

GEOBIA

GEOBIA 2008 - Pixels, Objects, Intelligence **GEOgraphic Object-Based Image Analysis for the 21st Century**

University of Calgary, Calgary Alberta Canada, August 05-08, 2008

Program hotlinks to presentations and posters¹

¹ Author: Geoffrey J. Hay, Department of Geography, University of Calgary, Alberta, Canada

Oral Sessions: Day 2

August 6, 2008

Room 1 – Scotiabank Milling Area, Plenary – Husky Oil, Great Hall

Time	Title and authors	Room
8h00	Opening session:	Plenary
8h00 – 8h05	Welcome and organization: Introduce team	
8h05 – 8h10	Dean - Social Sciences: Kevin McQuillan	
8h10 – 8h15	Dean - Schulich School of Engineering: Elizabeth Cannon	
8h15 – 8h20	Business – Updates: Danielle Marceau	
8h20 – 9h00	Keynote: Geographic Object-Based Image Analysis (GEOBIA) in Context: Past, Present and Future. <i>Geoffrey J. Hay</i> , University of Calgary, Department of Geography, Alberta Canada.	
9h00 – 9h45	Keynote: 10 Years of Object-oriented Image Analysis for Geospatial Applications: Evolution and Outlook, <i>Martin Baatz</i> , Definiens	
9h45 – 10h00	Break (Posters & Booths)	Plenary
	Session 1: Comparison of object-based vs. pixel-based methods <i>(Chair - Roeland de Kok)</i>	Room 1
10h00 – 10h20	A comparison of the performance of pixel-based and object-based classifications over images with various spatial resolutions. <i>Yan Gao</i> , Centro de Investigaciones en Geografía Ambiental- Universidad Nacional Autónoma de México (UNAM)	
10h20 – 10h40	Correlation of object-based texture measures at multiple scales in sub-decimeter resolution aerial photography. <i>Andrea Laliberte</i> , Jornada Experimental Range, New Mexico State University	
10h40 – 11h00	A comparison of object-based and pixel-based approaches to estimate Lidar-derived forest canopy height using Quickbird imagery. <i>Gang Chen</i> , Department of Geography, University of Calgary	
11h00 – 11h20	Comparison of pixel- and object-based sampling strategies for thematic accuracy assessment. <i>Julien Radoux</i> , Université catholique de Louvain	
11h20 – 11h40	Class modelling of biotope complexes – success and remaining challenges. <i>Stefan Lang</i> , Centre for Geoinformatics, Salzburg University	
11h40 – 12h00	The role of edge objects in full autonomous image interpretation. <i>Roeland de Kok</i> , www.progea.pl	
12h00 – 13h15	Lunch Provided: (Posters & Booths)	Plenary
	Session 2: Comparison of segmentation methods; 3D applications (a) <i>(Chair – Marco Neubert)</i>	Room 1
13h15 – 13h35	Objective image segmentation evaluation framework. <i>James Peters</i> , University of Manitoba	
13h35 – 13h55	Quantitative segmentation evaluation for large scale mapping purposes. <i>Frieke Van Coillie</i> , Ghent University	
13h55 – 14h15	Library concept and design for Lidar data processing. <i>Nicolas David</i> , IGN (French National survey)	
14h15 – 14h35	Assessment of remote sensing image segmentation quality. <i>Marco Neubert</i> , Leibniz Institute of Ecological and Regional Development (IOER)	
14h35 – 15h15	Break (Posters & Booths)	Plenary
15h15 – 16h55	Government session: <i>(Chair - Paul Briand)</i>	Plenary
17h00+	End of Sessions for First Day	Free

Oral Sessions: Day 2

August 6, 2008

Room 2 – CIBC Hub Room, Plenary – Husky Oil, Great Hall

Time	Title and authors	Room
8h00 – 8h20	Opening session: Welcome and organization	Plenary
8h20 – 9h00	Keynote: Geographic Object-Based Image Analysis (GEOBIA) in Context. Past, Present and Future. <i>Geoffrey J. Hay</i> , University of Calgary, Department of Geography, Alberta Canada.	
9h00 – 9h45	Keynote: 10 Years of Object-oriented Image Analysis for Geospatial Applications: Evolution and Outlook, <i>Martin Baatz</i>	
9h45 – 10h00	Break (Posters & Booths)	Plenary
	Session 3: Automated feature detection (a) (Chair – <i>Stefan Steiniger</i>)	Room 2
10h00 – 10h20	Development of an automated cloud detection for MSG using image segmentation. <i>Roger Huckle</i> , IMK, Forschungszentrum Karlsruhe, Germany	
10h20 – 10h40	Automated cloud detection using object-based image analysis for assessing image quality. <i>Dave Hulslander</i> , ITT Visual Information Solutions	
10h40 – 11h00	Mapping Road Traffic Conditions using High Resolutions Satellite Images. <i>Siri Øyen Larsen</i> , Norwegian Computing Center	
11h00 – 11h20	Recognizing meanders to reconstruct river dynamics of the Ganges. <i>Elisabeth Addink</i> , Faculty of Geosciences, Utrecht University	
11h20 – 11h40	Multi Image Matching of Straight Lines with Geometric Constraints. <i>Ahmed Elaksher</i> , Faculty of Engineering, Cairo University	
11h40 – 12h00	IMAGINE objective for residential rooftop extraction. <i>Paul Beaty</i> , Leica Geosystems	
12h00 – 13h15	Lunch Provided (Posters & Booths)	Plenary
	Session 4: Monitoring (a) (Chair - <i>Marguerite Madden</i>)	Room 2
13h15 – 13h35	Methods for tracking landscape change in an object-based environment. <i>Julia Linke</i> , Department of Geography, University of Calgary	
13h35 – 13h55	Incorporation of texture, intensity, hue, and saturation for rangeland monitoring with unmanned aircraft imagery. <i>Andrea Laliberte</i> , Jornada Experimental Range, New Mexico State University	
13h55 – 14h15	Object-based change detection of historical aerial photographs reveals altitudinal forest expansion. <i>Maarit Middleton</i> , Geological Survey of Finland	
14h15 – 14h35	Object-based land-use and land-cover mapping using spectral, spatial and topographic information from Ikonos imagery. <i>Marguerite Madden</i> , University of Georgia	
14h35 – 15h15	Break (Posters & Booths)	Plenary
15h15 – 16h55	Government session: (Chair - <i>Paul Briand</i>)	Plenary
17h00	End of Sessions for First Day	Free

Oral Sessions: Day 2

August 6, 2008

Room 3 – Evans Room, Plenary – Husky Oil, Great Hall

Time	Title and authors	Room
8h00 – 8h20	Opening session: Welcome and organization	Plenary
8h20 – 9h00	Keynote: Geographic Object-Based Image Analysis (GEOBIA) in Context. Past, Present and Future. <i>Geoffrey J. Hay</i> , University of Calgary, Department of Geography, Alberta Canada.	
9h00 – 9h45	Keynote: 10 Years of Object-oriented Image Analysis for Geospatial Applications: Evolution and Outlook, <i>Martin Baatz</i>	
9h45 – 10h00	Break (Posters & Booths)	Plenary
	Session 5: New classification and segmentation methods (a) <i>(Chair - Thomas Blaschke)</i>	Room 3
10h00 – 10h20	A Framework for the evaluation of multi-spectral image segmentation. <i>Andre R. S. Marcal</i> , Faculdade de Ciencias, Universidade do Porto	
10h20 – 10h40	The integration of graph based knowledge discovery with image segmentation hierarchies for data analysis, data mining and knowledge discovery. <i>James C. Tilton</i> , NASA GSFC	
10h40 – 11h00	Universal object segmentation in fused range-color data. <i>Chris Lewis</i> , Kansas State University	
11h00 – 11h20	Image segmentation using a graph theoretic approach. <i>Prashanth Reddy Marpu</i> , Freiberg University of Mining and Technology	
11h20 – 11h40	Crop mapping based on object-based classification and image fusion techniques. <i>G. Hong</i> , Canada Center for Remote Sensing	
11h40 – 12h00	A method for adapting global image segmentation methods to images of different resolutions. <i>Peter Hoffmann</i> , Leibniz University Hannover, Germany - <i>presented by Thomas Blaschke</i>	
12h00 – 13h15	Lunch Provided (Posters & Booths)	Plenary
	Session 6: New classification and segmentation methods (b) <i>(Chair - Danielle Marceau)</i>	Room 3
13h15 – 13h35	Fuzzy image segmentation for urban land-cover classification. <i>Ivan Lizarazo</i> , Universidad Distrital Francisco Jose de Caldas	
13h35 – 13h55	Automatic adaptation of segmentation parameters applied to non-homogeneous objects detection. <i>Raul Feitosa</i> , Pontificia Universidade Católica do Rio de Janeiro	
13h55 – 14h15	Image-to-map conflict detection using iterative trimming: application to forest change. <i>Julien Radoux</i> , Université catholique de Louvain	
14h15 – 14h35	An object-based land-use cellular automata model to overcome scale sensitivity. <i>Danielle Marceau</i> , University of Calgary, Geomatics Engineering	
14h35 – 15h15	Break (Posters & Booths)	Plenary
	Session 7: Government session: <i>(Chair - Paul Briand)</i>	Plenary
15h15 – 15h35	Forest monitoring information needs in Canada. <i>Mike Wulder</i> , Natural Resources Canada, Canadian Forest Service – presented by <i>Joanne White</i>	
15h35 – 15h55	The use of Earth Observation to assess Groundwater Resources. <i>Stéphane Chalifoux</i> , NRC, Earth Sciences - Groundwater	
15h55 – 16h15	Wetland mapping using object based classification of Radarsat and Landsat-ETM images for protected areas. <i>Marcelle Grenier</i> , Environment Canada - Ecosystem Conservation	
16h15 – 16h35	Space-based Monitoring to Support Wildlife Research, Management and Enforcement to deliver on Environment Canada's Mandate. <i>Jason Duffe</i> , Environment Canada - Pesticides Evaluation	
16h35 – 16h55	Object-based Resource Information Extraction: Relevance to Ecological Inventory and Monitoring. <i>Rajeev Sharma</i> , National Parks Directorate EI Branch - Ecosystem Monitoring	
17h00	End of Sessions for First Day	Free

Oral Sessions: Day 3

August 7, 2008

Room 1 – Scotiabank Milling Area, Plenary – Husky Oil, Great Hall

Time	Title and authors	Room
8h50 – 9h00	Opening session: Business	Plenary
9h00 – 9h45	Keynote: Automated Feature Extraction from Terrestrial and Airborne LIDAR. <i>Stuart Blundel, Overwatch - VLS</i>	
9h45 – 10h00	Break (Posters & Booths)	Plenary
	Session 8: Monitoring (b) <i>(Chair - Joanne White)</i>	Room 1
10h00 – 10h20	Have forests really become denser? An object-oriented assessment of a key premise in wildfire policy. <i>Rutherford Iatt, Gettysburg College</i>	
10h20 – 10h40	Delineating climate relevant structures for the Beijing metropolitan area. <i>Matthias Moeller, Austrian Academy of Sciences, GIScience - presented by Thomas Blaschke</i>	
10h40 – 11h00	Development of process trees for object-oriented change detection in riparian environments from high spatial resolution multi-spectral images. <i>Kasper Johansen, The University of Queensland</i>	
11h00 – 11h20	Studying the earthquake effect on lineament density changes by remote sensing technology. <i>Alireza Sharifi, Department of Geomatics Engineering, University of Tehran, Tehran - presented by Negin Fouladi Moghaddam</i>	
11h20 – 11h40	Quantitative comparison of segmentation results from IKONOS images sharpened by different fusion and interpolation techniques, <i>Tessio Novack, Geógrafo – USP, Mestrando em Sensoriamento Remoto - INPE</i>	
11h40 – 12h00	Image objects for monitoring forest disturbance. <i>Joanne White, Canadian Forest Service</i>	
12h00 – 13h15	Lunch Provided (Posters & Booths)	Plenary
	<i>Sessions continue in CIBC Hub (Room 2) and the Evans Room (Room 3)</i>	
14h55 – 15h15	Break (Posters & Booths)	Plenary
15h15 – 16h30	Discussion, Conclusion and Acknowledgements	Plenary
16h30 – 18h00	End of Sessions for Second day	Free
18:00+	BANQUET/DINNER – DOWNTOWN (LRT/metro tickets provided) Barley Mill Eatery & Pub, 201 Barclay Parade SW, Calgary, AB T2P 4R3 Phone: 403.290.1500	Barley Mill
21:00+	LRT back to Hotels	Free

Oral Sessions: Day 3

August 7, 2008

Room 2 – CIBC Hub Room, Plenary – Husky Oil, Great Hall

Time	Title and authors	Room
8h50 – 9h00	Opening session: Business	Plenary
9h00 – 9h45	Keynote: Automated Feature Extraction from Terrestrial and Airborne LIDAR. <i>Stuart Blundel, Overwatch - VLS</i>	
9h45 – 10h00	Break (Posters & Booths)	Plenary
	Session 9: Delineation of man-made features <i>(Chair - Danielle Marceau)</i>	Room 2
10h00 – 10h20	Detection of ring shaped structures in agricultural land using high resolution satellite images. <i>Siri Øyen Larsen, Norwegian Computing Center</i>	
10h20 – 10h40	Building detection from high-resolution satellite imagery using adaptive fuzzy-genetic approach. <i>Emre Sumer, Baskent University, Ankara, TURKEY</i>	
10h40 – 11h00	Hidden Markov models applied in agricultural crops classification. <i>Paula Beatriz Leite, Catholic University of Rio de Janeiro - presented by Prof. Raul Feitosa</i>	
11h00 – 11h20	Delineation of neighbourhoods of Accra, Ghana based on segmentation of Quickbird imagery. <i>Douglas Stow, San Diego State University</i>	
11h20 – 11h40	Comparative analysis of automatic approaches to building detection from multi-source aerial images. <i>Kourosh Khoshelham, Delft University of Technology, Delft, The Netherlands</i>	
11h40 – 12h00	Extraction of railroad objects from very high resolution helicopter-borne Lidar and ortho-image data. <i>Marco Neubert, Leibniz Institute of Ecological and Regional Development (IOER)</i>	
12h00 – 13h15	Lunch Provided (Posters & Booths)	Plenary
	Session 10: Ontology <i>(Chair - Guillermo Castilla)</i>	Room 2
13h15 – 13h35	GEOBIA: The Information Bridge between Remote Sensing and GIS. <i>Darryl Murdock, ESRI-DC.</i>	
13h35 – 13h55	From pixels to grixels: a unified functional model for geographic object-based image analysis. <i>Ivan Lizarazo, Universidad Distrital Francisco Jose de Caldas</i>	
13h55 – 14h15	From Image-Objects to Maps: An Assesment of Cartographic Requiriements for GEOBIA. <i>Stefan Steiniger, Department of Geography, University of Calgary</i>	
14h15 – 14h35	Geons – establishing manageable geo-objects for spatial planning and monitoring purposes. <i>Stefan Lang, Centre for Geoinformatics, University of Salzburg</i>	
14h35 – 14h55	Segmentation: The Achilles heel of object-based image analysis? <i>Geoff Smith, Centre for Ecology and Hydrology</i>	
14h55 – 15h15	Break (Posters & Booths)	Plenary
15h15 – 16h30	Discussion, Conclusion and Acknowledgements	Plenary
16h30 – 18h00	End of Sessions for Second day	Free
18:00+	BANQUET/DINNER – DOWNTOWN (LRT/metro tickets provided) Barley Mill Eatery & Pub, 201 Barclay Parade SW, Calgary, AB T2P 4R3 Phone: 403.290.1500	Barley Mill
21:00+	LRT back to Hotels	Free

Oral Sessions: Day 3

August 7, 2008

Room 3 – Evans Room, Plenary – Husky Oil, Great Hall

Time	Title and authors	Room
8h50 – 9h00	Opening session: Business	Plenary
9h00 – 9h45	Keynote: Automated Feature Extraction from Terrestrial and Airborne LIDAR. <i>Stuart Blundel, Overwatch - VLS</i>	
9h45 – 10h00	Break (Posters & Booths)	Plenary
	Session 11: New classification and segmentation methods (c) <i>(Chair - Luis M.T De Carvalho)</i>	Room 3
10h00 – 10h20	IMALYS - an automated and database-integrated object-oriented classification system. <i>Evelin Matejka</i> , Department of Geoinformatics, Hydrology and Modelling. University of Jena	
10h20 – 10h40	An architecture based on class dependent neural networks for object-based classification. <i>Prashanth Reddy Marpu</i> , Freiberg University of Mining and Technology	
10h40 – 11h00	Multilevel object based image classification over urban area based hierarchical image segmentation and invariant moments. <i>Peijun Li</i> , Peking University	
11h00 – 11h20	Quantum-inspired evolutionary algorithm and differential evolution for the automatic adaptation of segmentation parameters. <i>Gilson Costa</i> , Catholic University of Rio de Janeiro	
11h20 – 11h40	Interimage: an open source knowledge based framework for automatic interpretation of remote sensing data. <i>Gilson Alexandre Ostwald Pedro da Costa</i> , Catholic University of Rio de Janeiro	
11h40 – 12h00	Developing an Agent Based System for Customizing distributed GIS Services. <i>Aliaa Youssif</i> , Faculty of computers and information, Helwan University, Cairo, Egypt	
12h00 – 13h15	Lunch Provided (Posters & Booths)	Plenary
	Session 12: Map updating and tree crown delineation <i>(Chair – Maggi Kelly)</i>	Room 3
13h15 – 13h35	Individual tree detection based on densities of high points from high resolution airborne Lidar. <i>Muhammad Zulkarnain Abd Rahman</i> , Delft University of Technology	
13h35 – 13h55	Automatic delineation of forest stands from Lidar data. <i>Vesa Leppänen</i> , University of Joensuu	
13h55 – 14h15	Applied 3D texture features in ALS based tree species segmentation. <i>Timo Tokola</i> , University of Joensuu	
14h15 – 14h35	Estimating canopy cover from eucalypt dominant tropical savanna using the extraction of tree crowns from very high resolution imagery. <i>Tim Whiteside</i> , Batchelor Institute of Indigenous Tertiary Education	
14h35 – 14h55	Spectral and spatial settings for optimal object definition in aboveground biomass and leaf area index mapping. <i>Elisabeth Addink</i> , Faculty of Geosciences, Utrecht University	
14h55 – 15h15	Break (Posters & Booths)	Plenary
15h15 – 16h30	Discussion, Conclusion and Acknowledgements	Plenary
16h30 – 18h00	End of Sessions for Second day	Free
18: 00+	BANQUET/DINNER – DOWNTOWN (LRT/metro tickets provided) Barley Mill Eatery & Pub, 201 Barclay Parade SW, Calgary, AB T2P 4R3 Phone: 403.290.1500	Barley Mill
21:00+	LRT back to Hotels	Free

Poster Presentations: Day 2 & 3
(Setup in the Plenary- Great Hall - for the entire conference)

Topics	Title and Author
3D	1. An object-based approach for level-of-detail building model reconstruction from airborne and lidar optical imagery. <i>Freeman Chikomo</i> , University of Newcastle
Automated feature detection for specific targets	2. Use of statistical distribution for segmentation of SAR images of oceanic areas. <i>Renato Feijo da Rocha</i> , Brazilian Navy 3. Multi scale object based detection and classification of roads and vehicles in high resolution optical satellite imagery. <i>Arjen Oostdijk</i> , National Aerospace Laboratory NLR, the Netherlands 4. An object-oriented approach for extraction and identification of individual tree crowns from winter high resolution aerial images. <i>Aaron Trowbridge</i> , Bulkley Valley Centre for Natural Resources Research and Management
Comparative studies of object-based and pixel-based methods	5. 3D facial recognition system based on photogrammetry and neural network. <i>Rami Al-Ruzouq</i> , Al-Balqa Applied University 6. Geo-object based VHR image classification supported by GIS layers and expert knowledge. <i>Jerzy Chimel</i> , Warsaw University of Technology, Faculty of Geodesy and Cartography, Division of Photogrammetry, Remote Sensing and Spatial Information Systems, Pl. Politechniki Warsaw, Poland 7. Evaluation of ASTER spectral bands for agricultural land cover mapping using pixel-based and object-based classification approaches. <i>Mst. Farida Perveen</i> , Tottori University, Japan 8. A comparison of object-based and pixel-based approaches to estimate Lidar-derived forest canopy height using Quickbird imagery. <i>Gang Chen</i> , Department of Geography, University of Calgary
Disaster management	9. An inverse analysis of unobserved trigger factor, according to slope failure types. <i>Hirohito Kojima</i> . Dept. of Civil Engineering, Tokyo University of Science 10. Vegetation fire fuels mapping in the San Diego City canyons – A method comparison. <i>Marco Neubert</i> , Leibniz Institute of Ecological and Regional Development (IOER) 11. Classifying high resolution image data in Southeast Asian urban areas using MFC line scanner data. <i>Martin Oczipka</i> , German Aerospace Center (DLR)
Monitoring	12. Monitoring vegetation structure in floodplains to estimate flood risks. <i>Elisabeth Addink</i> , Faculty of Geosciences, Utrecht University 13. A monitoring system using object-based image analysis in the context of treaty monitoring applications. <i>Prashanth Reddy Marpu</i> , Freiberg University of Mining and Technology 14. Leveraging strengths: Linking pixel-based trajectories of forest disturbance with multi-scale object-oriented classification to identify forest disturbance agents during the past two decades in Southeastern U.S. forests. <i>Karen Schleeeweis</i> , University of Maryland 15. Automatic classification of central Italy land cover: selection criteria of training set. <i>Primo Zingaretti</i> , Polytechnic University of Marche, Ancona 16. Automatic classification of central Italy land cover: comparative analysis of algorithms. <i>Primo Zingaretti</i> , Polytechnic University of Marche, Ancona 17. Identification of the piping plover nesting habitat using object-based classification of Landsat-ETM images. <i>Sandra Labrecque</i> , Environment Canada - Canadian Wildlife Service
Multi-scale/temporal representations	18. Object-oriented hierarchical image vectorization. <i>Alexei Skurikhin</i> , Los Alamos National Laboratory
New classification methods	19. Active SVDD for one-class object-based Classification. <i>Zhigang Liu</i> , State Key Laboratory of Remote Sensing Science, Beijing Normal University
New segmentation methods	20. Texture segmentation using invariant moments. <i>Prashanth Reddy Marpu</i> , Freiberg University of Mining and Technology
Other	21. The contribution of EVI data to an object based land cover classification with MODIS data. <i>Yan Gao</i> , Centro de Investigaciones en Geografía Ambiental-Universidad Nacional Autónoma de México
accuracy assessment	22. Accuracy Assessment Method for Wetland Object Based Classification. <i>Marcelle Grenier</i> , Environment Canada
Semi-automated map updating	23. Change detection for updates of vector database through region-based classification of VHR satellite data. <i>Alexandre Carleer</i> , Université Libre de Bruxelles 24. Evaluating surface fuel models using object-, rule-, and pixel-, based image classification techniques, <i>Muge Mutlu</i> , Texas A&M University - presented by <i>Jared Stukey</i>