geoint 2010 symposium
United States Geospatial Intelligence Foundation
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SHOWDAILY 4
DAY

Produced by *Geospatial Intelligence Forum*

ISR in the Afghan Fight

Koziol outlines wide-ranging efforts to develop a comprehensive, integrated picture of all aspects of operations.

Plans are underway to create a light detection and ranging (LiDAR) map of the entire nation of Afghanistan, Air Force Lieutenant General John C. Koziol told GEOINT 2010 Symposium attendees Wednesday morning.

Koziol, who heads the Department of Defense ISR Task Force, reported on a wide range of GEOINT and ISR programs, both current and planned, that hold out the promise of a comprehensive, integrated picture of all aspects of operations in that country.

The LiDAR project, Koziol explained, got rolling recently with the arrival of a Gulfstream aircraft, which along with other LiDAR assets will put together high resolution imagery of the country over the course of the next few months.

"Can you imagine the impact that's going to have for both military and civilian operations?" Koziol asked. "It's critical. Planners for a mission going into a village can see in three dimensions, understanding that a wall is so high,

and the dimensions of a building are this. It's an unbelievable capability."

That initiative is just one of a number of other innovative efforts being conducted on a rapid basis to support stepped-up coalition operations. "We're putting this capability out as fast as we can," Koziol said. "Don't waste our time developing sensors. We are on a critical pace right now to get capability into theater.

Panel Eyes the Enterprise

Technology experts address acquisition and governance.

In a lively and wide-ranging discussion Wednesday morning, three of the leaders at the intersection of defense and intelligence discussed the acquisition and governance issues involved in managing information.

Panelists at the general session, titled, "Defense Intelligence Information Enterprise (DI2E) Emerging Challenges Driven by New Capabilities," were Kevin P. Meiners, acting deputy under secretary of defense (portfolio, programs and resources) in the Office of the Under Secretary of Defense for Intelligence; Dawn Meyerriecks, assistant director of national intelligence of acquisition and technology, Office of the Director of National Intelligence;

Geo-Enterprise On-Demand Solution

Northrop Grumman's help to Boy Scouts highlights capabilities.

Northrop Grumman Corporation has announced the donation of a robust geospatial data set and capability to the Boy Scouts of America in support of their 100th anniversary and to help further

scouting education. The company used GEOINT 2010 to present the data to the Boy Scouts.

The data set, which includes high-resolution light detection and ranging (LiDAR) data and electro-

optical imagery over the Philmont Scout Ranch and Cimarron, N.M., is representative of the company's complete, end-to-end geospatial capability. The company utilized its airborne collection

capability, including sensors and aircraft, its advanced processing capability, and extrapolated key information from the data which will help the Boy Scouts garner

Let's see what you have, and try to figure out how to get them on these platforms."

One huge success, he noted, has been the deployment of Project Liberty and medium altitude reconnaissance surveillance system aircraft, which together with UAVs have been providing huge amounts of full motion video feeds. That information is being processed in real time in theater to great effect, Koziol said. But to further enhance its potential, a program expected to go to initial operating capability next month will allow for reach-back processing in the United States, where the greater resources available in terms of linguists and signals intelligence analysis will increase its value.

Commercial satellite imagery has also been having a major impact in Southwest Asia. "Commercial imagery is critical in both Iraq and Afghanistan," Koziol said. He recalled a conversation with a young Marine in southern Afghanistan this past spring, who told him, "All I want is a picture. I just want something I can look at before I go on a combat patrol."

"So commercial imagery is very valuable to our warfighters, and to our civilian partners. We can share information with USAID and non-governmental organizations. It helps build part-nerships and helps them do their mission, and also helps us do our military mission at the same time," he said.

The contributions of geospatial technology to the counterinsurgency fight, he indicated, included precise geolocation information, the tracking of individuals, knowledge of urban features, "place context" for multi-INT fusion, and information on patterns of life.

Koziol also identified a number of areas where more is needed, however, including ground moving target indicator capability, which he said is seriously short supply in Afghanistan. An even greater need, he suggested, is for wide area persistent surveillance. "We can't keep pace with the demand," Koziol acknowledged, adding that Secretary of Defense Robert Gates had allowed for a reprogramming of funds to help meet that demand.

Indeed, the need for wide and persistent surveillance is such that it is the only area that Gates has allowed the ISR Task Force to pursue a project with a deadline more than a year away. The program will provide an aerostat the size of a football field, which will carry a variety of sensors and be able to stay aloft for three to four weeks at a time.

Still, even all those technological marvels leave the problem of managing and putting to practical use so much information. "It's about PED [processing, exploitation and dissemination] and analytic tools to support our people on the ground. We don't have the time to try to discover data anymore, especially when we're putting wide area surveillance into country rapidly now. We have to increase discoverability, allow the analyst on the ground, looking at a massive amount of data, to not have to shift through all of this," Koziol said.

Koziol appealed directly to industry, particularly as represented by GEOINT exhibitors, for aid in tackling the PED issue. "It's all about PED now. That's why I'm looking forward to going through the exhibits here. I need help."

The general was asked after the conclusion of his prepared remarks about what he considered to be the chief successes of the ISR Task Force, which was recently elevated to permanent status. He offered the following:
• Integration of ISR assets
• Development of the Intelligence Integration Architecture
• Integration of intelligence disciplines, including GEOINT, SIGINT, and LiDAR.

Computing and Storage Solutions
SGI showcases fast, scaleable supercomputer and storage solutions.

SGI, a specialist in technical computing, is showcasing its leading SGI high performance computing (HPC) and storage solutions, including Altix UV, the world's fastest, most scalable supercomputer.

"The GEOINT 2010 Symposium is the largest geospatial intelligence event in the United States. SGI is proud to showcase its groundbreaking HPC and storage technologies at this pivotal event, as we are committed to the defense, intelligence and homeland security communities," said Jim Brinker, vice president of federal sales at SGI.

SGI products on display at the GEOINT 2010 Symposium booth #129 will include:

High Performance Computing with Altix UV: With industry-leading I/O and memory scalability in an open standard design, the Altix UV is suited for demanding data-intensive intelligence and defense programs. It is the industry's most scalable shared memory system, with 16 to 2,048 cores, with architectural provisioning for up to 262,144 cores, while supporting up to 16 terabytes of global shared memory in a single system image (SSI).

Altix UV 10—One of the highest performing quad-socket rackmount servers available, it is the cost-effective entry to large-memory systems. Altix UV enhances the range of data-intensive applications addressed by the Altix UV product family, with up to 32 processor cores and 512GB of shared memory for a maximum of 289 gigaflops per server.

Altix UV 100—Addressing the mid-range market, Altix UV 100 is based on an industry-standard 19-inch rackmount 3U form factor. It scales to 96 sockets (768 cores) and 6TB of shared memory in two racks for up to 6.9 teraflops of compute power in a single system image.

For storage systems, SGI's booth focuses InfiniteStorage 5000 and Copan 400.

InfiniteStorage 5000—InfiniteStorage 5000 provides high performance and scalability, multi-protocol host connectivity, flexible drive support, data security features and advanced energy savings.

Copan 400—The Copan 400 platform is the next generation energy-efficient, persistent data storage solution, providing double the density of previous generation Copan products with capacity of nearly 1.8 petabytes in a single cabinet. It enables over four times the performance with up to 23TB per hour in throughput at full bandwidth, while enabling strict control over system power budgets.

Cell Phone Full Motion Video

PAR Government Systems Corporation develops cell phone apps for FMV.

Currently there is an increasing demand for GEOINT imagery viewer applications that are able to provide situational awareness, mission operation, close air support and communications to the warfighter. Warfighters need a system which is easy to use, readily available and portable; ideally, a handheld device.

PAR Government Systems Corporation's (PGSC) vision is to integrate a mobile geospatial intelligence application on a smart phone. With the latest technology enhancements in the phone industry and content management media player products, it is reasonable to assume many of the armed forces personnel have direct hands-on experience with the technology. The company intends to migrate a geospatial application onto a media player and then a smart phone, capable of selecting and viewing geospatial imagery and streaming full motion video (FMV) from multiple sources.

The devices available today that support geospatial imagery viewers are above the preferred weight class for the warfighter. The warfighter is already burdened with excessive amounts of weight, so minimizing system weight is critical. The device should be similar in size and weight of a smart phone.

PGSC is developing a mobile geospatial intelligence application. The first phase of development demonstrates the capability of retrieving and displaying real-time streaming videos via a mobile device. The first stage will be incorporated on a Windows-based tablet device and the second will be on a media player with the ultimate implementation on a smart phone. Recognizing there are multiple smart phone operating systems, PGSC's vision is to develop applications for all smart phone operating systems.

For implementation on a Windows-based Tablet, the transfer or port the application to the Tablet was relatively straightforward. This will demonstrate a windows-mobile based application on a wireless mobile device and is currently on display at the booth.

The media player implementation will be on the Dell Streak, a mobile handheld device. The Streak was selected due to its popularity and use of a similar operating system to many of the enhanced smart phones. It has the Android operating system that forces within SOCOM are already using. This implementation uses a popular device which results in little to no training of the warfighter. Initially, the Streak will not be as robust as the Tablet due to the complexity of the Android OS; however, further development will bring it closer to a production system.

Adding menu items for sub applications to provide messaging, recommended delivery packages and alternative solutions will be the final stage. This requires a menu list development for government packages that can be selected, dependent on the area of engagement. Once package(s) are selected from the application menu, the warfighter will transmit "Email/text/call" to the command for execution.

The final phase will focused on development and incorporation of the application into multiple smart phone operating systems to include the Apple environment targeting the iPad or iPhone devices.

The company also believes that adoption of cell phone technology will minimize the overall training cost associated with this device. The training will be limited to the application applied.
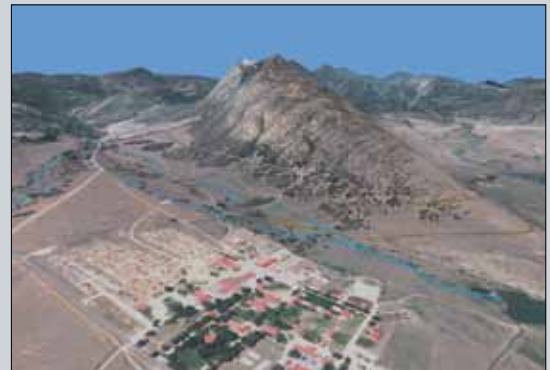
a better understanding of their environment while at the ranch.

In Northrop Grumman's continued partnership with the Boy Scouts, the company will be expanding the types of data that can benefit the scouts and use the information for research and development.

"Northrop Grumman is proud to use our technology to deliver this important data to the Boy Scouts of America," said John Olesak, Northrop Grumman vice president of integrated intelligence systems. "We congratulate the Boy Scouts on their 100-year anniversary and hope that this data will enhance the Philmont experience for Boy Scouts for generations to come."

The data will be delivered on one of Northrop Grumman's state-of-the-art geospatial appliances. Partners on the project included ESRI and TerraGo.

When asked to characterize Northrop's GEOINT 2010 efforts, Brett Cameron, CJMTK program manager said, "The most important message is Northrop Grumman's geo-enterprise on-demand solution. Whatever the customer needs, we have the ability to tailor our capabilities to meet those needs. Based on our geo-enterprise architecture—and in part our acquisition of 3001 in 2008—we offer end-to-end geospatial services. That includes collecting and producing products and/or disseminating information out to the field, and everything in between."

Tech Talk Cybersecurity

BAE Systems tackles cybersecurity in the geospatial world.

BY LAURA DAVIS

In a presentation to GEOINT attendees at the Tech Talks Theater, **BAE**'s Jim Youker outlined ways that geospatial tactics, techniques and procedures could enhance cybersecurity, particularly the CYBERCOM mission. With an aim to "challenge you to think a little bit differently: specifically how tactics, techniques procedures from the geospatial industry could be used to develop or support the cyberthreat environment we now find ourselves in," he began by citing remarks from the Director of National Intelligence conveying that "'critical infrastructure is severely threatened.'" Further, he emphasized that critical systems ranging from transportation to

C4ISR were dependent upon IT and potentially vulnerable to attack, with attacks defined as "denials of service, potentially infecting our host servers with botnets, or exfiltrations of data."

Youker continued by saying, "We have the ability to develop tailored and flexible workflows, attain disparate sources of imagery and information, co-registrate all that information together to build a particular set of products, and then disseminate those products in common formats. How we do that becomes our geospatial tactics, techniques and procedures… we now have the opportunity to use those TTPs to contribute to the nonkinetic cyber operations

just as effectively by mapping layers of information, adding those to a common operating picture."

Geospatial science is uniquely positioned to improve situational awareness, as its focus on both physical and temporal features can not only provide insight into what infrastructure and networks are at risk, but also analyze where the risk is likely to originate. Youker asserted that as geospatial information is attained, "gathering pre- and post-event incidences and linking those to familiar associations that might harbor hostile intentions could indicate particular patterns of life that could help us define indications and warnings in the future."

Youker closed the session by emphasizing the role of geospatial technology in determining "who worked with who, who used what physical resources to garner that effort, and what infrastructure was affected." By combining and analyzing disparate information sources, geospatial intelligence can greatly supplement CYBERCOM's common operating picture and cyber situational awareness generally. As Youker summarized, "If we can gather some sort of pattern of life understanding of what happened, we might be able to be more predictive of the future and communicate that information in a geospatial context."

Leveraging GeoPDF Technology

TerraGo highlights advanced geospatial applications.

TerraGo Technologies, a provider of geospatial collaboration software solutions, is demonstrating innovative TerraGo GeoPDF solutions for accessing, capturing and sharing geospatial intelligence at the GEOINT 2010 Symposium in booth 363. The TerraGo Innovation Lab will showcase how to move beyond simply publishing maps and imagery to deploying GeoPDF technology as a platform for advanced geospatial applications. The demonstrations will highlight joint solutions from Adobe, BAE Systems, DigitalGlobe, Esri, Hitachi, Intergraph, Northrop Grumman and others. The presentations will also include new partner software such as Esri ArcGIS 10 and Adobe Acrobat X and Reader X.

Their booth centers around five stations and features unique scenarios including:

Real-Time GEOINT for Enhanced Situational Awareness — Use TerraGo GeoPDF solutions to capture on-the-ground intelligence and share it with command. Technology fea-

tured: GeoPDF created from Northrop Grumman imagery, the Hitachi StarBoard for command and control visualization, TerraGo Mobile on Trimble hardware, and TerraGo Toolbar with Adobe software.

Custom GeoPDF Intelligence Products for Battlespace Awareness — Browse geospatial assets online and create GeoPDF on the fly for field exploitation. Featured technology: GeoPDF created from Northrop Grumman imagery, Esri ArcGIS Server, TerraGo Publisher, and TerraGo Mobile.

3D GeoPDF for Advanced Terrain Visualization — Present LiDAR and other sources of elevation data as georeferenced 3D intelligence products. Enable users to reference coordinates and elevation as well as measure distance. Featured technology: ESRI ArcGIS 10 and ArcScene, TerraGo 3D Composer, and TerraGo Toolbar with Adobe software.

Just-in-Time Imagery Integrated with GeoPDF for Real-Time Intelligence — Update

GeoPDF with the latest imagery via web map services to deliver timely information in an integrated, spatially aware intelligence product. Featured technology: GeoPDF created from Northrop Grumman imagery, Esri ArcGIS Server, and TerraGo Toolbar with Adobe software.

The Advantages of GeoPDF for Accessing, Capturing and Sharing GEOINT — Leverage GeoPDF to enable wide distribution of vital intelligence, personalization of geospatial products, and collaboration throughout the chain of command. Featured technology: GeoPDF created from DigitalGlobe imagery, GeoPDF MapBook, and TerraGo Toolbar with Adobe software.

The innovation lab will also feature the complete line of integrated company software suites for creating and exploiting geospatial PDF assets, including TerraGo Composer as well as TerraGo Publisher for partner applications such as Intergraph GeoMedia and BAE SOCET GXP.

and Dr. Lisa Porter, director of the Intelligence Advanced Research Projects Agency.

A relatively new concept, the DI2E is a network framework that embodies multi-intelligence, user-defined services with the goal of flowing information to all users, including those at the tactical edge, as well as from the field back to decision-makers.

"The idea behind DI2E was a simple one," Meiners explained. "General Clapper had come up with his defense intel strategy, which talked about the defense intel enterprise, which includes everything. As we started working through in our office how to bring things together, we added an additional "i" In there, which was the Defense Intelligence Information Enterprise.

"The idea is that governance is the key. The key is not documentation, but the governance—getting the different people together," Meiners added.

In her remarks, Meyerriecks addressed technology delivery as a continuum. "We have to figure out how to bring the scientists and technologists together with procurement and acquisition in a way that's responsible from a taxpayer perspective, and also from the point where the scientists and technologists will actually talk to and consider the fact that maybe transition is important, and they might have to deal with those acquisition wonks.

"We spend a lot of time talking about the sea change that we're trying to infuse in the community," Meyerriecks continued. "What that takes is incredible maturity and leadership on both sides. Wherever you sit in the spectrum, just remember that we are not your enemies. We're all about trying to deliver capability to the field. That's a sea change from an oversight perspective that I'm really pushing with my team."

Meyerriecks acknowledged that science and technology experts will never be able to anticipate every question that field commanders might have about the mountains of data that is available. That's why the focus should be on creating a framework that, like Apple's iPhone, enables users to develop their own applications.

Porter also addressed the fact that technology developers have to deal with the world as it is, rather than what might facilitate program design. "In the intelligence community, we can't make the assumption that we control the sensor and have exquisite control over how we acquire the information. For example, we have a program that is trying to make sure we can process massive amounts of what we call OPV—other people's video. It's not video that we control ourselves. But we can't dictate the terms on which we get information. All of the programs in our analysis office are really thinking about that," she said.

Extracting Information from Imagery
ITT Visual Information Solutions release latest software.

ITT Visual Information Solutions, a subsidiary of ITT Corporation and a developer of software products for data visualization and image analysis, just announced the release of ENVI 4.8, the latest version of its premier software solution for extracting information from geospatial imagery. This release significantly streamlines the process of adding image analysis to the workflows of image analysts, researchers and GIS professionals across industries, allowing users to take advantage of the important information imagery provides.

ENVI 4.8 delivers complete integration with the ArcGIS platform from Esri, now making image analysis tools accessible directly from within the ArcGIS interface. In addition, the release includes functionality for viewing LiDAR data in a high performance display, as well as a new, automated process for viewshed analysis, giving users situational awareness from fixed vantage points. Releasing concurrently with ENVI 4.8, ITT also announces ENVI for ArcGIS Server, which delivers ENVI image analysis tools to users across entire organizations using ArcGIS Server.

"As geospatial information becomes an increasingly vital element for decision making across industries, from defense and intelligence to urban planning and natural resource management, we have consistently delivered new ENVI capabilities to make the analysis of imagery less time-consuming and less complex," said Richard Cooke, president of ITT Visual Information Solutions.

ENVI 4.8 completes the third phase of ITT's integration effort with ArcGIS. This release allows ArcGIS users in both desktop and server environments to access ENVI image analysis tools from a familiar ArcGIS toolbox.

The new software also makes it easier to add additional geospatial information to the overall image analysis workflow by extending ENVI's LiDAR functionality to include a three-dimensional viewer that works efficiently with large datasets. This enhancement helps users visually interpret LiDAR data to get a more complete understanding of an area of interest. Additionally, ENVI 4.8 introduces viewshed analysis process that guides users through multiple steps of determining which geographic elements are viewable from a fixed vantage point.

Better 3D Capabilities

Zebra Imaging brings third dimension to the warfighter.

Zebra Imaging announced the ZScape family of 3D capabilities and services, the first milestone in the '…new era of GEOINT' at GEOINT 2010. ZScape encompasses a wide variety of 3D tools and applications ranging from tactical digital holography for the warfighter and the associated means of production, to three-dimensional, near real-time dynamic displays, and software solutions for data manipulation and exploitation.

"The new era of GEOINT encompasses a wide range of technology advances in sensors, applications, and priorities. Most importantly, it moves from a focus exclusively on terrain and elevation to a layered approach, adding and amplifying the geospatial foundation layers with additional and supplemental information. This approach provides the soldier at every echelon information pertinent to the mission," according to Zebra's manager of defense and intelligence programs, CW4 (Ret.) Rick Black.

ZScape currently offers the warfighter a range of tools for creation, visualization, comprehension and application of current and near term 3D sensor data. This suite includes combat-proven tactical digital holography, with nearly 9,000 unique holograms shipped to Afghanistan and Iraq over the past four years; the production equipment and tools that generate tactical digital holography; and capabilities to manipulate and exploit three dimensional data from a wide range of Department of Defense, coalition/allied, and commercial sources.

The company also announced that the U.S. Army has accepted delivery and placed into service the world's first third generation holographic imagers, the M2, developed and produced by Zebra Imaging. The first M2 was accepted on June 24, the second on September 30, and the two new imagers are now producing tactical holography in support of U.S. warfighters.

Zebra Imaging's M2 is the next generation, deployment-capable, high speed imager and provides greater capability in a smaller footprint than the predecessors, and according to Zebra Vice President of Operations Brian Hill, that means tactical holograms can get to the war fighter faster: "A down-range capable machine, stationed in Afghanistan or Iraq, slashes lead time for tactical holography to the warfighter from weeks to hours, providing critical information about the battlespace for planning, mission execution and debrief."

The M2 imager is designed for shelter or command post deployment, in order to place the capability as close to the warfighter as possible. An extensive upgrade from its predecessor M1, M2 features faster imaging times, more detailed holographic images, compatibility with indoor environments, and ships and operates more efficiently. Zebra tactical holography, produced under the U.S. Army's Tactical Battlefield Visualization program, provides the warfighter with an in-depth understanding of the terrain and the physical environment in three dimensions, complementing traditional two-dimensional maps and computer representation.

Hill concluded, "Acceptance of M2, combined with recently awarded contracts for hologram production, and the potential for deployment of the imager downrange means this critical technology will become an even more important tool for the warfighter."

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**Daily Shuttles To
& From the Convention Center**

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Shuttle Service is available daily with buses departing from the Hilton New Orleans Riverside and Sheraton New Orleans hotels.

Tuesday, Nov. 2 - Thursday, Nov. 4 . . . . **7:00 a.m. - 7:00 p.m.**

Allder Golf Classic

Buses depart at 6:30 a.m. from the Sheraton New Orleans and Hilton New Orleans Riverside hotels.
Monday, Nov. 1 . . . . **8:00 a.m. - 4:00 p.m.**

**Taste of New Orleans Welcome Reception
at Generations Hall with Chef Paul Prudhomme**

Buses depart at 6:30 p.m. from the Sheraton New Orleans and Hilton New Orleans Riverside hotels and will run continuously until 10:00 p.m.
Monday, Nov. 1 . . . . **7:00 p.m. - 10:00 p.m.**

**Jerseys & Jeans Closing Celebration
at the Louisiana Superdome**

Buses depart at 6:30 p.m. from the Sheraton New Orleans and Hilton New Orleans Riverside hotels and will run continuously until 10:00 p.m.
Thursday, Nov. 4 . . . . **7:00 p.m. - 10:00 p.m.**

MEALS

Continental breakfast is available to attendees with Full Symposium Passes in the New Orleans Theater Mid-House entrance on Tuesday, Wednesday and Thursday from 7:00 a.m. - 8:00 a.m.

Lunch for all attendees and exhibit booth personnel is served each day in Exhibit Hall E.

Tuesday, Nov. 2 . . . . **12:30 p.m. - 2:00 p.m.**
Wednesday, Nov. 3 . . . . **12:30 p.m. - 2:00 p.m.**
Thursday, Nov. 4 . . . . **12:00 p.m. - 2:00 p.m.**

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Solicitation of any kind is prohibited at the GEOINT 2010 Symposium. By registering to attend, you acknowledge this policy and agree that you will not advertise, represent or distribute literature for products or services to our exhibitors, attendees or staff without the express written approval of USGIF. Any attendee that violates this policy will forfeit their registration credentials.

PRESS ROOM

Rooms 263 and 264

All members of the media must check in at registration to claim their badge before heading to the press room to obtain their on-site media credentials. Proper proof of working media affiliation is required for any and all media that have not pre-registered.

Monday, Nov. 1 . . . . 2:00 p.m. - 5:00 p.m.
Tuesday, Nov. 2 . . . . 7:30 a.m. - 5:00 p.m.
Wednesday, Nov. 3 . . . . 7:30 a.m. - 5:00 p.m.
Thursday, Nov. 4 . . . . .7:30 a.m. - 5:00 p.m.

REGISTRATION HOURS

Exhibit Hall E Foyer

Sunday, Oct. 31 . . . . 3:00 p.m. - 6:00 p.m.
Monday, Nov. 1 . . . . 8:00 a.m. - 7:00 p.m.
Tuesday, Nov. 2 . . . . 6:30 a.m. - 6:00 p.m.
Wednesday, Nov. 3 . . . . 7:00 a.m. - 6:00 p.m.
Thursday, Nov. 4 . . . . 7:30 a.m. - 6:00 p.m.

EXHIBIT HALL HOURS

Exhibit Hall E

Tuesday, Nov. 2 . . . . **11:00 a.m. - 6:00 p.m.**
Wednesday, Nov. 3 . . . . **11:00 a.m. - 6:00 p.m.**
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SHOW POLICIES

BADGES & ATTENDANCE

GEOINT 2010 badges are non-transferable. Badges must be worn and visible at ALL Symposium-related activities.

One-Day Exhibit Only Pass holders may upgrade to a Full Symposium Pass to attend Symposium sessions by paying the difference in the rate on the date of change. Badges may not be shared.

DRESS CODE

USGIF suggests business attire for all conference sessions, breakout tracks and the exhibit hall. Military officers and enlisted personnel are encouraged to wear a duty uniform or business suit. Casual attire is recommended for the Taste of New Orleans Welcome Reception at Generations Hall and GEOWalk Corporate Hospitality Night. Your favorite football team's jersey and jeans are recommended for the Jerseys & Jeans Closing Celebration at the Louisiana Superdome.

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As a courtesy to all speakers and your fellow attendees, please place all mobile devices in silent mode during all Symposium sessions. In addition, all cell phones must be answered outside of the general session and meeting rooms.

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TODAY'S SESSION PARTICIPANTS

MS. BARBARA ALEXANDER

Director, Collections Requirements Division, Office of Intelligence and Analysis, Department of Homeland Security

Barbara Alexander is responsible for ensuring that the intelligence information needs of DHS, its operational components, and its state, local and tribal customers are articulated, clarified and assigned to the intelligence community and other partners in order to get the most complete answer that supports the department's missions against all hazards and all threats.

LIEUTENANT GENERAL RONALD L. BURGESS JR., U.S. ARMY

Director, Defense Intelligence Agency

Lieutenant General Ronald L. Burgess Jr. became the 17th director of the Defense Intelligence Agency on March 18, 2009. He was previously dual-hatted twice as the acting principal director of national intelligence from May 2006 to October 2007, and January to February 2009.

MR. WILLIAM N. BRYAN

Deputy Assistant Secretary, Infrastructure Security and Energy Restoration, Office of Electricity Delivery and Energy Reliability, Department of Energy

As a career senior executive, William N. Bryan oversees the collection, analysis and dissemination of vital information to all involved in energy response and restoration efforts.

LIEUTENANT COLONEL AL DI LEONARDO, U.S. ARMY

Skope Director, U.S. Special Operations Command

Lieutenant Colonel Al Di Leonardo is a decorated combat veteran of U.S. special operations, and has spent the last four years leading small groups of innovators for U.S. Special Operations Command.

DR. JEROME E. (JERRY) DOBSON

Professor, University of Kansas; President, American Geographical Society

Jerome E. (Jerry) Dobson is a professor of geography at the University of Kansas and president of the American Geographical Society. Dobson recently served as a Jefferson Science Fellow and senior scientist in the Office of the Geographer and Global Issues, U. S. Department of State.

MR. BOB GOURLEY

Founder and Chief Technology Officer, Crucial Point LLC; Editor, CTOvision.com

Bob Gourley is the editor of CTOvision.com and the founder and chief technology officer of Crucial Point LLC, a technology research and advisory firm. Gourley's first career was as a naval intelligence officer, which included operational tours afloat and ashore.

MR. JEFF JONAS

Chief Scientist, IBM Entity Analytics; IBM Distinguished Engineer, IBM Software Group

Jeff Jonas is chief scientist, IBM Entity Analytics Group and an IBM distinguished engineer. The IBM Entity Analytics Group was formed based on technologies developed by Systems Research & Development (SRD), founded by Jonas in 1984, and acquired by IBM in January 2005.

MR. JOHN KELLY

Founder and Lead Scientist, Morningside Analytics

John Kelly's research blends social network analysis, content analysis and statistics to solve the problem of making complex online networks visible and understandable. Kelly has directed studies of numerous domestic and international social media networks, with a focus on mapping the cyber-social geography of key societies.

MR. SCOT C. LOPP

Deputy Director, Intelligence and Action Integration, National Counterproliferation Center, Office of the Director of National Intelligence

Scot C. Lopp joined the ODNI as a cadre Senior National Intelligence Service officer in February 2008, after serving 25 years with the National Geospatial-Intelligence Agency and its predecessor organizations.

MS. ELIZABETH LYON

Geographer, Engineer Research and Development Center, U.S. Army Corps of Engineers

Elizabeth Lyon is a geographer with the U.S. Army Corps of Engineers, Engineer Research and Development Center. Lyon's work focuses on human and geographic related research, modeling, simulation and data requirements for civil-military operations.

MR. JOHN L. MORRIS

Executive Director, National Systems and Chief Scientist, Riverside Research Institute

Effective 1 July 2008, John L. Morris became executive director, National Systems Directorate, Riverside Research Institute (RRI), and was also given a corporate-wide responsibility as chief scientist to help integrate RRI's diverse technical activities.

MR. DARRYL G. MURDOCK, PH.D.

Intelligence Community Account Manager, Esri

Darryl G. Murdock has been a practicing geospatial professional for the past 15 years and serves as co-chair for the USGIF Tradecraft sub-committee. Murdock is a graduate of the United States Military Academy at West Point and received his master's degree and Ph.D. from the State University of New York College of Environmental Science and Forestry at Syracuse.

MR. JOHN (JACK) P.K. O'CONNOR

Chief Learning Officer, National Geospatial-Intelligence Agency

John (Jack) P.K. O'Connor was selected as the first chief learning officer for the National Geospatial-Intelligence Agency in November 2009. Previously, O'Connor spent most of his career managing analytic and support operations.

CAPTAIN J. SCOTT PARADIS, U.S. COAST GUARD

Chief, Prevention Division, Eighth Coast Guard District

Captain J. Scott Paradis is currently serving as Chief, Prevention Division, Coast Guard District Eight. His tours have included the National Response Center in Coast Guard Headquarters Washington, DC; and chief, Port Operations Department at Marine Safety Office Huntington, W.V.

DR. CHRISTOPHER TUCKER

Principal, Yale House Ventures

Christopher Tucker manages Yale House Ventures, a portfolio of social ventures and technology companies that span the worlds of energy, geospatial, sensor, cybersecurity, open source and social media technologies, across the domains of defense/intelligence, international affairs, civilian government, commercial industry, NGOs and academia.

MAJOR GENERAL SUZANNE M. (ZAN) VAUTRINOT, U.S. AIR FORCE

Director of Plans and Policy, U.S. Cyber Command, Fort George G. Meade, Md.

Major General Suzanne M. (Zan) Vautrinot is directly responsible to the U.S. CYBERCOM commander for the development and coordination of existing and emerging issues as related to cyberspace operations policy, doctrine, organization, capabilities and requirements.

MR. DOUGLAS E. WEINSTEIN

Policy Analyst, Office of the Under Secretary of Defense for Intelligence

Douglas E. Weinstein is a policy analyst in the Office of the Under Secretary of Defense for Intelligence (OUSDI) sociocultural analysis program. As a policy analyst, Weinstein is responsible for defense intelligence sociocultural analysis program development and oversight of the application and integration of the social sciences to address defense intelligence requirements.

TODAY'S SESSION DESCRIPTIONS

BREAKOUT SESSIONS
10:00 a.m. - 12:00 p.m.

Cyber-Location Nexus

Room 265

The real world, defined in geographic space, has collided with the virtual world, leading to a host of complex policy and national security issues. Here, at the cyber-location nexus, bad actors can target infrastructure in particular locations entirely through cyberspace. Natural and manmade disasters in a particular geography hosting critical infrastructure can have profound impacts in cyberspace. How well versed are we at surviving the cyber-location nexus? What actions are being taken to ensure that cyberspace is being mapped geographically? What steps are being taken to geospatially enable the attribution of bad actors in cyberspace? Do we really know "where" our cyber-infrastructure is? Find out the answers to these by attending this session on Thursday afternoon.

Introductory Keynote - **Major General Suzanne M. (Zan) Vautrinot**, U.S. Air Force, Director of Plans and Policy, U.S. Cyber Command, Fort George G. Meade, Md.

Moderator - **Mr. Jeff Jonas**, Chief Scientist, IBM Entity Analytics; IBM Distinguished Engineer, IBM Software Group

- **Mr. Bob Gourley**, Founder and Chief Technology Officer, Crucial Point LLC; Editor, CTOvision.com
- **Mr. John Kelly**, Founder and Lead Scientist, Morningside Analytics

Mastering the Human Domain: Socio-Cultural Intelligence and Analysis

Room 273

Although we have entered an era of low intensity conflict characterized by population-centric operations, the U.S. national security community is still not organized to provide policymakers, commanders, warfighters and mission partners with a comprehensive grasp of human domain. Whether called human terrain, human geography or activity-based intelligence, the GEOINT Community has begun to take steps at organizing and analyzing cultural information geospatially. But to what extent is knowledge of the "human domain" intelligence? Or is it a basic form of "understanding" that forces must have in order to be effective in expeditionary security operations? Learn about where we should be going during this session.

Moderator - **Dr. Christopher Tucker**, Principal, Yale House Ventures

- **Lieutenant Colonel Al Di Leonardo**, U.S. Army, Skope Director, U.S. Special Operations Command
- **Dr. Jerome E. (Jerry) Dobson**, Professor, University of Kansas; President, American Geographical Society
- **Ms. Elizabeth Lyon**, Geographer, Engineer Research and Development Center, U.S. Army Corps of Engineers
- **Mr. Douglas E. Weinstein**, Policy Analyst, Office of the Under Secretary of Defense for Intelligence

GEOINT and MASINT: Operations Other Than War

Room 278

MASINT and GEOINT together can bring the power of precision science combined with pinpoint accuracy to many activities across the spectrum of civil applications in ways we have never before considered, except in futuristic novels. This breakout session will examine applications, capabilities, potentials, enablers and roadblocks for those scenarios that represent non-traditional uses of GEOINT and MASINT.

Introductory Keynote - **Mr. Scot Lopp**, Deputy Director, Intelligence and Action Integration, National Counterproliferation Center, Office of the Director of National Intelligence

Moderators - **Mr. John L. Morris**, Chief Scientist, Riverside Research Institute; and **James B. Longley**, Executive Director, Advanced Technical Intelligence Association

- **Ms. Barbara Alexander**, Director, Collections Requirements Division, Office of Intelligence and Analysis, Department of Homeland Security
- **Mr. William N. Bryan**, Deputy Assistant Secretary, Infrastructure Security and Energy Restoration, Office of Electricity Delivery and Energy Reliability, Department of Energy
- **Captain J. Scott Paradis**, U.S. Coast Guard, Chief, Prevention Division, Eighth Coast Guard District

LUNCHTIME ROUNDTABLE

Tradecraft Certification

12:00 p.m. - 2:00 p.m. in Room 275

Moderators - **Ms. Karen Metzler**, Northrop Grumman Corp., and **Mr. Darryl Murdock**, Esri

- **Mr. Craig Haney**, National Geospatial-Intelligence Agency
- **Ms. Jane Homeyer**, Office of the Director of National Intelligence
- **Dr. Reese Madsen**, Office of the Under Secretary of Defense for Intelligence
- **Mr. John (Jack) P.K. O'Connor**, Chief Learning Officer, National Geospatial-Intelligence Agency

INTEROPERABILITY TECH TALKS

9:00 a.m. - 4:30 p.m. in Tech Talks Theater in Exhibit Hall F

Have you battled through learning, developing and implementing services and solutions using geospatial open standards? Do you have lessons learned, best practices or just tips and tricks for standing up an OGC-compliant Web processing service? Exhibitors and attendees are invited to listen to the Interoperability Tech Talks from 9 a.m. until 10:30 a.m. on Wednesday and Thursday during the GEOINT 2010 Symposium.

- **Mr. Dave Kolas**, Scientist, Raytheon BBN Technologies
- **Mr. Edward Lane**, ER2 Designated Intelligence Community Element (DICE) PM, NRO and **Glenn Cruickshank**, ER2 Program, Specialist Leader, Deloitte Consulting LLP
- **Mr. Donnie B. Self**, Chief, Sensor Assimilation Division, National Geospatial-Intelligence Agency
- **Mr. Mark Reichardt**, President and CEO, Open Geospatial Consortium
- **Dr. Sean Gorman**, President and Founder, FortiusOne

ADDITIONAL EXHIBITORS

FORTINET
Booth #530
www.fortinet.com

Fortinet's security solutions provide integrated, multi-layer protection that enables government institutions to safeguard their networks, content, and applications against increasingly sophisticated threats. Powered by specialized FortiASIC processors purpose-built for content and network processing, FortiGate systems provide full, multi-layered security that scales from remote-office appliances to multi-gigabit data center platforms.

Contact: **Gary Limon**
Phone: **703-709-5011**
Email: **federalsales@fortinet.com**

I3 ICS, THE DESERT WATER
Booth #865
www.i3ics.com

i3 ICS's RV, the Desert Water, made its maiden voyage last August to support Major General Custer's initiative at Empire Challenge 2010 at Fort Huachuca, Ariz. It is named after company President Philip Oakley's motto, "i3 ICS is like water on the desert floor, adjusting to any obstacle that comes before us."

Contact: **Philip Oakley**
Phone: **703-313-7040**
Email: **philoak@i3ics.com**

TODAY'S AGENDA

8:00 A.M. - 8:30 A.M.

Lifetime Achievement Award Presentation
K. Stuart Shea, Chairman and CEO, USGIF; and President, Intelligence, Surveillance and Reconnaissance Group, SAIC (New Orleans Theater)

8:30 A.M. - 8:45 A.M.

Master of Ceremonies
The Honorable Jeffrey K. Harris, Corporate Vice President and Managing Director, Situational Awareness, Lockheed Martin Corp. (New Orleans Theater)

8:45 A.M. - 9:30 A.M.

Keynote
Lt. Gen. Ronald L. Burgess Jr., U.S. Army, Director, Defense Intelligence Agency (New Orleans Theater)

9:00 A.M. - 4:30 P.M.

Interoperability Tech Talks
Tech Talks Theater in Exhibit Hall F

9:00 A.M.	Contextual Query Answering - **Dave Kolas**, Scientist, Raytheon BBN Technologies
9:15 A.M.	How GEOINT Developers Can Use the New IC Enterprise Registry and Repository (ER2) to Discover or Share OGC Services - **Edward Lane**, Director of the Information Sharing Group, Office of Mission Framework & Services, Ground Enterprise Directorate, National Reconnaissance Office; and **Glenn Cruickshank**, ER2 Program, Specialist Leader, Deloitte Consulting LLP
9:30 A.M.	A Vision for Standards Based Motion Imagery - **Don Self**, Chief, Sensor Assimilation Division, NGA
9:45 A.M.	Data Fusion Progress - **Mark Reichardt**, President and CEO, Open Geospatial Consortium
10:00 A.M.	Interoperability and Open Standards in Action - **Dr. Sean Gorman**, President and Founder, FortiusOne
1:00 P.M.	Meet the WPSU Team and watch the Geospatial Revolution Project
2:30 P.M.	Geospatial Revolution Project Episodes 1 and 2
3:30 P.M.	Geospatial Revolution Project Episodes 1 and 2
4:30 P.M.	Geospatial Revolution Project Episodes 1 and 2

9:30 A.M. - 10:00 A.M.

Networking Break

10:00 A.M. - 12:00 P.M.

Breakout
Cyber-Location Nexus (Room 265)

Introductory Keynote - **Maj. Gen. Suzanne M. (Zan) Vautrinot**, U.S. Air Force, Director of Plans and Policy, U.S. Cyber Command, Fort George G. Meade

Moderator - **Mr. Jeff Jonas**, Chief Scientist, IBM Entity Analytics; IBM Distinguished Engineer, IBM Software Group

Panelists:
- **Mr. Bob Gourley**, Founder and Chief Technology Officer, Crucial Point LLC; Editor, CTOvision.com
- **Mr. John Kelly**, Founder and Lead Scientist, Morningside Analytics

10:00 A.M. - 12:00 P.M.

Breakout
Mastering the Human Domain: Socio-Cultural Intelligence and Analysis (Room 273)

Moderator - **Dr. Christopher Tucker**, Principal, Yale House Ventures

Panelists:
- **Lt. Col. Al Di Leonardo**, U.S. Army, Skope Director 06-10, U.S. Special Operations Command
- **Dr. Jerome E. (Jerry) Dobson**, Professor, University of Kansas; President, American Geographical Society
- **Ms. Elizabeth Lyon**, Geographer, Engineer Research and Development Center, U.S. Army Corps of Engineers
- **Mr. Douglas E. Weinstein**, Policy Analyst, Office of the Under Secretary of Defense for Intelligence

10:00 A.M. - 12:00 P.M.

Breakout
GEOINT and MASINT: Operations Other Than War (Room 278)

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Moderators - **Mr. John L. Morris**, Chief Scientist, Riverside Research Institute; and **James B. Longley**, Executive Director, Advanced Technical Intelligence Association

Panelists:
- **Ms. Barbara Alexander**, Director, Collections Requirements Division, Office of Intelligence and Analysis, Department of Homeland Security
- **Mr. William N. Bryan**, Deputy Assistant Secretary, Infrastructure Security and Energy Restoration, Office of Electricity Delivery and Energy Reliability, Department of Energy
- **Capt. J. Scott Paradis**, U.S. Coast Guard, Chief, Prevention Division, Eighth Coast Guard District

11:00 A.M. - 5:00 P.M.

Exhibit Hall Open (Halls E & F)

12:00 P.M. - 2:00 P.M.

Lunch Served in Exhibit Hall (Hall E)

12:00 P.M. - 2:00 P.M.

Lunchtime Workshop
Tradecraft Certification (Room 275)

Moderators - **Ms. Karen Metzler**, Northrop Grumman Corp., and **Mr. Darryl Murdock**, Esri

Panelists:
- **Mr. Craig Haney**, National Geospatial-Intelligence Agency
- **Ms. Jane Homeyer**, Office of the Director of National Intelligence
- **Dr. Reese Madsen**, Office of the Under Secretary of Defense for Intelligence
- **Mr. John (Jack) P.K. O'Connor**, Chief Learning Officer, National Geospatial-Intelligence Agency

2:00 P.M. - 2:45 P.M.

Keynote
Mr. John C. (Chris) Inglis, Deputy Director, National Security Agency (New Orleans Theater)

2:45 P.M. - 3:30 P.M.

Keynote
Gen. James E. Cartwright, U.S. Marine Corps, Vice Chairman, Joint Chiefs of Staff (New Orleans Theater)

3:00 P.M. - 5:00 P.M.

Exhibit Hall Reception (Halls E & F)

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Albert Einstein.
Amelia Earhart.

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USGIF invites you to join us at one of the GEOINT Symposia's favorite cities, San Antonio, for the GEOINT 2011 Symposium. As in previous years, the GEOINT Symposium will capture attendees with intriguing keynotes, morning panels and afternoon breakout tracks from the GEOINT Community's most prominent leaders. Attendees and exhibitors alike, will be able to learn about current trends and innovations in the exhibit hall, filled with technologies from organizations creating products and programs to better our nation's security. GEOINT 2011 also promises rare networking opportunities through multiple receptions and evening events. Mark your calendar for this must-attend event, you won't want to miss out!

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