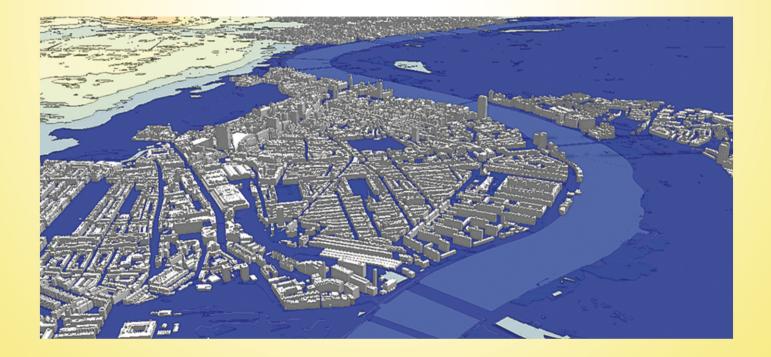


# Journal of Geographic Information System





www.scirp.org/journal/jgis

## **Journal Editorial Board**

ISSN: 2151-1950 (Print) ISSN: 2151-1969 (Online)

http://www.scirp.org/journal/jgis

**Editor-in-Chief** 

Prof. Francisco J. Tapiador University of Castilla-La Mancha (UCLM), Spain

#### **Editorial Board**

Dr. Alia I. Abdelmoty **Dr.** Tofael Ahamed Prof. Dafer Algarni Prof. Carlos Marcelo Di Bella **Prof. Christophe Claramunt** Prof. Weihong Cui Prof. Fuchu Dai **Prof. Anrong Dang** Dr. Ahmed F. Elaksher Prof. Hossein Ghadiri Prof. Shuanggen Jin Dr. Mohammad Reza Khosravi **Prof. Saro Lee** Dr. Xiang Li **Prof. Michel Mainguenaud** Prof. Jordi Martí-Henneberg Prof. Hervé Martin Dr. Kaveh Ostad-Ali-Askari **Prof. Christopher James Pettit Dr. Saied Pirasteh Prof. Biswajeet Pradhan Prof. Michael D. Proctor** Prof. Xiaosheng Qin **Prof. Shih-Lung Shaw** Dr. P. S. Sriraj Prof. Eddy Lynn Usery **Dr. Herna Viktor** Prof. Jianhua Xu Prof. Xiaohuan Yang **Prof. Axing Zhu** Dr. Liangfeng Zhu

Cardiff University, UK University of Tsukuba, Japan King Saud University, Saudi Arabia Instituto de Clima y Agua CIRN-INTA Castelar, Argentina Naval Academy Research Institute, France International Europe and Asia Academy of Sciences, China Chinese Academy of Sciences, China Tsinghua University, China Cal Poly Pomona, USA Griffith University, Australia Shanghai Astronomical Observatory, China Shiraz University of Technology, Iran Korea Institute of Geoscience and Mineral Resources, South Korea East China Normal University, China Institut National des Sciences Appliquées, France University of Lleida, Spain Joseph Fourier University, France Islamic Azad University, Iran The University of Melbourne, Australia University of Waterloo, Canada Dresden University of Technology, Germany University of Central Florida, USA Nanyang Technological University, Singapore University of Tennessee, USA University of Illinois at Chicago, USA Center of Excellence for Geospatial Information Science, USA University of Ottawa, Canada East China Normal University, China Chinese Academy of Sciences, China University of Wisconsin, USA East China Normal University, China



Volume 9 Number 5

**October 2017** 

### **Table of Contents**

Flood Resilient Cities: A Syntactic and Metric Novel on Measuring the Resilience of Cities against Flooding, Gothenburg, Sweden	
E. Abshirini, D. Koch, A. Legeby	505
3D Spatial Information Intended for SDI: A Literature Review, Problem and Eval	uation
M. Jafari Salim	535
Investigation of Climate and Land Use Policy Change Impacts on Food Security in Eastern Sudan, Gadarif State	
Y. E. Yagoub, Z. Q. Li, O. S. Musa, M. N. Anjum, F. T. Wang, Z. Bo	
Fusing Digital Elevation Models to Improve Hydrological Interpretations	
S. Furze, J. Ogilvie, P. A. Arp	558
Historical Land Use/Cover Changes and the Hemeroby Levels of a Bio-Cultural Landscape: Past, Present and Future	
A. T. Fushita, J. E. dos Santos, Y. T. Rocha, E. M. Zanin	
Spatial Analysis to Identify Urban Areas with Higher Potential for Social Investm	ient
M. R. Martines, R. H. Toppa, R. V. Ferreira, A. Cavagis, F. S. Kawakubo, R. G. Morato	
Application of GIS in General Soil Mapping of Bangladesh	
Md. A. Islam, Md. A. Hasan, M. A. Farukh	604

The figure on the front cover is from the article published in Journal of Geographic Information System, 2017, Vol. 9, No. 5, pp. 535-545 by Mehrdad Jafari Salim.

#### Journal of Geographic Information System (JGIS) Journal Information

#### **SUBSCRIPTIONS**

The *Journal of Geographic Information System* (Online at Scientific Research Publishing, <u>www.SciRP.org</u>) is published bimonthly by Scientific Research Publishing, Inc., USA.

Subscription rates: Print: \$89 per issue. To subscribe, please contact Journals Subscriptions Department, E-mail: <u>sub@scirp.org</u>

#### SERVICES

Advertisements Advertisement Sales Department, E-mail: service@scirp.org

#### Reprints (minimum quantity 100 copies) Reprints Co-ordinator, Scientific Research Publishing, Inc., USA. E-mail: <u>sub@scirp.org</u>

#### COPYRIGHT

#### Copyright and reuse rights for the front matter of the journal:

Copyright © 2017 by Scientific Research Publishing Inc. This work is licensed under the Creative Commons Attribution International License (CC BY). http://creativecommons.org/licenses/by/4.0/

#### Copyright for individual papers of the journal:

Copyright © 2017 by author(s) and Scientific Research Publishing Inc.

#### Reuse rights for individual papers:

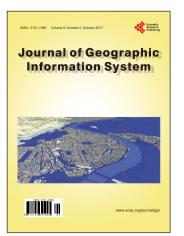
Note: At SCIRP authors can choose between CC BY and CC BY-NC. Please consult each paper for its reuse rights.

#### Disclaimer of liability

Statements and opinions expressed in the articles and communications are those of the individual contributors and not the statements and opinion of Scientific Research Publishing, Inc. We assume no responsibility or liability for any damage or injury to persons or property arising out of the use of any materials, instructions, methods or ideas contained herein. We expressly disclaim any implied warranties of merchantability or fitness for a particular purpose. If expert assistance is required, the services of a competent professional person should be sought.

#### **PRODUCTION INFORMATION**

For manuscripts that have been accepted for publication, please contact: E-mail: jgis@scirp.org



## **Call for Papers**

## Journal of Geographic Information System (JGIS)

ISSN 2151-1950 (Print) ISSN 2151-1969 (Online) http://www.scirp.org/journal/jgis/

**JGIS** is an international refereed journal dedicated to the latest advancement of Geographic Information System. The goal of this journal is to keep a record of the state-of-the-art research and promote the research work in these fast moving areas. The journal publishes the highest quality, original papers included but not limited to the fields:

#### Subject Coverage

<ul> <li>Cartography and Geodesy</li> <li>Computational Geometry</li> <li>Computer Vision Applications in GIS</li> <li>Distributed, Parallel, and GPU Algorithms for GIS</li> <li>Earth Observation</li> <li>Environmental Geomatics—GIS, RS and Other Spatial Information Technologies</li> <li>Geographic Information Retrieval</li> <li>Geographical Analysis for Urban and Regional Development</li> <li>GIS and Cloud Computing</li> <li>GIS and High Performance Computing</li> <li>Human Computer Interaction and Visualization</li> <li>Image and Video Understanding</li> <li>Location Privacy, Data Sharing and Security</li> <li>Location-Based Services</li> <li>Performance Evaluation</li> <li>Photogrammetry</li> <li>Similarity Socrabing</li> </ul>	<ul> <li>Spatial Data Warehousing, OLAP, and Decision Support</li> <li>Spatial Information and Society</li> <li>Spatial Modeling and Reasoning</li> <li>Spatial Query Processing and Optimization</li> <li>Spatial Semantic Web</li> <li>Spatio-Temporal Data Handling</li> <li>Spatio-Temporal Sensor Networks</li> <li>Spatio-Temporal Stream Processing</li> <li>Spatio-Textual Searching</li> <li>Standardization and Interoperability for GIS</li> <li>Storage and Indexing</li> <li>Systems, Architectures and Middleware for GIS</li> <li>Traffic Telematics</li> <li>Transportation</li> </ul>

We are also interested in short papers (letters) that clearly address a specific problem, and short survey or position papers that sketch the results or problems on a specific topic. Authors of selected short papers would be invited to write a regular paper on the same topic for future issues of the **JGIS**.

#### Notes for Intending Authors

Submitted papers should not have been previously published nor be currently under consideration for publication elsewhere. Paper submission will be handled electronically through the website. All papers are refereed through a peer review process. For more details about the submissions, please access the website.

#### What is SCIRP?

Scientific Research Publishing (SCIRP) is one of the largest Open Access journal publishers. It is currently publishing more than 200 open access, online, peer-reviewed journals covering a wide range of academic disciplines. SCIRP serves the worldwide academic communities and contributes to the progress and application of science with its publication.

#### What is Open Access?

Art and Design Review

Advances in

dvances in Biological bemistry Entomolog

Applied Mathematics

Engineering

nii ili a

All original research papers published by SCIRP are made freely and permanently accessible online immediately upon publication. To be able to provide open access journals, SCIRP defrays operation costs from authors and subscription charges only for its printed version. Open access publishing allows an immediate, worldwide, barrier-free, open access to the full text of research papers, which is in the best interests of the scientific community.

- High visibility for maximum global exposure with open access publishing model
- Rigorous peer review of research papers
- Prompt faster publication with less cost
- Guaranteed targeted, multidisciplinary audience



Soft

Website: http://www.scirp.org Subscription: sub@scirp.org Advertisement: service@scirp.org