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Looking to the Future at GEOINT Foreword

Pre-Conference Science & Technology Day Focuses on Geospatial Analytic Challenges

Yesterday, Dr. Darryl Murdock kicked off GEOINT Foreword, the GEOINT Symposium pre-conference day dedicated to science and technology.

"We need to be paying more attention to the future," Murdock, vice president of professional development for USGIF, told the audience gathered to hear about analytic challenges.

Throughout the morning, several guest speakers defined the future Murdock wants the audience to pay more attention.

The future will require adapting from finite to near-infinite information sources, according to John Goolgasian, director of the National Geospatial-Intelligence Agency's (NGA) Source Operations and Management Directorate, adding the move means changing from an "Industrial Era" of data collection to a "Post-Industrial Age" with vast information opportunities that require automation to manage volume in a meaningful way.

"We must change from thinking of ourselves as collectors to sensors," Goolgasian said. "Our value will be in sense-making, not merely in collecting data."

In doing so, the GEOINT Community will need to change from what Gary Dunow, director of NGA's Analysis Directorate, called "the bifurcated way we look at our mission and our system."

Polarity must be eliminated.

"We have analysis and technology, and very rarely the [two are]

 see story p.10



Panelists presented GEOINT analytic challenges to the GEOINT Foreword audience Monday morning. They are from left to right: John Goolgasian, NGA; Paula Knepper, Los Alamos National Laboratory; Eileen Preisser, U.S. Air Force; and Gary Dunow, NGA.

"Our value will be in sense-making, not merely in collecting data." —John Goolgasian, NGA

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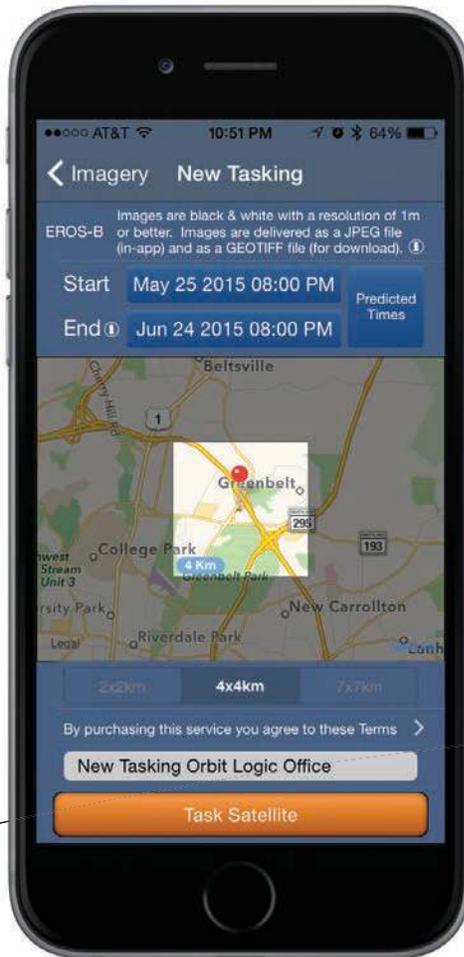
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GEOINT AND EPIDEMIOLOGY

Geospatial Data Has Powerful Implications for Fighting the Spread of Infectious Disease

The link between epidemiology and geospatial intelligence is natural. Understanding how disease travels through an environment is often a complicated task, made much easier by geospatial technology and data. This link was never more apparent than during the recent Ebola outbreak, when satellite imagery and open-source geospatial information helped bolster relief efforts and stop the spread of disease in West Africa.

Wednesday from 2 to 3:30 p.m. in Room 146 at GEOINT 2015, Melissa Hersh of the Truman National Security Project will moderate a breakout discussion on “The Role of Geospatial Intelligence in Health Crisis Analysis and Mission.” Rear Adm. Scott F. Giberson, Assistant Surgeon General, commander of the Commissioned Corps Ebola Response in West Africa, and director of the Division of Commissioned Corps Personnel and Readiness with the U.S. Department of Health and Human Services (HHS), will deliver an introductory keynote.

Panelists will include Justin Poole, director of the National Geospatial-Intelligence Agency’s Xperience Directorate; Capt. Michael



The link between epidemiology and geospatial intelligence was never more evident than during the recent Ebola outbreak in West Africa.

Schmoyer, deputy director of intelligence with the Office of Security and Strategic Information, HHS; Rob Shankman, GIS program manager with HHS; and Karen Walsh of Blue Glass Development.

In West Africa, putting better maps and data into the hands of local officials and aid workers led to better decisions on the ground. Some of the many ways geospatial tools were used to fight Ebola included: determining the best placement for Ebola treatment units and community care centers; monitoring and sharing the locations of NGOs in the region; and plotting transportation routes for aid workers and supplies.

Epidemics extend beyond the disease and devastation they cause to affect other areas such as national security and economics. Epidemics strain not only the health system, but also a population’s workforce and political stability. For example, the Ebola outbreak significantly affected the tourism industry in West Africa. For regions that already have complicated political situations, dealing with an epidemic could lead to increased instability or civil unrest.

Panelists will discuss how the connection between epidemiology and geospatial intelligence has implications for a wide range of issues including health, politics, the economy, culture, technology, and data. The panel will examine both lessons learned from previous events as well as how to move forward to apply GEOINT to future epidemics and similar situations. ■

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FROM THE

COPT owns more than 1.5 million square-feet of data center and related support space for the U.S. government and its contractors.



ILLUSTRATION COURTESY OF COPT

DATA CENTER SOLUTIONS

COPT Showcases IT Real Estate Specialty

Royale Investments started in 1988 leasing office space to customers, then it found some of them wanted more. In 1998, the company rebranded as Corporate Office Properties Trust (COPT). When the company began to focus on IT with **COPT Data Center Solutions (Booth 2072)**, there came a desire to get the word out.

“When I first came on board, nobody in the IT world knew who we were,” said Mark Gilbert, COPT Data Center Solutions’ director of business development. “We needed to show up [at the GEOINT Symposium] to brand ourselves. It’s really raised our visibility, particularly among the systems integrators, and it’s been very successful for us.”

COPT, based in Columbia, Md., owns more than 19 million square-feet of office space nationwide, more than 2 million of which is data centers. The company specializes in purpose-built and raised-floor data centers, and has built more than 1.5 million square-feet of data center and related support space for the U.S. government and its contractors.

At GEOINT 2015, Gilbert, who describes his role as “the bridge between real estate and the IT guys,” hopes to connect with more systems integrators.

“Data center decisions are generally made by the IT [departments],” Gilbert said. “When you talk to IT about capabilities, they go back to real estate and say, ‘you need to engage [COPT].’”

At its booth, the company highlights a hybrid solution that couples the security of physical data storage with the low-cost computational capabilities of the cloud.



PHOTO COURTESY OF OGSYSTEMS

Exhibit Hall sponsor OGSystems honors its company’s 10th anniversary at GEOINT 2015.

DEMONSTRATING DISRUPTION

OGSystems Focuses On Immersive Engineering

Business partners Garrett Pagon and Omar Balkissoon once considered joining forces to open a Quiznos franchise. Instead, they created **OGSystems (Booth 4143)**, which specializes in DoD, Intelligence Community, and commercial systems integration.

That was a decade ago in August. In honor of its 10th anniversary, OGSystems — the GEOINT 2015 Exhibit Hall sponsor — is showcasing its signature problem-solving skills.

“We approach the market differently than the legacy guys by using a technique called ‘immersive engineering,’” Balkissoon explained. “We bring the customer into our labs and we co-create, co-invest, and co-innovate with them in order to solve a specific problem that they have . . . We’re not selling products. We’re selling an experience, and that’s the experience we want to give people when they interact with OGSystems at GEOINT [2015].”

The OGSystems experience includes 90-day sprints identical to those used in agile software development. During each sprint, a problem is tackled and a custom software solution created using new and existing technologies that are iteratively developed and tested with the customer in a hands-on environment.

“When you come to our booth, we’re going to ask you what your problem is, then you’ll have a quick session with our guys,” continued Balkissoon, who said the company will have on hand a technology sampling comprising several solutions it might apply to potential customers’ problems.

“We’re going to walk you through the steps we do in our lab to show you how we might help you solve your unique problem,” he added.

The goal, according to Pagon, is to demonstrate a different way of acquiring geospatial and solutions.

“If you want to see what disruption is all about,” Pagon said, “come visit our booth.”

FLOOR

EXHIBIT HALL HIGHLIGHTS

OPEN-SOURCE INTELLIGENCE SOLUTIONS

Cubic Creates Cross-domain OSINT Tool for JWICS and SIPRNet



PHOTO COURTESY OF CUBIC CYBER SOLUTIONS

Cubic Cyber Solutions highlights open-source intelligence tools at this year's Symposium.

Cubic Cyber Solutions (Booth 8066) acknowledges that situational awareness assessments can no longer begin and end with classified data. With higher-resolution commercial satellite images, high-definition full-motion video from unmanned systems, and the rising value of social media to terrorist networks and revolutions, open-source data is essential to a complete situational awareness equation.

With that in mind, Cubic is showing at GEOINT 2015 how its Geospatial Cross Domain Solution (GXDS) facilitates the combination of open-source and classified intelligence by using data from 2d3 Sensing, DigitalGlobe, and TerraPixel to provide a secure picture of a battle area. GXDS was delivered to the Army Geospatial Center in response to a challenge to make unclassified LiDAR available to both analysts and the warfighter in the field.

"There are many sources of ISR data today, but the analysts for the most part work on JWICS, and the warfighters, who need that ISR data for targeting, work on SIPRNet. They all need efficient and secure transfer of unclassified data to their respective security levels," said Tom Richards, vice president of business development for Cubic Cyber Solutions. With GXDS, that duality can coexist.

"Since all of these new sources of ISR data are unclassified, it's much too expensive to try to replicate and duplicate storage for all of that unclassified ISR data," Richards said. "Our solution lets JWICS and SIPRNet users from their respective security levels reach down into catalogs of unclassified ISR data and pull up to their levels just what they need."

NEW MEMBER SHOWCASE

USGIF's Newest Members Exhibit at GEOINT 2015

The New Member Showcase is designated for companies and organizations that have joined USGIF since the previous GEOINT Symposium.

The showcase will provide these 21 companies the opportunity to collaborate with one another and interact with the broader GEOINT Community for future business opportunities:

- AECOM
- Amazon Web Services
- ARCHIBUS Inc.
- Aruba Networks
- Cray Inc.
- Digital Reasoning
- Dynamic Graphics Inc.
- Fusion-io, A SanDisk Company
- InQuisient
- Jacobs
- Keeper Technology
- Learning Tree International
- Mapbox
- MapLarge
- OpenWhere Inc.
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GEOINT 2015 WELCOME CELEBRATION

Kick off the Symposium with Great Food and Music



Gonzo's Nose cover band will perform at tonight's Welcome Celebration.

Join USGIF in Hall C this evening to celebrate the Symposium with a GEOINT 2015 Welcome Celebration from 5 to 7 p.m. Although the Welcome Celebration was originally scheduled to take place at Carnegie Library, it was moved indoors due to safety concerns over extreme heat indexes and severe weather. Regardless of venue, the Welcome Celebration is always a great setting to network with colleagues old and new and celebrate the GEOINT Community. Attendees will enjoy great food and beverages as well as entertainment by Gonzo's Nose, a local D.C. band covering hits from the '80s and '90s.

INVESTING IN GEOINT

USGIF Offers Program for Investment Professionals

Not all GEOINT Symposium attendees will be from military, government, or contracting. There will also be some private and public equity as well as venture capital investors among the crowd.

USGIF has partnered with Neptune, a small firm that provides strategic consulting, research, and advisory services to the financial sector, to offer a two-day program Tuesday and Wednesday introducing investors to the world of geospatial intelligence.

"The GEOINT revolution is underway," said USGIF CEO Keith Masback. "And USGIF is using its platform as the convening authority for all things GEOINT to extend the message and broaden the discussion."

This year's investor program builds off the success of a one-day event held for the first time at last year's Symposium.

"We hope to expand upon what we did last year," said Patrick McCarthy, a partner with Neptune. "We want investors to have the opportunity to hear from some of the leading thinkers in GEOINT from panels and lunchtime discussions. We also want to introduce investors to some of the companies exhibiting at GEOINT 2015."

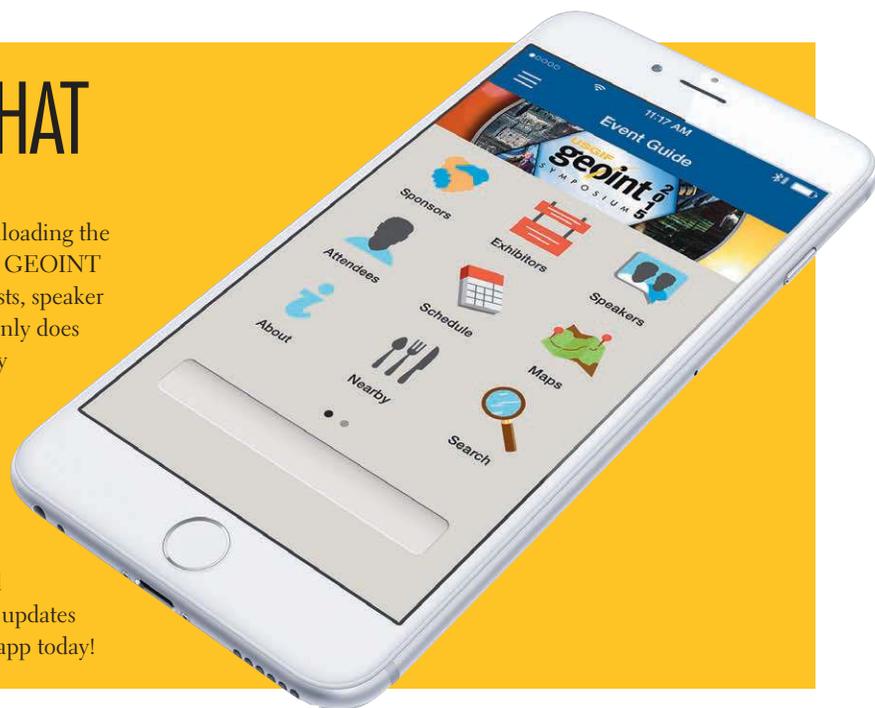
McCarthy attributes GEOINT's rising success to the proliferation of key technology such as GPS and remote sensors coupled with exponential growth as technologies designed for the government are increasingly leveraged commercially.

"When those two things come together you get fantastic growth opportunities," McCarthy said. "We aim to make sure investors are well up to speed or ahead on this topic after coming out of the Symposium."

THERE'S AN APP FOR THAT

Download the GEOINT 2015 Mobile App

Enhance your GEOINT Symposium experience by downloading the free GEOINT 2015 app via iTunes or Google Play. The GEOINT 2015 app features a full agenda, exhibitor and sponsor lists, speaker biographies, social media interaction, and much more. Not only does the app include maps of the convention center, but also a city map where attendees can locate the best local cuisine and D.C. area attractions. Users also have the option to create a profile and interact with other GEOINT 2015 attendees within the app. Additionally, the app contains an activity feed that includes any tweets using #GEOINT2015—ensuring all attendees can see the GEOINT 2015 social media conversation in one place. Another major bonus: the app will alert users of any agenda changes or major Symposium news updates throughout the week. Download the official GEOINT 2015 app today!



I AM USGIF

Stop by the USGIF Booth to Learn About New Membership Opportunities

The United States Geospatial Intelligence Foundation (USGIF), which hosts the GEOINT Symposium, is introducing its revamped Organizational and Individual Membership programs at GEOINT 2015.

Stop by USGIF (Booth 1033) to learn more about the Foundation and its many events, working groups and committees, training and education opportunities, member benefits, and much more. Membership with USGIF provides exclusive industry access and exceptional community opportunities.

USGIF's more accessible Individual Membership offering allows industry members to become a USGIF member for \$99 a year, while members of the academic, government, military, law enforcement, or first responder communities can become members for \$35 a year. There is also a young professional offering for \$35 a year.

USGIF is the professional society for geospatial intelligence professionals as well as practitioners in related fields. This fall, USGIF will officially launch its Universal GEOINT Credentialing program. Add USGIF membership and GEOINT certification to your professional toolkit to set you apart from the rest in your field.



USGIF members enjoy phenomenal networking opportunities such as GEOINteraction Tuesdays, held the second Tuesday of every other month.

Visit us to learn why you should become a card-carrying member of the only organization solely dedicated to bringing together academia, government, and industry to advance the GEOINT tradecraft!

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TRAINING SNAPSHOT



well as discusses how to process data and how imagery can be applied for a variety of military and civil applications.

Crisis Mapping for Humanitarian Action

Room 147B

Learn how to perform crisis mapping in the real world and reflect on ethical, political, and practical challenges that come from working in this field. This training covers three training modules: SMS aggregators, open data kit mobile surveys, and crowdsourced and micro-tasking methods. Attendees must bring a laptop and smartphone to participate.

Game Engines: The Next Step in Simulation with GEOINT Data

Room 149A

As warfighter applications become more reliant on game engine technologies and ever-expanding geographic areas and densities, this course explores opportunities

This year, the GEOINT Symposium offers 82 hours of dedicated professional development. Attendees are eligible to receive 0.2 Continuing Education Units for 29 out of the 41 courses offered, courtesy of Riverside Research, an International Association for Continuing Education and Training authorized provider and USGIF mission partner in STEM education.

TUESDAY AFTERNOON, the following sessions will be offered from 2 to 4 p.m.:

New Techniques in FMV Analysis for the GEOINT Analyst

Room 145A

Full-motion video (FMV) and GEOINT experts from the Air Force and Special Operations Communities will detail the potential and promise of FMV to empower the GEOINT Community.

The Five Habits of the Master Thinker

Room 145B

This educational session lays out the five critical thinking skills all geospatial professionals should master to protect against biased thinking, help spur imagination, and collaborate across agencies and disciplines to best protect the nation's security.

Making Sense of Object Behavior on the Ground Using the Full Power of Remote Sensing

Room 147A

This session covers various aspects of remote sensing including spatial, spectral, radiometric, and temporal resolutions. It touches upon aspects of tasking and collection of imagery and various imaging modes, as

for large-scale procedural intensification of GEOINT source data without requiring manual intervention.

Using LiDAR Data to Perform Seaport Risk and Vulnerability Assessments

Room 149B

This workshop teaches participants to use LiDAR data and imagery to perform a rapid geospatial assessment and mitigate potential high-interest merchant vessel threats. The demonstration teaches participants how to quickly extract feature data from aerial LiDAR and use the results to create a series of operational overlays and industry standard products.

Making Sense of Multilingual Social Media

Room 304

This session helps intelligence analysts and managers design a faster, better, and cheaper open-source intelligence social media exploitation strategy to keep pace with unique mission needs, satisfy security requirements, minimize contracting headaches, and optimize budgets.

WEDNESDAY MORNING, the following sessions will be offered from 7 to 9 a.m.:

Using Geospatial Data to Generate a Common Understanding of the Environment

Room 145A

This session covers how unclassified reporting can feed geospatial tools to provide a common understanding of conflict-sensitive environments.



OpenStreetMap: Source for Worldwide, Seamless, Crowdsourced Geospatial Feature Data

Room 145B

From this seminar, participants receive information, tools, and ideas that enhance their ability to use OpenStreetMap to support mission objectives.

Multi-INT Fusion for Activity Recognition from Uncoordinated Sensors

Room 147A

In this interactive workshop, Aptima and Kitware explore how to adapt the existing pipeline of sensor exploitation tools to reflect the shift in tasking and collection processes.

Hand-Held Open Apertures: Methods and Technology & Hand-Held ISR — Traditions and Future

Room 147B

This session discusses mobile GEOINT by exploring how adding first-person viewpoints can be particularly useful.

Neighborhood Spatial Modeling Workshop

Room 149A

This workshop provides participants the skills and tools to map and attribute neighborhood spaces within the urban zone by defining and incorporating social media, academic techniques, and open sources.

From Landnav to Lessons Learned: The Importance of Geo-specific Terrain in Building Realistic Training Environments

Room 149B

This session provides participants with an understanding of the power of geo-specific terrains in support of military training through various training visualization examples.

Commercial Electro Optical Imaging

Room 304

This training includes modules discussing services available under NGA's EnhancedView contract; imagery use cases available and an overview of the RapidEye Constellation; an in-depth view of global change monitoring using RapidEye data; and more.

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GOVERNMENT INSIGHTS

Senior Leaders from Across the USG to Speak at Government Pavilion Stage

Valuable GEOINT Symposium content extends far beyond the general session main stage. In response to overwhelmingly positive feedback, the **Government Pavilion Stage (Hall B, Booth 8105)** will for the second year be featured in the exhibit hall each afternoon of GEOINT 2015.

The Government Pavilion Stage offers even more diverse content throughout the week and provides an additional outlet for attendees and exhibitors alike to hear federal leaders discuss business opportunities.

Following is a preview of two of the many great topics to be discussed in the pavilion over the next few days. Check the GEOINT 2015 agenda for a full listing of Government Pavilion Stage presentations and speakers.

THE ARMY GEOSPATIAL CENTER

Dr. Joseph Fontanella, Director, U.S. Army Geospatial Center; and Army Geospatial Information Officer
Tuesday, 2:30-3 p.m.

Dr. Joseph Fontanella has a story to tell and some homework for Army Geospatial Center (AGC) staff.

Fontanella has directed AGC since 2011 and worked with the organization since it was born out of the Army Topographic Engineering Center in 2008.

"I want to outline what we think our challenges are and lay out some thoughts about how we're going to tackle those challenges," Fontanella said.

The mission of the AGC, to build the Army's net-centric geospatial enterprise, hasn't really changed since the organization's inception, Fontanella added, but the environment in which the center operates and the manner in which that mission is accomplished have.

"We'll talk about how the Army's Common Operating Environment (COE) has really helped us reshape our approach to innovating a



The GEOINT Symposium will once again feature a Government Pavilion Stage in the exhibit hall, offering additional speakers and content from federal leaders each afternoon.

geospatial CONOPS across the Army," he said. "We'll talk about how the governance process that we've put in place has yielded cost savings and improved continuity of operations."

The COE, released in January 2012, brought forth computing technologies and standards designed to shorten time and reduce expense when implementing new IT infrastructure.

Ahead is the Army Geospatial Center's quest for better ways to get data to and from soldiers in the field.

"I'm talking about OpenStreetMap kind of stuff, or service- or soldier-generated content," Fontanella said. "How do you take the most current data and bring it up to a higher echelon and conflate that data and get it back into national holding so everybody can take advantage of it? There's really no mechanism, in my opinion, to do that."

"I'm talking about OpenStreetMap kind of stuff, or service- or soldier-generated content. How do you take the most current data and bring it up to a higher echelon and conflate that data and get it back into national holding so everybody can take advantage of it? There's really no mechanism, in my opinion, to do that." —Dr. Joseph Fontanella, AGC

To help discover such mechanisms, Fontanella tasked AGC personnel to take advantage of GEOINT 2015's proximity to the organization's Alexandria, Va., headquarters and spend some time in the exhibit hall.

"We have folks who will go to this conference—some of my program managers, branch chiefs, and division directorate chiefs—and they will get work done that otherwise would probably take them six months and a dozen TDY trips to accomplish," Fontanella said.

LEGAL AND POLICY TRENDS

By Cynthia Ryan, General Counsel, National Geospatial-Intelligence Agency (NGA); and

Kevin Pomfret, Executive Director, The Centre for Spatial Law and Policy

Wednesday, 3:30-4 p.m.

Cynthia Ryan and Kevin Pomfret plan to outline the "lay of the legal land" in geospatial intelligence and encourage their audience to "bring the lawyer in on the ground floor."

"We want to talk about the complexity of legal issues out there and that it doesn't mean that you can't resolve them," Ryan said. "It just means that it's easier to resolve if you consult your lawyer up front."

She calls upon industry to create a three-legged development process that includes technology, business, and legal solutions.

"We have to figure out how we're going to do something in the beginning," Ryan said. "Not if—but how. The motto in [my] office is 'Know the Law, Find a Way.' Our purpose is to find a legal way to meet the purpose and objective of what the agency is trying to do."

In that way, NGA was able to legally deliver vital information via a public website in the recent West Africa Ebola outbreak.

Pomfret will offer context from a societal viewpoint about privacy concerns in geospatial data gathering and use—concerns that are becoming more prevalent with the proliferation of unmanned aerial vehicles.

"As [UAVs] become more commercially viable, there is a visceral reaction among a lot of people," he said. "They don't know if it's government collecting information or industry collecting information or their creepy neighbor next door."

Pomfret cites what he calls the "privacy paradox," in which more people are sharing more information than ever, but they also are becoming more concerned with privacy than ever.

Ryan and Pomfret are also working to stand up a new USGIF working group on geospatial law, which will formally meet for the first time in July.

"We want to educate attorneys on legal geospatial issues," Ryan said. "We want to develop training on key legal issues in GEOINT for non-attorneys and we want to develop a community of interest to share information regarding geospatial law." ■

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COVER STORY CONTINUED

allowed to meet,” Dunow said. “This is probably the most significant challenge for us.”

During a breakout Q&A session on analytics challenges, Lon Haman of NGA’s Analysis Directorate emphasized the need for tradecraft and technology to rapidly co-evolve.

During another breakout session, NGA’s Scott Webster and Mike Sharpen said the agency seeks potential solutions for four challenges, which will be posted July 3 to USGIF’s new Industry Solutions MarketSpace (ISM) website. Over the next year, NGA will offer industry an opportunity to meet those challenges, beginning with a September 14 Industry Day. To gain access to ISM, visit jivango.com and create an account using your organization’s DUNS number.

“I need to understand all of my options more quickly,” Sharpen said in what he called a “plea to industry.”

Sharpen added, “Visualization is a great tool to take advantage of automation. . . . I need visualization so I can digest lots of data.”

Representatives from the Los Alamos National Laboratory in New Mexico and the Air Force GEOINT Office also described their analytic challenges during the Monday morning sessions.

Los Alamos, created to develop atomic and nuclear weapons in World War II, now exists to monitor proliferation of such weapons. Their process needs more help from the GEOINT Community,

said Paula Knepper, the lab’s program director for emerging threats & opportunities.

“We need to develop the geospatial intelligence tools that would allow our analysts a comprehensive view of the spectrum of threats,” Knepper said. She added this would be a multi-disciplinary process to include GEOINT.

GEOINT offers context and a method to integrate the mountains of data collected by the lab, according to Daniela Moody, a scientist in the intelligence and space research division at Los Alamos.

The Air Force is looking to GEOINT for the assessment of environmental threats aircraft and personnel may encounter on short notice, said Eileen Preisser, director of the Air Force GEOINT Office.

AUTOMATING INTEL

The U.S. Air Force is having mixed results in its quest to automatically generate intelligence products from data collected by unmanned aerial vehicles (UAVs), according to Dr. Steven ‘Cap’ Rogers, senior scientist for automatic target recognition and sensor fusion at the Air Force Research Laboratory.

The Air Force is getting better at automating data analysis and is fielding improved capabilities in a couple Distributed Common Ground System (DCGS) environments, according to Rogers. The Air



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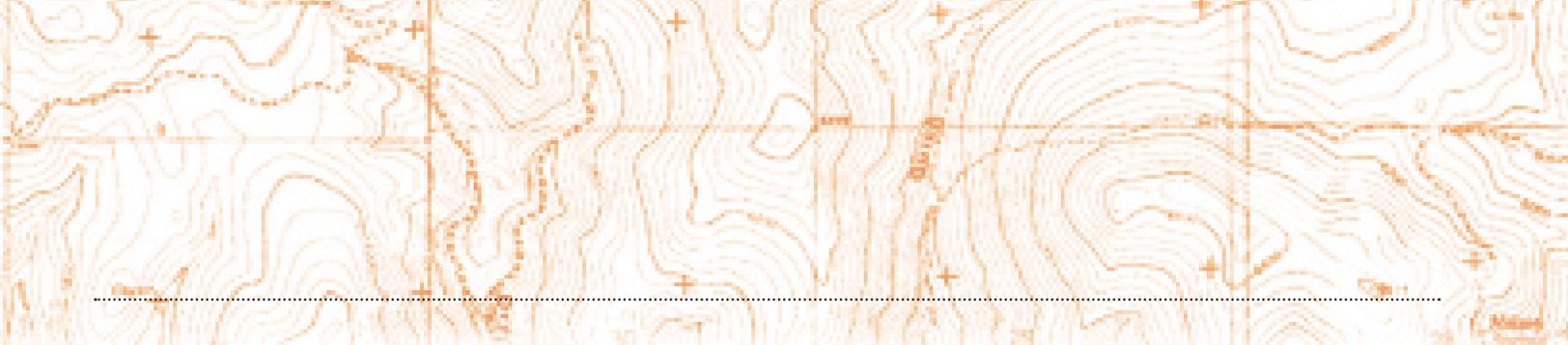
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Visualization is a great tool to take advantage of automation. . . . I need visualization so I can digest lots of data. —Mike Sharpen, NGA

Force DCGS produces intelligence information from data collected by sensors aboard both unmanned and manned aircraft.

Rogers said the Air Force is also making gradual progress in automated target tracking, but has made little headway in automated target acquisition.

With target acquisition, “I have job security,” Rogers said. “We’ve thrown billions of dollars at it and we don’t have it yet.”

Asked whether the Air Force plans to modify DCGS to maximize automation, Rogers replied that a “robust” study is underway to address “the future of that weapon system.”

For years, the Air Force has grappled with how to handle the exponential volume of data it collects from UAVs and other platforms. Rogers

said the current approach for collecting information, which he said is to “throw people at a problem,” is not scalable or agile enough for today’s environment. The Air Force wants to be able to make sense of data as it is collected, but such an approach will require improved autonomy.

Better autonomy is difficult to achieve when the goal is to be able to respond effectively even in the face of unexpected queries or unanticipated circumstances, he said.

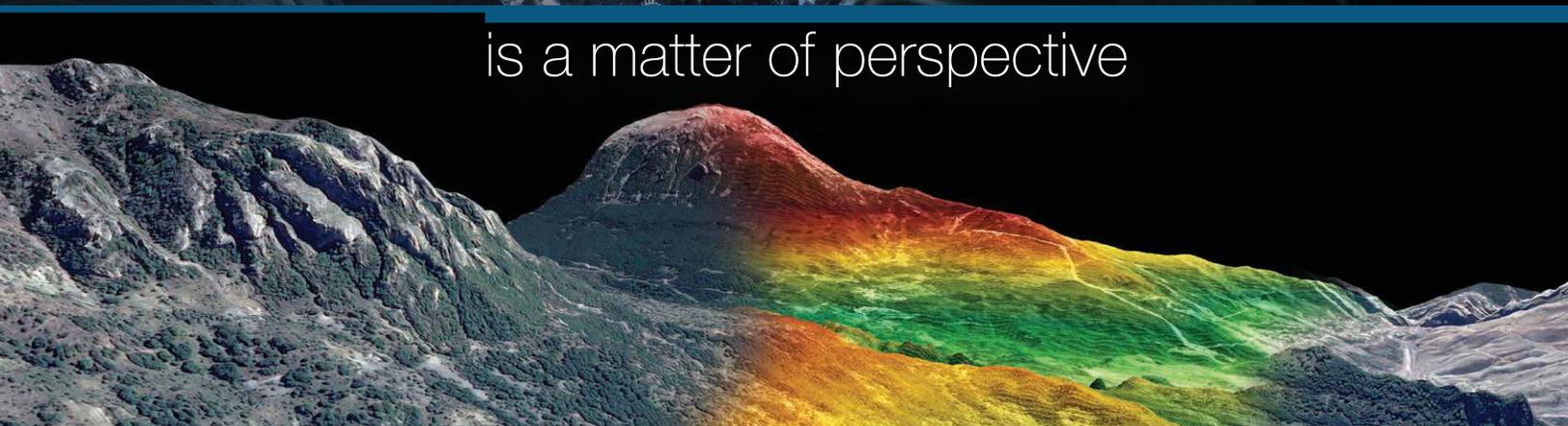
In response to another question, Rogers declined to say whether autonomy raises morality concerns such as taking humans out of the loop to make life-or-death decisions.

“The challenges are so immense and the state of the art is so miniscule that it’s not even worth discussing,” he said. ■



Intelligence

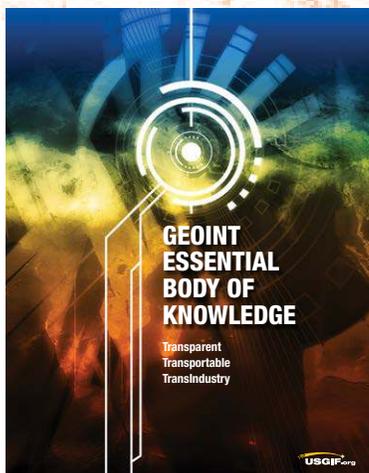
is a matter of perspective



Airbus Defense and Space has a constellation of optical and radar satellites that can cover any point on Earth at least twice a day. Whether it’s charting the safest route through the deep canyons, or navigating expertly in the dark, it is vital to have the most relevant and current information at hand. Having timely satellite imagery and geo-intelligence will bring fresh intel to your plan when it matters most.

READING MATERIAL

Stop by **USGIF (Booth 1033)** to Pick Up Copies of Foundation Publications



GEOINT Essential Body of Knowledge

In fall 2015, USGIF will launch its professional Universal GEOINT Certification. The development of any new certification begins with the creation of an essential body of knowledge (EBK) for that profession. USGIF produced the GEOINT EBK by conducting a cross-industry job analysis to identify the knowledge, skills, and abilities critical to the GEOINT workforce.

This document provides

background information and context as well as outlines standards for the broad practice of GEOINT. The EBK ultimately resides with the practitioners and academics that apply and advance the GEOINT tradecraft. It includes knowledge of proven practices that are widely applied as well as innovative and advanced practices. Geospatial intelligence is a dynamic tradecraft. As the profession evolves so will the EBK, continuing to reflect appropriate and meaningful changes to the GEOINT tradecraft.

State of GEOINT Report

USGIF published its first State of GEOINT Report in 2015 to explore the current state of GEOINT and what waits on the horizon. This inaugural report began with a diverse gathering of more than 50 geospatial intelligence practitioners in October 2014. Participants represented academia, U.S. government, and large and small businesses. They were asked to think through a series of open-ended exercises and define which GEOINT topics, concepts, and challenges they considered “hot,” “not,” and “on the horizon.” USGIF asked attendees to continue the dialogue by writing short essays to capture the essence of their discussions. These essays form the basis of the 2015 State of GEOINT report. USGIF will make this an annual activity and aims to expand next year’s report to include more technical contributions.



The *GEOINT 2015 Show Daily* is brought to you by *trajectory*, the official publication of the United States Geospatial Intelligence Foundation (USGIF).

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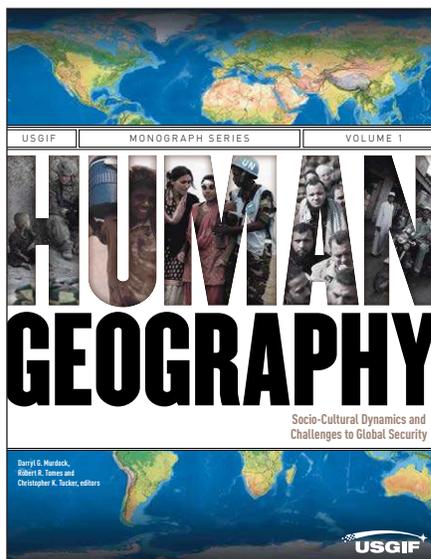
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Human Geography Monograph

In April 2014, USGIF published a 232-page monograph titled “Human Geography: Socio-Cultural Dynamics and Challenges to Global Security.” This is the first publication in the USGIF Monograph Series, marking an exciting phase of USGIF professional development. The monograph features a collection of articles from more than 30

thought leaders and leading human geography practitioners around the globe. The anticipated audience for this volume includes human geography professionals and academic programs where it would serve as either an excellent primary or secondary human geography textbook. Topics include Big Data, social media, satellites, the Internet of Things, maps, population, climate, energy, open-source tools, and more. The monograph is available for purchase at the USGIF booth.

What Better Way to End GEOINT 2015?

NATIONALS VS. BRAVES

June 25 @ 4:05pm

Nationals Park

Be there in just a few steps on the Metro Green Line!

Limited tickets still available at registration. \$30 per person and includes a \$15 food and drink credit.



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NEW RULES OF ENGAGEMENT
FOR A COMPLEX WORLD
**GENERAL STANLEY
McCHRISTAL**

U.S. Army, Retired

with Tantum Collins, David Silverman,
and Chris Fussell

12:30-2:00p Outside General Session

\$20

Will also be for sale in the USGIF booth #1033



7:00-9:00a

TRAINING & EDUCATION SESSIONS

- New Techniques in FMV Analysis for the GEOINT Analyst – MotionDSP (145A)
- The Five Habits of the Master Thinker – Pherson Associates (145B)
- Making Sense of Object Behavior on the Ground Using the Full Power of Remote Sensing – DigitalGlobe (147A)
- Using LiDAR Data to Perform Seaport Risk and Vulnerability Assessments – Textron Systems (149B)
- Making Sense of Multilingual Social Media – SDL Government (304)
- The Next Step in Simulation with GEOINT Data – GameSim (149A)
- Crisis Mapping for Humanitarian Action: Applications of New Information Communication Technologies (ICTs) and methods using OSS and CGD – Northeastern University (147B)

9:00-9:15a

PRESENTATION OF COLORS (HALL C)

9:15-9:30a

WELCOME – THE HONORABLE JEFFREY K. HARRIS, CHAIRMAN, USGIF BOARD OF DIRECTORS (HALL C)

9:30-9:45a

MASTER OF CEREMONIES – THE HONORABLE JOAN A. DEMPSEY, USGIF BOARD OF DIRECTORS (HALL C)

9:45-10:15a

KEYNOTE – THE HONORABLE ROBERT WORK, DEPUTY SECRETARY OF DEFENSE (HALL C)

10:00-5:00p

EXHIBIT HALL OPEN (HALLS A-B)

10:15-11:00a

KEYNOTE – ROBERT CARDILLO, DIRECTOR, NATIONAL GEOSPATIAL-INTELLIGENCE AGENCY (HALL C)

11:00-11:30a

NETWORKING BREAK – SPONSORED BY MCR (OUTSIDE HALL C)

11:30-12:00p

KEYNOTE – THERESA WHALEN, PRINCIPAL DEPUTY ASSISTANT SECRETARY OF DEFENSE FOR SPECIAL OPERATIONS/LOW-INTENSITY CONFLICT (HALL C)

12:00-12:30p

KEYNOTE – GEN. STAN MCCHRYSTAL, U.S. ARMY (RET.), FORMER COMMANDER, U.S. AND INTERNATIONAL SECURITY ASSISTANCE FORCES (HALL C)

12:30-2:00p

LUNCH BREAK AND EXHIBIT TIME (HALLS A-B)

1:30-4:00p

GOVERNMENT PAVILION STAGE (HALL B, BOOTH 8105)

- 1:30-2:00p – Kevin P. Meiners, Assistant Director of National Intelligence for Acquisition, Technology and Facilities, ODNI
- 2:00-2:30p – “NGA and Transparency: Enabling the Mission through IT” by Doug McGovern, CIO and Director, Technical Services Directorate, NGA
- 2:30-3:00p – “The Army Geospatial Center” by Dr. Joseph Fontanella, Director, Army Geospatial Center; and Geospatial Information Officer, U.S. Army
- 3:00-3:30p – “Innovation at DIA” by Terry Busch, DIA
- 3:30-4:00p – “Achieving Object Based Production through Next Gen Tasking, Analytic Modeling, and Integrative Intelligence” by Gary Dunow, Director, Analysis Directorate; and John Goolgasian, Director, Source Operations and Management Directorate, NGA

2:00-3:30p

BREAKOUT DISCUSSION – ASSURING SPACE RESILIENCE (ROOM 146)

- Mark Choiniere, Director, Advanced Development Office, InnoVision Directorate, NGA
- Dr. Gordon Roesler, Program Manager, Tactical Technology Office, DARPA
- Maj. Gen. Roger W. Teague, Director, Space Programs, Office of the Assistant Secretary for Acquisition, U.S. Air Force
- Thomas Webber, Director, Space & Strategic Systems Directorate, USASMDC/ARSTRAT Technical Center, U.S. Army Space and Missile Defense Command

- Using LiDAR Data to Perform Seaport Risk and Vulnerability Assessments – Textron Systems (149B)
- Making Sense of Multilingual Social Media – SDL Government (304)
- The Next Step in Simulation with GEOINT Data – GameSim (149A)
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- Making Sense of Object Behavior on the Ground Using the Full Power of Remote Sensing – DigitalGlobe (147A)

2:45-3:15p

AFTERNOON REFRESHMENT BREAK – SPONSORED BY JUNIPER NETWORKS & TECHNICA (146)

4:00-5:00p

EXHIBIT HALL RECEPTION (HALLS A-B)

5:00-7:00p

GEOINT 2015 WELCOME CELEBRATION (HALL C)

» **WEDNESDAY JUNE 24 AT-A-GLANCE**

EXHIBIT HALL OPEN 10:00-5:00P

7:00-9:00a	TRAINING & EDUCATION SESSIONS
9:00-9:15a	MASTER OF CEREMONIES – ADM. THAD ALLEN, U.S. COAST GUARD (RET.), FORMER COMMANDANT, U.S. COAST GUARD (Hall C)
9:15-9:45a	KEYNOTE – ADM. MICHAEL S. ROGERS, U.S. NAVY, COMMANDER, USCYBERCOM; AND DIRECTOR, NSA/CHIEF, CSS (Hall C)
9:45-10:00a	USGIF GEOSPATIAL AWARDS PRESENTATION (Hall C)
10:00-10:45a	A CONVERSATION WITH NGA'S SENIOR LEADERSHIP
10:45-11:15a	NETWORKING BREAK – SPONSORED BY KEYW (Outside Hall C)
11:15-11:45a	KEYNOTE – ROBERT D. KAPLAN, AUTHOR "THE REVENGE OF GEOGRAPHY;" SENIOR FELLOW, CNAS (Hall C)
11:45-12:30p	NATIONAL SECURITY ROUNDTABLE
12:30-2:00p	LUNCH BREAK AND EXHIBIT TIME (Halls A-B)
1:00-2:00p	WORKING GROUP PRESENTATION – NGA & SMALL BUSINESS (305)
1:00-2:00p	WORKING GROUP PRESENTATION – GEOINT WILDLIFE SECURITY AND ILLICIT TRAFFICKING (303)
1:00-4:00p	USER GROUP MEETING – LAW ENFORCEMENT/FIRST RESPONDER TRADECRAFT CHALLENGES AND OPPORTUNITIES EXCHANGE (East Overlook)
1:30-4:00p	GOVERNMENT PAVILION STAGE (Hall B, Booth 8105)
2:00-3:30p	BREAKOUT DISCUSSION – GEOINT AND EPIDEMIOLOGY: THE ROLE OF GEOSPATIAL INTELLIGENCE IN HEALTH CRISIS ANALYSIS AND MISSION (146)
2:00-4:00p	TRAINING AND EDUCATION SESSIONS
2:45-3:15p	AFTERNOON REFRESHMENT BREAK - SPONSORED BY BOUNDLESS (146)
4:00-5:00p	EXHIBIT HALL RECEPTION (Halls A-B)
4:00-5:00p	YPG LOUNGE MENTORING SESSION (Hall A, Booth 1033)
5:30-9:00p	YPG LOUNGE NETWORKING SESSION (RFD Washington, 810 7th St. NW)

Analyze...

...vast amounts of geospatial big data

1. BASELINE IMAGE



2. ALGORITHM DETECTS POSSIBLE STRUCTURES



3. TOMNOD CROWD VERIFIES ALGORITHM RESULTS



4. VILLAGE/POPULATION MAP CREATED



ESTIMATED POPULATION: 2.25 MILLION

think possibility

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