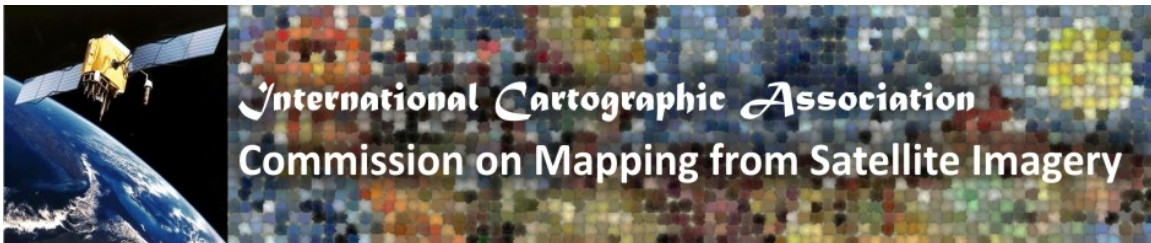


ACTIVITY REPORT

2007-2011



Commission Website:

[Http://mailer.fsu.edu/~xyang/ica](http://mailer.fsu.edu/~xyang/ica)

Prepared by

Xiaojun Yang, Chair

Commission on Mapping from Satellite Imagery

International Cartographic Association

Tallahassee, Florida, USA

xyang@fsu.edu

BACKGROUND

The International Cartographic Association (ICA) Commission on Mapping from Satellite Imagery was created in 1999, as one of the seventeen commissions approved by the 11th ICA General Assembly. Serge Le Blanc (France) was Commission Chair from 1999-2003. In 2003, the 12th ICA General Assembly approved the Commission as one of the nineteen commissions. Serge Le Blanc and Graciela Metternicht (Australia) were Commission Chair and Vice-Chair. In 2005, the 13th ICA General Assembly slightly modified the Commission name (Cartography from Satellite Imagery), and Graciela Metternicht was appointed Acting Chair and Serge Le Blanc Vice-Chair. In 2007, the 14th ICA General Assembly approved the Commission as one of the twenty-two commissions, and Graciela Metternicht and Xiaojun Yang (USA) were Chair and Vice-Chair. Following Graciela Metternicht's resignation in late 2007, Xiaojun Yang became Chair and Jonathan Li (Canada) Vice-Chair for 2008-2011.

TERMS OF REFERENCE: 2007-2011

- Maintain and improve the Commission's digital repository on topics related to: a. analysis of existing and forthcoming satellite imagery in view of their potential inputs for producing and updating topographic and thematic maps and databases; b. cartographic capabilities of different remote sensing systems.
- Produce a special edition of selected papers of the ICC theme 'Cartography and satellite imagery for the management of natural resources and the environment, early warning and natural disasters mitigation' presented or

to be presented at ICC2007 or ICC 2009 in a scholarly journal of remote sensing, or a book on Mapping from Satellite Imagery.

- Develop closer links with international organizations concerned with the use of satellite imagery (e.g., UNOOSA, UNEP, PAIGH), in view of strengthening ICA's presence, and to produce joint courses or seminars on cartographic applications of satellite imagery.
- Promote knowledge transfer at fundamental and advanced levels on the use of satellite imagery for cartographic applications related to natural and built environments, early warning and natural disaster mitigation.
- Prepare promotional materials reflecting the Commission's terms of reference and activities that can be used to support ICA presence at international forums (e.g., World Map, Map Middle East, meetings of Joint Societies, UN meetings, other regional conferences).
- Network with ISRPS (International Society for Photogrammetry and Remote Sensing) and other ICA commissions with similar interests in applications of satellite imagery. Such networking would be in view of producing joint workshops or seminars within the period 2007-2011.

COMMISSION MEMBERSHIP

Recruiting active researchers or scholars into the Commission has been critical in order to accomplish the above terms of reference. By now, the Commission has a total of 13 full members who are usually their national representatives (including Commission Chair and Vice Chair) and 4 corresponding members.



Commission Chair

Dr. Xiaojun Yang, Associate Professor
Department of Geography
Florida State University
PO Box 3062190
Tallahassee Florida 32306
United States of America
phone: +850 644 8379
fax: +850 644 5913
e-mail: xyang@fsu.edu



Commission Vice-Chair

Dr. Jonathan Li, Professor
Department of Geography and Environmental Management
Faculty of Environment
University of Waterloo
200 University Avenue West
Waterloo, Ontario N2L 3G1, Canada
phone:: +1 519 8884567, ext. 34504
fax: +1 519 7460658
e-mail: junli@uwaterloo.ca

List of the Full Members

Dr. Yifang Ban (Swedish Representative), Professor of Geoinformatics, Department of Urban Planning & Environment, Royal Institute of Technology, SE - 100 44 Stockholm, Sweden, phone: + 46 8 790 8648, fax: + 46 8 790 7343, yifang@infra.kth.se

Dr. Lilia Patricia Arias Duarte (Columbian Representative), Chief of the Research and Development Center of Geographic Information - CIAF, Agustín Codazzi Geographic Institute - IGAC; Carrera 30 #48-51 Oficina CIAF 103 Bogotá - Colombia, phone:+ 57 1 369 4087, fax: +57 1- 369 4083, liliaparias@igac.gov.co

Mr. Kah Elvis Fang (Representative of the Republic of Cameroon), Department of Geography, University of Yaounde I, Box 13138, Yaounde-Cameroon, phone:: +237 7583 97 49, kah_elvis@yahoo.fr

Dr. Jan Feranec (Slovak Representative), Associate Professor, Institute of Geography, Slovak Academy of Sciences, Stefanikova 49, 814 73 Bratislava, Slovak Republic, phone: +421 2 57510219, fax: +421 2 52491340, feranec@savba.sk

Mr. Raúl Ángel Gómez Moreno (Mexican Representative), Photogrammetric Surveyor Engineer, National Institute of Statistics, Geography and Informatics of Mexico, Av. Héroe de

Nacozari No.2301 Sur, Mexico, phone: +52 449 9105300, ext. 5955, fax:+52 449 4624704, raul.gomez@inegi.gob.mx

Mr. Dominique Lasselin (French Representative), Head of Production Dept, IGN Espace, Parc Technologique du Canal, 6, avenue de l'Europe, 31521 Ramonville Cedex, France, phone: +33 5 62 19 19 46, fax: +33 5 61 75 03 17, dominique.lasselin@ign.fr

Dr. Guoxiang Li (Chinese Representative), Professor, Department of Surveying Engineering, Southwest Jiaotong University, Chengdu, Sichuan 610031, China, phone:+ 86-28-87601656, fax: 86-28-87600612, rsgxliu@swjtu.edu.cn

Dr. Graciela Metternicht (Past Chair), Regional Coordinator, UNEP Division of Early Warning and Assessment (DEWA), Office for Latin America and the Caribbean (LAC), Panama, graciela.metternicht@pnuma.org

Dr. Karel Pavelka (Representative of the Czech Republic), Associate Professor, Vice-Dean for International Relations, Faculty of Civil Engineering, Czech Technical University in Prague, Thákurova 7 166 29 Praha 6, Czech Republic, phone: +420 224354648, fax: +420 224355419, karel.pavelka@gmail.com

Dr. Julian Smit (Representative of South Africa), Senior Lecturer, Head of the Geomatics Division, University of Cape Town, South Africa, phone: +27216503574, fax: +27216503572, Julian.Smit@uct.ac.za

Dr. Maria Tsakiri (Greek Representative), Associate Professor, Department of Cadastre, Photogrammetry and Cartography, Aristotle University of Thessaloniki, Univ. Box 439 54124, Thessaloniki, Greece, phone: +302310 996146, fax: +302310 996128, e-mail: martsaki@topo.auth.gr

List of the Corresponding Members

Dr. Barry Bitters, Senior Research Scientist & Technical Fellow, Science Applications International Corporation, System Engineering & Solutions Division, 8301 Greensboro Drive McLean, VA 22102, USA, phone: +1-703430-753, e-mail: bittersb@saic.com

Dr. Nazzareno Diodato, Fellow - RMetS, Monte Pino Met Research Observatory, GTOS/TEMS Network (FAO), 82100 Benevento, Italy, phone: +390824602021, e-mail: nazdiod@tin.it

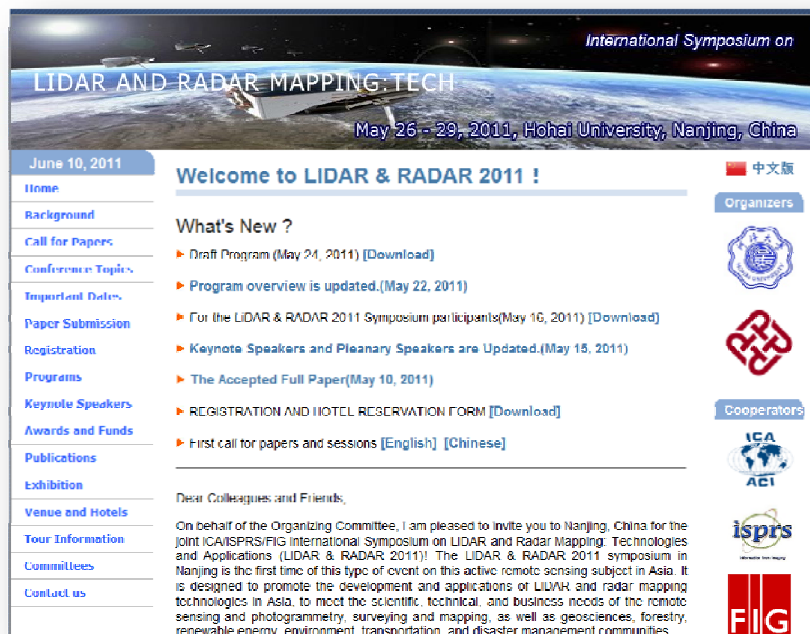
Dr. Jie Shen, Associate Professor, Department of Geographic Information Systems, College of Geographic Science, Nanjing Normal University, Nanjing 210046, P.R.China, phone : +86 25 85898270 (Secretary Office), fax: +86 25 85898270, e-mail: shenjie@njnu.edu.cn

Dr. Xianfeng Zhang, Associate Professor, Institute of Remote Sensing and GIS, Peking University, Beijing, China, phone: +8613466571665, e-mail: xfzhang@pku.edu.cn

COMMISSION-SPONSORED WORKSHOPS, SYMPOSIUMS OR CONFERENCES

International Symposium on LIDAR and RADAR Mapping (LIDAR & RADAR 2011), Nanjing, China, 26-29 May 2011

LIDAR & RADAR 2011 was hosted by Hohai University in Nanjing, China, with a sponsorship from the ICA Commission on Mapping from Satellite Imagery and four additional international professional societies, i.e., International Society for Photogrammetry and Remote Sensing (ISPRS), International Federation of Surveyors (FIG), International Society for Optical Engineering (SPIE) and International Association of Geodesy (IAG). Dr. Jonathan Li (Vice-Chair of the Commission) and Dr. Xiaojun Yang (Chair of the Commission) led the Scientific Committee.



Website for LIDAR & RADAR 2011

Third International Conference on Earth Observation for Global Changes (EOGC2011), Munich, Germany, 13-15 April 2011.

The EOGC2011 was hosted by the Technical University of Munich, with a sponsorship from the ICA Commission on Mapping from Satellite Imagery and three additional international professional societies, i.e., International Society for Photogrammetry and Remote Sensing (ISPRS), International Association of Geodesy (IAG), and International Society for Digital Earth (ISDE). Dr. Xiaojun Yang (Chair of the ICA Commission on Mapping from Satellite Imagery) and Dr. Jonathan Li (Vice Chair of the Commission) served as co-chairs of the EOGC2011 Scientific Committee. In addition, Dr. Yifang Ban (Swedish Representative for the ICA Commission on Mapping from Satellite Imagery) and Dr. Julian Smit (Representative of South Africa for the ICA Commission on Mapping from Satellite Imagery) served in the EOGC2011 Scientific Committee. The EOGC 2011 major themes covered a wide range of topics such as global geodetic observing systems, land changes, natural hazards, geospatial data processing for global change studies, among others. A total of nine technical sessions were included. A selected collection of the papers that were presented at EOGC2011 will be included in a book to be published by Springer.

ICA Workshop on Advances in Sensors and Algorithms for Topographic and Thematic Mapping in Orlando, Florida, 19 November 2010

The ICA Workshop on Advances in Sensors and Algorithms for Topographic and Thematic Mapping has been successfully held in Orlando, Florida, USA, 19 November 2010. The event was organized by the ICA Commission on

Mapping from Satellite Imagery with co-sponsorship from the ICA Commission on Geospatial Analysis and Modeling. It was held in conjunction with the Special Joint Symposium of ISPRS Technical Commission IV and AutoCarto2010. Three oral paper sessions were included in the Workshop, which covered a variety of topics ranging from new remote sensors, improved information extraction algorithms, and innovative topographic and environmental mapping applications. Workshop attendees included active scholars from the United States, Canada, Sweden, and China. Professor Zhilin Li, ICA Vice President, was present during the Workshop.



The screenshot shows the homepage of the ICA Workshop website. The header features a satellite image of Earth and the workshop title: "ICA Workshop Advances in Sensors and Algorithms for Topographic and Thematic Mapping" dated "19 November 2010, Orlando, Florida, USA". A left sidebar contains navigation links: Home, Important Dates, Position Paper Submissions, Registration, Workshop Programs, Publication, Workshop Venue, Related Events, Travel Information, Program Committee, and Contacts. The main content area includes an "Invitation" section with text from the ICA Commission on Mapping from Satellite Imagery, details about the event's location and timing, a list of workshop topics, and contact information. The footer shows the copyright notice "Copyright © 2010 ICA-CMSI" and the last update date "Sunday, August 1, 2010 3:48 PM".

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Important Dates
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ICA Workshop *Advances in Sensors and Algorithms for Topographic and Thematic Mapping* 19 November 2010, Orlando, Florida, USA

Invitation

The International Cartographic Association (ICA) Commission on Mapping from Satellite Imagery is pleased to invite you to contribute to the ICA Workshop on Advances in Sensors and Algorithms for Topographic and Thematic Mapping.

This will be a one-day event in conjunction with the [Special Joint Symposium](#) of ISPRS Technical Commission IV and AutoCarto2010, beginning in the morning of 19 November 2010, at the [Doubletree Hotel](#) at Entrance to Universal Orlando, Orlando, Florida, U.S.A.

The workshop will offer a forum for scholars and professionals to showcase their latest research advances in remote sensors and information extraction techniques that are particularly tied with various mapping applications. The workshop topics include but are not limited to:

- Cartographic capabilities of high-resolution optical and active remote sensors
- Development of improved information extraction algorithms
- Topographical and bathymetrical mapping
- Urban feature extraction and landscape mapping
- Hydrographic feature extraction
- Ecological and environmental mapping
- Natural hazards mapping and monitoring

The workshop is organized by the ICA Commission on Mapping from Satellite Imagery with co-sponsorship from the ICA Commission on Geospatial Analysis and Modeling.

The official workshop language is English.

The important workshop deadlines can be found by clicking [here](#).

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Website for the ICA Workshop

Second International Conference on Earth Observation for Global Changes (EOGC 2009) in Chengdu, China, 25-29 May 2009

The Second International Conference on Earth Observation for Global Changes (EOGC2009) was successfully held in Chengdu, China, 25-29 May 2009. The EOGC2009 was sponsored by the ICA Commission on Mapping from Satellite Imagery, together with three other international professional societies, i.e. International Society for Photogrammetry and Remote Sensing (ISPRS), International Association of Geodesy (IAG), and International Society for Digital Earth (ISDE). Dr. William Cartwright (ICA President) and Dr. Zhilin Li (ICA Vice President) served in the EOGC2009 International Advisory Committee. Dr. Xiaojun Yang (Chair of the ICA Commission on Mapping from Satellite Imagery) and Dr. Jonathan Li (Vice Chair of the Commission) led the EOGC2009 Scientific Committee. In addition, Dr. Yifang Ban (Swedish Representative for the ICA Commission on Mapping from Satellite Imagery) and Dr. Julian Smit (Representative of South Africa for the ICA Commission on Mapping from Satellite Imagery) served in the EOGC2009 Scientific Committee).

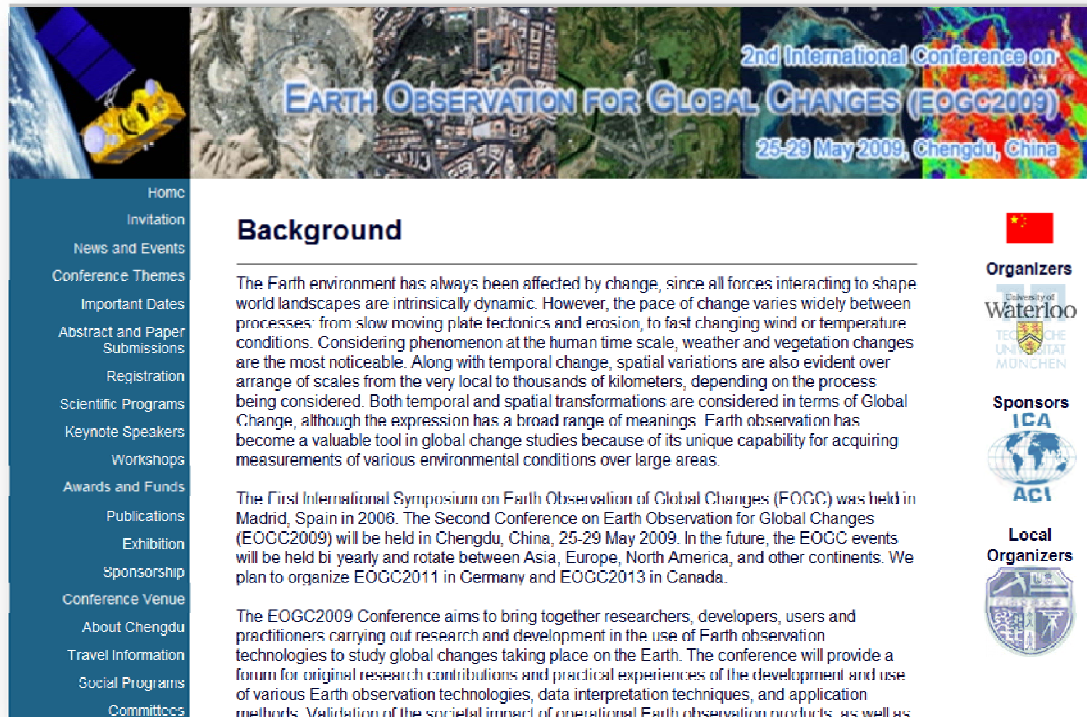
The EOGC2009 has received more than 680 abstracts and 456 full papers. More than 320 delegates from 20 countries or regions attended the conference. In addition, seven industrial sponsors presented their services and products in the exhibition space. The opening session featured the presentations by international speakers from ICA, ISPRS, IAG, ISDE, United Nations Environment Development (UNEP), Asia-Pacific Space Cooperation Organisation (APSCO), Chinese Academy of Sciences, and Peking University. Five Best Student Paper Awards were presented to the graduate students from China, Canada, USA and Hong Kong. Several well-know scholars

delivered keynote presentations, including Dr. John Townshend (University of Maryland, USA), Dr. Chris Rizos (University New South Wales, Australia), Dr. Emilio Chuvieco (Universidad de Alcalá, Spain), Dr. Ashbindu Singh (UNED), Prof. Jun Chen (ISPRS), Prof. Qingxi Tong (Peking University, China), and Dr. Wei Zhang (APSCO).

The EOGC technical sessions covered a wide range of topics on thematic applications of remote sensing, GNSS and GIS technologies to Earth observation and disaster management. Specific topics included coastal and marine ecosystems, land use and land cover changes, earthquake monitoring and assessment, urbanization and environmental impacts, geodetic techniques for global changes, and vegetation mapping and analysis.

The conference was formally closed in the morning of the 29th of May after the presentations by universities from China, Germany, Canada and the USA on their GIS and Remote Sensing programmes. The afternoon of the 29th was dedicated to a technical field trip to Yingxiu, the epicenter of the Wenchuan Earthquake that struck on the 12th of May 2008.

The post-conference publications include a SPIE volume entitled Remote Sensing of Earth Surface Changes, with a total of 80 peer-reviewed papers to be published in 2009, a Springer book on Advances in Earth Observation of Global Change, with about 20 peer-reviewed chapters (expected 2010), and a special issue on Earth Observations and Remote Sensing for Environmental Management and Hazard Mitigation with about 6-10 peer-reviewed papers, to be published by the IEEE Journal of Selected Topics in Earth Observations and Remote Sensing in 2010.



Remote Sensing & Geospatial Technologies Conference in Tallahassee, Florida, USA, 28-29 March 2008

Our Commission recently sponsored this student-oriented research meeting. It was organized by the Florida State University (FSU) Department of Geography, and the Society for Geospatial Sciences (the FSU Student Chapter of the American Society for Photogrammetry and Remote Sensing-ASPRS). This conference attracted several dozens of graduate students from the United States, along with several world-class scholars, to the city of Tallahassee from 28 to 30 March 2008. Dr. Xiaojun Yang, Chair of the ICA Commission on Mapping from Satellite Imagery, served as Scientific Advisor to this conference, and the keynote speaker was Dr Marguerite Madden,

President of ASPRS. This conference attracted early-career researchers, mainly from the United States, to their first involvement with ICA activities.

In addition to the above major events, the Commission also sponsored several other conferences including the 2009 Joint Urban Remote Sensing Event, the 2011 Joint Urban Remote Sensing Event, and several special paper sessions at the 2010 Annual Meeting of the Association of American Geographers.

PUBLICATIONS

Journal Special Issue by Environmental Management: Land Use and Watershed Assessment (Guest Editors: Yang, X. Chen, L., and Chen, Y.; to be published in 2012)

This special edition of peer-reviewed papers features the research contributed by scholars who presented a paper at the several special sessions of the 2010 Annual Meeting of the Association of American Geographers (AAG) that the ICA Commission on Mapping from Satellite Imagery sponsored.

Book: Advances in Mapping from Aerospace Imagery: Techniques and Applications (Editors: Yang, X. and Li, J.; to be published by the CRC Press in 2012)

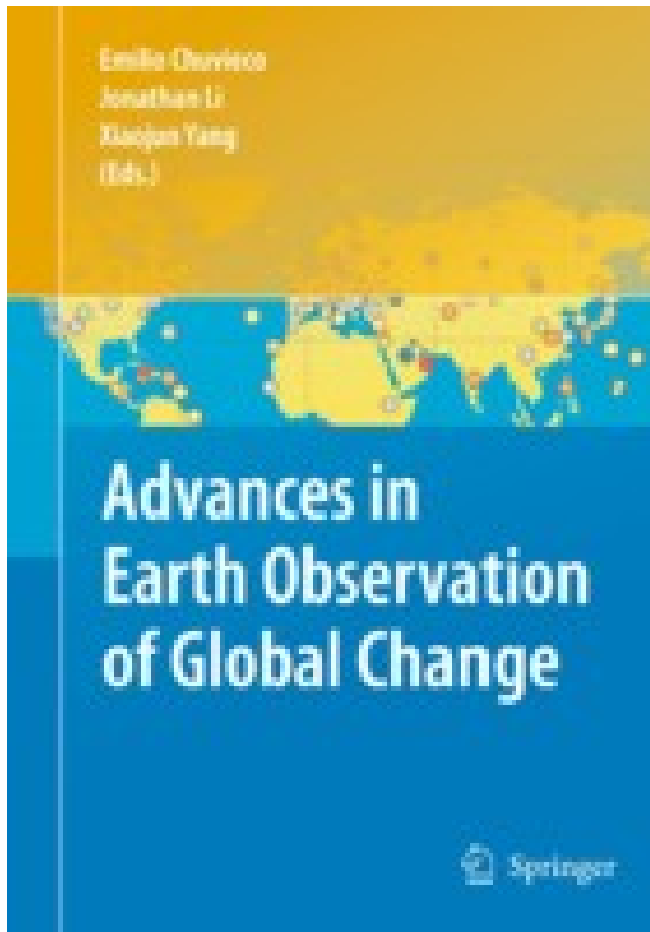
Designed for both the academic and business sectors, the proposed volume is a state-of-the-art review on remote sensors and data processing techniques applied for topographic and thematic mapping. The book comprises three

major parts. The first part provides an overview on the latest developments in remote sensors and information extraction techniques. The second part examines the utilities of various remote sensors and techniques for the extraction of several types of geographic features that are essential for topographic map production, such as elevation (including near-shore bathymetry and shorelines), vegetation, hydrography, roads, and human settlements. The last part showcases some latest developments in the synergistic use of remote sensing and relevant data processing techniques for thematic mapping in environmental and ecologic domains.

Journal Special Issue: Remote Sensing and Earth Observation for Environmental Management and Hazard Management. Edited by Yang, X. and Li, J., published by the IEEE Journal of Selected Topics in Earth Observations and Remote Sensing, 4(3) (2011).

This SCI-indexed special issue is one of the four major publications as related to the Second International Conference on Earth Observation for Global Changes (EOGC2009) that the ICA Commission on Mapping from Satellite Imagery has sponsored (see ICA Newsletter No. 54). This volume includes seven papers selected from more than twenty submissions that have been peer reviewed according to the established criteria. These papers cover urban impervious surface mapping, soil moisture retrieval, urban heat island intensity simulation, coastal water dynamics, flood mapping, and subsidence estimation.

Book: Advances in Earth Observation of Global Change. Edited by Chuvieco, E., Li, J. and Yang, X., published by Springer in 2010, 283p.



This book is one of the four major publications as related to the Second International Conference on Earth Observation for Global Changes (EOGC2009) that the ICA Commission on Mapping from Satellite Imagery has sponsored (see ICA Newsletter No. 54). This Global Change studies are increasingly being considered a vital source of information to understand the Earth Environment, in particular in the framework of human-induced climate change

and land use transformation. Satellite Earth Observing systems provide a unique tool to monitor those changes. While the range of applications and innovative techniques is constantly increasing, this book provides a summary of key case studies where satellite data offer critical information to understand the causes and effects of those environmental changes, minimizing their negative impacts.

This book will be of interest to researchers and practitioners in the field of remote sensing, geographical information, meteorology and environmental sciences. Also scientists and graduate up to post-graduate level students in environmental science will find valuable information in this book.

Conference Proceedings: Remote Sensing of the Earth Surface Process. SPIE Proceedings of the Second International Conference on Earth Observation for Global Changes, Volume 7471 (SPIE, Bellingham, WA, 2009) (Editors: Zhang, X. Li, J., Liu, G. and Yang, X.)

This SCI-indexed special issue is one of the four major publications as related to the Second International Conference on Earth Observation for Global Changes (EOGC2009) that the ICA Commission on Mapping from Satellite Imagery has sponsored (see ICA Newsletter No. 54).

More information can be found from the Commission's website:

<http://mailer.fsu.edu/~xyang/ica>

