

Contents

Part I The Span of Cartography

Cartographic Memory Preservation of the Petrópolis City in Brazil: Koeler Map Scanning Using Photographic Survey	3
Manoel do C. Fernandes, Tainá Laeta, Deivison F. dos Santos and Paulo M.L. de Menezes	
Location Spoofing in a Location-Based Game: A Case Study of Pokémon Go	21
Bo Zhao and Qinying Chen	

Part II Crowdsourcing and Data

Educational Aspects of Crowdsourced Noise Mapping	35
Andrea Pődör and László Zentai	
Crowd and Community Sourced Data Quality Assessment	47
Laurence Jolivet and Ana-Maria Olteanu-Raimond	
Crowdsourcing Mapping and Participatory Planning Support System: Case Study of Brno, Czechia	61
Jiří Pánek and Vít Pászto	
A Framework for Enhancing Real-Time Social Media Data to Improve the Disaster Management Process	75
Syed Attique Shah, Dursun Zafer Şeker and Hande Demirel	
Building a Real-Time Geo-Targeted Event Observation (Geo) Viewer for Disaster Management and Situation Awareness	85
Ming-Hsiang Tsou, Chin-Te Jung, Christopher Allen, Jiue-An Yang, Su Yeon Han, Brian H. Spitzberg and Jessica Dozier	

The Academic SDI—Towards Understanding Spatial Data Infrastructures for Research and Education	99
Serena Coetzee, Stefan Steiniger, Barend Köbben, Adam Iwaniak, Iwona Kaczmarek, Petr Rapant, Antony Cooper, Franz-Josef Behr, Govert Schoof, Samy Katumba, Rumiana Vatseva, Kisco Sinvula and Harold Moellerling	
Part III Map Design	
Introducing Leader Lines into Scale-Aware Consistent Labeling	117
Hsiang-Yun Wu, Shigeo Takahashi, Sheung-Hung Poon and Masatoshi Arikawa	
On the Way to Create Individualized Cartographic Images for Online Maps Using Free and Open Source Tools	131
Csaba Szigeti, Gáspár Albert, Virág Ilyés, Dávid Kis and Dávid Várkonyi	
Hebrus Valles—The Mars Exploration Zone Map	145
Mateusz Pitura	
XY Domain: A Sound Map Artwork for Communicating Big Data Characteristics	159
Antoni B. Moore and Charlotte Parallel	
Reproducible Cartography	173
Timothée Giraud and Nicolas Lambert	
Part IV Evaluating Map Quality	
Effectiveness and Efficiency of Using Different Types of Rectangular Treemap as Diagrams in Cartography	187
Mengjie Zhou, Yan Cheng, Ning Ye and Jing Tian	
The Usability of a GeoVisual Analytics Environment for the Exploration and Analysis of Different Datasets	207
Irma Kveladze, Menno-Jan Kraak and Corné P.J.M. van Elzakker	
Characterizing Maps from Visual Properties	223
Catherine Dominguès and Laurence Jolivet	
How Hard Is It to Design Maps for Beginners, Intermediates and Experts?	239
Gáspár Albert, Virág Ilyés, Csaba Szigeti, Dávid Kis and Dávid Várkonyi	
Interaction Problems Found Through Usability Testing on Interactive Maps	255
Elaine Gomes Vieira de Jesus, Patricia Lustosa Brito and Vivian de Oliveira Fernandes	

The Apprehension of Overlaid Information in a Web Map.	269
Dzenan Dumpor and Terje Midtbø	
Visualization of Environment-related Information in Augmented Reality: Analysis of User Needs	283
Kateřina Chmelařová, Čeněk Šašínská and Zdeněk Stachoň	
Part V Geographic Analysis	
Analysis and Visualization of the Urban Residents' Income-Related Happiness Index in China	295
Ying Song, Yang Yu, Yanfang Liu, Zixi Liu, Qianyi Li and Guoguang Xu	
Displaying Voter Gains and Losses: Local Government Elections in South Africa for 2011 and 2016.	309
Peter M.U. Schmitz	
Mapping Community Vulnerability to Poaching: A Whole-of-Society Approach	325
Peter M.U. Schmitz, Duarte Gonçalves and Merin Jacobs	
Mapping Urban Landscapes Along Streets Using Google Street View	341
Xiaojiang Li, Carlo Ratti and Ian Seiferling	
Part VI Numerical Analysis	
Cross-Scale Analysis of Sub-pixel Variations in Digital Elevation Models.	359
Mehran Ghandehari, Barbara P. Battenfield and Carson J.Q. Farmer	
Extraction of Ridge Lines from Grid DEMs with the Steepest Ascent Method Based on Constrained Direction.	375
Wenping Jiang, Daping Xi, Xiaolong Deng, Lina Huang and Shen Ying	
Using the A* Algorithm to Find Optimal Sequences for Area Aggregation	389
Dongliang Peng, Alexander Wolff and Jan-Henrik Haunert	
Quantitative Expressions of Spatial Similarity in Multi-scale Map Spaces	405
Haowen Yan, Liming Zhang, Zhonghui Wang, Weifang Yang, Tao Liu and Liang Zhou	
Balanced Allocation of Multi-criteria Geographic Areas by a Genetic Algorithm	417
Shahin Sharifi Noorian and Christian E. Murphy	

Rethinking the Buffering Approach for Assessing OpenStreetMap Positional Accuracy	435
Qi Zhou	
Data Classification for Highlighting Polygons with Local Extreme Values in Choropleth Maps	449
Jochen Schiewe	
 Part VII Routing	
A Confidence-Based Approach for the Assessment of Accessibility of Pedestrian Network for Manual Wheelchair Users	463
Amin Gharebaghi, Mir-Abolfazl Mostafavi, Geoffrey Edwards, Patrick Fougeyrollas, Patrick Morales-Coayla, François Routhier, Jean Leblond and Luc Noreau	
Accessibility in Pedestrian Routing	479
Megen Brittell, Christine Grummon, Amy Lobben, Masrudy Omri and Nicholas Perdue	
Visualization of Traffic Bottlenecks: Combining Traffic Congestion with Complicated Crossings	493
Andreas Keler, Jukka M. Krisp and Linfang Ding	
Psychogeography in the Age of the Quantified Self—Mental Map Modelling with Georeferenced Personal Activity Data	507
Sebastian Meier and Katrin Glinka	
 Part VIII Final Reflections	
In Search of the Essence of Cartography	525
Marek Baranowski, Dariusz Gotlib and Robert Olszewski	
Author Index	537
Subject Index	539

<http://www.springer.com/978-3-319-57335-9>

Advances in Cartography and GIScience
Selections from the International Cartographic
Conference 2017

Peterson, M.P. (Ed.)

2017, XVI, 542 p. 218 illus., 197 illus. in color.,

Hardcover

ISBN: 978-3-319-57335-9