

# SHOW DAILY

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## The Key to Public Safety: Collaboration

### National Security Workshop Emphasizes Shared Situational Awareness

In addition to a decade of USGIF and GEOINT Symposia, 2014 marks 10 years of tradecraft precipitated by the creation of the National Geospatial-Intelligence Agency (NGA). Since that time, the amalgamated progeny of imagery and mapping—otherwise known as GEOINT—has proven its value time and again in instances of both crisis and opportunity.

During Operations Enduring Freedom and Iraqi Freedom, GEOINT helped the United States secure critical victories against terrorists and extremists. In 2005, the discipline provided critical support to relief efforts in the wake of Hurricane Katrina. In 2011, it contributed to the capture of Osama bin Laden. And just last month it assisted rescuers in the aftermath of a deadly mudslide in Washington State.

Looking toward the next 10 years, however, the Community must be equally mindful of what it hasn't yet achieved, according to Maj. Gen. William N. Reddel III, adjutant general of New Hampshire.

During the GEOINT Symposium's first-ever National Security Workshop on Tuesday afternoon, he reminded the audience that 2014 also marks the 10th anniversary of "The 9/11 Commission Report," which pointed a finger at intelligence



The GEOINT Symposium hosted its first National Security Workshop on Tuesday. Pictured left to right: Jack Dangermond, president, Esri; Maj. Gen. William N. Reddel III, adjutant general, N.H.; Eric Apple, Esri senior program manager and consultant; Capt. Steve Pollackov, commanding officer, FDNY GIS unit; Dr. Robert Austin, manager, enterprise applications integration, City of Tampa.

"Looking toward the next 10 years, however, the Community must be equally mindful of what it hasn't yet achieved."

— Maj. Gen. William N. Reddel III

see Public Safety p. 10

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# THE THRESHOLD OF K9 TECHNOLOGY

“Vapor Wake” and Traditional Explosive-Detection Techniques Keep Symposium Attendees Safe

There are two types of explosive-detecting K9s keeping GEOINT 2013\* secure.

Each morning, the Tampa Police Department sweeps the Tampa Convention Center with its four-person unit, which includes three bomb technicians, an explosive detection dog handler, and a German shepherd.

Throughout the entire day, Paul Orcutt, director of K9 operations for NYC-based Stapleton Group, and Labrador retriever Quad, sweep the facilities and monitor attendees using a patented technology known as “Vapor Wake” detection.

“This has been exciting because the attendees at GEOINT 2013\* are so diverse, from the DNI to high school students, and we care

about keeping them all safe,” Orcutt said.

A “wake” is the plume of air people emit as they move, according to Tim Dunnigan, founder and director of Stapleton Group partner iK9, based out of the Canine Detection Research Institute at Auburn University in Alabama. Take for example, the lingering scent of cologne or shampoo that may trail behind a person as they walk. That wake may also include explosive molecules if an individual has been in direct or near contact with



Paul Orcutt, director of K9 operations for the Stapleton Group, and Quad, a Vapor Wake detection canine, provide cutting-edge explosive detection services during the GEOINT 2013\* Symposium.

explosive materials. K9s trained in Vapor Wake detection sniff the air four to six times per second, continuously inhaling through the center of their nostrils, while exhaling around the perimeter.

Dunnigan describes Vapor Wake technology as the “absolute threshold” of a K9’s capabilities. iK9’s decision to use a Labrador retriever rather than the traditional German shepherd is strategic, allowing the dogs to get closer to people who are less intimidated by the breed.

iK9 is the commercial partner for the Vapor Wake technology patented by Auburn University. In addition to Vapor Wake explosive detection, its services include traditional explosive detection, narcotics detection, patrol, and tracking.

Dunnigan emphasized that Vapor Wake detection is intended to be complementary to and work in conjunction with traditional explosive detection, adding that the Tampa Police Department have been great partners throughout the Symposium.



Brigadier General Dag Baehr, commanding general of the German Special Forces Command KSK, spoke at Tuesday afternoon’s panel, “Navigating the Global Information Sharing Environment.” Also pictured: (left) RAD Mohamad Abdelaziz, Egyptian defense attaché to the U.S. and Canada; (right) Rear Admiral Mats Fogelmark, Royal Swedish Navy, coalition senior national representative.

# AGE OF INTEROPERABILITY

Global Alliances and Information-Sharing

On Tuesday at the GEOINT 2013\* Symposium, Col. Stu Bradin, who leads the Operational Planning Team at the United States Special Operations Command (USSOCOM), moderated a general session panel on “Navigating the Global Information Sharing Environment.” Panelists discussed the importance of developing coalition partnerships, continuing education and training, and keeping up with technology.

Bradin began the discussion by referencing the intelligence gaps that led to 9/11.

“9/11 caught us in a period where we did not have the ability to do the level of sharing we needed at the operational and tactical level,” he said.

The tragedy led to changes in the way the U.S. operates, as well as to new alliances. Above all, Bradin stressed the importance of interoperability, which he describes as the ability to transfer and use information in a consistent, efficient way across multiple organizations and systems.

“I’m passionate about that,” Bradin said. “People will die without interoperability.”

Joseph Drummey, director, International Affairs, NGA, said it keeps him awake at night to think that NGA is generally much larger than its roughly 80 partners, whom the agency is encouraging to innovate at the same pace.

“Our [national and international] GEOINT partnerships . . . are very, very strong,” he said, adding that NGA wants its partners to “stay with us as we move into the future.”

A quarter of all data the U.S. uses to support its troops and military operations comes from these partners, Drummey said, emphasizing the importance of interoperability.

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Lockheed Martin's full-motion video products are among its demos at GEOINT 2013\*.

## SOLUTIONS FOR OPEN SOURCE INTELLIGENCE, INSIDER THREATS, AND MORE

Lockheed Martin Highlighted Breadth and Depth of Capabilities

**F**inding meaningful data can feel like locating a needle in a million haystacks, but **Lockheed Martin (Booth 6035)** is showing its newest offerings, intended to make the search shorter and easier, to GEOINT 2013\*.

ATLAS uses Lockheed Martin's advanced algorithms and tradecraft to efficiently identify and disseminate open source intelligence products. It also provides predictive analytics and can tackle data problems that concern law enforcement, public attitude, and political environment.

And while analyzing big data from outside of an organization is crucial, so is maintaining vigilance from within. Lockheed Martin is also presenting a new tool, called LM Wisdom ITI, a key part of the company's insider threat program. LM Wisdom ITI provides automated analysis of employee patterns and identifies personnel with high-risk characteristics. The system ingests data from multiple sources to provide a more complete employee profile.

"So it's not just checking their cyber fingerprints," according to Lockheed Martin spokeswoman Kailen Tuscano. "It's about analyzing the employee's behavior."

Lockheed Martin also brought cutting edge, established video tools to the Symposium. Lodestone is an advanced forensic tool that uses hidden data from audio or video samples to establish when and where they were made. GeoMI is a program used to determine accurate position data from full-motion video, aerial photography, and infrared imagery. GeoFlix is a scalable full-motion video application that lets analysts work with video from multiple platforms.

The Lockheed team is also on hand to discuss its delivery of the British Army's Future Deployable GEOINT program in September 2013. The set of tools includes field-deployable map production capabilities and upgraded digital geoservers, which can be used to support strategic operations and aid frontline soldiers.

### Build Your Own Cloud-based Location Data App

Spatial Networks' Fulcrum Software Enables Mobile Data Collection

**Spatial Networks (Booth 8101)** believes warfighters should be able to collect, share, and analyze location data — wherever they are. At GEOINT 2013\*, the company is showcasing its Fulcrum field data collection platform, which allows users to build customized mobile apps for use by data collectors in the field.

"Fulcrum is a tool for capturing nearly any type of data in the field on a mobile device," explained Spatial Networks CEO Anthony Quartararo, who currently is working with a partner to make Fulcrum available on the GSA schedule. "Whatever [type of] location information a user wants to capture in the field, Fulcrum allows them to build a specific app and deploy that app to a single user or tens of thousands of users in near real time"

At its booth, Spatial Networks is demonstrating Fulcrum using special kiosks where visitors can interact with the platform and, if they wish, download it directly to their Apple or Android device. Upon downloading, one of the unique features you'll discover is Fulcrum's cloud-based architecture: Using mirrored cloud servers, Fulcrum data is replicated in real time to multiple data centers in separate geographic regions, ensuring safety and security.

"Fulcrum isn't a traditional software package," Quartararo concluded. "It's built for the cloud, in the cloud."

# FLOOR EXHIBIT HALL HIGHLIGHTS

## FLEXIBLE, CUTTING-EDGE, COMMERCIAL CAPABILITIES

Thermopylae Sciences & Technology Showcases Key Knowledge Fusion Solutions for Warfighters

With defense and intelligence organizations tasked to “do more with less,” Thermopylae Sciences & Technology (Booth 6059) is showcasing key commercial innovations that allow government to advance mission goals during austere times.

“Today’s government requires creative solutions that are nimble and can help meet mission goals and requirements at all times,” said AJ Clark, president of Thermopylae. “We are highlighting how our commercially-based solutions allow defense organizations to remain highly effective through cutting-edge knowledge fusion capabilities in the geospatial, cloud, and mobile arenas.”

At GEOINT 2013\*, the company is demonstrating its iSpatial, iHarvest, and Ubiquity solutions. iSpatial is a web-based collaborative framework that leverages Google Earth and Maps in a flexible, task-based approach to solve complex problems. iHarvest is a standards-based enterprise analytic service that organizes, analyzes, and reports activities to enable critical decisions. Ubiquity is proprietary platform for creating dynamic, customized, and geocentric native mobile applications.

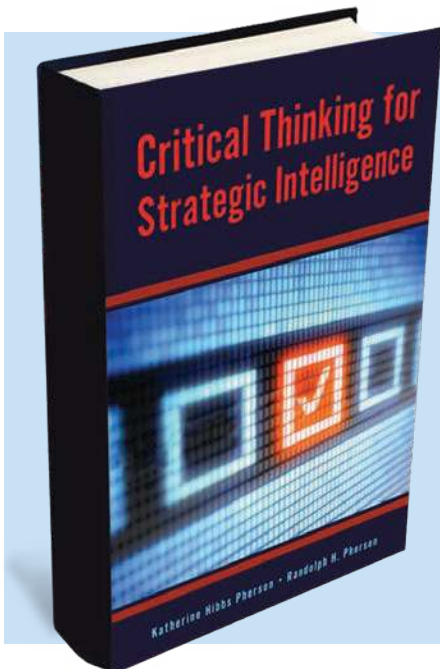
Thermopylae also brought back its popular Liquid Galaxy immersive virtual reality display, where it is showcasing its Google Glass and



IMAGE COURTESY OF THERMOPYLAE SCIENCES & TECHNOLOGY

Leap integration. It is also showing a unified demonstration of all of its products in the Liquid Galaxy display.

A major component to Thermopylae’s corporate identity and internal culture is the passion and dedication of the entire team toward charitable giving. As such, in addition to standard booth giveaways, the company is making donations to the Special Operations Warrior Foundation.



## Educating Analysts

### Pherson Associates Offers Intelligence Community Training Tools

Founded in 2003 in response to requests for analytic, instructional, and management support from the Intelligence Community, **Pherson Associates LLC (Booth 3070)** provides training, mentoring, and consulting services for analysts of all levels.

Exhibiting for the first time at the GEOINT Symposium, Pherson brought its classroom to the exhibit hall. Nestled inside the Small Business Pavilion, the company will have its textbooks on display, accompanied by a software demonstration.

“We’re looking to become more known in the Community and have our books be used more widely for government training classes,” said Pherson Associates CEO Katherine Pherson. “We’re thrilled to be at GEOINT 2013\* for the first time, and that USGIF has such a vibrant [Small Business Advisory Working Group] that goes out of their way to give great opportunities to small business.”

Pherson Associates has published five textbooks on intelligence analysis, analytic psychology, critical thinking for intelligence, and more. These books, which are used in courses at Pherson’s Herndon, Va., office and at the National Geospatial-Intelligence College, provide analysts with a guide to critical thinking, analytic writing, and interpersonal communication, as well as a roadmap for projects.

Pherson is also demonstrating its TH!NK Suite software, a set of web-based tools for analysts to apply structured techniques to their work. The software and several Pherson textbooks will be available for purchase at the booth.

# ADVANCING GEOINT TRADECRAFT

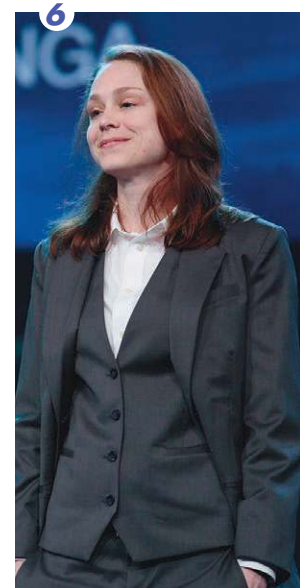
2013 USGIF Award Winners Announced

The USGIF Awards Program recognizes exceptional work and bright minds from all areas of the GEOINT Community. Award winners are nominated by their colleagues and selected by the USGIF Awards Subcommittee. The 2013 USGIF award winners have demonstrated great achievements in advancing the GEOINT tradecraft.

“We received a record number of nominations for the 2013 USGIF Awards Program and the quality of the submissions was extraordinary,” said Kevin Jackson, USGIF’s Awards Subcommittee Chair. “From the curious high school student’s first glimpse into the tradecraft to our trail-blazing veterans, the contributions were significant and meaningful. In every single nomination package there is a story of commitment, passion, and unwavering dedication to mission—all intended to make this world a better place.”

## AND THE WINNERS ARE:

1. **Military Achievement Award:** TACSAT-3 Exploitation Team
2. **Government Achievement Award:** Robert L. Arbetter, NGA
3. **Industry Achievement Award:** Pixia Corp.
4. **Academic Research Award:** Richard M. Medina, George Mason University
5. **Academic Achievement Award:** Dover Area High School, Geospatial Technology Program
6. **Outstanding Administrative/Support Award:** Melissa Martz, NGA



# Unlock your geospatial data

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## Presentation schedule

<b>Wednesday,</b>	11:30 - noon	Off the grid: maps for disconnected users
<b>April 16</b>	1:00 - 1:15pm	Providing online and offline content with Google Maps Engine
	2:00 - 2:15pm	Geospatial at Google scale
	3:00 - 3:30pm	Google Glass demo
	4:00 - 4:15pm	Customer spotlight: providing rich geospatial visualization for the IC
<b>Thursday,</b>	1:00 - 1:15pm	Real-time resource management for law enforcement
<b>April 17</b>	2:00 - 2:15pm	New from Google: high-quality, low-cost imagery
	3:00 - 3:15pm	Off the grid: maps for disconnected users
	4:00 - 4:15pm	Geospatial at Google scale



# KNOWLEDGE IS POWER

## CENTCOM Commander Urges Continued, Joint Collaboration

What reassures Commander of U.S. Central Command (CENTCOM) Gen. Lloyd J. Austin III? Knowing the Intelligence Community has its eyes on every location where trouble could possibly brew.

Austin took to the stage Wednesday at the GEOINT 2013\* Symposium to give a keynote addressing collaboration between the DoD and Intelligence Community, and the needs for such moving forward.

**“You are the very best in the world at what you do.”**

— Gen. Lloyd J. Austin III

“This Community understands the significance of this statement—analysis and knowledge enables coordination and enhances overall effectiveness.”

Austin recalled his service as the assistant division commander (maneuver), third infantry division in Iraq. He told the audience of a

There are many challenges present in the CENTCOM area of responsibility, Austin said, with a theater consisting of Afghanistan, Pakistan, Iran, Iraq, Egypt, Yemen, and Syria.

Austin began the crux of his speech by quoting Sir Francis Bacon’s famous line: “Knowledge is power.”



CENTCOM Commander Gen. Lloyd J. Austin III endorsed DoD and IC integration efforts during his keynote Wednesday morning.

2003 instance where the division was planning an advance to Baghdad via a route along the Euphrates River that promised difficult and slow movement. However, a geospatial analyst proposed an alternative route on an unmarked road, therefore providing the troops the advantage of speed, power, and the element of surprise.

One year later, as the commander, Combined Joint Task Force-180 in Afghanistan for Operation Enduring Freedom, his team relied heavily on geospatial analysts to locate possible threats in remote areas of the region. In doing so, he said, these analysts saved many lives.

“You are the very best in the world at what you do,” Austin told the Intelligence Community. “We could not have done all that we have done in the past 12+ years had we not had the benefit of your expertise and hard work. You will continue to play a critical role in Afghanistan as we conduct our transition, and gradually shrink the size of our footprint in that country.”

Austin also spoke about challenges in Syria. When combining the elements of chemical warfare, proxy activity, sectarian issues, and increasing extremist groups, challenges are compounded, Austin said.

“Syria is the most complex program I’ve seen in my 39 years I’ve been doing this,” he concluded.

The CENTCOM commander suggests we stay focused on Syria because there is much more to be done. It’s a troubling problem that the U.S. will continue to work on with allies in order to try and contain, said Austin.

As we look to the future, Austin endorses a continued joint effort between military and the Intelligence Community in order to serve the common goal of defending our nation.

“The keys to success are continued integration, cooperation, and collaboration,” Austin said. ■

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Robert Ames, Senior Vice President  
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# FROM AIRBORNE TO SPACEBORNE

## NRO Director Shares Recipe for the Next Generation in Space Innovation

They say the sky's the limit. But National Reconnaissance Office (NRO) Director Betty Sapp knows better. By ascending to an even higher plane—space—the Intelligence Community can literally rise above existing challenges and achieve new, superior levels of situational awareness.

So asserted Sapp Wednesday morning during her first-ever GEOINT Symposium keynote, which laid out her vision for spaceborne intelligence within NRO and the larger IC.

But before going to space, Sapp's vision starts at an altitude of approximately 50,000 feet, where airborne ISR platforms of the last decade have achieved radical advances in sensor capabilities and persistence.

“What we intend to do [is] pull together to ensure we can get the right sensor, or set of sensors, where it needs to be, and then persist for as long as we need to,” Sapp said. “In short, we intend to provide the U.S. the sensor diversity and on-demand persistence that we have found so valuable in Iraq and Afghanistan [aboard] airborne platforms. We just want to do it from space, with the unique advantages space provides—near-instantaneous global access and access to denied areas.”

Along with integration—a universal theme at GEOINT 2013\*—achieving this vision will require innovation, said Sapp, who devoted the majority of her 30-minute appearance to describing the many NRO innovation initiatives.

Naturally, one such area is research and development.

“R&D in the NRO is not a nice-to-have, it's a must-have,” said Sapp, who offered as an example of R&D innovation NRO's High Altitude LiDAR Operational Experiment, or HALOE, an airborne platform that supports 3D high-resolution mapping in geographically restricted areas in Afghanistan. NRO hopes, HALOE will eventually be adapted for space.

Another NRO innovation area is ground infrastructure.

“The ground needs to be a very capable orchestrator to realize the full potential of multi-INT overhead space architecture,” said Sapp, who highlighted NRO's Sentient Enterprise Program, which seeks to develop three core capabilities—problem-driven and multi-INT data collection; embedded data analysis; and machine-speed tasking, collection, and processing—that will allow NRO to be not only responsive, but also predictive, with where it aims spaceborne assets.

Innovation is equally important in the areas of overhead architecture, where commercial imagery will play an important future role, as well as in operations, where NRO's 24/7 support centers are key, creating operational products in direct response to user needs.

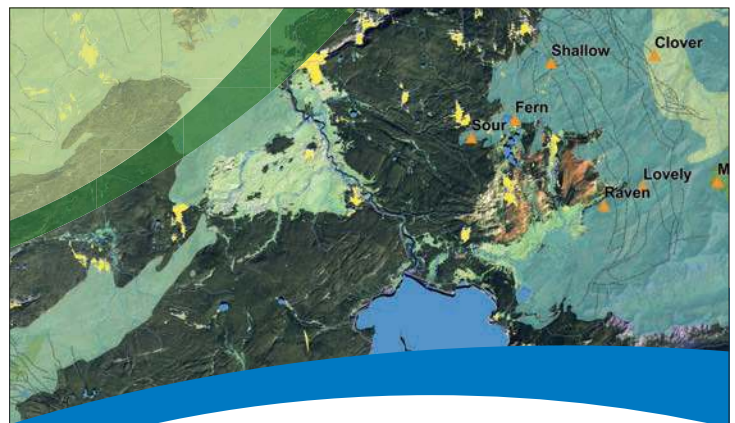
“In 2013 alone, these centers handled more than 106,000 requests for help and created more than 690,000 specialized products,” said Sapp, who closed her remarks by stating one final goal that will ensure ongoing innovation at NRO for decades to come: workforce stability.



NRO Director Betty J. Sapp shared her vision for spaceborne intelligence and the importance of workforce stability during her Wednesday morning keynote.

“At the NRO it's mission first, but it's people always. [We must] develop our next generation of program managers and have the leadership continuity demanded by complex acquisition programs.”

With the right people in place for the right duration, Sapp concluded, the NRO—and, indeed, the entire IC—can achieve in space what's it's already achieving from the clouds. ■



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PUBLIC SAFETY CONTINUED

silos for the security failures associated with the Sept. 11 terrorist attacks on the United States.

“[The 9/11 Commission] said there was a failure of imagination, capabilities, policies, and management,” said Reddel as he introduced the workshop. “When you look back at that, and you look at now, how far have we really come in sharing the information that we need to share?”

Not far enough, agreed the seven speakers who subsequently took the podium. During a 3.5-hour session that featured local, state, and federal perspectives on national security missions, it was asserted that the most important enabler of public safety is multi-agency collaboration—a major catalyst for which can be GEOINT.

WHERE THERE’S A WEB, THERE’S A WAY

The U.S. today faces more national security risks than at any other time in its history, said Esri President Jack Dangermond, who delivered the National Security Workshop’s keynote address.

“The world ... is increasingly challenged at all different sorts of scales and with all different sorts of issues,” said Dangermond, who cited terrorism, border security, globalization, natural disasters, organized crime, and even climate change as significant and growing national security concerns.

Faced with these and other threats, government, first responders, and the private sector need a common language and a shared tool for use in planning, prevention, and response.

According to Dangermond, location is that language and geographic information systems (GIS) that tool.

“One word, ‘integration,’ is the very essence of what geospatial is,”

he continued, citing web GIS—which leverages web services such as mobile apps, cloud computing, and Big Data—as the key enabler to make efficient multi-agency collaboration a more tangible reality. “Web GIS will have huge implications for [collaboration] within and among agencies.”

COLLABORATION IN ACTION

If they were asked to locate “innovation” on a map, most people would likely put a pin on San Francisco. And while Silicon Valley startups are successfully launching SmallSats by the dozens, the GEOINT community would do well to look some 400 miles south for software solutions, according to Eric Apple, a senior program manager and consultant at Esri.

Building on Dangermond’s keynote, Apple illustrated the power of web GIS with a live demonstration of Virtual Port, a web-based GIS platform developed by Esri for the Port of Long Beach to collect and share real-time geospatial information across multiple local, state, and federal agencies with port jurisdiction. Using this common platform, users ranging from municipal (e.g., police, fire, EMS) to federal (e.g., Department of Homeland Security [DHS], U.S. Coast Guard) can collect, access, and publish geospatial information in pursuit of shared situational awareness. In the event of an emergency, that common operating picture—which includes geo-tagged information about everything from tenants and traffic to police presence and weather—facilitates integration and coordination that results in better, faster response and recovery.

The workshop’s remaining speakers described similar multi-agency capabilities and results at their respective agencies:

- The Fire Department City of New York (FDNY) recently built a web-based GIS platform to coordinate emergency planning and response as part of Super Bowl XLVIII, said Capt. Steve Pollackov, commanding officer of FDNY’s GIS unit.
- The City of Tampa tapped web GIS to integrate local and federal national security interests during the 2012 Republican National Convention, according to Dr. Robert Austin, the city’s manager for enterprise applications integration.
- In Huntsville, Ala., which was devastated by a deadly tornado outbreak in 2011, Mayor Tommy Battle is building “The Exemplar City,” a municipal model for GIS collaboration designed to improve safety, security, and sustainability in cities that adopt the program.
- Fire districts nationwide can leverage apps created by the International Association of Fire Chiefs (IAFC) to access and share geospatial information to improve emergency planning and response, said IAFC Chief Programs Officer and Assistant Executive Director E. Thomas Hicks IV.
- DHS is utilizing web GIS to improve communications with state and local first responders, providing increased visibility of the demand for federal resources during incidents, disasters, and emergencies, according to David Alexander, director of the DHS Geospatial Management Office.

A long road separates the nation from its ultimate vision of shared intelligence and collaborative relationships outlined a decade ago, but the case studies presented during the GEOINT 2013\* National Security Workshop, however, assured attendees that progress is possible—and already happening.

“Collaboration is the new competition,” Reddel concluded. “We have to [collaborate] in order to limit the impact of an event, save lives and protect property, improve the response to that event, and kickstart the recovery.” ■

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# USGS EXPANDS INTELLIGENCE ROLE

Acting Director Describes Civil Applications for Classified Data



USGS Acting Director Dr. Suzette Kimball said civil applications of classified data are becoming an increasing USGS priority.

On Wednesday at the GEOINT 2013\* Symposium, U.S. Geological Survey (USGS) Acting Director Dr. Suzette Kimball discussed USGS's contributions to the Intelligence Community.

Kimball, who came to USGS from the National Park Service, also serves as chair of the USGS's interagency Civil Applications Committee (CAC), which coordinates the federal government's civil applications of classified data and allows her to work with civil agencies in providing imagery for their missions.

"CAC activities have expanded beyond traditional mapping," Kimball said.

Today, the committee is involved in a broad range of environmental and remote sensing applications, including monitoring volcanoes, detecting wild fires, managing forests, and coordinating emergency response to natural disasters such as earthquakes, storms, and floods.

"In all major disasters, our initial response is to help search and rescue

**"CAC activities have expanded beyond traditional mapping."**

— Dr. Suzette Kimball

teams [by providing imagery], not get in the way for scientific research," Kimball said. "FEMA uses us as a primary resource." In the recent mudslide in Oso, Wash., "We could provide [FEMA] with imagery before they even got on the ground."

Kimball said imagery is also used to monitor ecosystem use

and map wetlands. Dredging operations in the Louisiana wetlands, for example, use imagery from the image-rich Global Fiducials Program (overseen by USGS) to monitor shorelines and vegetation changes.

Contributing to the Intelligence Community has been and continues to be a priority, Kimball said. USGS's National Map is one such contribution, which, she said, enables better policy.

"We no longer print topographic maps, but we've developed U.S. Topo," she said, which is the next generation in maps of the American

landscape. Other contributions include imagery from Landsat, a joint initiative between USGS and NASA that includes four decades of imagery.

Landsat imagery is available for everything from exploring post-wildfire science to accurately forecasting volcano eruptions.

"One of the most compelling uses of these assets," Kimball said, "is furthering our understanding of the impacts of climate change." Being able to use imagery from the Global Fiducials Program has improved the ability to analyze and assess danger, such as the role melting ice plays in massive landslides in Alaska. As temperatures rise, Kimball said these types of events are likely to continue.

Kimball said there are a number of future opportunities to collaborate with the IC and use tools and technologies that apply to many areas of mutual interest, such as LiDAR.

Smaller scale opportunities include allowing USGS scientists to publish in peer-reviewed classified journals, which provide an outlet for scientists in the civil sector to publish the entire body of work with supporting imagery.

At the end of Kimball's talk, she faced an earthquake question that is perhaps on the minds of many Americans when it comes to geography: "Is 'the big one' imminent on the West Coast of the United States?"

"It depends on your definition of 'imminent,'" she said. "USGS publishes high-probability areas. There's a high probability of a very large earthquake somewhere on the West Coast sometime in the next 30 years." ■



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# FUTURE GEOINT LEADERS

## Meet the 2013 USGIF Scholarship Winners

USGIF awards scholarships annually to promising high school seniors, as well as collegiate undergraduates, graduates, and doctoral students studying or planning to study the geospatial sciences or a related field.

All scholarship recipients are chosen based on academic and professional excellence. Qualified candidates are selected by the Foundation's Scholarship Subcommittee, which is comprised of representatives from USGIF Member organizations.

To date, USGIF has awarded \$691,000 in scholarship funds to exceptional students. In 2013, USGIF awarded \$107,000 to 25 recipients:

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Geography

**Sergio Bernardes**  
University of Georgia  
Geography

**Crystal English**  
San Diego State  
University/University of  
California, Santa Barbara  
Geographic Information  
Science

**Abby Frazier**  
University of Hawaii  
at Manoa  
Geography

**Thomas Gertin**  
George Mason  
University  
Earth Sciences &  
Geoinformation

**Tammy E. Parece**  
Virginia Tech  
Geospatial &  
Environmental Analysis

### GRADUATE

**Steve Chignell**  
Colorado State  
University  
Watershed Science

**Thomas Davis**  
Texas A&M University,  
Corpus Christi  
Geospatial Engineering

**Grant DeLozier**  
University of Oklahoma  
Geographic Information  
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**Justin Fung**  
Columbia University  
Operations Research

**Shane Grigsby**  
University of California,  
Santa Barbara  
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**Matthew MacDonald**  
Northwest Missouri  
State University  
Geographic Information  
Science

**Thomas Muscolo**  
MIT Sloan School of  
Management  
Business Administration

**Jakeb Prickett**  
University of Arizona  
Geographic Information  
System Technology

**Richard "Mike"  
Rodriguez**  
George Mason  
University  
Geoinformatics &  
Geospatial Intelligence

### UNDERGRADUATE

**Patricia Burros**  
Texas State University,  
San Marcos  
Water Resources

**Anna Kalinowski**  
University of Missouri  
Electrical  
Engineering

**Briana Neuberger**  
Rochester Institute  
of Technology  
Imaging Science &

*Industrial/Systems  
Engineering*

**Tanya Petach**  
Harvard University  
Earth and Planetary  
Sciences

### GRADUATING HIGH SCHOOL SENIORS

**Alayna Bigalbal**  
Heritage High School,  
Leesburg, VA  
Now attending George  
Mason University

**Chandler Burke**  
St. Mark's School of  
Texas, Dallas, TX  
Now attending Rice  
University

**Robert Weston Gaddis**  
Homeschooled,  
Riverton, UT  
Now attending Missouri  
State University

**Jason Moeder**  
Bowie High School,  
Bowie, MD  
Now attending  
University of Maryland,  
College Park

**Rachel Taylor**  
West Springfield High  
School, Springfield, VA  
Now attending Brigham  
Young University

**Louis Werts III**  
Tuscarora High School,  
Leesburg, VA  
Now attending College  
of William and Mary

# TRAINING SNAPSHOT

This year, the GEOINT Symposium offers more than 30 hours of dedicated professional development with certificates of attendance. Trainings are held each afternoon from 2 to 4 p.m. Here is a preview of today's sessions:

## LiDAR Point Clouds & Modeler 101: Basic Point Cloud Exploitation

### Room 18

Discover tools and techniques for working with dense point clouds. Explore basic point cloud visualization manipulation, overlaying 2D imagery, point cloud profile tools, "stepping" profiles through dense foliage to identify features under canopy, point cloud filtering by LAS attributes, working with NITF-wrapped LAS files, and indexing data holdings in Google Earth.

## Weather Data... the Unsung GEOINT

### Room 19

This session introduces the constellation of systems, both domestic and foreign, that the U.S. government relies upon for collecting GEOINT weather data, as well as their capabilities and myriad products. Learn the basics of how these data and products are used by warfighters and the Intelligence Community to support mission planning, tactical military operations, and intelligence collection.

## Commercial EO Training and Access

### Room 20

This session will educate attendees about MyDigitalGlobe, a resource already paid for by NGA to provide all U.S. government employees and allies with access to worldwide imagery. Learn how to use this invaluable resource within your organization at no cost. There will also be a session on the R3 crisis event service to illustrate how DigitalGlobe supports crisis events worldwide.

## Commercial SAR Training

### Room 21

Learn the basics of Synthetic Aperture Radar (SAR) imaging and see why commercial spaceborne SAR can guarantee collection of open, shareable GEOINT products anywhere in the world.

- The Sound of Bats: Bats use sound waves to image the natural world in a manner similar to radar. Step outside your optical boundaries to see what the world really looks like.
- Geospatial Intelligence based on SAR Interferometry & Coherence Modeling
- Monitoring with SAR
- BlueHawk: From SAR to Web-Based Maritime Domain Awareness: See how ship detections from commercial SAR imagery can be rapidly disseminated to coalition partners using web-based technologies.

## Facial Behavioral Analysis

### Room 22-23

Body language, and more specifically facial behavior, provides large clues to the intent of a competitor in engagements and discussions. Understanding the emotional response of people we are dealing with is a great add-on skill, and multiplies our ability to properly react and adequately spot dangerous situations in advance.

## Modeling & Simulation Working Group Demos

### Room 24

The USGIF Modeling & Simulation Working Group, along with the Open Geospatial Consortium (OGC), will demonstrate how enhanced, standards-based sharing can enable more agile simulation-based training, planning, and rehearsal. Both military and civilian scenarios will demonstrate using assorted member provided data from Hawaii and Yemen.

# "THE DEVIL IS IN THE DETAILS"

## Services Outline DI2E Challenges

The Defense Intelligence Information Enterprise (DI2E) is at a watershed moment en route to implementation by 2018, GEOINT 2013\* learned during a panel discussion Wednesday.

"In addition to decision superiority, we're rapidly moving into an environment where defense intelligence has to support weapons systems superiority," said James Martin, Director for Defense Intelligence Strategy, Programs, and Resources with the Office of the Under Secretary for Defense Intelligence, who moderated a panel titled "DI2E: A Bridge Between JIE and IC ITE."

New platforms such as the Joint Strike Fighter (F-35) require smart weapons that apply intelligence for targeting at longer ranges, according to Martin.

"Supporting them requires a tremendous intel effort that, quite frankly, we haven't solved yet," he said.

This task, for now, is the province of the DoD, but input from the Intelligence Community's Information Technology Enterprise (IC ITE) would offer a more complete picture.

DI2E is anticipated to span the gap between the DoD Joint



The DI2E panel, moderated by James R. Martin of OUSD(I), discussed DI2E's potential to bridge JIE and IC ITE on Wednesday morning.

information Environment (JIE) and IC ITE, enabling critical intelligence integration.

Martin said DI2E program leads have winnowed down a set of needs to 10 focus areas that affect all customers, including access to intelligence, tagging data, and synchronizing time. Those focus areas are "evolutionary right now," Martin said, adding, "we have to get those right."

But each service has its own challenges in working with DI2E. Some of those issues stem from a common malady—lack of funding—while others tend to be mission specific. Some are also more wary of the transition.

"We're all in—with a caveat," said Patricia Guitard, deputy CIO and senior advisor for the Army G-2.

"The devil is in the details," she said. "Where do (National Geospatial-Intelligence Agency) responsibilities end, and where do the services' responsibilities begin? Even with IC ITE, that is still a question to be answered."



## WOMEN IN DEFENSE

Nearly 500 people gathered for a special lunch hosted by the Greater Tampa Bay Chapter of Women in Defense (WID) Wednesday afternoon in conjunction with GEOINT 2013\*. NGA Director Letitia Long gave a keynote address. Following Long's speech, the WID chapter presented USGIF COO Aimee McGranahan with a surprise award honoring her decade of contribution to the Defense and Intelligence Communities. Pictured from left to right are: USGIF COO Aimee McGranahan; Lisa Monnet, Greater Tampa Bay Chapter of Women in Defense membership chair; and Director Long.

**0800-0845**

**THE USGIF ARTHUR C. LUNDAHL—THOMAS C. FINNIE LIFETIME ACHIEVEMENT AWARD PRESENTATION**

Tampa Convention Center Ballroom A-C

**0845-0900**

**MASTER OF CEREMONIES**

Tampa Convention Center Ballroom A-C

**0900-0945**

**KEYNOTE: ADM WILLIAM H. MCRAVEN, U.S. NAVY, COMMANDER, U.S. SPECIAL OPERATIONS COMMAND (USSOCOM)**

Tampa Convention Center Ballroom A-C

**0945-1030**

**KEYNOTE: REP. C.A. DUTCH RUPPERSBERGER, MD-2, RANKING MEMBER, HOUSE PERMANENT SELECT COMMITTEE ON INTELLIGENCE**

Tampa Convention Center Ballroom A-C

**1030-1100**

**NETWORKING BREAK**

Tampa Convention Center Foyer

**1100-1800**

**EXHIBIT HALL OPEN**

Tampa Convention Center East & West Exhibit Halls

**1100-1130**

**KEYNOTE: LTG JOSEPH L. VOTEL, U.S. ARMY, COMMANDER, JOINT SPECIAL OPERATIONS COMMAND (JSOC)**

Tampa Convention Center Ballroom A-C

**1130-1200**

**KEYNOTE: LTG RAYMOND PALUMBO, U.S. ARMY, DIRECTOR FOR DEFENSE INTELLIGENCE (WARFIGHTER SUPPORT), OFFICE OF THE UNDER SECRETARY OF DEFENSE FOR INTELLIGENCE**

Tampa Convention Center Ballroom A-C

**1200-1230**

**KEYNOTE: ROBERT CARDILLO, DEPUTY DIRECTOR OF NATIONAL INTELLIGENCE FOR INTELLIGENCE INTEGRATION**

Tampa Convention Center Ballroom A-C

**1230-1400**

**LUNCH SERVED IN THE EXHIBIT HALL**

Tampa Convention Center East & West Exhibit Halls

**1300-1600**

**GOVERNMENT PAVILION STAGE PRESENTATIONS**

Tampa Convention Center Exhibit Hall, Booth 4105

**1300-1330 – Landsat, the National Geospatial Program (NGP), and the Civil Application Committee's Global Fiducials Program**

- Louis Driber, Geospatial Liaison to Florida, Puerto Rico, and US-VI, U.S. Geological Survey (USGS)

- Dr. Bruce F. Molnia, Executive Director, Civil Applications Committee, U.S. Geological Survey (USGS)

**1330-1400 – Intelligence Integration**

- Robert Cardillo, Deputy Director for Intelligence Integration, Office of the Director of National Intelligence (ODNI)

**1400-1430 – Activity-Based Intelligence**

- Dave Gauthier, ABI Lead, Analysis Directorate, National Geospatial-Intelligence Agency (NGA)

**1430-1500 – Revolutionizing the NGA Industry Relationship**

- Polly Shaffer, NGA Industry Innovation Advocate, National Geospatial-Intelligence Agency (NGA)

**1500-1600 – Service Intelligence and Production Centers**

**Moderator:** Lisa Spuria, Director, Analysis & Production, National Geospatial-Intelligence Agency (NGA)

- COL Nichoel E. Brooks, U.S. Army, Commander, National Ground Intelligence Center (NGIC)
- Mark Pfundstein, Director, Farragut Technical Analyst Center, Office of Naval Intelligence (ONI)
- Col. Aaron M. Prupas, U.S. Air Force, Commander, National Air and Space Intelligence Center (NASIC)
- Dr. Tom Richardson, Director, Missile and Space Intelligence Center (MSIC)

**1400-1600**

**PROFESSIONAL DEVELOPMENT: TRAINING & EDUCATION SESSIONS**

Tampa Convention Center Meeting Rooms 18-25

- Room 18 – LiDAR Point Clouds & Modeler 101: Basic Point Cloud Exploitation
- Room 19 – Weather Data ... The unsung GEOINT
- Room 20 – Commercial EO Training and Access
- Room 21 – The Sound of Bats; Geospatial Intelligence based on SAR Interferometry & Coherence Modeling; Monitoring with SAR; BlueHawk: From SAR to Web Based Maritime Domain Awareness
- Room 22-23 – Facial Behavioral Analysis
- Room 24 – Modeling & Simulation Working Group Demos

**1400-1600**

**PANEL: THE GLOBAL SOF NETWORK: OPERATIONAL PLANNING FOR THE GLOBAL MISSION**

Tampa Convention Center Ballroom A-C

**Moderator:** Dr. Keenan D. Yoho, Senior Special Advisor, US-SOCOM; and Assistant Professor, Department of Operations & Logistics Management, Naval Postgraduate School

- LTC Wolfgang Beyer, Germany
- LTC Pablo Delgado, Spain
- Capt Steve Wisotzki, U.S. Navy, Commanding Officer, Center for SEAL and SWCC
- SWE Armed Forces HQ

**1600-1800**

**GEOINT 2013 CLOSING RECEPTION IN THE EXHIBIT HALL**

Tampa Convention Center East & West Exhibit Halls

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