

National Director's Report

Activity-Based Intelligence: Understanding Patterns-of-Life

Recently I provided a minor contribution to the Activity-Based Intelligence: Understanding Patterns-of-Life section of The State and Future of GEOINT 2017, published by The United States Geospatial Intelligence Foundation © Copyright 2017 USGIF. All Rights Reserved. The United States Geospatial Intelligence Foundation (USGIF) was founded in 2004 as a 501(c)(3) non-lobbying, nonprofit educational foundation dedicated to promoting the geospatial intelligence tradecraft and developing a stronger GEOINT Community with government, industry, academia, professional organizations, and individuals who develop and apply geospatial intelligence to address national security challenges. Please download the complete document at <http://usgif.org/education/StateofGEOINT>. As per USGIF, ".....The 2017 report was developed following four State and Future of GEOINT Content Exchanges that occurred in Fairfax, Va.; St. Louis, Mo.; and Denver, CO. I participated in the Denver Exchange as did several ASPRS members around the country and, RMR members of course. The report explores a wide range of topics, including deep learning, analytics-as-a-service, training and education, small sats, UAVs, the GEOINT of Things, and much more." Below is the conclusion from Activity-Based Intelligence: Understanding Patterns-of-Life By Patrick Biltgen, Ph.D.; Todd S. Bacastow, Ph.D.; Thom Kaye; and Jeffrey M. Young. I hope you have time to read the entire section.

Conclusion to Activity-Based Intelligence: Understanding Patterns-of-Life

"Bloomberg forecasts that by 2030 the world will host 40 megacities—cities with at least 10 million people—with increasing population densities. These megacities will be filled with self-driving cars,

automated restaurants, tracking cameras, and always-on streaming connectivity to the world. Dozens of digital transactions (beginning with your toothbrush's daily report and ending with your pillow's temperature optimization) will be required to operate your gadgets, your job, and your body. Almost every object in the world will have an Internet Protocol (IP) address and be connected to everything else. And every one of these objects and transactions will create another record in your lifestream and define your incompressible pattern-of-life. In his book Connectography, author and futurist Parag Khanna describes an evolution of the world from physical and political geography to a functional geography that describes how humans use and interact with the world. As mobility, telecommunications, energy, finance, and the supply chain are increasingly integrated and as people freely move through geospace and cyberspace, methods for ABI and the principles outlined above will become increasingly important in understanding the world. With all the focus on spinning globes, dancing dots, and shiny satellites, it's easy to lose sight of the fact that intelligence is about avoiding strategic surprise. NGA Director Robert Cardillo, in his 2014 "Director's Intent" document, challenged his workforce to view GEOINT through "the lens of consequence." Consequence is about anticipating what may happen, why, and what the GEOINT Community can do about it. ABI techniques, tools,

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and tradecraft are critical to understanding patterns-of-life. Integrating the activities of humans upon the ubiquitous foundation of our physical, cultural, and functional geography and continuously updating our knowledge of these interacting forces represents the next fundamental shift in the state of GEOINT.”

Lots for us to think about!

Jeffrey M. Young: jyoung@lizardtech.com

ASPRS-RMR Board Bios

ASPRS Rocky Mountain Region recently held our election of the Region Board of Directors for the 2017 calendar year term. We received 22 e-ballots from current members and all candidates received 22 votes. Welcome to our new Board members and thank to those that are outgoing.

President:

Michaela Buenemann, Ph.D. 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, Ph.D. is the Principal for Environmental Resource Inventory and Analysis LLC (ERIA Consultants, LLC) in Boulder, Colorado. He is

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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:

Peter Cornish CMS GIS/LIS, GISP, has been providing geospatial consulting for 20 years and has been a member of ASPRS since 1998. He has worked in the private sector for several companies, including GPS Technology Corporation, Tobin International, PBS&J, and Atkins North America in positions of progressive responsibility for mapping and GIS. Recently, Peter has formed his own company, Alpine Geomatics, LLC in Conifer, Colorado, providing geospatial consulting services. Peter's work has primarily involved support for education research, environmental, and infrastructure projects. He enjoys working with clients on complex problems and developing creative approaches using his expertise in GIS and knowledge of mapping science to deliver solutions and successful outcomes. Peter's management experience with various companies and running his own business will contribute the organizational skills and background to make him a good candidate for Treasurer of the ASPRS Rocky Mountain Region and he looks forward to an opportunity to support the organization in this capacity. In addition to ASPRS, Peter is a member of GISCI and the Society for Conservation GIS. He is a Certified Mapping Scientist GIS/LIS and a Geographic Information Systems Professional, and holds an Honors Bachelor's degree in Geography.

Secretary:

Leandro Gonzalez is a Senior Product Quality Engineer at DigitalGlobe, Inc. He earned a Master of

Applied Geography from NMSU in 2012 with a minor in Geographic Information Science and Technology. While a graduate student, he served as the ASPRS Student Director for the Rio Grande Chapter. At DigitalGlobe, Leandro is currently responsible for image quality specifications, standards, and parameters for all new projects and products, including their newest sensor, WorldView-4. Prior to the merger of GeoEye and DigitalGlobe, he worked for GeoEye, Inc.

Regional Director (“GIS in the Rockies” Committee):

Harold Schuch has been Colorado resident since 1979, holds four citizenships (including US), has changed culture four times, and is still fluent in six languages. Immersed in the world of Geodesy, photogrammetry and GIS since 1971, he loves the stuff, and acts as consultant and instructor. His main motto is to “deploy technology responsibly” and he likes to act as a bridge between technology camps (mapping, surveying, GIS). Harold completed several years’ worth of Electrical Engineering in Chile, then got a B.Sc. degree in Geodetic Sciences at Ryerson University in Toronto, next a M.Sc. degree in Photogrammetry and Remote Sensing at the University of Washington (Seattle), capped by courses at Colorado State University in Fort Collins (toward a Ph.D. in Hydraulics and Hydrology). Work activities include programming, consulting and training. From 1988 to 1993 he acted as Senior Technical Consultant for UGC Consultants of Englewood, CO, managing various projects. In 1993, Harold founded GeoCounsel, Inc., which offers consulting and training. He has completed over 130 projects in 16 countries, invariably in Geomatics, and continues to be active. Consulting experience includes various engagements in Geomatics for The World Bank, governments of various countries (including Pakistan, Iraq, Taiwan, Brazil, Argentina, Colombia, Peru, Georgia), and various utilities. In addition, he has provided photogrammetric consulting to several advanced photogrammetric firms, such as Digitalglobe, (then EarthWatch), and Stellacore. Harold’s work also includes acting as Expert Witness in the courts and acting as Hydrologist, providing drainage analyses to various architects. Training experience includes training 200 personnel in Iraq in Geomatics toward a countrywide census, giving Geomatics courses at the University of Taiwan and at the University of Denver. He created a course in Geomatics which he offers online. Harold Schuch has published over 24 technical papers in five languages, journal submissions

(including in PE&RS), and a similar quantity of presentations, including during Annual Meetings of the PLSC and APSG.

Regional Director (At-Large / New Mexico):

Christopher D. Lippitt, Ph.D. is an Assistant Professor of Geography and Environmental Studies at the University of New Mexico. His research is focused on remote sensing and spatial analysis, with a particular emphasis on non-traditional applications and methodologies. He has been an ASPRS member since 2004, is a Robert N. Colwell Memorial Fellow, an ASPRS Certified Mapping Scientist in Remote Sensing, and founded the Student Chapter of ASPRS at San Diego State University. He has been a board member of the Rio Grande Chapter since 2012 and currently serves as Vice President of the Rio Grande Chapter and Faculty Advisor of the newly established ASPRS Student Chapter at the University of New Mexico. He is passionate about enabling the next generation of remote sensing technologies through development of technology, a culture of best practice, and the next generation of remote sensing professionals. His research includes methodological and theoretical development in remote sensing and spans a wide range of applications with collaborators from a variety of disciplines (e.g., Biology, Archeology, Civil and Computer Engineering); the common thread is the development of remote sensing technologies and methodologies that enables remote sensing to inform novel decision processes, particularly in the time-sensitive decision domain. Current application areas include infrastructure damage assessment and regional disturbance monitoring. Students from all levels and from a variety of disciplinary backgrounds are directly involved in this research, which is his preferred way of teaching (i.e., learning by doing). He also teaches a variety of remote sensing, GIS, and graduate research courses. Chris lives in Albuquerque, New Mexico with his wife Caitlin, son Ben, and dog Charley. When not working, he spends most of his time outdoors exploring the Southwest.

Regional Director (Communications / Newsletter):

Michael Garner, CFM, GISP serves as a Project Manager for Michael Baker International at their Lakewood, Colorado office. In his role, Mike provides Community, Resiliency, Emergency Management and Hazard Mitigation Planning support to various federal, state, and local clients. He also manages his office’s Community Planning & Design Group. Mike earned his Master’s degree in Crisis,

Disaster, and Risk Management from The George Washington University. His undergraduate work at The Pennsylvania State University focused on Earth Sciences and Geographic Information Systems. In his spare time, Mike enjoys many outdoor activities with family and friends and all the wonders that Colorado has to offer.

ASPRS and ILMR Announce Joint Conference

Diversified Communications, organizer of International LiDAR Mapping Forum (ILMF) and the American Society for Photogrammetry & Remote Sensing (ASPRS) announced that their annual geospatial events will take place together in Denver in 2018. Lisa Murray, Director of ILMF, made the announcement with ASPRS President Charles Toth during her opening remarks at the 2017 International LiDAR Mapping Forum on Monday at the Hyatt Regency in Denver.

The combined event will feature a single exhibit hall and inclusive social activities, giving attendees access to more geospatial solutions and networking than would have been possible had the events continued separately. The events will maintain parallel technical programs, including ILMF product reviews and ASPRS workshops, awards, and committee meetings. Attendees will be able to purchase a conference pass that allows entry to programs of their choice, or they may choose a universal pass that allows entry to all programs.

Lisa Murray with ILMF expressed her excitement about the opportunity. "The geospatial community has long been asking event partners to work together. This is a giant step toward a shared vision of bringing industry members together with government and academia for a powerful combination of education, technology innovation and commercial exchange. Diversified Communications and ASPRS share the goal of creating more value for members, attendees and exhibitors by offering multiple learning tracks and a vibrant exhibit floor that pairs the latest technology with hands-on workshops and in-market solutions."

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Charles Toth, President of ASPRS, shared his thoughts: "For years, geospatial community members have asked if ILMF and ASPRS could come together. We are happy that the time has finally come to make that a reality. The current leadership of both organizations views colocation as a great benefit to the loyal attendees of both events. We envision the 2018 ILMF/ASPRS Annual Meeting as an opportunity for both organizations to focus on their core strengths to create an outstanding conference experience. A single exhibit hall will maximize exposure to vendors' new products and services. Combined social activities will support the personal interactions and networking opportunities the community enjoys. ASPRS will bring pre-conference educational workshops and open committee meetings to encourage broader participation in the many important standards, certification, and outreach activities that are a hallmark of ASPRS. Parallel technical programs will create an opportunity for attendees to experience the content traditionally unique to each meeting. ASPRS features peer-reviewed presentations from academia, government, and the private sector across the spectrum of photogrammetry and remote sensing research and applications. Attendees at ILMF/ASPRS 2018 can look forward to a rich, exciting, and informative conference experience."

ILMF and ASPRS will take place together at the Hyatt Regency Denver in Denver Colorado February 5-7, 2018. The 2017 ILMF will conclude in Denver this Wednesday, February 15. The 2017 ASPRS Annual Conference is taking place in Baltimore on March 12-16, 2017.

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

International Cartographic Conference

The Cartography and Geographic Information Society (CAGIS) invites the world of cartography and GIS to come to Washington, DC, July 2 to 7, 2017 for the 28th International Cartographic Conference of the International Cartographic Association.

ICC 2017 offers you an excellent opportunity to connect with over 2,000 leaders and influencers representing government, academia, and international companies from over 80 countries. This is the first time in 39 years that this prestigious conference has been held in the United States, and we expect a large turnout of enthusiastic participants from companies, organizations, agencies, and educational institutions involved in cartography and geographic information systems (GIS) and science.



Washington, DC, is the place to be during Independence Day celebrations on July 4

For more details, please visit: <http://icc2017.org/>

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

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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!*

PE&RS Digital Submissions

You asked and we listened!

ASPRS is pleased to announce that paper submission to *PE&RS* just got easier. Authors can submit papers to *PE&RS* via the Allen Press site. The new all-digital submission method for *PE&RS* is hosted by Allen Press Peer-Track system. [Click here to submit a paper to PE&RS \(requires free login\)](#). Anyone interested in submitting a paper to *PE&RS* can go to our site to learn more, and from there access our digital submission page.

GeoBytes

In addition to the ASPRS Webinars, our organization also offers free online seminars presented by ASPRS and sponsored by the ASPRS GIS Division, in cooperation with AAGS and CaGIS

Attention those seeking ASPRS Certification: ASPRS Online Seminars are a great way to gain Professional Development Hours!

[Click here to learn more](#)