruno Marcos and João Honrado</i>	
Novel Tools to Improve the Management of Spatial Data Quality in the Context of Ecosystem and Biodiversity Monitoring	500
<i>Christina Corbane, Samuel Alleaume and Michel Deshayes</i>	
Mapping Natural Habitats Using Remote Sensing and Sparse Partial Least Square Discriminant Analysis	504
<i>Christine Estreguil and Giovanni Caudullo</i>	
Modelling the Connectivity of Natura 2000 Sites and Their Integration in the Wider Landscape	508
<i>Athanasios S. Kallimanis, Panayotis Dimopoulos, Valeria Tomaselli, Joao Honrado, Richard Lucas, Carmela Marangi and Palma Blonda</i>	
Comparing Habitat Classification Schemes for Assessing Landscape Diversity	512
<i>Richard Lucas, Gwawr Jones, Peter Bunting, Vasiliki Kosmidou, Zisis Petrou, Jordi Inglada, Maria Adamo, Palma Blonda, Sander Mucher and Damien Arvor</i>	
Land Cover and Habitat Classification from Earth Observation Data: A New Approach from BIO_SOS	516

<i>Sander Múcher, Laure Roupioz, Henk Kramer, Michel Wolters, Marion Bogers, Richard Lucas, Peter Bunting, Zisis Petrou, Vasiliki Kosmidou, Ioannis Manakos, Emilio Padoa-Schioppa, Gentile Francesco Ficetola, Anna Bonardi, Maria Adamo and Palma Blonda</i>	
LiDAR as a Valuable Information Source for Habitat Mapping	520
<i>Simon Nieland, Michael Förster and Birgit Kleinschmit</i>	
Towards Semantic Interoperability in Biodiversity Monitoring	524
<i>Antonia Osberger and Dirk Tiede</i>	
Forest Disturbance Information Layer for Alpine Forest Habitats	528
<i>Keith Peterson and Felicitas von Poncet</i>	
Terrasar-X Based Monitoring of Mangrove Reforestation in Senegal: A Feasibility Study	532
<i>Anastasia Polychronaki, Nadine Spindler, Alexander Schmidt, Barbara Stoinschek, Marc Zebisch, Kathrin Renner, Claudia Notarnicola and Ruth Sonnenschein</i>	
Mapping Habitats in Alpine Regions Using Multi-Temporal Rapideye Data	536
<i>Barbara Riedler, Thomas Strasser, Lena Pernkopf, Dirk Tiede and Stefan Lang</i>	
Habitat Quality Analysis of Natura 2000 Riparian Forests	540
<i>Mauro Rossi, Dino Torri, Elisa Santi, Giovanni Bacaro and Ivan Marchesini</i>	
BIO_SOS Modelling Activities: Modelling Runoff-Sediment Connectivity	544
<i>Christoph Schröder, Francisco Javier Bonet Garcia, Oliver Buck, Christina Corbane, Michel Deshayes, Michael Förster, Virginia García Millán, Yolanda Gil Jimenez, Stefan Lang, Blanca Ramos Losada, Alejandro Simón Colina and Jeroen Vanden Borre</i>	
Validation of Habitat Assessment Services in Natura 2000 Sites: Streamlining the Role of Stakeholders from User Needs to Conservation Status Evaluation.....	548
<i>Geoff Smith</i>	
Hybrid Pixel- and Object-Based Approach to Habitat Condition Monitoring.....	552
<i>Jens Stutte and Stelios Bollanos</i>	
BIO_SOS' EODHaM System Towards an Operational Habitat Monitoring Service.....	556
<i>Valeria Tomaselli, Panayotis Dimopoulos, Carmela Marangi, Athanasios S. Kallimanis, Maria Adamo, Cristina Tarantino, Maria Panitsa, Massimo Terzi, Giuseppe Veronico, Francesco Lovergine, Harini Nagendra, Richard Lucas, Paola Mairota, Caspar A. Mucher and Palma Blonda</i>	
Comparison of Land Cover/Land Use and Habitat Classification Systems for Habitat Mapping from Space: Strengths and Weaknesses Evidenced in Mediterranean Sites of Natura 2000 Network	560
Acknowledgement	565

