

XXII ISPRS Congress 2012

Technical Commission II

ISPRS Annals Volume I-2, 2012

**Melbourne, Australia
25 August – 1 September 2012**

Editors:

**M. Shortis
J. Shi**

E. Guilbert

ISBN: 978-1-62993-501-0

Printed from e-media with permission by:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

Copyright© (2012) by the International Society for
Photogrammetry and Remote Sensing (ISPRS)
All rights reserved.

Printed by Curran Associates, Inc. (2014)

For permission requests, please contact the International Society for
Photogrammetry and Remote Sensing (ISPRS)
at the address below.

International Society for Photogrammetry and Remote Sensing (ISPRS)
Attn: Chen Jun
National Geomatics Centre of China
28 Lianhuachixi Road Haidian
Beijing 100830 China

Phone: 86 10 63 88 1102
Fax: 86 10 68 42 4101

chenjun@nsdi.gov.cn

Additional copies of this publication are available from:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: 845-758-0400
Fax: 845-758-2634
Email: curran@proceedings.com
Web: www.proceedings.com

II/1: Cognition and Modeling of Space and Time

ACCURACY ANALYSIS OF A LOW-COST PLATFORM FOR POSITIONING AND NAVIGATION

S. Hofmann, C. Kuntzsch, M. J. Schulze, D. Eggert, and M. Sester

Page(s) 1-6

A MAXIMUM ENTROPY MODEL OF THE BEARDED CAPUCHIN MONKEY HABITAT INCORPORATING TOPOGRAPHY AND SPECTRAL UNMIXING ANALYSIS

A. M. Howard, S. Bernardes, N. Nibbelink, L. Biondi, A. Presotto, D. M. Fraga, and M. Madden

Page(s) 7-11

II/2: Multi-Scale Representation of Spatial Data

GENERALISATION OF SUBMARINE FEATURES ON NAUTICAL CHARTS

E. Guilbert and X. Zhang

Page(s) 13-18

PATTERN CLASSIFICATION APPROACHES TO MATCHING BUILDING POLYGONS AT MULTIPLE SCALES

X. Zhang, X. Zhao, M. Molenaar, J. Stoter, M.-J. Kraak, and T. Ai

Page(s) 19-24

II/3: Spatial Analysis and Data Mining

ANALYSIS OF LIGHT INTENSITY DATA BY THE DMSP/OLS SATELLITE IMAGE USING EXISTING SPATIAL DATA FOR MONITORING HUMAN ACTIVITY IN JAPAN

Y. Akiyama

Page(s) 25-30

PREDICTION OF INDIVIDUAL'S MOVEMENT BASED ON INTERESTING PLACES

U. Feuerhake

Page(s) 31-36

A VOMR-TREE BASED PARALLEL RANGE QUERY METHOD ON DISTRIBUTED SPATIAL DATABASE

Z. Fu and S. Liu
Page(s) 37-43

A FAST MATCHING APPROACH OF POLYGON FEATURES
Q. Meng, Z. Fu, Y. Huang, and M. Shen
Page(s) 45-49

BRAZILIAN AMAZONIA DEFORESTATION DETECTION USING
SPATIO-TEMPORAL SCAN STATISTICS
C. A. O. Vieira, N. T. Santos, A. P. S. Carneiro, and A. A. S. Balieiro
Page(s) 51-55

II/4: Uncertainty Modeling and Quality Control for Spatial Data

VISUAL AND STATISTICAL ANALYSIS OF DIGITAL ELEVATION
MODELS GENERATED USING IDW INTERPOLATOR WITH VARYING
POWERS
F. F. Asal
Page(s) 57-62

EVALUATION OF ELEVATION, SLOPE AND STREAM NETWORK
QUALITY OF SPOT DEMS
M. El Hage, E. Simonetto, G. Faour, and L. Polidori
Page(s) 63-67

INTEGRATION OF GENETIC ALGORITHMS AND FUZZY LOGIC FOR
URBAN GROWTH MODELING
E. Foroutan, M. R. Delavar, and B. N. Araabi
Page(s) 69-74

COMPARISON OF MULTI-SCALE DIGITAL ELEVATION MODELS FOR
DEFINING WATERWAYS AND CATCHMENTS OVER LARGE AREAS
B. Harris, K. McDougall, and M. Barry
Page(s) 75-80

SPATIAL UNCERTAINTY IN LINE-SURFACE INTERSECTIONS WITH
APPLICATIONS TO PHOTOGRAMMETRY
J. Marshall
Page(s) 81-86

II/5: Multidimensional and Mobile Data Models

INTEGRATED MANAGEMENT OF HETEROGENEOUS GEODATA WITH
A HYBRID 3D GEOINFORMATION SYSTEM

S. Becker, V. Walter, and D. Fritsch

Page(s) 87-92

CAD CONSTRUCTION METHOD OF 3D BUILDING MODELS FOR GIS
ANALYSIS

P. Boguslawski, C. M. Gold, and A. A. Rahman

Page(s) 93-98

KINETIC ALGORITHMS FOR HARBOUR MANAGEMENT

C. M. Gold and R. I. Goralski

Page(s) 99-104

CORRECTION OF FAULTY LINES IN MUSCLE MODEL, TO BE USED IN
3D BUILDING NETWORK CONSTRUCTION

I. R. Karas, U. Atila, and A. Abdul-Rahman

Page(s) 105-110

DATA-ORIENTED ALGORITHM FOR ROUTE CHOICE SET
GENERATION IN A METROPOLITAN AREA WITH MOBILE PHONE GPS
DATA

T. Nakamura, Y. Sekimoto, T. Usui, and R. Shibasaki

Page(s) 111-116

II/6: Geo-Visualization and Virtual Reality

A GEO-VISUAL ANALYTICS APPROACH TO BIOLOGICAL
SHEPHERDING: MODELLING ANIMAL MOVEMENTS AND IMPACTS

K. K. Benke, F. Sheth, K. Betteridge, C. J. Pettit, and J.-P. Aurambout

Page(s) 117-122

AN OPEN SOURCE GEOVISUAL ANALYTICS TOOLBOX FOR
MULTIVARIATE SPATIO-TEMPORAL DATA IN ENVIRONMENTAL
CHANGE MODELLING

M. Bernasocchi, A. Coltekin, and S. Gruber

Page(s) 123-128

3D GEOVISUALIZATION – DEFINITION AND STRUCTURES FOR THE ASSESSMENT OF USEFULNESS

S. Bleisch

Page(s) 129-134

EXPERIMENTAL EVALUATION OF LIDAR DATA VISUALIZATION SCHEMES

S. Ghosh and B. Lohan

Page(s) 135-140

LANDSCAPE VISUALISATION ON THE INTERNET

M. P. Imhof, M. T. Cox, D. W. Harvey, G. E. Heemskerk, and C. J. Pettit

Page(s) 141-146

SPATIO-TEMPORAL CLUSTERING OF MOVEMENT DATA: AN APPLICATION TO TRAJECTORIES GENERATED BY HUMAN-COMPUTER INTERACTION

G. McArdle, A. Tahir, and M. Bertolotto

Page(s) 147-152

VISUALISATION SUPPORT FOR EXPLORING URBAN SPACE AND PLACE

C. Pettit, I. Widjaja, P. Russo, R. Sinnott, R. Stimson, and M. Tomko

Page(s) 153-158

SIMULTANEOUS VISUALIZATION OF DIFFERENT UTILITY NETWORKS FOR DISASTER MANAGEMENT

S. Semm, T. Becker, and T. H. Kolbe

Page(s) 159-164

AN INTERACTIVE TOOL FOR ANALYSIS AND OPTIMIZATION OF TEXTURE PARAMETERS IN PHOTOREALISTIC VIRTUAL 3D MODELS

A. A. Sima, S. J. Buckley, and I. Viola

Page(s) 165-170

VISUALIZATION AND ANALYSIS OF LIGHT POLLUTION: A CASE STUDY IN HONG KONG

B. Wu and H. Wong

Page(s) 171-176

II/7: Spatial Decision Support and Location-Based Services

SOLAR RADIATION ESTIMATION ON BUILDING ROOFS AND WEB-BASED SOLAR CADASTRE

G. Agugiaro, F. Nex, F. Remondino, R. De Filippi, S. Droghetti, and C. Furlanello

Page(s) 177-182

EVALUATING PHOTGRAMMETRIC APPROACH OF IMAGE-BASED POSITIONING

X. Li and J. Wang

Page(s) 183-188

MODELLING VAGUE KNOWLEDGE FOR DECISION SUPPORT IN PLANNING ARCHAEOLOGICAL PROSPECTIONS

S. Boos, S. Hornung, and H. Müller

Page(s) 189-194

A New Models for Emergency Evacuation under the Disaster Condition

L. Tang, X. Yang, F. Huang, H. Xu, and Q. Li

Page(s) 195-202

ICWG II/IV: Semantic Interoperability and Ontology for Geospatial Information

ONTOLOGICAL STANDARDIZATION FOR HISTORICAL MAP

COLLECTIONS: STUDYING THE GREEK BORDERLINES OF 1881

E. Gkadolou, E. Tomai, E. Stefanakis, and G. Kritikos

Page(s) 203-208

THE DEVELOPMENT OF CADASTRAL DOMAIN MODEL ORIENTED AT UNIFIED REAL ESTATE REGISTRATION OF CHINA BASED ON ONTOLOGY

M. Li, X. Zhu, C. Shen, D. Chen, and W. Guo

Page(s) 209-215

REAL TIME SEMANTIC INTEROPERABILITY IN AD HOC NETWORKS OF GEOSPATIAL DATA SOURCES: CHALLENGES, ACHIEVEMENTS AND PERSPECTIVES

M. A. Mostafavi and M. Bakillah
Page(s) 217-222

FACILITATING INTEGRATED SPATIO-TEMPORAL VISUALIZATION
AND ANALYSIS OF HETEROGENEOUS ARCHAEOLOGICAL AND
PALAEOENVIRONMENTAL RESEARCH DATA

C. Willmes, S. Brocks, D. Hoffmeister, C. Hütt, D. Kürner, K. Volland, and

G. Bareth

Page(s) 223-228

Additional Papers

OPTIMIZATION OF LAND USE SUITABILITY FOR AGRICULTURE
USING INTEGRATED GEOSPATIAL MODEL AND GENETIC
ALGORITHMS

S. B. Mansor, S. Pormanaifi, A. R. B. Mahmud, and S. Pirasteh

Page(s) 229-234

EARTH OBSERVATION DATA INTEROPERABILITY ARRANGEMENT
WITH ONTOLOGY REGISTRY

M. Nagai, M. Ono, and R. Shibasaki

Page(s) 235-239