

Issue 4

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Newsletter of the Rocky Mountain Region of ASPRS, serving Montana, Wyoming, Colorado, and New Mexico

President's Message

Dear Rocky Mountain Region members of ASPRS,

I would like to give each and every member in our society a big THANK YOU for having me as your president for the past two years. This experience has been greatly enriching to me, both professionally and socially. Therefore it is difficult for me to step down as your president. However, it is time for me to pass the gavel to a successor. Dr. Michaela Buenemann will prove to be a vibrant and active RMR president for 2016. Therefore, I ask you to give Michaela a warm welcome as your new president.

As I have stated many times in the past, here in the Rocky Mountain Region we have a wealth of professionals and organizations focusing upon the Geospatial sciences. This wealth will continue to grow and flourish into the future. I say this partly because of the series of conferences that will occur in the RMR. In February we have the International LiDAR Mapping Forum (ILMF) in Denver. This conference has always been an extremely interesting and thought provoking event.

This year, as with previous years, we have an outstanding assemblage of student scholarship applications. These groups of students coupled with their professors is an exceptional metric illustrating the quality of Geospatial scientist we have in our region.

In closing, I want to assure you that I will be continuing on with RMR as your Vice President. Furthermore, I will provide any needed assistance to Michaela to make the presidential transition completely seamless.

Thank you,
Dr. Michael Tuffly, CMS
Rocky Mountain Region President

National Director's Report

National Security ... An Evolving Definition

Due to events over the last 15 years, National Security concerns have become both Global and Local. Since many of our ASPRS membership are engaged in National Security initiatives, below is my attempt at framing its wide-reaching and broadening scope ...

The term "National Defense" conjures up notions of an army, navy, and air force ready to protect the homeland from organized military or loosely affiliated rebel aggressors. In today's complex world, however, this term has widely been replaced with the blanket title of "National Security," due to the many activities that national governments now undertake to protect their homeland, citizens, and critical infrastructure, not to mention their agriculture, energy, economic, and industrial base. Collaboration among public, private, and non-governmental organizations (NGO) is a must and not an option across the national security spectrum including collaborative international humanitarian responses.

Inside this Issue:

- 1.....National Director's Report
- 3.....RMR Board Nominees
- 5.....IGTF Registration
- 5..... GeoLeague Challenge

National Security certainly still involves defending a country from military assaults, but with so many threats in the world, countries are increasingly looking to bolster security in their urban and rural settings, too. The threats to national sovereignty and citizens aren't limited to armed combatants. Disease and natural disasters require quick coordinated action, and it is often the responsibility of the Defense agency to provide a national level of deployment and emergency response in coordination with local public health, infrastructure, and relief organizations.

Cultural and natural resource critical habitat need to be protected as well. We take food security for granted in the United States, but elsewhere in the world, insect infestations and droughts can wipe out vital crops in large regions, leading to starvation and social unrest. This is one reason the U.S. Department of Agriculture has taken the lead in monitoring crop conditions worldwide to predict harvest failures and mobilize aid before the situation becomes dire.

These critical national security activities all have one thing in common – their success depends on access to accurate and timely geospatial information for detecting change, usually in the form of comparative aerial or satellite imagery and authoritative, accurate, and current map sources. For the government agencies typically tasked with keeping their nations secure and sustained, these raster data sets, along with LiDAR point clouds, create immense challenges, due to the vast size of their files and diversity of end users who need them.

We have seen growing adoption of geospatial imaging software among ministries of defense and similarly named agencies around the world. When any natural or man-made threat appears, there is often only one governmental department with access to the imagery that must be put into the hands of first-responders on the ground. These may be warfighters going into an armed conflict or National Guard units saving flood victims and protecting private and public property. Government customers in the national security arena rely on COTS software to manage raster data sets into much smaller files for fast distribution via the internet and secure networks.

Regardless of who is responsible for responding in the event of a short-term national emergency and

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more long-term national security concerns, COTS Imaging software and associated content and consultative enhancements help ensure the data files get to them quickly in formats they can use instantly, measure change, and perform mitigating actions.

Your comments are welcome.

Jeffrey M. Young, RMR National Director
jyoung@lizardtech.com

University of New Mexico Student Chapter Anniversary

The University of New Mexico (UNM) student chapter of ASPRS marked our first anniversary on September 11, 2015. The new chapter has served as a central platform for sharing ideas and skills related to GIScience and Remote Sensing among students and faculty members, as well as other professionals. The chapter has successfully organized various workshops, trainings, visits to facilities, and guest lectures. We have organized a series of workshops for the upcoming Spring semester, including balloon mapping, RTK surveying, and structure-from-motion (SfM) demonstrations. These workshops will provide UNM students with hands-on experience with remote sensing equipment and techniques as well as demonstrate the processing and analysis of the remotely sensed data collected during the demonstrations.



The chapter has successfully set a variety of goals which we strive to attain to grow both student and community involvement. The chapter's goals include: (1) to advance scientific knowledge in the disciplines

of photogrammetry and remote sensing; (2) to work with governmental and private organizations in promoting programs related to photogrammetry and remote sensing to the general public; (3) to expedite the exchange of knowledge and ideas among the members of ASPRS and with those of other national and international organizations with similar or related interests; (4) to serve the members and the public as a central source of information related to photogrammetry and remote sensing. As our chapter grows, we look forward to expanding the knowledge of GIScience and Remote Sensing within UNM and the larger community.

Stay tuned for upcoming Technical Tours and Social Events! Check out new professional opportunities and upcoming events on the Rocky Mountain Region [Website](#) ...

Upcoming ASPRS Webinars

Registration and additional information can be found on the [ASPRS website](#). For those seeking ASPRS Certification: ASPRS Training Webinars are a great way to gain Professional Development Hours!

Student Rebate Offer

ASPRS Rocky Mountain Region will reimburse \$25 of the \$50 cost of student membership, so your net cost is only \$25 for all the benefits of membership in the Society!

Download the Student Membership Rebate Form at <http://www.asprs-rmr.org> (on the News & Events page). Here's the best part: ***This offer from the Region is good for every year you are a full-time student!***

Rocky Mountain Region – Board Nominees

The following professionals have volunteered themselves to fill open positions on the 2016 RMR Board of Directors. To vote or for any questions, please contact:

Sheila Pelczarski
 Communications Coordinator
 ASPRS Rocky Mtn. Region
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Biographical Sketches for ASPRS-RMR Board Nominees – January 2016 Election

President:

[Michaela Buenemann](#) is an Associate Professor of Geography in the Department of Geography at New Mexico State University (NMSU). Before moving to her current position in 2008, she taught at the University of Oklahoma, James Madison University, and the University of Arizona. She earned her Ph.D. in geography from the University of Oklahoma in 2007. Her research focuses primarily on integrating remote sensing, geographic information systems, and spatial modeling for the monitoring and assessment of land changes in drylands. She has worked on research funded by the National Science Foundation, National Geospatial Intelligence Agency, and National Institute of Allergy and Infectious Diseases and has published in a diversity of regional, national, and international journals. Her teaching includes courses in the areas of geographic information science and technology, research methods, human-environment relationships, and physical geography. Dr. Buenemann currently serves as an officer for the American Association of Geographers, the New Mexico Academy of Science, and the Rocky Mountain Region and Rio Grande Chapter of the American Society for Photogrammetry and Remote Sensing.

Vice President:

[Michael Tuffly](#) is the Principal for Environmental Resource Inventory and Analysis LLC (ERIA Consultants, LLC) in Boulder, Colorado. He is also a Certified Mapping Scientist, Remote Sensing from the American Society for Photogrammetry and Remote Sensing (ASPRS), Certified Forester from the

Society of American Foresters (SAF), Certified Senior Ecologist from Ecological Society of America (ESA), and a GIS Professional (GISP) from the Geographic Information System Certification Institute (GISCI). Mike holds a B.S. in Forestry, an M.S. in Natural Resource Management from Humboldt State University and a Ph.D. in Forest Science from Colorado State University in Fort Collins, Colorado. Dr. Tuffly has over 25 years experience in applied GIS and spatial modeling for federal, state, private, and nonprofit organizations. In addition, he has over 30 years addressing various fire, natural resource and forest management issues in the United States and abroad. He is also an adjunct Professor in the Warner College of Natural Resources at Colorado State University in Fort Collins, Colorado.

Treasurer:

Mike Vessel has worked in the geospatial industry for 18 years and resides in Longmont, Colorado. He received a BS in geography from New Mexico State University in 1997 and has since worked in the aerial survey, mapping, and remote sensing industries, specializing in project and production management. Mike is an ASPRS Certified Photogrammetrist, a GISCI certified Geographic Information Systems Professional (GISP), and is also licensed by the State of Oregon and the Commonwealth of Virginia. Mike currently serves as Treasurer of the ASPRS Rocky Mountain Region (since 2014), has served on the ASPRS Rio Grande Chapter Board as a Chapter Director, and has volunteered in numerous capacities related to geospatial industry advocacy and awareness over the course of his career. He is currently the Director of Supply Chain Management at DigitalGlobe.

Secretary:

Ahmed Elaksher is an Assistant Professor in the Surveying Program at the College of Engineering, New Mexico State University. Before that he worked as an Assistant Professor in the Surveying Program at St. Cloud State University in Minnesota. He also worked as a post-doctoral researcher at Ohio State University and South Dakota State University. Ahmed obtained his PhD from the Geomatics Program at Purdue University in 2002. He also has a BS in Civil Engineering from Cairo University. He is also a licensed Professional Surveyor in the state of New Mexico and a Certified Photogrammetrist from the American Society for Photogrammetry and Remote Sensing (ASPRS). His primary research activity involves large-scale mapping from satellite imagery,

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aerial photos, and LiDAR datasets. He has published several articles and papers in different areas of remote sensing, GIS, photogrammetry and geomatics. Dr. Elaksher joined NMSU in 2012, where he is teaching different courses in the Surveying Engineering program. His research portfolio is on Google Scholar at: <http://scholar.google.com/citations?user=vcrbYAUAAAJ&hl=en>
In his spare time, Ahmed enjoys playing soccer.

Regional Director (Montana):

Catherine Maynard is a natural resource analyst for the USDA Natural Resources Conservation Service (NRCS) in Montana. She has over 20 years' experience coordinating the design and implementation of natural resource assessments and applying geospatial analysis in statewide and local projects such as rangeland inventory and assessment, watershed characterization, wetlands conservation, precision agriculture, and land cover mapping. Her current projects include applying remote sensing to natural resource inventories, developing classification and modeling techniques for estimating the productivity of rangeland vegetation, and providing training in remote sensing and geospatial analysis to tribal and federal natural resource specialists. She has a Ph.D in Land Resources and Environmental Science from Montana State University - Bozeman where her research focused on developing remote sensing techniques for evaluating rangeland vegetation. She received her MS in Forest Ecology and Soil Science from the University of Montana - Missoula and her BS in Environmental Science from Utah State University - Logan. Dr. Maynard is also a certified GIS professional (GISP). Catherine and her husband live in the historic mining town of Rimini, MT in the shadow of majestic Red Mountain.

Regional Director ("GIS in the Rockies" Committee):

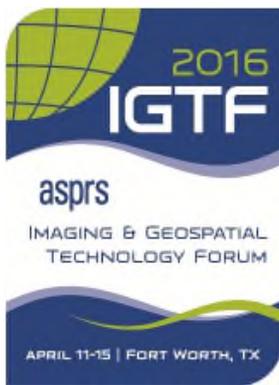
Cerian Gibbes is an Assistant Professor in the Department of Geography & Environmental Studies at University of Colorado, Colorado Springs. She earned her Ph.D. in Geography from the University of Florida in 2011. Her research focuses on interdisciplinary and applied questions around land use and land cover change. Her research background is geographically varied, including work in North America, Latin America and the Caribbean, and southern Africa. Her work has been supported by funding from the National Aeronautics and Space Administration, the National Science Foundation, and

the Social Science Research Council. Dr. Gibbes is currently a Fulbright NEXUS Fellow (2014-2016) and her Fulbright funded research focuses measures and impacts of climate change in Latin America. She teaches courses on remote sensing, introductory geospatial technologies, urban ecology, and geography of Sub-Saharan Africa.

Welcome New Members!

Benjamin Haugen

IGTF 2016 Registration Now Open!



ASPRS 2016 Annual Conference

**IGTF 2016
Imaging &
Geospatial
Technology
Forum**

**April 11–15 |
Forth Worth, TX**

[Register now](#) for the 2016 Imaging & Geospatial Technology Forum! A free four-hour workshop is included in the fee for Full registration and Monday-only registration!

DEADLINE EXTENSION: Abstracts for the technical program are being accepted until Friday, January 22. [Submit today!](#)

[CLICK HERE TO LEARN MORE](#)

GeoLeague Challenge

This will mark the sixth year of the GeoLeague Challenge to be held at the ASPRS Annual Conference in April 2016. Teams from across the country compete in a challenge put forth by the

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ASPRS Student Advisory Council (SAC). Please review the challenge and the rules for 2016. This year's challenge is to use freely available imagery to produce an innovative visualization product featuring the national park of your choice. This challenge celebrates the 100-year anniversary of the National Park Service!

In celebration of the upcoming National Park Service Centennial, the National Park Foundation and the National Park Service kicked off the "Find Your Park" movement to inspire all people to connect with, enjoy, and support America's national parks. They invite those who already know and love the parks and also the next generation of visitors, supporters, and advocates to join the movement at FindYourPark.com

There are 407 national parks and the SAC is challenging you to pick one and create a visualization product that highlights its unique features. Examples include:

- Time series animation
- GIS fly through
- Online story map
- Image based structure from motion
- 3D model

For additional details & information, [click here](#).

Annual Dinner Meeting

Be on the lookout for details about our Annual Dinner Meeting, now in the planning stages ...