

2015 23rd International Conference on Geoinformatics (Geoinformatics 2015)

**Wuhan, China
19-21 June 2015**



**IEEE Catalog Number: CFP1532H-POD
ISBN: 978-1-4673-7664-8**

TABLE OF CONTENTS

LAND COVER CHANGE DETECTION OF EZHOU HUARONG DISTRICT BASED ON MULTI-TEMPORAL ZY-3 SATELLITE IMAGES	1
<i>X. Yu, B. Li, J. Shao, J. Zhou, H. Duan</i>	
MINING THE DRIVE MECHANISM FOR IMPERVIOUS SURFACE EXPANSION WITH INDEX OF ENTROPY	5
<i>G. Wang, K. Yang, Y. Xu, B. Wang</i>	
THE CORRELATION OF LIGHT - TEMPERATURE INDEXES AND LIGHT – TEMPERATURE POTENTIAL PRODUCTIVITY OF SPRING MAIZE	12
<i>H. Zhao, Y. Zhu, M. Li, H. Yang</i>	
GIS-BASED INDOOR PEDESTRIAN EVACUATION SIMULATION COMBINING THE PARTICLE SWARM OPTIMIZATION AND THE FLOOR FIELD MODEL	18
<i>W. Zhang, Y. Zhou, W. Tian, B. Hu</i>	
BUILDING DAMAGE ASSESSMENT APPROACH BASED ON SEISMIC SPATIAL INFORMATION GRID	22
<i>X. Yang, Z. Xie, X. Luo, Z. Chen</i>	
SENSOR-BASED MONITORING AND WARNING SYSTEM FOR LARGE BILLBOARDS	28
<i>Y. Liu, Q. Bao, C. Jing, Y. Zhang</i>	
THE DESIGN AND IMPLEMENTATION OF MASSIVE MAP TILE STORAGE TECHNOLOGY ORIENTED TO THE MOBILE TERMINAL	32
<i>D. Lv, W. Tao, X. Ying, Y. Cui</i>	
THE IMPACT OF THE MAP PROJECTION ON CHINA'S GEOPOLITICAL ENVIRONMENT	37
<i>J. Hong, H. Luo, G. Wang</i>	
VIRTUAL REALITY GIS AND CLOUD SERVICE BASED TRAFFIC ANALYSIS PLATFORM	45
<i>X. Li, Z. Lv, W. Wang, C. Wu, J. Hu</i>	
THE COUNTY-LEVEL ASSESSMENT ON RISK OF COLLAPSES, LANDSLIDES, AND DEBRIS FLOWS IN GUANGDONG USING GIS AND REMOTE SENSING	51
<i>D. Feng, M. Wu, H. Yin, Y. Wang, X. Dai</i>	
GENERATION OF HIGH RESOLUTION POPULATION DISTRIBUTION MAP IN 2000 AND 2010: A CASE STUDY IN THE LOESS PLATEAU, CHINA	56
<i>Z.-Q. Bai, J.-L. Wang</i>	
SIMULATION OF OIL SPILL USING LOGISTIC-REGRESSION CA MODEL	62
<i>Y. Zhang, J. Qiao, B. Wu, W. Jiang, X. Xu, G. Hu</i>	
SIMULATION OF OIL SPILL USING ANN AND CA MODELS	68
<i>Y. Zhang, J. Qiao, B. Wu, W. Jiang, X. Xu, G. Hu</i>	
THE DEVELOPMENT OF INTEGRATED WATERSHED FLOOD RISK ASSESSMENT ONTOLOGY	73
<i>S. Yi, Y. Xiao</i>	
NATURAL-SOCIETY MULTIPLE ENTITIES INTERACTION MODELING AND WATERSHED HAZARD RISK ESTIMATION	79
<i>S. Yi</i>	
SPATIO-TEMPORAL PROPERTIES (STP) GRAPH MODEL FOR MULTIPLE-ENTITY VARIABLES ESTIMATION	85
<i>S. Yi, Y. Xiao</i>	
3D INTEGRATED REPRESENTATION MODEL AND VISUALIZATION BASED ON THE GLOBAL DISCRETE VOXEL—GEOSOT3D	90
<i>Z. Sun, C. Cheng</i>	
INFERRING INDIVIDUAL PHYSICAL LOCATIONS WITH SOCIAL FRIENDSHIPS	95
<i>M. Zhou, W. Tu, Q. Li, Y. Yue, X. Chang</i>	
IMPACT OF SLOPE, ASPECT AND CLOUD COVER ON THE DISTRIBUTION ON INCOMING GLOBAL SOLAR RADIATION OVER PAKISTAN	101
<i>S. Sultan, L. Hui, R. Wu, F. Ahmad, A. Iftikhar</i>	
A MPI-BASED PARALLEL PYRAMID BUILDING ALGORITHM FOR LARGE-SCALE REMOTE SENSING IMAGES	112
<i>G. He, W. Xiong, L. Chen, Q. Wu, N. Jing</i>	
SPATIAL ANALYSIS OF INTER-PROVINCIAL MIGRATION FLOWS IN CHINA BASED ON SPATIAL OD MODELS	116
<i>Y. Pu, Y. Wang, H. Han, D. Liu, X. Song, Y. Feng</i>	

A BOOTSTRAPPING ALGORITHM FOR GEO-ENTITY RELATION EXTRACTION FROM ONLINE ENCYCLOPEDIA	121
<i>L. Yu, F. Lu</i>	
RANDOM FORESTS METHODOLOGY TO ANALYZE LANDSLIDE SUSCEPTIBILITY: AN EXAMPLE IN LUSHAN EARTHQUAKE.....	126
<i>H. Li, R. Liu, J. Xie, Z. Lai</i>	
ANALYSIS ON SPATIAL DISTRIBUTION MODEL OF MONOMER INTERNET BARS IN CHINA'S MAINLAND.....	132
<i>H. Huang, S. Khalid, J. Ni, D. Shen, J. Wang</i>	
THE PROGRESS IN THE RESEARCH OF FLOOD DAMAGE LOSS ASSESSMENT.....	138
<i>D. Shen, Q. Kuang, J. Yang, J. Ni, J. Jia</i>	
THE INFORMATION EXTRACTION AND POTENTIAL ANALYSIS OF FIELD BASED ON HIGH-PRECISION DEMS.....	144
<i>Y. Zaigui, L. Min, D. Qing, J. Jian, H. Huang</i>	
THE OPTIMIZATION OF NANJING'S PUBLIC CULTURAL FACILITY LOCATION BASED ON GENETIC ALGORITHM.....	149
<i>M. Lu, Z. Yang, T. Qian, X. Zhang, Q. Deng</i>	
VEHICLE DELAY SERIES FORECAST BASED ON TRAJECTORIES OF GPS TRACKED CABS.....	155
<i>W. Cui, D. Guo</i>	
DESIGN AND IMPLEMENT OF SPATIAL STATISTICAL SERVICES BASED ON GEOSQUARE.....	161
<i>Y. Liu, Y. Chen, S. Wang, Z. Gui, H. Wu</i>	
A MIDDLEWARE: PYTHON PLUGIN TRANSFORM ON DIFFERENT GIS PLATFORMS.....	166
<i>Z. Pan, X. Yang, Z. Xie</i>	
RAPID LOSS ASSESSMENT OF POPULATION IN SEISMIC DISASTERS.....	172
<i>L. Xue, X. Yang, Z. Xie</i>	
ASSESSMENT OF THE COMPREHENSIVE ACCESSIBILITY OF REGIONAL ROAD NETWORK ON TOWNSHIP SCALE.....	177
<i>C. Cui, Z. Han, W. Song, G.-J. Liu</i>	
SPATIO-TEMPORAL SIMILARITY ANALYSIS STRATEGY OF SAR IMAGE TIME SERIES FOR LAND DEVELOPMENT INTENSITY MONITORING.....	182
<i>Y. Wang, D. Chen, K. Zhou, R. Guo</i>	
ANALYSIS ABOUT CHANGES OF EMPLOYMENT STRUCTURE IN JIANGSU PROVINCE BASED ON SHIFT-SHARE ANALYSIS.....	186
<i>Y. Feng, Y. Pu</i>	
GIS-BASED MULTI-CRITERIA ANALYSIS MODEL FOR IDENTIFYING PROBABLE SITES OF LOCUST OUTBREAK IN XINJIANG, CHINA.....	191
<i>S. Zheng, J. Zheng, C. Mu, Y. Ni, B. Dawuti, J. Wu</i>	
STUDY ON THE CHANGING SPATIAL FOCUSING OF INTER-PROVINCIAL MIGRATION IN CHINA BASED ON GINI INDEX.....	197
<i>D. Liu, Y. Pu, H. Han, Y. Wang, X. Song</i>	
MAXIMIZING THE SERVICE AREA: A CRITERION TO CHOOSE OPTIMAL SOLUTION IN THE LOCATION OF SET COVERING PROBLEM.....	203
<i>K. Zhang, S. Zhang</i>	
A HIGH-RESOLUTION DEM-BASED METHOD FOR EXTRACTING CANALS.....	206
<i>T. Qian, Q. Kuang, J. Yang, S. Khalid, X. Zhang</i>	
ANALYSIS OF SPATIAL CHARACTERISTICS OF SOIL EROSION IN ERHAI LAKE BASIN BASED ON GIS AND RUSLE.....	212
<i>W. Wang, K. Yang, Y. Zhu, G. Wang, F. Su</i>	
EXPLORING THE APPLICATION OF VIRTUAL REALITY TECHNOLOGY IN SURVEYING AND MAPPING ARCHIVES.....	219
<i>S. Huang, C. Fang, X. Mei</i>	
RESEARCH ON DIGITAL PROTECTION OF ETHNIC CULTURE IN TIBETAN AREAS IN YUNNAN PROVINCE BASED ON GIS.....	223
<i>F. Su, K. Yang, Y. Zhu, T. Ba, B. Peng</i>	
HIGH RESOLUTION URBAN IMAGE CLASSIFICATION COMBINING EDGE STATISTICAL FEATURES.....	227
<i>W. Zhao, S. Du, Z. Guo</i>	
LAND SURFACE TEMPERATURE ESTIMATION FROM REMOTE SENSING DATA - A CASE STUDY IN KUN MING CITY.....	233
<i>Y. Li, K. Yang, R. Yang</i>	

OPTIMIZED SELECTION OF OBSERVATION MODEL PARAMETERS BASED ON QR DECOMPOSITION	239
<i>J. Liu, C. Yan, H. Zhao, D. Zhang</i>	
CONSTRUCTION OF MULTI-SOURCE REMOTE SENSING DATA GEODATABASE BASED ON URBAN ESTABLISHMENT UP AT MOUNTAINS	242
<i>B. Wang, K. Yang, L. Yuan, Y. Zhu</i>	
SELF-ADAPTIVE WI-FI INDOOR POSITIONING MODEL	246
<i>Y. Chen, D. Guo, W. Cui, J. Li</i>	
THE EXTRACTION OF FEATURE POINTS FROM DEM GEOGRAPHIC DATA IN CLOUD COMPUTING ENVIRONMENT	252
<i>S. Wang, Y. Chen, Y. Liu, Q. Wu, H. Chen, X. Zhu</i>	
COMPARATIVE STUDY OF FOUR KINDS OF DROUGHT MONITORING METHODS	257
<i>M. Zhao, W. Hu</i>	
APPLICATION OF DELTA-WING AIRPLANE REMOTE SENSING SYSTEM WITH DUAL-CAMERA IN MAPPING VEGETATION FRACTION	261
<i>A. Wen, J. Zheng, C. Mu, J. Lin, P. Li</i>	
POINT SOLAR RADIATION ANALYSIS OF JIAMUSI PREFECTURE UNDER DIFFERENT WEATHER TYPES BASED ON ARCGIS	267
<i>X. Mei, Q. Wang, D. Liu</i>	
STUDY ON TEMPORAL AND SPATIAL CHANGES OF FOREST RESOURCES IN JIANGSU PROVINCE IN RECENT THIRTY YEARS	271
<i>X. Zhang, G. Chen, R. Chen, M. Xue, J. Yu, M. Duan</i>	
STUDY ON LAND USE/COVER IN YINGKOU CITY BASED ON THE GEOGRAPHICAL CONDITIONS SURVEY OF CHINA	277
<i>A. Wang, C. Xie</i>	
RESEARCH ON EXTRACTION METHOD OF URBAN IMPERVIOUS SURFACE INFORMATION	283
<i>G. Liu, J. Wang, L. Ma, W. Gao</i>	
DSM GENERATION ON THE SHADE OF TREE AREA OF AERIAL PHOTOGRAMMETRY	287
<i>J.-T. Hwang, Y.-W. Chen, W.-Y. Lian, Y.-Y. Yang, T.-C. Chu</i>	
A DYNAMIC SEAMLESS MODELING METHOD FOR THE GLOBAL MULTI-SCALE TERRAIN BASED ON DQG	291
<i>L. Zhao, X. Zhao</i>	
ASSESSING URBAN PUBLIC SECURITY BASED ON REMOTE SENSING AND GIS	296
<i>X. Yan, X. Li, D. Lin</i>	
AN ADAPTIVE SEAMLESS MODEL OF THE GLOBAL TERRAIN BASED ON MULTI-RESOLUTION HALF-EDGES	302
<i>S. Hou, X. Zhao, H. Hou, Y. Guan</i>	
AN EFFECTIVE METHOD OF OPTIMIZING GEOSPATIAL METADATA RETRIEVAL	307
<i>J. Zhao, X. Wang, C. Sun, Y. Li, Y. Zhou, J. Li</i>	
A NOVEL COMPUTATION METHOD FOR LINE-LINE TOPOLOGICAL RELATIONS BASED ON CONFORMAL GEOMETRIC ALGEBRA	311
<i>B. Jiang, Z. Xie, L. Wu, Z. Chen</i>	
ASSESSMENT OF MONGODB'S SPATIAL RETRIEVAL PERFORMANCE	316
<i>M. Duan, G. Chen</i>	
UNDERSTANDING THE CLUSTERING PATTERNS IN PHYSICIAN DISTRIBUTION THROUGH AFFINITY PROPAGATION	320
<i>X. Shi, B. Xue, I. Xierali</i>	
A FAST APPROACH TO ENABLE MOBILE APPS WITH GEO-LOCATION LOGGING AND REPORTING	324
<i>Y. Hu, X. Zhang, L. Hu</i>	
WEB GIS-BASED INFORMATION MANAGEMENT SYSTEM OF DASHANBAO BLACK-NECKED CRANE NATIONAL NATURAL RESERVE IN ZHAOTONG, YUNNAN	328
<i>F. Wu, J. Wang, X. Zhong, M. Dao, Z. Zhao</i>	
2D AND 3D WEBPAGE VISUALIZATION OF THE GREAT CIRCLE AND RHUMB LINE	332
<i>Q. Zhang, K. Zhang</i>	
SITE SELECTION IN MOUNT TIANMU NATURE RESERVE BASED ON THE LANDSCAPE PATTERN ANALYSIS OF SMALL WATERSHEDS	335
<i>M. Wu, K. Zhang</i>	
DYNAMIC CHANGE AND SPATIAL EXPANSION OF URBAN HEAT SINKS IN BEIJING, CHINA	338
<i>G. Cai, Y. Liu, M. Du</i>	

TESTING SIMULATED POSITIVE SPATIAL AUTOCORRELATION BY GETIS-ORD GENERAL G	343
<i>K. Zhang, S. Zhang</i>	
SPATIO-TEMPORAL EVOLVEMENT OF ECONOMIC DEVELOPMENT OF SHANDONG AT THE COUNTY LEVEL	347
<i>F. Zhao, J. Zhang, Y. Zhu</i>	
DELINEATING INTRA-URBAN SPATIAL CONNECTIVITY PATTERNS BY TRAVEL- ACTIVITIES: A CASE STUDY OF BEIJING, CHINA.....	353
<i>C. Kang, Y. Liu, L. Wu</i>	
AN INTEGRATED SERVICE SYSTEM FOR AGRICULTURAL DROUGHT MONITORING AND FORECASTING AND IRRIGATION AMOUNT FORECASTING.....	359
<i>Q. Luan, X. Fang, C. Ye, Y. Liu</i>	
BASED ON THE SUPPORT VECTOR MACHINE FOR LUCC RESEARCH IN BINCHUAN OF YUNNAN PROVINCE.....	366
<i>C. Yang, J.-L. Wang</i>	
BUILDING BOUNDARIES EXTRACTION FROM POINT CLOUDS USING DUAL-THRESHOLD ALPHA SHAPES.....	371
<i>Y. Li, G. Gao, B. Cao, L. Zhong, Y. Liu</i>	
DESIGN OF MINERAL DEPOSIT PREDICTION EXPERT SYSTEM BASED ON GIS AND ANSWER SET PROGRAMMING	375
<i>Z. Zhao, H. Chen, M. Pan, Z. Zhang</i>	
A RANDOM FOREST BASED METHOD FOR URBAN OBJECT CLASSIFICATION USING LIDAR DATA AND AERIAL IMAGERY.....	380
<i>Z. Gan, L. Zhong, Y. Li, H. Guan</i>	
OBJECT-ORIENTED METHOD OF BUILDING DAMAGE EXTRACTION FROM HIGH- RESOLUTION IMAGES.....	384
<i>L. Wang, J. Li, Y. Liu, T. Gan</i>	
ANALYZING VARIATION OF NDVI AND ITS RELATIONSHIP WITH SLOPE IN HUBEI PROVINCE, CHINA.....	388
<i>P. Fu, Y. Gong</i>	
POLLUTION LOAD SIMULATION OF DONGTING LAKE BASIN BASED ON SWAT AND GIS	394
<i>L. Fang, W. Wang, C. Liu, Z. Yu</i>	
AN ONTOLOGY MATCHING METHOD FOR GML APPLICATION ONTOLOGY TO GEOSPARQL ONTOLOGY.....	398
<i>R. Qiu, H. Duan, X. Yu, L. Zheng, Q. Cheng</i>	
A STUDY ON FLOOD RISK ASSESSMENT APPROACH BASED ON MULTI-SOURCE GEOGRAPHIC DATA INTEGRATION AND GIS METHODS: A CASE STUDY OF LOWER HAN RIVER REGION	403
<i>Y. Xiao, S. Yi, Y. Huang</i>	
INTENSIVE LAND USE PATTERN UNDER ECOLOGICAL CONSTRAINTS: A CASE STUDY OF THE DIANCHI LAKE BASIN	408
<i>J. Jin, H. Zhang, Y. Zhou</i>	
SPATIAL-TEMPORAL BASED INTEGRATED MANAGEMENT FOR SMART CITY: FRAMEWORK, KEY TECHNIQUES AND IMPLEMENTATION	416
<i>N. Chen, W. Du</i>	
A SEMI-ANALYTICAL MODEL OF CHLOROPHYLL-A CONCENTRATION IN PEAR RIVER ESTUARY UNDER VARIOUS TIDAL CONDITIONS.....	420
<i>Q. Fu, Y. He, Y. Feng, Y. Qin, B. Yin</i>	
A NOVEL GIS PLATFORM FOR UGV APPLICATION IN THE UNKNOWN ENVIRONMENT	428
<i>Q. Yang, M. Wang, M.-P. Kwan, Y. Yang</i>	
QUANTITATIVE STUDY OF HEAVY METALS IN TAIHU LAKE BASED ON MODIS IMAGES	434
<i>G. Cheng, X. Qiu, Y. Wang</i>	
CYANOBACTERIA BLOOM MONITORING AND EARLY WARNING SYSTEM BASED ON GIS AND WSNS - A CASE STUDY IN DIANCHI LAKE	440
<i>Y. Xu, K. Yang, Y. Luo, B. Peng</i>	
THE MUDSLIDE MONITORING AND EARLY WARNING SYSTEM BASED ON WEBGIS IN NUJIANG.....	448
<i>Z. Fan, F. Li, B. Zheng, F. Cui</i>	
THE ECOLOGICAL SECURITY EVALUATION RESEARCH OF SHANGRI-LA BASED ON GIS AND RS	454
<i>X. Sun, J. Wang, W. Gao, P. Yang</i>	

PERMANENT SNOW AND ICE EXTRACTION BASED ON OBJECT-ORIENTED CLASSIFICATION IN HIMALAYA	459
<i>B. He, B. Kong</i>	
INVESTIGATING THE COGNITIVE EFFICIENCY OF INTERPRETIVE ANIMATED DIAGRAM IN THEMATIC ATLAS: A QUANTITATIVE TEST AND EVALUATION	463
<i>F. Zhu, L. Feng, X. Tang, P. Xu</i>	
A DATA PREPROCESSING FRAMEWORK OF GEOSCIENCE DATA SHARING PORTAL FOR USER BEHAVIOR MINING	468
<i>M. Wang, J. Wang</i>	
SPATIAL DISTRIBUTION OF DISSOLVED ORGANIC CARBON DURING THE WET SEASON IN NORTHERN POYANG LAKE AND RELATED AFFECTING FACTORS.....	473
<i>J. Xu, Y. Wang, D. Gao</i>	
A SYSTEM DYNAMICS MODEL FOR URBAN SUSTAINABLE TRANSPORTATION PLANNING.....	477
<i>H. Yao, D. Chen</i>	
MORPHOLOGY-ONTOLOGY OF GEOSPATIAL DATA AND ITS APPLICATION IN DATA DISCOVERY	482
<i>K. Sun, Y. Zhu, P. Pan, K. Luo, D. Wang, Z. Hou</i>	
STUDY ON TOPOGRAPHIC MAP PRODUCTION BASE ON GEO-INFORMATION	488
<i>X.-Z. He</i>	
STUDIES ON THREE-DIMENSIONAL ZONALITY OF THE VEGETATION IN SHANXI BASED ON GIS	494
<i>L. Qiu, S. Wang</i>	
ACCELERATING GENERATION OF STOCHASTIC CYCLONE ROUTES WITH GPU PROGRAMMING.....	499
<i>Y. Chen, Z. Huang</i>	
THE TEMPORAL AND SPATIAL OVERVIEW OF GLOBAL SHIPPING ROUTES	504
<i>J. Hou</i>	
FIREFLY ALGORITHM OPTIMIZED EXTREME LEARNING MACHINE FOR HYPERSPECTRAL IMAGE CLASSIFICATION	509
<i>H. Su, Y. Cai</i>	
A PRACTICAL TECHNIQUE TO SOLVE SETTLEMENTS OVERLAPPING ROADS PROBLEM IN MAP GENERALIZATION.....	513
<i>B. Zhao, D. Peng, S. Hu, S. Liu</i>	
ANALYSIS OF LAND USE AND LAND COVER CHANGE IN NADOWLI DISTRICT, GHANA	518
<i>L. Prosper, Q. Guan</i>	
A CHINESE GEOLOGICAL TIME SCALE ONTOLOGY FOR GEODATA DISCOVERY	523
<i>Z. Hou, Y. Zhu, X. Gao, K. Luo, D. Wang, K. Sun</i>	
IMPACT OF URBANIZATION ON STREAM STRUCTURE AND FLOOD HAZARD IN THE PLAIN RIVER NETWORK REGION.....	528
<i>F. Zhou, H. Lv, Y. Xu</i>	
A ROAD DENSITY PARTITION METHOD FOR THE EVALUATION OF ROAD SELECTION	533
<i>H. Fang, C. Ren, L. Lin, F. Xiong, J. Tian</i>	
A SPATIAL DATA PARTITIONING AND MERGING METHOD FOR PARALLEL VECTOR SPATIAL ANALYSIS.....	539
<i>Q. Qiu, X. Yao, C. Chen, Y. Liu, J. Fang</i>	
A PREDICTIVE GIS MODEL FOR MAPPING POTENTIAL MANGANESE MINERALIZATION IN WESTERN GUANGXI AND SOUTHEASTERN YUNNAN AREA, CHINA	544
<i>B. Zhang, X. Li, X. Mao, H. Deng, S. Zhou</i>	
A WAVEFORM EXPLOITATION OPTIMIZED MULTISCALE CURVATURE ALGORITHM FOR RECOGNIZING GROUND ECHOES FROM AIRBORNE LASER SCANNER IN DENSELY FORESTED AREA	553
<i>H. Lu, Y. Pang</i>	
A NOVEL SPATIO-TEMPORAL SIMILARITY ALGORITHM ADAPTED TO TYPHOON DISASTER CASES	558
<i>X. Zhou, F. Wang, C. Wang, X. Zheng, F. Zheng, L. Li</i>	
AN EFFECTIVE DATA INDEXING METHOD FOR POI DATA.....	562
<i>Z.-Y. Xu, Y.-H. Xiong, H. Ye</i>	
DESIGN AND IMPLEMENTATION OF MARINE GEOLOGY 3D GEOGRAPHIC INFORMATION SYSTEM BASED ON SKYLINE	567
<i>G. Su, F. Lin, S. He, J. Sun</i>	

UNCOVERING STRUCTURE DYNAMICS OF THE EVOLVING NETWORKS	570
<i>T. Jia</i>	
OBJECTIVE AND SUBJECTIVE QOS FACTORS SUPPORTED WEB SERVICE SEARCH METHOD BASED ON EXTENDED WSDL	575
<i>L. Jiang, T. Liu, D. Liu</i>	
INTERACTIVE VISUALIZATION FOR MASSIVE POI USING TILED FEATURE STRATEGY	579
<i>W. Fan, H. Liu</i>	
PAVEMENT EVALUATION WITH AHP BASED ON EXPERT’S ASSESSMENT	584
<i>W. Fan, L. Dai</i>	
THE DISEASE SEVERITY ESTIMATION OF BACTERIAL SPOT DISEASE OF PROCESSING TOMATO BASED ON HYPERSPECTRAL REMOTE SENSING	587
<i>X. Yin, H. Zhu, Q. Zhang, J. Liu, Q. Zhao, C. Wang, C. Ning</i>	
ROAD DETECTION FROM DENSE LIDAR DATA BASED ON LOCAL AND GLOBAL INFORMATION	592
<i>Y. Li, B. Yong, H. Wu, R. An, H. Xu</i>	
A METHODOLOGY OF UAV ROUTE PLANNING FOR FAST IMAGE MOSAICKING	597
<i>F. Zheng, F. Wang, J. Wu, X. Zheng</i>	
A SPATIAL BASED DATA DEPENDENCY MODELING METHOD FOR EMERGENCY DECISION MAKING	602
<i>L. Li, F. Wang, X. Zheng</i>	
DROUGHT MONITORING BASED ON THE CHANGES OF WATER AREA IN DONGTING LAKE	606
<i>R. Li, X. Li, D. Su, T. Sun</i>	
A NOVEL METHOD ON QUALITY ANALYSIS OF SATELLITE NAVIGATION SIGNAL AND EFFICIENT INITIAL POSITIONING	610
<i>X. Yao, K. Fan</i>	
ANALYZING CAMPUS MOBILITY PATTERNS OF COLLEGE STUDENTS BY USING GPS TRAJECTORY DATA AND GRAPH-BASED APPROACH	614
<i>F. Li, X. Long, S. Du, J. Zhang, Z. Liu, M. Li, F. Li, Z. Gui, H. Yu</i>	
A VISUALIZATION PLATFORM FOR SPATIO-TEMPORAL DATA: A DATA INTENSIVE COMPUTATION FRAMEWORK	619
<i>D. Guo, Y. Du</i>	
ANALYSES ON SPATIOTEMPORAL PATTERNS OF IMPERVIOUS SURFACE COVERAGE IN CHANGSHA METROPOLITAN AREA	625
<i>M.-F. Wu, B. Yang, F.-F. Hu, L.-W. Liao</i>	
THE INTEGRATION TECHNOLOGY OF SENSOR NETWORK BASED ON WEB CRAWLER	631
<i>Y. Zhou, H. Xie</i>	
THE COMPUTATION OF DELAUNAY TRIANGULATION OF LIDAR POINT CLOUD BASED ON GPU	638
<i>Y. Chao, T. Wu, X. Wang, G. Zheng</i>	
AN EXTENSIBLE SIMULATION FRAMEWORK FOR DIAGNOSING THE EXECUTION OF THE DISTRIBUTED GEOSPATIAL WEB SERVICES	642
<i>B. Xiang, X. Li, M. Zhang, L. Lu, F. Li, B. Zhao, Z. Gui</i>	
A METHOD OF EXTRACTING HUMAN FACIAL FEATURE POINTS BASED ON 3D LASER SCANNING POINT CLOUD DATA	647
<i>H. Xia, T. Huang, G. Chen</i>	
A HYPERGRAPH BASED TASK SCHEDULING STRATEGY FOR MASSIVE PARALLEL SPATIAL DATA PROCESSING ON MASTER-SLAVE PLATFORMS	650
<i>B. Cheng, X. Guan, H. Wu</i>	
COTTON GROWTH MONITORING AND YIELD ESTIMATION BASED ON ASSIMILATION OF REMOTE SENSING DATA AND CROP GROWTH MODEL	655
<i>Y. Chen, X. Mei, J. Liu</i>	
THE DESIGN AND IMPLEMENTATION OF SHENZHEN HOUSE PRICE INDEXES SYSTEM BASED ON 3D-GIS	659
<i>N. Han, W. Zhang, K. Liang</i>	
HOW TO USE OPEN SOURCE DATA TO ASSESS INFECTION DISEASE RISK: A FRAMEWORK AND APPLICATIONS	663
<i>Q. Yan, D. Guo, W. Cui, J. Li, Y. Zhou</i>	
URBAN ROAD NETWORK GENERALIZATION BASED ON STROKES	668
<i>W. Jin, Z. Zhou, H. Wang, M. Wang</i>	
SPATIAL AND TEMPORAL DYNAMICS OF HIGH TECHNOLOGY INDUSTRY OF CHINA	673
<i>Q. Yang, H. Zhang</i>	

FUZZY EVALUATION OF ARABLE LAND SUITABILITY BASED ON THREE SCALE AHP METHOD	679
<i>W. Huang, X. Cheng</i>	
SERVING SPATIO-TEMPORAL GRIDS: HOW STANDARDS HELP	683
<i>J. Yu, P. Baumann</i>	
RESEARCH OF VOYAGE EXTRACTION BASED ON BEIDOU VESSEL MONITORING SYSTEM DATA	689
<i>X. Wang, Q. Zheng, S. Zhang</i>	
CAMERA CALIBRATION EXPERIMENT BASED ON HARRIS ALGORITHM	694
<i>J. Li, J. Wang</i>	
TECHNICAL EVALUATION FOR MASHING UP CROWDSOURCEING IMAGES	700
<i>C. Xie, Z. Zhang, J. Shan</i>	
ANALYSIS OF THE RELATIONSHIP BETWEEN LAND SURFACE TEMPERATURE AND LAND COVER TYPES -- A CASE STUDY OF DIANCHI BASIN	706
<i>J. Chen, K. Yang, Y. Zhu, F. Su</i>	
AN INITIAL STUDY ON COLLEGE STUDENTS' DAILY ACTIVITIES USING GPS TRAJECTORIES	712
<i>Y. Wang, C. Huang, J. Shan</i>	
DESIGN A WEB PORTAL FOR VISUALIZING AND EXPLORING SERVICE QUALITY OF GLOBAL OGC WEB MAP SERVICES	718
<i>S. Wu, M. Zhang, Q. Huang, Y. Zhang, C. Wan, K. Zhang, J. Cao, Z. Gu, K. Qin</i>	
SPATIAL AND TEMPORAL DYNAMICS OF EXPENDITURE OF INTERNATIONAL TOURISTS OF CHINA	723
<i>H. Zhang, Q. Yang</i>	
PREDICTING POTENTIAL DISTRIBUTION FOR COLD-WATER CORAL BASED ON GIS AND MAXENT	730
<i>R. Tong, A. Purser, V. Unnithan, J. Yu</i>	
DESIGN AND APPLICATION OF MOBILE PANORAMIC MAP BASED ON SPHERE MODEL	735
<i>X. Liu, Q. Hu, A. Yao</i>	
THE DESIGN AND PRODUCT OF NATIONAL 1:10 00000 CARTOGRAPHIC DATA OF TOPOGRAPHIC MAP	740
<i>G. Wang</i>	
UNIFIED MANAGEMENT AND APPLICATION METHOD OF ENVIRONMENTAL INFORMATION BASED ON GEOSOT SUBDIVISION GRID MODEL	745
<i>N. Lu, C. Cheng, Q. Zhu, D. Liu, Y. Yang</i>	
SPATIO-TEMPORAL ANALYSIS OF THE STREET CRIME HOTSPOTS IN FAISALABAD CITY OF PAKISTAN	749
<i>S. Khalid, J. Wang, M. Shakeel, X. Nan</i>	
CONSISTENCY CONSTRAINT AND ASSESSMENT MODEL OF MULTI-SCALE REPRESENTATION	753
<i>D. Chen, X. Zhu, H. Yue, S. Bao</i>	
A CONCEPTUAL FRAMEWORK FOR THE DESIGN OF GEO-DYNAMICS VISUALIZATION	757
<i>X. Chen, Y. Zhou, M. Li</i>	
A FRAMEWORK FOR A MINERAL RESOURCES ECONOMIC DATA MANAGEMENT SYSTEM	762
<i>Y. Dong, J. Gao, C. Guo</i>	
DEVELOPMENT OF GIS-BASED FFPI FOR CHINA'S FLASH FLOOD FORECASTING	765
<i>Z. Zeng, G. Tang, D. Long, H. Xu, Y. Chen, Y. Hong</i>	
IDENTIFICATION OF THE YANCHENG REGION WATER QUALITY USING GIS AND FUZZY SYNTHETIC EVALUATION APPROACH	769
<i>H. Lv, F. Zhou</i>	
ONTOLOGY-BASED PROJECT LEVEL ENVIRONMENTAL IMPACT ASSESSMENT DATABASE DESIGN RESEARCH AND PRACTICE IN CHINA	773
<i>Y. Zhu, K. Luo, P. Pan, X. Zhao, S. Fang, H. Zhu, S. Li</i>	
PROSPECTIVE ON DATA SHARING NETWORK, TECHNICAL STANDARDS AND SOFTWARE PLATFORM IN THE HKH REGION	786
<i>Y. Zhu, C. Guo, R. Liu, R. Bajracharya, S. Fang</i>	
THEMATIC ATLAS INFORMATION EXPANSION DESIGN: A STORYTELLING CONCEPT UNDER WEB ENVIRONMENT	793
<i>F. Sun, X. Tang, T. Ye, F. Zhu</i>	

GEOGRAPHICAL DETECTION OF TICK-BORNE ENCEPHALITIS RISKS IN HULUNBUIR, CHINA	799
<i>Y. Li, J. Wang, M. Gao</i>	
HJ SATELLITE BASED MAPPING TECHNOLOGIES OF LAND USE PRODUCTS FOR EMERGENCY RESPONSE OF AGRICULTURAL DISASTERS	806
<i>C. Wang, D. Li, X. Zhou, S. Huang, W. Liu, C. Weiqi, C. Shuisen</i>	
RESEARCH ON THE BASIC EDUCATION SPATIAL DISTRIBUTION IN SHANDONG PROVINCE	810
<i>Z. Ye, H. Xiang</i>	
AN ALGORITHM OF GENERATING POINT CLOUD BASED ON THE SPACE RELATIVE ORIENTATION DIRECT SOLVER AND ADDITIONAL CONSTRAINTS	815
<i>M. Zhang, Y. Chen, S. Zhong, Z. Xie, C. Liu</i>	
A COMPARATIVE STUDY ON EFFECTS OF SPATIAL AGGREGATION FOR GLOBELAND30	822
<i>S. Tan, Z. Xu, P. Ti</i>	
RESEARCH ON SEMANTICS OF ENTITY SPACE SIMILARITY MEASURE BASED ON ARTIFICIAL NEURAL NETWORKS	826
<i>Y. Xu, Z. Xie, Z. Chen</i>	
DISK CACHE MECHANISM OF TILE DATA BASED ON HTML5 TECHNOLOGY	831
<i>J. Tu, X. Luo, W. Zhao, X. Xie, X. Wu</i>	
MSURF: A NEW IMAGE MATCHING ALGORITHM WHICH COMBINES HOMOGRAPHY AND SURF ALGORITHM	835
<i>S. Zhong, Y. Chen, M. Zhang, Z. Xie, C. Liu</i>	
STUDY OF THE RIVER-LAKE ASSESSMENT SYSTEM BASED ON GIS IN PEARL RIVER BASIN	842
<i>K. Zhong, K. Ding, C. Sun, X. Liu</i>	
IMPROVING AUTOMATIC TARGET GENERATION PROCESS FOR HYPERSPECTRAL ENDMEMBER EXTRACTION	846
<i>J.-C. Wu, G.-C. Tsuei, C.-F. Feng</i>	
THE EFFECTS OF RESIDENTIAL QUARTERS' BUILT ENVIRONMENT ON TRAVEL BEHAVIOR USING PLS-SEM APPROACH: A CASE STUDY OF NANSHAN DISTRICT, SHENZHEN	850
<i>L. Zhao, Y. Gong, Y. Lin, N. Zhang, Z. Duan</i>	
RELATIONSHIP BETWEEN PRECIPITATION AND VEGETATION GROWTH STATUS OF THE NORTHERN SLOPE OF TIANSHAN MOUNTAINS BASED ON GF-1 IMAGERY: A CASE STUDY OF HUTUBI COUNTY IN XINJIANG, CHINA	856
<i>Q. Yang, J. Zheng, Y. Zhang, X. Yang, Z. Liu</i>	
GIS MAPPING AND SPATIAL ANALYSIS OF CYBERSECURITY ATTACKS ON A FLORIDA UNIVERSITY	861
<i>Z. Hu, C. Baynard, H. Hu, M. Fazio</i>	
ASSESSMENT OF URBAN VULNERABILITY TO DROUGHT IN NORTHERN SLOPE OF TIANSHAN MOUNTAINS	866
<i>L. Chang, D. Yu, J. Zheng</i>	
RESEARCH AND APPLICATION OF JINGGANGSHAN GEOLOGICAL DISASTER PREVENTION SYSTEM BASED ON WIRELESS SENSOR NETWORK SYSTEM	873
<i>Z. Chen, C. Fang, R. Deng</i>	
NETWORK FUNCTIONALITY ORIENTED STROKE BUILDING IN ROAD NETWORKS	878
<i>C. Ren, H. Fang, Y. Lei, J. Tian, W. Yang</i>	
A WEBGIS-BASED MONITORING AND EARLY-WARNING SYSTEM FOR GEOLOGICAL DISASTERS	884
<i>H. Yang, D. Shen, H. Huang</i>	
Author Index	