

21st Conference on Geo-information science Lund 12-15 June, Sweden **Lund University GIS Center**

Detailed program

SP = 20 min short paper FP = 30 min full paper GC1 = Geocentrum 1 GC2 = Geocentrum 2 Preconference Workshops, Tuesday 12. June, 9:00-18:00 Opening Reception, Tuesday 12. June, 18:00-20:00 Sölvegatan 12 ESRI Reception, Tuesday 12. June, 20:00 O'Learys, Klostergatan 14B Welcome, Wednesday 13. June, 9:00-9:30 Ali Mansourian, Petter Pilesjö Room: Aula LUX - Rm. C116 Sven Lidin, Dean, Faculty of Science Keynote Speaker, Wednesday 13. June, 9:30-10:30 Geotechnologies for All: Leaving All for Last Room: Aula Prof. Sara Fabrikant LUX - Rm. C116 Panel Discussion, Wednesday 13. June, 11:00-12:00 Room: Aula Conceptualizing a Geospatial Software Institute (GSI) Mike Goodchild, Mike Gould, Marinos Kavouras, Martin Raubal, Monika Sester, Shaowen Wang LUX - Rm. C116 Paper Session, Wednesday 13. June, 12:20-13:00 Chair: Lars Bernard 1a Analysis of Big Spatial Data Room: Världen Modelling massive AIS streams with quad trees and Gaussian Mixtures (SP) Anita Graser, Peter Widhalm GC1 - Rm. 111 The impact of different statistical parameter values between point based datasets when assessing spatial relationships (SP) Rene Westerholt 1b Social media applications Chair: Bin Jiang Cross-checking user activities in multiple geo-social media networks (SP) Room: Pangea GC2 - Rm. 229 Levente Juhász, Hartwig Hochmair Geocoding of Crisis Related Social Media Messages for Assessing Voluntary Help Efforts as a Contribution to Situational Awareness (SP) Sebastian Drost, Andreas Wytzisk, Albert Remke 1c Model Web, Geospatial Workflows and Service Composition Chair: Tapani Sarjakoski Towards 1015-level point clouds management - a nD PointCloud approach (SP) Room: Atmosfären Haicheng Liu, Peter van Oosterom, Martijn Meijers, Edward Verbree GC2 - Rm. 209 Application of open hydro-meteorological data for web-based analysis and processing (SP) Stefan Wiemann Chair: Danny Vandenbroucke 1d SDI Education and Training Running a Spatial Data Infrastructure for Interdisciplinary Research - How we did it & what we learned so far (SP) Room: Rodinia GC2 - Rm. 243 Stefan Steiniger, Helen de la Fuente Geospatial expertize, cooperation networks and development potential in Tanzania (SP) Niina Kayhko, Christopher William, Joseph Mayunga, Makame Omar Makame, Ernest Mauya Chair: Micael Runnström 1e Spatiotemporal Modelling and Analysis Room: Baltica Examining the impact of new metro services on dockless bike sharing mobility patterns (SP) Yuanxuan Yang, Alison Heppenstall, Andy Turner, Alexis Comber GC2 - Rm. 237 3D immersive Underground Navigation (SP) Alexandre Devaux, Quoc Dinh Nguyen, Mathieu Bredif, Didier Richard Paper Session, Wednesday 13. June, 14:00-15:30 2a Volunteered Geographic Information Chair: Lars Harrie Development of System for Real-time Collection, Sharing, and Use of Disaster Information (FP) Room: Världen Toshihiro Osaragi, Ikki Niwa GC1 - Rm. 111 Supporting the monitoring of cheetahs in Kenya by mobile map apps (FP) Gertrud Schaab, Jan Jedersberger, Christian Stern, Mary Wykstra Introducing Spatial Variability to the Impact Significance Assessment (FP) Rusne Sileryte, Jorge Gil, Alexander Wandl, Arjan van Timmeren 2b Data Mining and Knowledge Discovery Chair: Carsten Kessler Towards Automatic Extraction of Cartographic Metadata from the Code of Online Maps (SP) Room: Pangea GC2 - Rm. 229 Florian Ledermann Cluster analysis for the derivation of agents for ABMs in the context of an ageing, super-diverse population: a mixed-methods approach (SP) Hannah Haacke, Friederike Enssle, Ilse Helbrecht, Tobia Lakes, Blake Byron Walker Spatial Patterns for Crime Spots (SP) Emmanuel Papadakis, Alina Ristea Towards Spatial Knowledge Infrastructure (SKI): Technological Understanding (SP) Ara Toomanian , Morteza Omidipoor, Najme Neysani Samani 2c Way Finding, Routing and Indoor Navigation Chair: Sabine Timpf Room: Atmosfären Icon-based Navigation (SP) Kai-Florian Richter, Arvid Hornet, Kristoffer Karlsson GC2 - Rm. 209 Towards automatically generating maps for wayfinding and orientation (SP) Heinrich Löwen, Jakub Krukar, Angela Schwering Mental representation of space in Agent Based Models for pedestrian movement in urban environments: A conceptual model (SP) Gabriele Filomen, Judith Verstegen Automated Enrichment of Routing Instructions (SP) Oskar Wage, Udo Feuerhake, Monika Sester Chair: Robert Weibel **2d Natural Resources Management and Monitoring** Simulating multiple land use changes by incorporating deep belief network into cellular automata: a case study in Bejing-Tianjin-Hebei Room: Rodinia GC2 - Rm. 243 region, China (SP) ${\it Cong}~{\it Ou}$, Jianyu Yang, Zhenrong Du, Pengshan Li , Dehai Zhu

Geospatial behavior of pollinators (SP)

Phaedon Kyriakidis, Stelios Liodakis and Petros Gaganis

Efficient Geostatistical Simulation for Spatial Uncertainty Propagation (SP)

Yi-Min Chang Chien, Alexis Comber, Steve Carver

Alícia Marquès, Andreu Juan, Ruiz Maurici, Anna Traveset, Mar Leza

A spatial analysis of how measures of landscape wilderness correlate with crowdsourced perceptions of scenicness (SP)



2e Spatial data infrastructure Chair: Ali Mansourian Mapping the landscape of Open Geodata (SP) Room: Baltica GC2 - Rm. 237 Matthias Hinz, Ralf Bill Prospect of Open SDI in Developing Countries Case Study: Indonesia Agung Indrajit, Bastiaan van Loenen, Peter van Oosterom The Need of a High Resolution European Spatial Data Infrastructure for Unmanned Aerial System Mission Planning & Risk Assessment (SP) Gernot Paulus, Karl-Heinrich Anders, Dariia Strelnikova, Tamara Preduschnig, Kurt A. Wagner Societal costs and benefits of high-value open government data: a case study in the Netherlands (SP) Frederika Welle Donker, Bastiaan van Loenen Chair: Michael Gould 2f Spatiotemporal Data Acquisition, Modelling, and Analysis Kernel Density Estimation (KDE) vs. Hot-Spot Analysis - Detecting Criminal Hot Spots in the City of San Francisco (SP) Room: Hydrosfären GC1 - Rm. 108 Maja Kalinic, Jukka M. Krisp Tradition as a Spatiotemporal Process - The Case of Swedish Folk Music (SP) Franz-Benjamin Mocnik Spatiotemporal analysis and scenario's simulation of agricultural land use land cover using GIS and a Markov chain model (SP) Cláudia M. Viana, Jorge Rocha A time-varying p-median model for location-allocation analysis (SP) Shahin Sharifi Noorian , Achilleas Psyllidis, Alessandro Bozzon Paper Session, Wednesday 13. June, 16:00-17:00 Chair: Michael Worboys 3a Volunteered geographic information Charting the geographies of crowdsourced information in Greater London (FP) Room: Världen GC1 - Rm. 111 Stefano De Sabbata, Andrea Ballatore 3D georeferencing of historical photos by volunteers (FP) Timothée Produit, Jens Ingensand 3b Spatiotemporal Data Modelling and Data Mining Chair: Monika Sester An Online Top-Down Algorithm with Free Distance Parameter for Mining Top-k Flock Patterns (FP) Room: Pangea Denis Sanches, Luis Alvares, Vania Bogorny, Marcos Vieira, Daniel Kaster GC2 - Rm. 229 A Personalized Location-based and Serendipity-oriented Point of Interest Recommender Assistant Based on Behavioral Patterns (FP) Mahdi Farnaghi, Samira Khoshahval, Mohammad Taleai, Ali Mansourian 3c Earth Observation Systems: Algorithms and Applications Chair: Marek Baranowski Geostatistical Detection of Thermodynamic Anisotropy in an Atmospheric Boundary Layer Using Small Unmanned Aircraft Systems (SP) Room: Atmosfären GC2 - Rm. 209 Benjamin Hemingway, Amy Frazier Training SegNet for Cropland Classification of High Resolution Remote Sensing Images (SP) Zhenrong Du, Jianyu Yang, Weiming Huang, Cong Ou Estimation of Root Systems using Satellite Remote Sensing (SP) Hanna Ekström , Malin Ahlbäck, Maya Ahlgren, Malin Hansson, Iris Mužić, Nike Rosenström, Franziska Weichert, Petter Pilesjö 3d Environmental/Ecological and Urban/Regional Modelling Chair: Jens Ingensand Real-time predictions of pesticide runoff risk: linking multi-scale runoff models and weather data APIs to improve water quality (SP) Room: Rodinia GC2 - Rm. 243 Alexis Comber, Adrian Collins, David Haro, Tim Hess, Andy Smith, Andy Turner, Yusheng Zhang The effect of geographical distance on community detection in flow networks (SP) Sebastijan Sekulić, Urška Demšar, Jed Long Combining Agent Based Modelling and Role Playing to develop sustainable shrimp farming (SP) Arend Ligtenberg, Roel Bosman, Romina Rodela, Tri Van Pham Dang, Hiep Tong Quoc, Ha Tran Thi Phung, Phuong Nguyen Thi Huynh, Arnold Bregt Chair: Phaedon Kyriakidis 3e Disaster and Risk Management Room: Baltica Information Value Model based Landslide Susceptibility Mapping at Phuentsholing, Bhutan (SP) Sangey Pasang, Petr Kubíček GC2 - Rm. 237 A Platform for Coordinating Voluntary Helpers in Disaster Response (SP) Sebastian Drost, Matthes Rieke, Simon Jirka, Hans Betke Spatially Explicit Sensitivity and Uncertainty Analysis for the landslide risk assessment of the Gas Pipeline Networks (SP) Omid Ghorbanzadeh, Bakhtiar Feizizadeh, Thomas Blaschke, Rasa Khosravi Poster Session, Wednesday 13. June, 17:00-18:00 Keynote Speaker, Thursday 14. June, 9:00-10:00 Taming complexity: Dynamics in Geographic Information Systems Room: Aula LUX - Rm. C116 Prof. Terry Dawson AGILE Annual Meeting, Thursday 14. June, 10:00-11:00 Room: Aula LUX - Rm. C116 AGILE council Paper Session, Thursday 14. June, 11:30-13:00 Chair: Mike Jackson Room: Världen Land-use characterisation using Google Street View pictures and OpenStreetMap (SP) Shivangi Srivastava, Devis Tuia, Sylvain Lobry, John Edgar Vargas Muñoz GC1 - Rm. 111 The Effect of Plate Tectonics on OpenStreetMap Data (SP) Franz-Beniamin Mocnik, Martin Raifer Analysis of the introduction of a review request mechanism in OSM (SP) Nikola Davidovic, Peter Mooney and Leonid Stoimenov Investigating gender differences in OpenStreetMap activities in Malawi: a small case-study (SP) *Zoe Gardner,* Peter Mooney 4b Spatiotemporal Data Modelling and Data Mining Chair: Alexis Comber Identifying and Interpreting Clusters of Persons with Similar Mobility Behaviour Change Processes (FP) Room: Pangea GC2 - Rm. 229 David Jonietz, Dominik Bucher, Henry Martin and Martin Raubal Patterns of consumption and connectedness in GIS Web sources (FP) Andrea Ballatore, Simon Scheider, Rob Lemmens A Framework for the Management of Deformable Moving Objects (FP) José Duarte, Paulo Dias, José Moreira **4c GIScience Education** Chair: Karin Larsson Brain Drain or Brain Gain? Insights from an Erasmus Mundus Masters Program (SP) Room: Atmosfären Christoph Brox, Sven Casteleyn, Christian Kray, Marco Painho, Joaquin Huerta, Werner Kuhn GC2 - Rm. 209 Harmonizing GIS Education South - North Lessons learnt from Mozambique, Rwanda, Sweden, and Uganda (SP) Petter Pilesj, Ali Mansourian, Andrey Shindyapin, Antonio Alfredo Assane, Ernesto Lenathe Muheca, Gaspard Rwanyiziri, John Mugisha,

Ellen-Wien Augustijn , Rob Lemmens, Marie-Jose Verkroost, Stanislav Ronzhin

Yazidhi Bamutaze, Bob Nakileza, Gilbert Maiga, Lydia Mazzi Kayondo Augmented reality technologies for biodiversity education – a case study (SP)

The Living Textbook: Towards a new way of Teaching Geo-Science (SP)

Maryam Lotfian, Jens Ingensand, Sarah Composto, Olivier Ertz, Mathias Oberson, Simon Oulevay, David Piot



4d Data quality and spatial analyses Chair: Tiina Sarjakoski A positional quality control test based on proportions (FP) Room: Rodinia GC2 - Rm. 243 Francisco Javier Ariza-López, José Rodríguez Avi, María Virtudes Alba Fernández Evaluating spatial data acquisition and interpolation strategies for river bathymetries (FP) Robert Krüger, Pierre Karrasch, Lars Bernard Optimization and Evaluation of a High Performance Open-Source Map-Matching Implementation (FP) Karl Rehrl, Simon Gröchenig, Michael Wimmer 4e Health GIS and Spatial Epidemiology Chair: Ara Toomanain Using socio-economic wellbeing to predict geospatial epidemic intensity in a developing country setting (SP) Room: Baltica GC2 - Rm. 237 Sanya Rahman, Ernest Mwebaze Integrated location-allocation of private car and public transport users - Primary health care facility allocation in Oulu region in Finland (SP) Ossi Kotavaara, Timo Pohjosenperä, Jarmo Rusanen A preliminary study design for collecting reference data set for physical activity type classification (SP) Hoda Allahbakhshi, Haosheng Huang, Robert Weibel Spatial Data Infrastructure Using Mobile Gis and Web service technologies for Public Health Management (SP) Rose Nakasi, Augustus Aturinde, Aminah Zawedde, Ernest Mwebaze, Gilbert Maiga 4f Environmental/Ecological and Urban/Regional Modelling Chair: Fredrik Lindberg Comparison among three automated calibration methods for cellular automata land use change model: GA, PSO, and MCMC (SP) Room: Hydrosfären Ahmed Mustafa, Ismaïl Saadi, Amr Ebaid, Mario Cools, Jacques Teller GC1 - Rm. 108 An improved European land use/cover map derived by data integration (SP) Konštantín Rosina, Sérgio Freire, Marcello Schiavina Collaboration of Science, Practice and Citizens in the Field of Climate Change Adaptation, supported by Interactive GI-Tools (SP) Hardy Pundt The need for county masks for future national greenhouse gas flux estimations (SP) Lars Harrie, Ute Karstens, Huiting Huang Special Presentation, Thursday 14. June, 14:00-15:00 Reimagining the history of GIS Room: Aula LUX - Rm. C116 Prof. Michael Goodchild Paper Session, Thursday 14. June, 15:00-16:30 5a Smart cities Chair: David Tenenbaum Mapping cyclists' routes: involving citizens in collecting open cycling data (SP) Room: Världen GC1 - Rm. 111 Diego Pajarito, Suzanne Maas, Maria Attard, Michael Gould Establishing Open Data Portals in the Process of Becoming Smart Cities (SP) Lars Bodum CityGML based Non-photorealistic Visualization Framework for Energy Simulation (SP) Bo Mao, Yifang Ban, Björn Laumert Do people develop activities at places in which citizens have a sense of place? (SP) Albert Acedo, Fernando Santa, Marco Painho, Roberto Henrique **5b Natural Resource Management and Earth Observation** Chair: Ron van Lammeren Mapping and Monitoring of Mangroves and Vulnerable Islands in World Heritage Site of Sundarban, India (FP) Room: Pangea GC2 - Rm. 229 Biswajit Mondal, Ashis Kumar Saha An Artificial Stream Network and Its Application on Exploring The Effect of DEM Resolution on Hydrological Parameters (FP) Haicheng Liu Interpolation of rainfall through polynomial regression in the Marche Region (Central Italy) (FP) Matteo Gentilucci, Carlo Bisci, Peter Burt, Massimiliano Fazzini, Carmela Vaccaro Chair: Kai-Florian Richter 5c Cognitive Aspects of Human-Computer Interaction for GIS Visualizing The Semantic Similarity of Geographic Features (SP) Room: Atmosfären GC2 - Rm. 209 Gengchen Mai, Krzysztof Janowicz, Sathya Prasad, Bo Yan Sketch maps and verbal descriptions in structuring space (SP) Jia Wang , Rui Li Towards the use of a 3D virtual globe to support public participatory decision making (SP) Thibaud Chassin, Jens Ingensand, Florent Joerin A Pattern-based Framework for Designing Location-based Games (SP) Thomas Heinz, Christoph Schlieder 5d Urban Modelling Chair: Andreas Persson Geographic patterns of Annual Average Daily Traffic in Mallorca (SP) Room: Rodinia Christian Esteva Burgos, Maurici Ruiz, Cristian Esteva, Joana Maria Segui GC2 - Rm. 243 Integrating rule-based approach and urban density index for improving object-based urban land cover classification using WorldView-2 Data (SP) Theodomir Mugiraneza, Yifang Ban, Andrea Nascetti, Jan Haas From place of residence to place of activity: towards spatiotemporal mapping of population density in Europé (SP) Filipe Batista e Silva, Konstantin Rosina, Marcello Schiavina, Mario Marin, Sérgio Freire, Lukasz Ziemba, Massimo Craglia, Carlo Lavalle Experiences of Event Visitors in Time and Space: GPS Tracking at Dutch Design Week (SP) Gamze Dane 5e Integration and modeling of geospatial data Chair: Jan-Henrik Haunert Generic Schema Descriptions for Comma-Separated Values Files of Environmental Data (SP) Room: Baltica GC2 - Rm. 243 Stephan Mäs, Daniel Henzen, Lars Bernard, Simon Jirka, Matthias Müller, Ivo Senner Multiple Representation for Geospatial Linked Data (SP) Weiming Huang, Eiður Eiðsson and Lars Harrie

An Abstract Specification Technique for the Publication of Linked Geospatial Data (SP)

Gilles Falquet, Claudine Metral, Sylvain Ozaine, Gregory Giuliani

Topological Reconstruction of 3D City Models with preservation of semantics (SP)

Stelios Vitalis, Jantien Stoter, Ken Arroyo Ohori

Poster Session, Thursday 14. 2018 June, 16:30-18:00

Keynote Speakers, Friday 15. June, 9:00-10:00 Torsten Hägerstrand and the Landscape Context of Time Geography

Prof. Tomas Germundsson

Geodata for the Future Information Management of the Built Up Environment

Prof. Ronny Anderson

Room: Aula LUX - Rm. C116



Chair: Petter Pilesjö

Chair: Martin Raubal

Chair: Fred Toppen

GC2

Room: Aula LUX - Rm. C116

Room: Aula LUX - Rm. C116

Friday 15. June, 10:00-11:00

6 Best short paper session

Exploring microtoponyms through linguistic and geographic perspectives (SP)

Julia Villette, Ross S. Purves

Opinion mining from Twitter and spatial crime distribution for hockey events in Vancouver (SP)

Alina Ristea, Michael Leitner, Martin Andresen

Sponsor: SVisualizer - Your Absolute 3d Creation Toolset

Miso Iric, Complete 3d

Friday 15. June, 11:30-13:00

7 Best full paper session

PLANTING: Computing High Spatio-Temporal Resolutions of Photovoltaic Potential of 3D City Models (FP)

Syed Monjur Murshed, Amy Lindsay, Solène Picard, Alexander Simons

Animation as a Visual Indicator of Positional Uncertainty in Geographic Information (FP)

Carsten Keßler, Enid Lotstein

Mixed Traffic Trajectory Prediction Using LSTM-Based Models in Shared Space (FP)

Hao Cheng, Monika Sester

Posters, 13. June, 16:00-18:00, 14. June, 16:30-18:00

Fractal or scaling analysis of geographic forms and their nonlinearity Ding Ma

SEnviro for Agriculture: An IoT full stack for monitoring vineyards – Early steps Sergi Trilles, Alberto González-Pérez, F. Javier Zarazaga-Soria, Joaquín Huerta

Detection of spatial clusters in poor quality of diabetes control: defining hotspots as High-High and High-Low levels

Tain-Junn Cheng , Tsu-Yun Chiu, Tsung-Hsueh Lu

Sharing building information from planning to maintenance phases

Jing Sun, Helen Eriksson, Lars Harrie, Anna Jensen

Spatial distribution of population and health benefit evaluation for effectiveness of PM2.5 control measures in Taiwan

Pei-Chih Wu, Hsin-Chih Lai, Li-Wei Lai, Joshua S. Fu

Structure Entropy for Urban Street Networks

Jerome Benoit, Saif Eddin Jabari

Conversion of an IFC-model to a lod2-3 3D-GIS building model

Perola Olsson

GIS in Action: Conservation Priority Evaluation at District and Village Levels in Laos

Mui-How Phua, Su Wah Hue, Alexius Korom, Vongphet Sihapanya

Spatial estimation of municipal household wastes by integrating multiple geographical big data and social survey

Xiaoqian Liu, Bin Meng, Juan Wang

Methods for comparing two observed confusion matrices

José Rodríguez-Avi, Francisco Javier Ariza López, María Virtudes Alba-Fernández

TopicWave: Interactive Visual Analytics of Spatiotemporal Topics Distribution of People's Reactions to Events from Geo-tagged Social Media

Siming Chen, Jie Li, Natalia Andrienko, Gennady Andrienko

How should Orientation Maps look like?

Heinrich Löwen, Jakub Krukar, Angela Schwering

Vesta: a spatial energy model for heat supply in the built environment in the Netherlands

Sebastiaan van Bemmel, Ruud van den Wijngaart, Steven van Polen

Distributed generation of image pyramids for web map services

Daniel Eggert, Mike Sips, Doris Dransch

Promoting Walking and Cycling through a Dashboard Interface

Mark Dimond, David Golightly, Nancy Hughes, Sarah Shaples, Emma Taylor

A Real-time GIS to Improve the Survival of Sudden Cardiac Arrest Outside Hospitals

Bo Mao , Yifang Ban

Simulating urban dynamics from the bottom up: the City Simulation Lab

Erika Speelman, Arend Ligtenberg

Suitability maps for tropical plants based on solar irradiation – a decision support tool for botanic gardens

Paula Redweik, Maria-Cristina Duarte

Designing a Geospatial Technologies-Enabled Eastern Mediterranean Science, Engineering and Technology Centre of Excellence for Archaeology and Cultural Heritage Phaedon Kvriakidis, Athos Agapiou, Vasiliki Lysandrou

The deployment of a generic user-oriented participatory sensing framework in a real-world context

Sven Casteleyn, Manh Khoi Ngo

Spatiotemporal predation patterns of insect herbivores in Subarctic

Karolina Pantazatou, Daniel B. Metcalfe, Jeppe Å. Kristensen

A Comparison study of Multi-objective Optimization for GIS-based resources allocation problem in Disaster management

Olive Nivomubvevi

3D Virtual Campus - FCUL: an integrated system for university services management

Cristina Catita, Luiz Coutinho, Hugo Miranda

An Assessment of spatial dimensions of police-reported crime and sub-regional characteristics in Akwa Ibom state, Nigeria

Elijah A Njoku, Patrick Etim Akpan, Uduak Okon Jeremiah

Spatial Vision Analysis of Non Spatial Data

Rui Xin, Tinghua Ai, Min Yang

Coping with urban floods: a special decision-support system to improve resilience

Charlotte Heinzlef, Vincent Becue, Damien Serre

Mapping of Prevalence of Nodding Syndrome and Associated Epilepsy Reporting in Uganda: Spatial - Temporal Approach

Ongaya Kizito, Paul Ssemaluulu, Benedict Oyo, Gilbert Maiga

A Comparison of Spatial Aggregation Methods for the Derivation of Proportional Symbol Maps

Dirk Burghardt, Mathias Gröbe

Geographic information and communication technologies for supporting smallholder agriculture

Billy Tusker Haworth, Eloise Biggs, John Duncan, Nathan Wales, Bryan Boruff, Eleanor Bruce

Community Mapping for Flood Resilience

Msilikale Msilanga

VGI users & data centered methods for the analysis of farmland biodiversity indicators open issues

Aurélien Besnard, Elodie Edoh-Alove, Ali Hassan, Karine Prince, Amir Sakka, Pascale Zarate

The role of environmental characteristics for drainage network delineation Yanzi Yan , William Lidberg, Petter Pilesjö