

PE&RS

March 2013

Volume 79, Number 3

The official journal for imaging and geospatial information science and technology

PHOTOGRAMMETRIC ENGINEERING & REMOTE SENSING

ON

OFF

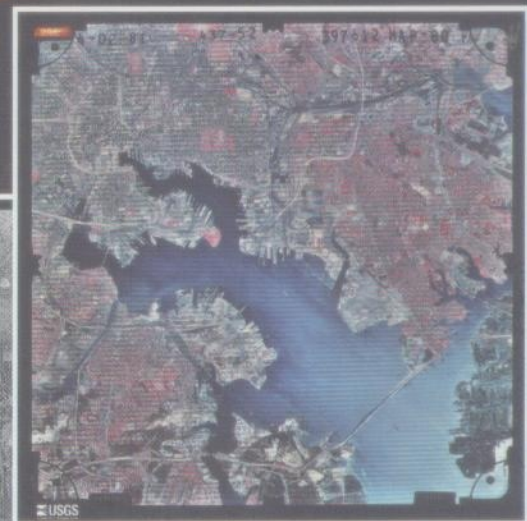
2.153	COLOR
0.12	
3.102	
0.69	B W
22.1	
200	

UP

START

DOWN

PHOENIX V HR



5

3

4

The image featured on this month's cover shows the USGS Phoenix V

systems that are aerial film data capture platforms designed, built, and operated at the EROS Center in Sioux Falls, South Dakota. Nine scanning back work stations manned 24 hours a day, five days a week are systematically capturing imagery at 1,000 dpi (25 micron) from film rolls of USGS historical aerial mapping projects that span from 1937 to 1972. Over 1.6 million images have already been scanned from the over 6.5 million frame archive, providing no-cost downloading options available through EarthExplorer (<http://earthexplorer.usgs.gov>). These TIFF aerial files compliment other land remote sensing data sets available from EROS. The highly automated Phoenix V systems provide a way forward to improve archive access to the Nation's aerial film treasures.



Highlight Article

- 225 Metrically Preserving the USGS Aerial Film Archive

Donald Moe and Ryan Longhenry

Columns & Updates

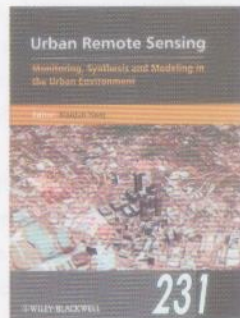
- 229 Grids and Datums – Bosnia and Herzegovina
231 Book Review – *Urban Remote Sensing: Monitoring, Synthesis and Modeling in the Urban Environment*
233 Headquarters News – International Society for Photogrammetry and Remote Sensing
235 Industry News

Announcements

- 224 Correction – Predicting Surface Fuel Models and Fuel Metrics Using Lidar and CIR Imagery in a Dense, Mountainous Forest
239 New Sustaining Members – The Airborne Sensing Corporation; and GeoBC
298 Call for Papers – Remote Sensing of Soils for Environmental Assessment and Management

Departments

- 232 Classifieds
234 Region of the Month
234 Certification List
237 Member Champions
238 New Members
238 Forthcoming Articles
240 Who's Who in ASPRS
241 Sustaining Members
243 Instructions for Authors
258 Calendar
307 Advertiser Index
307 Professional Directory
308 Membership Application



PE&RS

March 2013 Volume 79, Number 3

PHOTOGRAMMETRIC ENGINEERING & REMOTE SENSING
The official journal for imaging and geospatial information science and technology

JOURNAL STAFF

Publisher
James R. Plasker
jplasker@asprs.org

Editor
Russell G. Congalton
russ.congalton@unh.edu

Executive Editor
Kimberly A. Tilley
kimt@asprs.org

Technical Editor
Michael S. Renslow
renslow76@comcast.net

Assistant Editor
Jie Shan
jshan@ecn.purdue.edu

Assistant Director – Publications
Rae Kelley
rkelley@asprs.org

Publications Production Assistant
Matthew Austin
maustin@asprs.org

Manuscript Coordinator
Jeanie Congalton
jcongalton@asprs.org

Circulation Manager
Sokhan Hing
sokhanh@asprs.org

Advertising Sales Representative
Mohanna Sales Representatives
Brooke King, brooke@mohanna.com
Kelli Nilsson, kelli@mohanna.com

CONTRIBUTING EDITORS

Grids & Datums Column
Clifford J. Mugnier
cjmce@lsu.edu

Book Reviews
John Iames
liames.john@epamail.epa.gov

Mapping Matters Column
Qassim Abdullah
Mapping_Matters@asprs.org

Website
webmaster@asprs.org



Immediate electronic access to all peer-reviewed articles in this issue is available to ASPRS members at www.asprs.org. Just log in to the ASPRS web site with your membership ID and password and download the articles you need.

Peer-Reviewed Articles

245 Comparison of Forest Attributes Derived from Two Terrestrial Lidar Systems

Mark J. Ducey, Rasmus Astrup, Stefan Seifert, Hans Pretzsch, Bruce C. Larson, and K. David Coates

The ability of two terrestrial lidar systems to extract stem and canopy characteristics of forests in British Columbia is compared.

259 Hybrid Object-based Change Detection and Hierarchical Image Segmentation for Thematic Map Updating

D.C. Duro, S.E. Franklin, and M.G. Dubé

A hybrid object-based change detection method utilizing cross-correlation analysis and a hierarchical image object segmentation strategy is used to update an existing thematic map.

269 A Spatial-Spectral Methodology to Detect Narrow Shadows on Satellite Imagery: A Case Study of Calgary, Canada

Ying Zhang and Bert Guindon

A method for the detection of narrow shadows cast by low-rise buildings.

277 Land Cover Dependent Error in Intermap IFSAR DTM: Lidar Comparison and Fusion Potential

Seamus Coveney

Quantifying elevation error by land-cover class in Intermap RADAR bare-earth DTM data using external GPS and bare-earth Lidar data and comparing the results with four Lidar point data sets.

287 It Used To Be Dark Here: Geolocation Calibration of the Defense Meteorological Satellite Program Operational Linescan System

Benjamin T. Tuttle, Sharolyn J. Anderson, Paul C. Sutton, Christopher D. Elvidge, and Kim Baugh

A repeatable process for a geolocation accuracy assessment of the Defense Meteorological Satellite Program Operational Linescan System using an active calibration target is presented and geolocation accuracy of the current constellation is reported.

299 Photogrammetric Techniques for the Determination of Spatio-temporal Velocity Fields at Glaciar San Rafael, Chile

H.-G. Maas, G. Casassa, D. Schneider, E. Schwalbe, and A. Wendt

Photogrammetric methods for determining spatio-temporally resolved glacier movements from monoscopic terrestrial image sequences which are validated in a pilot study at Glaciar San Rafael in the Northern Patagonia Icefield, Chile.

Correction

In the Table of Contents in the January 2013 Issue of *PE&RS* the paper "Predicting Surface Fuel Models and Fuel Metrics Using Lidar and CIR Imagery in a Dense, Mountainous Forest" should have listed the authors as Marek Jakubowski, Qinghua Guo, Brandon Collins, Scott Stephens, and Maggi Kelly.

Is your contact information current?

Contact us at members@asprs.org

or log on to <http://www.asprs.org/Member-Area/>
to update your information.

We value your membership.

PHOTOGRAMMETRIC ENGINEERING & REMOTE SENSING is the official journal of the American Society for Photogrammetry and Remote Sensing. It is devoted to the exchange of ideas and information about the applications of photogrammetry, remote sensing, and geographic information systems.

The technical activities of the Society are conducted through the following Technical Divisions: Geographic Information Systems, Photogrammetric Applications, Primary Data Acquisition, Professional Practice, and Remote Sensing Applications. Additional information on the functioning of the Technical Divisions and the Society can be found in the Yearbook issue of *PE&RS*.

Correspondence relating to all business and editorial matters pertaining to this and other Society publications should be directed to the American Society for Photogrammetry and Remote Sensing, 5410 Grosvenor Lane, Suite 210, Bethesda, Maryland 20814-2144, including inquiries, memberships, subscriptions, changes in address, manuscripts for publication, advertising, back issues, and publications. The telephone number of the Society Headquarters is 301-493-0290; the fax number is 301-493-0208; email address is asprs@asprs.org.

PE&RS. *PE&RS* (ISSN0099-1112) is published monthly by the American Society for Photogrammetry and Remote Sensing, 5410 Grosvenor Lane, Suite 210, Bethesda, Maryland 20814-2144. Periodicals postage paid at Bethesda, Maryland and at additional mailing offices.

SUBSCRIPTION. Effective January 1, 2013, the Subscription Rate for non-members per calendar year (companies, libraries) is \$440 (USA); \$468 for **Canada Airmail** (includes 5% for Canada's Goods and Service Tax (GST#135123065)); \$450 for all other foreign.

POSTMASTER. Send address changes to *PE&RS*, ASPRS Headquarters, 5410 Grosvenor Lane, Suite 210, Bethesda, Maryland 20814-2144. CDN CPM #(40020812)

MEMBERSHIP. Membership is open to any person actively engaged in the practice of photogrammetry, photointerpretation, remote sensing and geographic information systems; or who by means of education or profession is interested in the application or development of these arts and sciences. Membership is for one year, with renewal based on the anniversary date of the month joined. Membership Dues include a 12-month subscription to *PE&RS* valued at \$68. Subscription is part of membership benefits and cannot be deducted from annual dues. Annual dues for Regular members (Active Member) is \$135; for Student members it is \$45 (E-Journal - No hard copy); for Associate Members it is \$90 (member must be under the age of 35, see description on application in the back of this Journal). An additional postage surcharge is applied to all International memberships: Add \$40 for **Canada Airmail**, and 5% for **Canada's Goods and Service Tax (GST #135123065)**; all other foreign add \$60.00.

COPYRIGHT 2013. Copyright by the American Society for Photogrammetry and Remote Sensing. Reproduction of this issue or any part thereof (except short quotations for use in preparing technical and scientific papers) may be made only after obtaining the specific approval of the Managing Editor. The Society is not responsible for any statements made or opinions expressed in technical papers, advertisements, or other portions of this publication. Printed in the United States of America.

PERMISSION TO PHOTOCOPY. The appearance of the code at the bottom of the first page of an article in this journal indicates the copyright owner's consent that copies of the article may be made for personal or internal use or for the personal or internal use of specific clients. This consent is given on the condition, however, that the copier pay the stated per copy fee of \$3.00 through the Copyright Clearance Center, Inc., 222 Rosewood Drive, Danvers, Massachusetts 01923, for copying beyond that permitted by Sections 107 or 108 of the U.S. Copyright Law. This consent does not extend to other kinds of copying, such as copying for general distribution, for advertising or promotional purposes, for creating new collective works, or for resale.