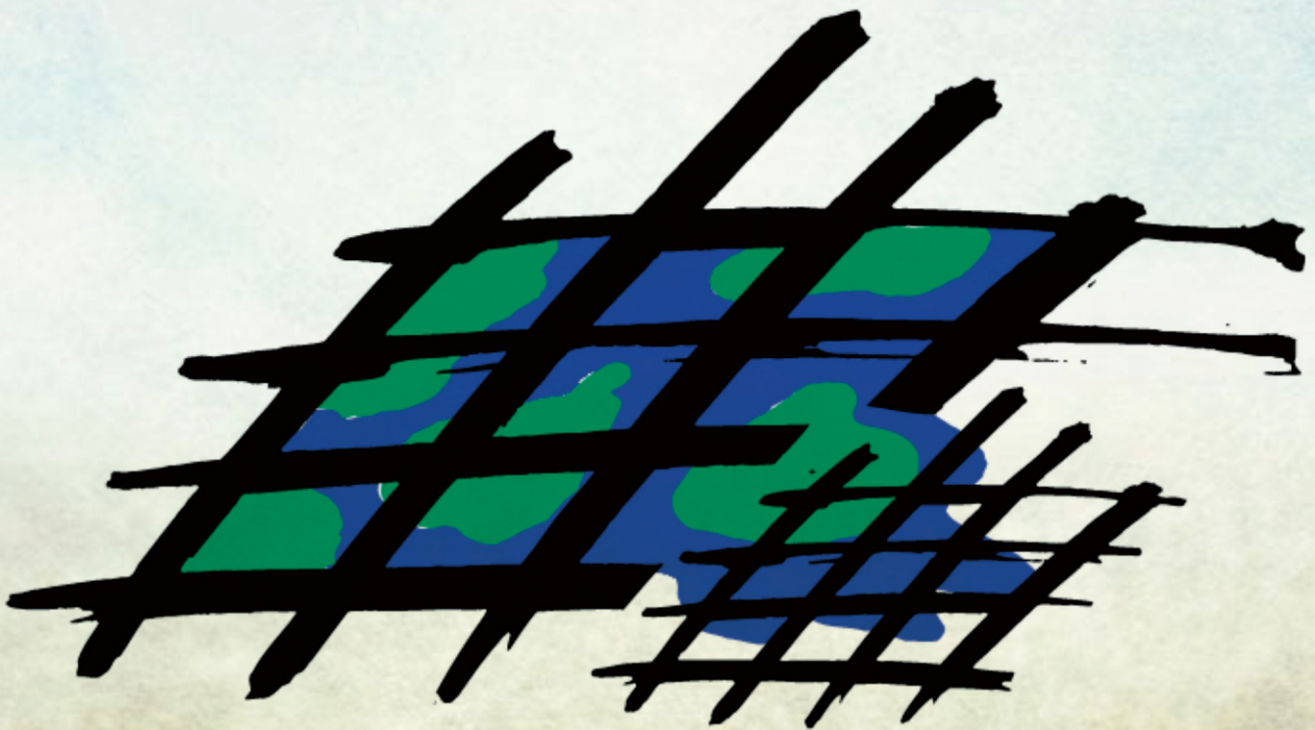


ISSN: 2151-1950 Volume 11, Number 6, December 2019



Journal of Geographic Information System



<https://www.scirp.org/journal/jgis>

Journal Editorial Board

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

<https://www.scirp.org/journal/jgis>

Editorial Board

Dr. Alia I. Abdelmoty	Cardiff University, UK
Dr. Tofael Ahamed	University of Tsukuba, Japan
Prof. Dafer Algarni	King Saud University, Saudi Arabia
Prof. Carlos Marcelo Di Bella	Instituto de Clima y Agua CIRN-INTA Castelar, Argentina
Prof. Christophe Claramunt	Naval Academy Research Institute, France
Prof. Weihong Cui	International Europe and Asia Academy of Sciences, China
Prof. Fuchu Dai	Chinese Academy of Sciences, China
Prof. Anrong Dang	Tsinghua University, China
Dr. Ahmed F. Elaksher	Cal Poly Pomona, USA
Prof. Hossein Ghadiri	Griffith University, Australia
Prof. Shuanggen Jin	Shanghai Astronomical Observatory, China
Prof. Saro Lee	Korea Institute of Geoscience and Mineral Resources, South Korea
Dr. Xiang Li	East China Normal University, China
Prof. Michel Mainguenaud	Institut National des Sciences Appliquées, France
Prof. Jordi Martí-Henneberg	University of Lleida, Spain
Prof. Hervé Martin	Joseph Fourier University, France
Dr. Kaveh Ostad-Ali-Askari	Islamic Azad University, Iran
Prof. Christopher James Pettit	The University of Melbourne, Australia
Dr. Saied Pirasteh	University of Waterloo, Canada
Prof. Biswajeet Pradhan	Dresden University of Technology, Germany
Prof. Michael D. Proctor	University of Central Florida, USA
Prof. Xiaosheng Qin	Nanyang Technological University, Singapore
Prof. Shih-Lung Shaw	University of Tennessee, USA
Dr. P. S. Sriraj	University of Illinois at Chicago, USA
Prof. Eddy Lynn Usery	Center of Excellence for Geospatial Information Science, USA
Dr. Herna Viktor	University of Ottawa, Canada
Prof. Jianhua Xu	East China Normal University, China
Prof. Xiaohuan Yang	Chinese Academy of Sciences, China
Prof. Axing Zhu	University of Wisconsin, USA
Dr. Liang-feng Zhu	East China Normal University, China

Table of Contents

Volume 11 Number 6

December 2019

Integration of Location-Allocation and Accessibility Models in GIS to Improve Urban Planning for Health Services in Al-Madinah Al-Munawwarah, Saudi Arabia

A. Abdelkarim.....633

Building Smart Cities by Using Enterprise GIS in Saudi Arabia

A. M. Almontshery, F. M. Jamalallail.....663

Research and Teaching Applications of Remote Sensing Integrated with GIS: Examples from the Field

L. C. Loyola, J. T. Knowles, A. J. Marx, R. McAlinden, S. D. Fleming.....670

Altimetry Quality of SRTM and ASTER GDEM Products for Areas with Different Reliefs

V. da Silva Celestino Reginato.....683

Research on Traffic Accessibility and Transportation Integration Level of Chang-Zhu-Tan City Group in China

C. K. Li, Q. L. Zhou, K. S. Ma, J. Fang, W. T. Yang.....715

GIS-Based Multi-Criteria Decision Analysis for the Sustainable Management of the Nkong Zem Pipe-Borne Water Network: West Region of Cameroon

E. Kah, N. T. Therry, N. M. Innocent.....727

Digitizing the Undigitized: Converting Traditional Archaeological Records into Computerized, Three-Dimensional Site Reconstruction

N. Alperson-Afil.....747

Geological Context Mapping of Batouri Gold District (East Cameroon) from Remote Sensing Imaging, GIS Processing and Field Works

B. Jean-Claude, T. Rigobert, E. Joachim, F. T. Périclex, D. M. G. G. Basile.....766

Journal of Geographic Information System (JGIS)

Journal Information

SUBSCRIPTIONS

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

Subscription rates:

Print: \$89 per issue.

To subscribe, please contact Journals Subscriptions Department, E-mail: sub@scirp.org

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: sub@scirp.org

COPYRIGHT

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

Copyright © 2019 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 © 2019 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.

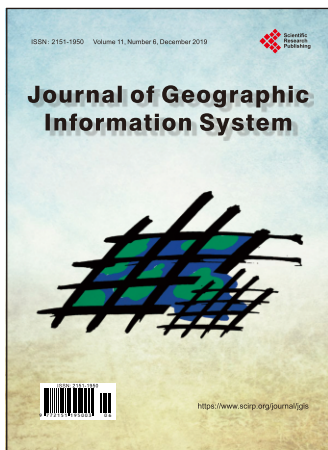
Disclaimer of liability

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)

<https://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

- Cartography and Geodesy
- Computational Geometry
- Computer Vision Applications in GIS
- Distributed, Parallel, and GPU Algorithms for GIS
- Earth Observation
- Environmental Geomatics—GIS, RS and Other Spatial Information Technologies
- Geographic Information Retrieval
- Geographical Analysis for Urban and Regional Development
- GIS and Cloud Computing
- GIS and High Performance Computing
- Human Computer Interaction and Visualization
- Image and Video Understanding
- Location Privacy, Data Sharing and Security
- Location-Based Services
- Performance Evaluation
- Photogrammetry
- Similarity Searching
- Social Networks and Volunteer Geographic
- Spatial Analysis and Integration
- Spatial and Spatio-Temporal Information Acquisition
- Spatial Data Mining and Knowledge Discovery
- Spatial Data Quality and Uncertainty
- Spatial Data Structures and Algorithms
- Spatial Data Warehousing, OLAP, and Decision Support
- Spatial Information and Society
- Spatial Modeling and Reasoning
- Spatial Query Processing and Optimization
- Spatial Semantic Web
- Spatio-Temporal Data Handling
- Spatio-Temporal Sensor Networks
- Spatio-Temporal Stream Processing
- Spatio-Textual Searching
- Standardization and Interoperability for GIS
- Storage and Indexing
- Systems, Architectures and Middleware for GIS
- Traffic Telematics
- Transportation
- Visual Languages and Querying
- Wireless, Web, and Real-Time Applications

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.

Website and E-mail

<https://www.scirp.org/journal/jgis>

E-mail: jgis@scirp.org

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?

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



Website: <https://www.scirp.org>

Subscription: sub@scirp.org

Advertisement: service@scirp.org