

A Comparative Study of the Accuracy Estimation Methods used in Bundle Adjustment

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Coastal Hydrography from Integrated Lidar, SAR, and High-resolution Satellite

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Testing the Precision of Lidar Forest Measurement Replications in Operational Settings

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David L. Evans, Emily Schultz, Robert Parker, Roberto Gutierrez, and Amy Neuenschwander

Predicting Tree Heights and Southeastern Forest Fire Fuel Models using Geoscience Laser Altimeter System Data

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David L. Evans, William Cooke, Andrew Londo, and Amy Neuenschwander

GIS for Search & Rescue Application in Yosemite National Park

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Accuracy Assessment of Hyperspectral and Lidar Data Classification of Hardwood Tree Species and Stressed Ash Trees

David Bartels, *U.S. Department of Agriculture, APHIS PPQ CPHST Mission Texas Lab*

David Williams, Jim Ellenwood, and Frank Sapio

Hyperspectral Mineral Mapping within the Jurassic Navajo Sandstone; Characterization of Kavaicuwac, Utah

Juli Bell, *Earth & Atmospheric Sciences, Purdue University*

Brenda Beitler Bowen and Brigitte Martini

Local Gradient and Local Maximum Analysis of Lidar Data for Tree Crown Identification

S. Bruce Blundell, *U.S. Army Engineer Research and Development Center*

A Ground Based Remote Monitoring System for Landscape Studies

Rian Bogle, *U.S. Geological Survey*

Pat Chavez and Miguel Velasco

A Novel Raster to Vector Conversion Tool for Classified Images

Guillermo Castilla, *Department of Geography, University of Calgary, Canada*

Geoffrey J. Hay, Gang Chen, and Ryan Powers

Automatic Extraction of Roof Components from Lidar Data Based on Octree Segmentation

Hong-Beom Cho, *Inha University, South Korea*

Nak-Hyeon Song and Woosug Cho

Remote Monitoring of Diurnal Activity in Elk and Beef Cattle Grazing a Northwest Oregon Summer Range

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M.D. Johnson, D.G. Ganskopp, R.C. Cook, M. Vavra, M. Louhaichi, and D.E. Johnson

Spatial Estimates of Plant Growth and Production Using Lidar

Bruce Cook, *University of Minnesota*

Paul Bolstad, Erik Naeset and Ryan Anderson

U.S. Geological Survey RMGSC Fire Science Activities: Grand County, Colorado

Stacy Curry, *U.S. Geological Survey*

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Geospatial Modules at the Kentucky Community and Technical College System

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Teaching Introductory Image Processing through Project-based Environmental Change Detection

Rebecca L. Dodge, *Department of Geosciences, University of West Georgia*

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Josef Eckert, *Humboldt State University*

Nanette Yandell

Lidar Derived Forest Structure for Fire Modeling

Todd Erdody, *University of Washington*

Akira Kato and L. Monika Moskal

Global Land Data Assimilation System (GLDAS) Products from NASA Hydrology Data and Information Services Center (HDISC)

Hongliang Fang, *Goddard Earth Sciences Data and Information Services Center*

Pat Hrubciak, Hiroko Kato, Matthew Rodell, Bill Teng, and Bruce Vollmer

Topographic Mapping with Lidar: A Summary of an Undergraduate Geospatial Technician Internship

Aaron John Frye, *University of Washington*

L. Monika Moskal and James Greer

A Mobile Mapping System with Dead-reckoning: Filling in the Gaps in Densely Forested Areas

Scarmana Gabriel, *Gold Coast City Council, Australia*

Rio Grande Basin Initiative — Interactive Mapping for New Mexico

Susanna Glaze, *New Mexico Water Resources Research Institute*

Bobby Creel, Casey Gomez, and Royce Stevens

Forest Inventory Characterization From Ground Based Lidar

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Modeling Housing Unit Density from Landcover using Neural Networks

Perry Hardin, *Brigham Young University*

Mark Jackson and Ryan Jensen

Poster Sessions

Evaluation of Shape Characteristics of Vegetation Distribution in the Central Part of Tokyo by using High-resolution Satellite Images

Hideki Hashiba, *Department of Civil Engineering, College of Science and Technology, Nihon University, Japan*

Visualization of Glacier Change on Mount Rainier, Washington Over the Last 12,000 Years

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Geo-Mosaic: Integration of Geospatial Analysis in Undergraduate Geoscience Research to Enhance Learning Across the Disciplines

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Determination of Evapotranspiration for a Remote, Alpine Basin in Yosemite National Park Using GIS and Remotely Sensed Data

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Modeling Population Density with Spatial and Spectral Remotely Sensed Variable

Mark Jackson, *Brigham Young University*

Perry Hardin and Ryan Jensen

Using AISA+ Hyperspectral Data to Estimate Urban Forest Dynamics

Ryan Jensen, *Brigham Young University*

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A Comparison of Topographic Index and Tree Species Dominance

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A Protocol for Monitoring Vegetation, Bare Ground and Litter in Scaled Globally-positioned, Ground-level Digital Imagery

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Mounir Louhaichi, Norman Harris, Patrick Clark, and Douglas Johnson

Using High Frequency GPS to Determine Spatial-temporal Activity of Ungulates

Michael Johnson, *Department of Rangeland Ecology & Management, Oregon State University*

P.E. Clark, D.G. Ganskopp, R.C. Cook, M. Vavra, M. Louhaichi, and D.E. Johnson

Geographic Information System (GIS) and Remote Sensing Geospatial Online Data Management Project for the Maumee Watershed, Ohio

Patrick Lawrence, *University of Toledo*

Kevin Czajkowski, David Dean, Katie Swartz, Phil Haney, Jim Coss, Rumiko Hayase

Investigation of Shoreline Changes using Aerial Photographs: A Case Study on A Reclaimed Land

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Evidential Approach for Multisensor Fusion using Beta Distribution

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Integrating Basinwide Water Quality Plans in Google Earth to Enhance Public Access and Connect Water Quality Concepts to the Landscape in a Geographic Context

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Hugh Devine and David Toms

Lidar in the Urban Environment: Applications in the City of Portland

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Using Photogrammetry to Analyze Potential Natural Hazards at Redoubt Volcano, Alaska

Gari Mayberry, *U.S. Geological Survey*

Steve Schilling and Christina Neal

Knowledge Formulation with H-resolution Satellite Imagery: Object-oriented versus Pixel-based Approaches

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Dan Austin and Greg McDermid

Matched Filter Subpixel Abundance Estimates in Mixture-tuned Matched Filtered Classifications of Leafy Spurge (*Euphorbia esula* L.)

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Quantifying Basalt Rock Outcrops in Natural Resources Conservation Service Soil Map Units using Landsat-5 Data

Carol Moore, *Idaho State University*

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Lidar Applications in Precision Forestry

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David Briggs, Akira Kato, Jeffrey Richardson, Guang Zheng, Todd Erdody, Sooyoung Kim, and Yuzhen Li

A Paradigm Shift for Remote Sensing Based Acreage Estimates

Rick Mueller, *U.S. Department of Agriculture/NASS*

Development and Comparison of Three Automated Individual Tree Crown Detection and Delineation Algorithms for Augmenting Forest Inventory Parameter Collection

Andrew Niccolai, *Yale University*

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A Study on Generating Stereo Mosaic Image using Video Frames

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Woosug Cho, Jin-Woo Koh, and Hwi-Jeong Chang

The Impacts of Land Use Change on Water Resources and Traditional Acequia Culture in North-Central New Mexico

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Wetland Delineation from Digital RGB and Color Infrared Imagery using Photogrammetric Methods

Joshua Persson

IPY Project: Effects of Climate Change, Glacial Retreat, and Snowfield Loss on Habitat Condition and the Affect on Wild Sheep Populations and Distribution in Polar and High Mountain Ecosystems in Alaska, far-eastern Russia, and Central Asia
Edwin Pfeifer, *U.S. Geological Survey*

Barry Middleton, Jana Ruhlman, and Bradley Reed

Delineation of Climate Regions for the Carolinas
Jinyoung Rhee, *State University of New York College of Environmental Science and Forestry*

Jungho Im, Greg Carbone, and John Jensen

Derivation of Leaf Area Index from Multiple Return, Small-footprint, Aerial Lidar in a Heterogeneous Mixed Forest
Jeffrey Richardson, *University of Washington*

Soo-Hyung Kim, L. Monika Moskal, and Akira Kato

HYPDB - A Query System for Remote Sensing Data
Stefan Robila, *Montclair State University*

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Combining Lidar and Hyperspectral Data for Improved Carbon Estimation in a Temperate Deciduous Forest

Keely Roth, *University of California at Santa Barbara*

Dar Roberts, Eliza Bradley, Philip Dennison, Bothaina Natour, Geoffrey Parker

Development of a Geospatial Collaboration System: Malaria Research in Macha, Zambia

Timothy Shields, *Johns Hopkins Bloomberg School of Public Health*
Bin Cai, Fernando Pineda, Phil Thuma, William Moss, Gregory Glass

Land-Cover Change for the Willamette Valley Ecoregion
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A Regression Model for Predicting the Intensity of Built-up Land Cover and Population Density using Remotely Sensed Data of Pucallpa, Peru

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Defining a Southern Pine Beetle Movement Corridor with Lidar

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Sorin Popescu, Robert Coulson, Andrew Birt, Kaiguang Zhao

Automated, Lidar Based Stand Delineation in Dense Natural Stands

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Object-based Image Classification of High-resolution Color Infrared Data in Bankhead National Forest

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Thermal and Hyperspectral Characterization of Water Stress in Soybean (*Glycine max*)

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Assessing the Risk of Wildfires to the Wildland-Urban interface using High Resolution Remotely Sensed Data

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JoAnn Isbrecht and Pat Chavez

A Comparison of Three Classification Methods for a Texas Bottomland Hardwood System Using Lidar, SPOT 5, and Ancillary Data

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Raghavan Srinivasan, Sorin Popescu, and Hongxing Liu

Land Management Applications of Remote Sensing and Photogrammetry at the University of Alabama

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Linking Change Detection Results Derived from Different Spatial and Temporal Resolution Data for Analysis of Vegetation Degradation Processes

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Konrad Wessels and Graham von Maltitz

Water Turbidity Parameters Derived from Satellite Imagery

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Seasonal NDVI Monitoring from a Geostationary Satellite

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