

ISSN: 2151-1950 Vol. 5, No. 5, October 2013



Scientific  
Research

# Journal of Geographic Information System



[www.scirp.org/journal/jgis](http://www.scirp.org/journal/jgis)

# Journal Editorial Board

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

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

---

## Associate Editor-in-Chief

**Prof. Francisco J. Tapiador**

University of Castilla-La Mancha (UCLM), Spain

## 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. Hossein Ghadiri**

Griffith University, Australia

**Prof. Shuanggen Jin**

Shanghai Astronomical Observatory, China

**Dr. Saro Lee**

Korea Institute of Geoscience and Mineral Resources, South Korea

**Dr. Xiang Li**

East China Normal University, China

**Prof. Jordi Martí-Henneberg**

University of Lleida, Spain

**Prof. Hervé Martin**

Joseph Fourier University, France

**Prof. Mainguenaud Michel**

Institut National des Sciences Appliquées, France

**Prof. Christopher James Pettit**

The University of Melbourne, Australia

**Dr. Saied Pirasteh**

University of Waterloo, Canada

**Prof. Biswajeet Pradhan**

Dresden University of Technology, Germany

**Dr. Michael D. Proctor**

University of Central Florida, USA

**Dr. Xiaosheng Qin**

Nanyang Technological University, Singapore

**Prof. Shih-Lung Shaw**

University of Tennessee, USA

**Dr. P. S. Sriraj**

University of Illinois at Chicago, USA

**Dr. Eddy Lynn Usery**

Center of Excellence for Geospatial Information Science, USA

**Dr. Harna 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. Liangfeng Zhu**

East China Normal University, China

## TABLE OF CONTENTS

**Volume 5    Number 5**

**October 2013**

**Geostatistical Approach for Site Suitability Mapping of Degraded Mangrove Forest in the Mahakam Delta, Indonesia**

A. Suhardiman, S. Tsuyuki, M. Sumaryono, Y. B. Sulistioadi.....419

**Implementation of GIS and Geographic RDBMS Prototype for Water Resources Management. Zeuss-Koutine Basin (South of Tunisia)**

K. Sami, M. Safa, K. Afef, Z. Fouad.....429

**Space Technology for Decarbonising City Precincts**

J. Bunning.....446

**Location of Large-Scale Concentrating Solar Power Plants in Northeast Brazil**

V. W. B. Azevedo, C. Tiba.....452

**A Web-Based Cancer Atlas of Saudi Arabia**

K. Al-Ahmadi, A. Al-Zahrani, A. Al-Dossari.....471

**The Accuracy of GIS Tools for Transforming Assumed Total Station Surveys to Real World Coordinates**

R. Khalil.....486

**Using a GIS to Assessment the Load-Carrying Capacity of Soil Case of Berhoum Area, Hodna Basin, (Eastern Algeria)**

A. Guettouche, F. Kaoua.....492

**Quantification of Sand Dune Movements in the South Western Part of Egypt, Using Remotely Sensed Data and GIS**

I. Abou El-Magd, O. Hassan, S. Arafat.....498

**Application of Remote Sensing and GIS for Modeling and Assessment of Land Use/Cover Change in Amman/Jordan**

J. T. Al-Bakri, M. Duqqah, T. Brewer.....509

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

## **Journal Information**

### **SUBSCRIPTIONS**

The *Journal of Geographic Information System* (Online at Scientific Research Publishing, [www.SciRP.org](http://www.SciRP.org)) is published bimonthly by Scientific Research Publishing, Inc., USA.

#### **Subscription rates:**

Print: \$79 per issue.

To subscribe, please contact Journals Subscriptions Department, E-mail: [sub@scirp.org](mailto:sub@scirp.org)

### **SERVICES**

#### **Advertisements**

Advertisement Sales Department, E-mail: [service@scirp.org](mailto:service@scirp.org)

#### **Reprints (minimum quantity 100 copies)**

Reprints Co-ordinator, Scientific Research Publishing, Inc., USA.

E-mail: [sub@scirp.org](mailto:sub@scirp.org)

### **COPYRIGHT**

Copyright©2013 Scientific Research Publishing, Inc.

All Rights Reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, scanning or otherwise, except as described below, without the permission in writing of the Publisher.

Copying of articles is not permitted except for personal and internal use, to the extent permitted by national copyright law, or under the terms of a license issued by the national Reproduction Rights Organization.

Requests for permission for other kinds of copying, such as copying for general distribution, for advertising or promotional purposes, for creating new collective works or for resale, and other enquiries should be addressed to the Publisher.

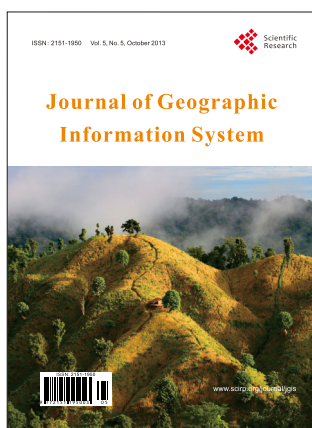
Statements and opinions expressed in the articles and communications are those of the individual contributors and not the statements and opinion of Scientific Research Publishing, Inc. We assumes no responsibility or liability for any damage or injury to persons or property arising out of the use of 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](mailto: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

- 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

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

E-mail: [jgis@scirp.org](mailto:jgis@scirp.org)