On My Mind:

International Outreach Builds and Sustains Effective Partnerships

“We are bound tightly to our allies and friends now more so than ever before,” said Director of National Intelligence James R. Clapper Jr. at the recent GEOINT Symposium in Orlando, Fla.

This could not be truer. During the last decade, our allies have seen the vital role GEOINT plays in forming the foundation of the strategic assessments and synchronized operations that have improved coalition warfighting capabilities. Our NATO and International Security Assistance Force partners understand how critically important timely, accurate GEOINT is to mutual mission success. GEOINT is the foundation that ensures a common operating picture for the United States and our foreign partners. In fact, all of our ISAF partners in Afghanistan use NGA-provided geospatial data to synchronize operations and achieve success in their missions.

The value of GEOINT is also recognized across the Department of Defense and the intelligence community. The deputy undersecretary of defense for intelligence, Tom Ferguson, recently spoke to NGA senior staff and noted the importance of strengthening and building foreign partnerships for the long term because of their critical importance to U.S. operations overseas. This includes expanding GEOINT use with non-traditional coalition partners, building new partnerships with strategic allies and preparing NGA to continue its GEOINT contribution to U.S. national security issues.

The Office of International Affairs leads NGA efforts to develop and execute strategies that maximize the value and contribution of existing global GEOINT resources. Our international affairs program focuses on forging and maintaining mutually beneficial relationships with our international partners. This includes executing cooperative agreements with countries possessing advanced GEOINT capabilities and tradecraft. The goal is clear—to increase the overall GEOINT contribution to U.S. and allied national security strategies. We have more than 60 of these agreements worldwide, which provide the foundation for tradecraft enhancement and a common baseline for coalition military operations. An estimated 25 percent of all NGA’s geospatial data and holdings come from international partners.

NGA will continue to work within the context of international policy and process to get out in front of potential military operations or crisis activities. We will work to maintain our strategic advantage over our adversaries through the power of shared GEOINT. We will collaborate with our foreign partners to assist them in developing GEOINT capabilities and tradecraft as GEOINT continues to evolve. Together we will maintain GEOINT dominance, ensure the security of our warfighters, protect our nation’s security interests and support global stability.

A robust international outreach program that helps build and sustain effective partnerships with the worldwide GEOINT community is key to NGA’s vision of putting GEOINT into the hands of our users.

Letitia A. Long
Director
On My Mind:
International Outreach Builds and Sustains Effective Partnerships

NGA in the News
- Sharon Parish Conference Room Dedicated
- NGA Industry Day: GEOINT at our Fingertips
- UK JARIC Transitions to Defence Geospatial and Intelligence Fusion Centre

Features
- ‘Tomorrow’s NGA, Today’—Director Outlines Agency Progress at GEOINT 2012
- Photo Interpreters Recall Cuban Missile Crisis During 50th Anniversary Event
- Building Partner Capacity Through Foreign Military Sales
- Agency Uses New Technology to Support London Olympics
- NGA Partner Nations’ Training Furthers Tradecraft Expertise, Enhances Collaboration
- Agency Reflects on Role at 20th Anniversary of Hurricane Andrew
- Special Warning Kept Ships Away at Height of Missile Crisis

Our Heritage
- Staying Sharp, Informed, Together: Evidence in Camera, World War II
Sharon Parish Conference Room Dedicated

By Paul Frommelt, Contractor, Office of Corporate Communications

The National Geospatial-Intelligence Agency dedicated the Sharon Parish Conference Room at its east campus in Springfield, Va., Sept. 20, to celebrate the life and 40-year intelligence community career of the NGA pioneer who died in a car accident Feb. 9, 2011.

NGA Director Letitia A. Long, NGA Deputy Director Mike Rodrigue, Dan Hinchberger, deputy director, Office of Contract Services, members of Parish’s family, and close to 100 attendees were on hand to honor the woman whose adage was “mission first, people always.”

“Sharon was a remarkable woman who exemplified leadership through her focus on the mission and her understanding that if you take care of the people, they will take care of the mission,” said Long of Parish earlier this year.

During the dedication ceremony Long unveiled the plaque that will hang outside of the newly christened conference room, which resides in the NGA Campus East Visitor Control Center, as well as a mockup of the “Sharon R. Parish Outstanding Women of NGA Award” showcase, which will highlight Parish’s accomplishments and all the past and future Parish Award honorees.

In her keynote address, Long said Parish embodied and demonstrated NGA’s core values, both personally and professionally. Parish took those values to heart, rearranging NGA’s E.A.R.T.H. core values acronym (Excellence, Accountability, Respect, Trust and Honesty) into H.E.A.R.T. In the portrait of Parish that will be part of the outstanding women display — a copy of which was presented to Parish’s husband, Carl — she is wearing a heart pin, said Long.

Parish’s contributions to NGA were paramount. She was instrumental in growing NGA’s commercial remote sensing program into a major component of the IC’s satellite imaging strategy. She paved the way for the creation of the industry interaction program at NGA. She also spearheaded NGA’s small business program, said Long.

“While Sharon had many professional achievements, it was her selfless service as a leader, mentor and friend that left a lasting mark on us all,” said Hinchberger.

Parish joined NGA in October 2002 as the director of acquisition contracts and senior procurement executive and served in that position until her selection as the deputy director of the acquisition directorate in December 2010. She developed acquisition and leadership training curricula that the Senate Select Committee on Intelligence lauded as an exemplar for the entire IC.  

Carl Parish, husband of Sharon Parish, points to the heart pin his wife wore in the portrait of her that will be part of the outstanding women display at the National Geospatial-Intelligence Agency Campus East in Springfield, Va., and NGA Campus West in St. Louis, Mo. NGA Director Letitia A. Long presented Parish’s family with a copy of the portrait.
NGA Industry Day: GEOINT at our Fingertips

By Paul Frommelt, Contractor,
Office of Corporate Communications

In September, the National Geospatial-Intelligence Agency’s Online Geospatial Intelligence Services Directorate (OGS) welcomed more than 430 people to NGA’s first Industry Day for the GEOINT Applications Store. Held in NGA Campus East’s William Allder Auditorium in Springfield, Va., the unclassified briefing outlined how industry can be a part of NGA’s effort to put GEOINT into users’ hands by developing relevant apps and widgets for online and mobile use.

“We certainly don’t own all the good ideas, and we don’t want to put in place a mechanism that restricts us from enjoying the innovation that’s out there,” said OGS Application Services (OGSA) Director Mark Riccio to the assembled crowd during his opening remarks. “This is a big opportunity for a much broader segment of the market to begin working with NGA.”

“We want to provide mission applications in mission timeframes.”
—Brad Biel, OGSA

A large portion of the day was dedicated to discussion of NGA’s evolving compensation model. Jill O’Connor, compensation advisor, Office of General Counsel, and Jonathan Mostowski, strategic advisor, Acquisition Contracts, talked through the various models NGA is considering for addressing agile application development and compensation. O’Connor summarized the possibilities of either a single broker solution managing submitted apps or an environment of rolling solicitations with the government managing the apps.

Mostowski discussed implementing the rolling solicitation through incremental steps, beginning with use of an existing indefinite delivery/indefinite quantity contract with a limited pool of vendors and eventually expanding into larger markets. NGA would pay a fixed price for each application, plus incentives potentially based on innovation, performance and quality. The ideal development timeframe from desire to desktop would be 60 days, with approval granted two weeks from time of submittal.

“We want to provide mission applications in mission timeframes,” explained presenter Brad Biel, OGSA, who provided a live demonstration of the GEOINT App Store to attendees.

OGS Director Barry Barlow, who provided the event’s keynote address, stated that NGA has already stood up the App Store on the unclassified and top secret domains, with launch on the secret domain coming soon.

OGS is working to meet NGA Director Letitia A. Long’s expectation that 75 percent of all applications within the GEOINT App Store will come from industry by 2013, according to Riccio. He stressed, however, that NGA is not looking to flood the store with applications, but rather to build quality applications.

“What makes an app is relevance and content,” Riccio said. “We will have apps that matter.”

Mark Riccio, Director of NGA’s OGS Application Services, discusses plans to open the NGA App Store with industry representatives attending NGA’s first Industry Day for the GEOINT Applications Store.
UK JARIC Transitions to Defence Geospatial and Intelligence Fusion Centre

By Squadron Leader Paul Hamer, U.K. Liaison Officer to NGA

The U.K’s Joint Air Reconnaissance Intelligence Centre disbanded July 13, integrating into the new Defence Geospatial and Intelligence Fusion Centre at Royal Air Force Wyton, in Huntingdon, Cambridgeshire, England.

“Tonight we are marking a significant moment in the U.K.’s rich history of engagement in photoreconnaissance and imagery intelligence,” said JARIC Commander Group Captain Steve Thornber at the transition ceremony at RAF Wyton.

JARIC members lowered the RAF Ensign, the official flag, for the final time, as Thornber took both the Ensign and the RAF Badge and handed them symbolically back to Air Marshal Dick Garwood, who accepted them on behalf of the RAF. Thornber then gave the final order to stand down the Joint Air Reconnaissance Intelligence Centre.

National Geospatial-Intelligence Agency Director Letitia A. Long; Commander of Joint Forces Command Air Chief Marshal Sir Stuart Peach; Lord-Lieutenant of Cambridgeshire Hugh Duberly, Esquire, Commander of the Order of the British Empire, representing Her Majesty the Queen; Jonathan Djanogly, Member of Parliament for the Huntingdon Constituency; additional senior members of the British and allied intelligence communities; NGA JARIC support team members; and JARIC staff attended the ceremony.

JARIC, which supported the U.K. and geospatial intelligence community for 72 years, had been located at nearby Brampton, Cambridgeshire, since 1955. Born out of allied collaboration, JARIC had been a stalwart partner of NGA and its predecessors through the years.

“Alongside our colleagues in Britain’s tight-knit security and intelligence community, with essential partnership from industry and with our closest allies, we sailors, marines, soldiers, airmen and civil servants have been a few sentinels, the watchful and penetrating eyes of the nation,” said Thornber.

Although JARIC’s heritage began with World War I reconnaissance work, the formation of the Central Interpretation Unit at the beginning of World War II at Royal Air Force Medmenham near London marked its true beginning. It transitioned through many name changes before becoming part of the DGIFC, a multi-intelligence, multi-agency center that will build on the excellence of JARIC and its GEOINT mission.

According to a Ministry of Defense news release, the DGIFC will provide analysts with the opportunity to work in new collaborative ways. Under the Programme to Rationalise and Integrate the Estate, a new state-of-the-art building was constructed to house intelligence staff in a completely open plan environment at the Cambridgeshire station as part of the Defence Intelligence Modernisation Programme.

Parade Commander Flight Lieutenant Angela Dickinson marches on the Guard of Honour and Ensign Lowering Party to take position for the sunset ceremony.
National Geospatial-Intelligence Agency Director Letitia A. Long outlined the transformation of GEOINT under way at the agency during the U.S. Geospatial Intelligence Foundation’s GEOINT 2012 Symposium in Orlando Oct. 9.

Long took the stage amid applause from thousands of attendees following a good-natured introduction as the “goddess of GEOINT” by Joan A. Dempsey of USGIF’s board of directors.

“This is a group of folks that [is] transforming GEOINT, the talent, the capabilities and the diversity that is in this room is exactly what we need to continue to propel us forward,” Long said, adding that NGA is fortunate to have a foundation committed to furthering the business of GEOINT.

“Given the opportunity, we can do just about anything — help bring terrorists to justice, support military operations and safeguard lives in the aftermath of natural disasters,” Long said.

Long focused on NGA’s progress toward “creating tomorrow’s NGA, today.” She specifically highlighted three key areas: easy and intuitive access to the agency’s GEOINT products, data and knowledge; creation of a three-tiered customer service model in an open IT environment; and the creation and provision of new value through efforts to deepen and broaden analysis.

“We’ve made tremendous progress delivering more robust content, [we] have developed the Integrated Analytic Environment, [we] are introducing new analytic methodologies, and, at the end of the day, I think we are delivering better GEOINT,” Long said.

Outlining the streamlining effort that to date has made 40 percent of NGA’s products, data and knowledge service-enabled, Long followed up with a pledge to have 100 percent of the agency’s data service-enabled in a smart data framework — cataloged, and in accordance with open geospatial consortium standards — by July 2013. She continued by explaining how that effort is a key enabler to the better...
analysis sought under the 2012–2017 NGA Strategy.

“I will tell you [that] the real benefit for the analysts is now, with that enabled data, they can overlay different data sets, and begin to see those patterns and trends that we’re talking about and make those observations;” Long said.

Long went on to weave in joint NGA/Defense Intelligence Agency progress to create the common desktop environment that forms part of the intelligence community information technology enterprise, defense intelligence and joint information enterprises. For the common desktop initiative, she pledged to have more than 2,000 users on this environment by March 2013, and more than 60,000 users by March 2014.

“We’ve moved from cooperation to coordination to collaboration, and, now, we are at integration,” said Long. “We recognize we are a lot better if we share our information and work in the same integrated information technology environment. No more tunneling through networks. No more trying to find a computer that belongs to your own agency.’’

In return for service-enabled content and the open IT environment, Long served up the challenge to the community that serves to gain from not only being consumers but also producers.

“What I ask in return is when you do access it and make enhancements or build a product or add to it, that you share that back with us,” Long said. “That will enable us to learn. That will enable us to provide better service in the future. And in return, we will host it and serve it back out to the entire community.”

Long went on to outline how her establishment of integrated work groups comprising functional and regional analysts has resulted in never-considered innovative collection strategies and new information that is beginning to pay dividends in broadened and deepened analysis that she maintains is at the core of GEOINT transformation.

She also pointed out the natural outgrowth of the new organizational construct, where they couldn’t get to all the information they needed in one place with the tools at hand, and so led to the creation of the integrated analytic environment, or IAE.

“The basis of the integrated analytic environment is both places and activity,” Long said. “So it’s not only the ‘what,’ it’s also the ‘what is happening.’ That’s very key here, and it’s really quite exciting for the analysts.”

Long concluded her remarks by stating that the state of GEOINT is as much a testament to the transforming efforts of other GEOINT leaders as her own.

“Admiral Dantone got the agency started; General King really brought the tribes together; DNI Clapper created GEOINT; he brought the imagery and the mapping together to what was really the purpose of creating National Imagery and Mapping Agency to begin with; Admiral Murrett, rightly so, put us on a wartime footing,” said Long.

“As I came into the job I knew we were in a good place, but I was focused on the future,” Long said. “We’ve got to be continually pushing ourselves so that we do remain at the forefront. We are always building the plane as we’re flying it, so to say, so we will continue to deliver to our varied customer set what they need, when they need it, how they need it.”

---

Photo Interpreters Recall Cuban Missile Crisis During 50th Anniversary Event

By Ken White, Office of Corporate Communications

Fifty years after they discovered Soviet missiles poised to strike the U.S. from Cuba, two intelligence officers met with hundreds of their current-day counterparts to commemorate the anniversary of the crisis that nearly brought the world to nuclear war.

Dino Brugioni and Vincent DiRenzo were part of a small group from the CIA’s National Photographic Interpretation Center who worked for 13 tense days in October 1962 to avert disaster. They joined author and journalist Michael Dobbs and two current analysts in a panel discussion at the National Geospatial-Intelligence Agency in Springfield, Va., Oct. 15.

Through reminiscences and present-day observations, the group illustrated the significance of the crisis and its continued impact on the tradecraft of imagery and geospatial analysis.

A photo interpreter, Vincent DiRenzo led the NPIC team and formed the initial conclusion about the presence of Soviet medium-range ballistic missiles in Cuba from analysis of U-2 spy plane imagery. He discussed the immediate wake of his discovery.

“Considering the severity of the identification, we figured we’d be in for a long night,” DiRenzo said. He indicated that the initial assessment was not a "slam dunk," as convincing people of the true significance of the find was difficult — the image did not show clearly identifiable missiles, but rather, long, canvas-covered objects that, to the layman, could be almost anything.

Charged with preparing materials on daily developments for NPIC Director Arthur C. Lundahl’s briefs to the executive committee and the White House, Brugioni was instrumental in arming President John F. Kennedy with intelligence needed to navigate this perilous moment in history.

He recalled with humor how many of his briefing boards came back from the White House marked up with blue crayon from a doodling Caroline
Kennedy. On a more somber note, he also relayed the fearful mood of the time.

“Black Saturday, we had gone to DEFCON [defense readiness condition] 2,” Brugioni said. “Fourteen hundred bombers were loaded with nuclear weapons; 50 B-52s were in the air; eight Polaris submarines were at sea; 125 ICBMs [intercontinental ballistic missiles] were ready to fire; there was tactical aviation; there was 60 Thor missiles in England; 30 Jupiter missiles in Italy. That morning we met with Art Lundahl and told him that all 24 pads were operational, meaning that within four to six hours 24 missiles could be coming at the United States.

“I remember Lundahl scratching his chin, looked at me and said, ‘I don’t want to scare the hell out of them, but I want to make sure they understand the danger.’”

The son of a career diplomat, Dobbs spent his formative years behind the Iron Curtain. He became a Cold War scholar after covering it as a foreign correspondent for the Washington Post. He drew a parallel between his work and intelligence analysis.

“I feel a kinship with intelligence analysts. We try to start with the evidence and proceed from the evidence to the conclusions,” Dobbs said. “Our goal is to tell truth to power.”

Dobbs went on to laud the efforts of the team who identified the missiles, and to praise Brugioni for his efforts since the crisis to improve public understanding of photo analysis.

“Dino [Brugioni] has done more than anyone else to explain the art and science of photo interpretation to the broader public,” he said. “He’s a great educator; he’s very good at explaining very complicated matters to laymen.”

He also discussed how his research of the crisis, with the advantage of 50 years of hindsight, affirmed both the significance of the crisis and the criticality of intelligence to policymaking. He also pointed out that 60–70 percent of the actionable intelligence came from NPIC during the crisis.

“This was the moment of the photo interpreter,” Dobbs said. “They were able to tell [the president] when the missiles would be ready to fire.”

“It was probably the single biggest intelligence coup of the Cold War,” he added.

Art Lundahl’s son, Robert, shared his late father’s connection with the president.

“Above all, my father was certainly a technologist, he was a scientist at heart, he loved technology,” said the younger Lundahl. “It sounded like President Kennedy had an equal interest in technology. There was a bond there.”

Beyond technology, Lundahl also shared what he believes to be the key to his father’s effectiveness as an intelligence officer — exceptional communication skills.

“He was born to brief,” Lundahl said. Specifically, he noted his father’s ability to be credible, while adjusting to the knowledge level of his audience and using humor to diffuse tension.

NGA analyst Walter S. Trynock compared and contrasted the world of 1962 with today’s environment. Communication skills remain critical for analysts, but the tools for providing GEOINT are markedly different, and today’s leaders are bombarded with information.

“The type of information, and the pace in which information is received by the policymaker, is constant, at all times of the day and night,” said Trynock. “So the challenge is to bring out the relevancy and the ‘so what’ to contribute to their decision making.”

Then and now, though, keen analysis has always been key, a point brought home by Dobbs.

“Intelligence is like a huge jigsaw puzzle, and you only find a few pieces, and there are always going to be some missing pieces, but from the pieces you do find you try to inform policymakers about the entire jigsaw puzzle,” he said.

Panelists participating in the NGA Cuban Missile Crisis commemoration included, from left to right, Julian Doan, NGA GEOINT analyst; Dino Brugioni, former chief of information for NPIC; Vincent DiRenzo, NPIC photographic interpreter during the crisis; NGA Historian Gary Weir; Michael Dobbs, author of “One Minute to Midnight”; Robert Lundahl, son of Arthur Lundahl, NPIC director; and Walter Trynock, NGA GEOINT analyst. The event was held in NGA’s William Allder auditorium in Springfield, Va., Oct. 15, to commemorate the 50th anniversary of the Cuban Missile Crisis.
Building Partner Capacity Through Foreign Military Sales

By Tim Little, Contractor, Office of Corporate Communications

“We are joining with allies and partners around the world to build their capacity to promote security, prosperity and human dignity,” said President Barack Obama in his report, “Sustaining U.S. Global Leadership: Priorities for 21st Century Defense.”

“And the growing capabilities of allies and partners, as demonstrated in the successful mission to protect the Libyan people, create new opportunities for burden-sharing,” said Obama in the report.

One key element in helping U.S. allies build their capacity is the Foreign Military Sales program. FMS, according to the Defense Security Cooperation Agency, which oversees the program, is the “government-to-government method for selling U.S. defense equipment, services and training.”


The NGA role in FMS is to provide accurate and timely geospatial intelligence information to support international partners’ military transformation, capacity building and U.S. security interests.

As an FMS implementing agency, NGA prepares and executes FMS cases in response to the demand for GEOINT data. NGA products and services support a wide spectrum of U.S.-made capabilities, including heavy airlift aircraft, fighter jets, helicopters and unmanned vehicles. In other words, NGA’s products and services help foreign partners take full advantage of the platforms they have procured from the U.S. government, thereby furthering U.S. strategic goals of increasing partner capacities and improving interoperability of allied forces.

NGA-provided GEOINT products include Flight Information Publications, Digital Aeronautical Flight Information Files and hardcopy maps and charts that support safety of navigation. Digital products such as Digital Terrain Elevation Data, vertical obstruction files and Compressed Arc Digitized Raster Graphics, are widely used to support mission planning requirements.

NGA provides Flight Information Publications to foreign partners who purchase F-16 Falcon fighter aircraft. Pilots need FLIP data to fly and navigate the aircraft.
“Since fiscal year 2009, the number of requests for GEOINT products has rapidly increased in conjunction with the foreign military sales of a variety of U.S.-made capabilities to our coalition partners,” said Elizabeth Allen, NGA FMS program director in the NGA Office of International Affairs. At the end of fiscal year 2012, NGA had several dozen FMS-related requests, exceeding the total number of requests for the previous year, said Allen.

Requests are not coming from just a small group of countries. Over the past two years, NGA has had an increasingly diverse customer set. “In 2010, we responded to five countries’ mission planning requirements, which support a variety of capabilities,” said Allen. “Today, we are supporting over 26 countries.”

So what has prompted this surge in the number of requests and variety of countries submitting them?

“Transition to a digital world, and advancements in technology and capabilities to support the warfighter, have put an increased demand on NGA for GEOINT data,” said Allen. “FMS is a vehicle for our partners to obtain the needed capabilities and the required GEOINT data to help build their capacity and to support coalition operations. While traditional maps and charts continue to be in high demand, there has been a rapid increase in more customized digital data requirements and services needed to support new technologies and capabilities, to include unmanned aircraft and enhanced targeting capabilities used to support operations in Afghanistan.”

The drawdown of U.S. forces in Afghanistan and lessons learned from the Libyan conflict have strengthened the need to build up U.S. partner capacity, said Allen. As the United States reduces its presence, its allies are helping to fill in the gaps where needed. As they do so, they require the systems, data and support to accomplish those missions.

NGA’s role in FMS and security cooperation not only benefits the U.S. militarily, but diplomatically as well. While NGA establishes GEOINT exchange and cooperation agreements to lay the groundwork for future cooperation and GEOINT sharing, FMS provides an alternative mechanism to provide data in support of larger FMS cases when no exchange agreement exists or it is out of scope of the original agreement.

NGA has active geospatial agreements with more than 60 countries. These agreements help facilitate FMS requirements and provide more favorable terms to participants.

As the DSCA website states, the goal of the program goes beyond selling equipment and services. It strengthens “bilateral defense relations, supporting coalition building and enhancing interoperability between U.S. forces and militaries of friends and allies.”

Foreign military sales involving GEOINT strengthen the capabilities of U.S. allies. NGA puts the power of GEOINT into the hands of our allies through FMS and other exchange agreements, providing the needed data to support their capabilities.

As NGA Director Letitia A. Long said in a recent employee forum, “Working together, we will maintain NGA as the premier producer of actionable, sharable and integrated geospatial intelligence for our customers and allies around the world.”

Foreign partners who purchase Apache Longbow attack helicopters use NGA-provided flight and navigation data.
Agency Uses New Technology to Support London Olympics

By Kathi Ghannam, Contractor, Office of Corporate Communications

This summer the world turned its attention to London as the United Kingdom hosted the 2012 Summer Olympic Games, which was one of the largest and most complex security operations ever undertaken. The National Geospatial-Intelligence Agency was right in the middle of the action.

In collaboration with its domestic and international counterparts, NGA supplied products and services that helped British officials conduct a safe, event-free environment for attendees and athletes alike. In addition to advanced tradecraft, NGA brought three new technologies to the effort, which proved to be excellent tools in the hands of those responsible for keeping the Olympics safe.

In early 2011 NGA’s Olympic Support Team called on the InnoVision Directorate, the agency’s research and development arm, to develop and share technology to help protect the games. Collaborating with the technical lead for the Olympics’ support mission in NGA’s then-Analysis and Production Directorate (now the Directorate of Analysis), InnoVision delivered a set of simple yet versatile tools.

Hermes is a mobile and Web application package that allowed field agents to share their geographic positions and geo-tagged text and photos with other agents and their command post, which enhanced security officials’ ability to assess potential security threats and respond to incidents as they arose.

“The Department of State liked Hermes because it allowed them to visualize where all their agents were,” said InnoVision’s lead Geospatial Intelligence Advancement Testbed (GIAT) developer for Hermes. “They really appreciated the increased degree of situational awareness that came with using Hermes.”

Building on earlier prototypes, the GIAT developer team enhanced the user interface for both the mobile and Web applications, and added features to ensure basic functionality if an incident knocked mobile networks offline.

A second tool gave Olympic support personnel a Web mapping application with integrated geospatial tools. This allowed them to view basemaps, imagery and operational layers, plan routes to and from events and venues, customize and notate maps and observe the status of the various Olympic venues over time, said the GIAT developer.

International partners created this GEOINT product depicting London’s Olympic route network and venue access points at Olympic Park.
To achieve this, the GIS London development team had to overcome two big challenges: They had to create a country-wide basemap cache using data provided by the United Kingdom, and develop accurate locators and geocoding services for all of the address data they received, said another member of the GIAT.

“The U.K.'s addressing system is very different from what we use in the U.S.,” said the GIAT team member. “Not every building is numbered. In some cases, building names or organizational names are used instead of, or in addition to, building numbers. Also, their address information came to us in the form of about 30 million separate data points. By working hand in hand with our colleagues in NGA’s Eurasia-Africa Regional Operations group, however, we solved this along with making several other refinements along the way,” said the GIAT team member.

The third tool provided a virtual environment in which users could walk and fly through the Olympic venues and surrounding areas and perform basic analytics.

Another GIAT team member said this was achieved by integrating spatial and temporal analysis tools developed in the GIAT with a commercial software package for creating 3-D video games and other interactive content.

“By combining virtual environments with tools such as line-of-sight analysis and visualization of time-sensitive data, such as bus and train schedules and Olympic event times, users could assess venues and ongoing events as if they were there,” said the second GIAT team member.

“This tool can be used to collaborate online or offline, whether on a stand-alone computer or as part of a network,” said this second team member. “Probably more important to London’s security officials was the fact that we designed the system so that you do not have to be a GIS expert to use it. The London Metropolitan Police, for example, could easily use this technology to enhance their situational awareness.”

Providing support to the Olympics was just part of the mission for the InnoVision team, said the technical lead.

“We purposefully designed these tools for future reuse with a goal of building new processes and tools that could be used not only for the Olympics, but could also be integrated into our daily production processes, which is in fact happening,” said the technical lead.

The Human Factor

Ten NGA analysts created at least 370 GEOINT products in support of the Olympics. Working around the clock for 28 straight days, NGA analysts were embedded alongside colleagues from CIA, FBI, Department of Homeland Security, National Security Agency, the Office of the Director of National Intelligence’s National Counterterrorism Center, the Departments of Defense and State, the U.S. Secret Service and the Open Source Center, said NGA’s Olympic support lead.

The Olympic support lead, who had also worked the 2004 Olympics in
Athens, attributed this year's Olympics' overall security success to the great teamwork on the part of domestic and international partners.

“We definitely couldn’t have done this alone,” said NGA’s Olympic support lead. “The NGA team and our intelligence community and international partners did everything from VIP route analysis to tracking and reporting on planned protests and demonstrations. Gratefully, we witnessed an ‘uneventful’ event.

“We received profuse appreciation from our British counterparts, particularly from the Production Coordination Group,” she said.

The United Kingdom established the Production Coordination Group to coordinate the geospatial efforts of London’s municipalities and national transportation entities.

“The products we created together helped British officials ensure the safety of athletes, guests and dignitaries from all over the world during the 14-day event,” said the Olympic support lead.

“NGA invested nearly two years of advance planning, and the talents of more than 150 NGA employees, in the run up to the 2012 Olympic Games,” she said. “During those 24 months, the International NGA Support Team, Europe, located in the United Kingdom, set the stage for the event. They got us where we needed to be in terms of relationship and data sharing. They also helped save a lot of money for the agency. Not only did they save us a lot of TDY [temporary duty] money, the relationships that they have built with our British partners brought about considerable cost sharing.”

**Institutionalizing Lessons Learned**

Though the Olympics have ended for this year, the event has helped NGA improve its processes.

“Building on lessons learned from each successive Olympic game since the 2002 Salt Lake City games, NGAs product line development and the tradecraft evolution have been remarkable,” said the Olympic support lead.

She points out the need to institutionalize some of the best practices developed during the Olympics so that they can be applied to future events.

“With more than 150 NGA employees having touched the planning process somehow, we now have many seasoned professionals who’ve participated in the games,” said the Olympic support lead. “It would be helpful if we could capitalize on their knowledge and put together a core group of folks dedicated to doing special events. We are now doing just that, looking at the ways we might possibly leverage this information across the agency and across the international and intelligence communities.”

**U.K. Operation Olympics**

While the U.S. intelligence community was focused primarily on protecting its own athletes and VIPs, London’s Metropolitan Police and British civilian security services were responsible for the overall safety and security of the games. The British Ministry of Defense coordinated the GEOINT support efforts involving all members of the community, said British Army Maj. Neil Chapman, GEOINT Plans, Joint Forces Intelligence Group.

Under the auspices of the Olympic Support Group, Headquarters Joint Forces Intelligence Group led the efforts, which oversaw all human, measurement and signatures, geospatial and signals intelligence analysis and production activities. The British Joint Forces Intelligence Group supplied several dozen full-time analysts to support the Olympics and employed countless others who furnished indirect support.

“We established an international team to develop a common collection plan and parsed out elements of the plan to the members, which was hugely successful,” said Chapman. “The collaboration between the team members, who possess differing types of expertise, and the ability to share that information via real-time chats and collaboration sites, really are at the root of that success.”

Additionally, the U.K’s Defence Geospatial-Intelligence Centre provided a powerful and flexible multi-intelligence environment in support of the Olympics, and the U.K. Defence provided air and maritime security plans, explosive ordnance disposal and high assurance search capabilities to supplement existing police and home office resources.

“With all of these assets in place, we expected the games to go well,” said Chapman. “All of the advanced planning and coordination that occurred made it an even better event than we’d hoped, and as a result, we experienced no significant disruptions.”

Nineteen-year-old George Livingstone-Thompson, center, an Olympic torchbearer from Maisemore, Gloucestershire, England, poses for a photo with members of the Guard of Honour May 24, 2012, in Gloucester, England. The Guard of Honour was comprised of members of the Headquarters Allied Rapid Reaction Corps (HQ ARRC) and represented the 16 nations that make up the HQ ARRC.
NGA Partner Nations’ Training Furthers Tradecraft Expertise, Enhances Collaboration

By Kathi Ghannam, Contractor, Office of Corporate Communications

The NGA’s Office of International Affairs (OIA) and the National Geospatial-Intelligence College (NGC) are working in tandem with their international mission partners to enhance tradecraft expertise and further geospatial intelligence collaboration.

“We recognize that in today’s dynamic environment we must be able to support the varied learning needs across the Allied System for Geospatial Intelligence (ASG) and amongst our other international partners, so we continue to grow and morph to meet those needs,” said Danita Dempsey, OIA’s international training program manager.

The ASG is an integrated, collaborative community of GEOINT professionals working together to meet collective warfighting and intelligence needs, providing one another with global, regional and civil GEOINT support.

The ASG Operations Forum assesses, aligns and guides GEOINT analysis and production across the allied nations—maximizing production and resource efficiencies to include training across the ASG, said Dempsey.

Because its training programs are key tools in strengthening international partnerships, NGC is working with NGA’s Analysis and Source Operations and Management Directorates to expand knowledge sharing and enhance learning opportunities across a robust learning architecture.

“The architecture behind NGA’s international training program includes traditional residential training, partnerships with academic institutions, Web-based training, webinars, informal seminars, technical analytical exchange, guest speaker series and mobile training delivery,” said Dempsey.

Though not offered as frequently as the NGC-based courses, NGA’s mobile training reaches broader audiences in our partners’ nations as students will come from all corners of the host country to attend NGC’s training, said Dempsey.

For example, in the next two quarters of fiscal year 2013, NGA will be teaching three mobile training courses with roughly 24 trainees attending each session, said Dempsey.

NGA and its predecessor organizations have offered courses to international partners since the early 1970s. To date, representatives from several countries, including Germany, Italy, Chile and Australia, have attended in-residence training courses at NGA’s headquarters in Springfield, Va., since the facility opened in September 2011. The college trains an average of 50 international students in residence per year.

Those partners with whom NGA has GEOINT exchanges can enroll in NGC’s courses, to include its Commonwealth partners Australia, Canada, New Zealand and the United Kingdom.

“There are many mutual benefits to this arrangement,” said Ben Cumbo, chief of GEOINT training integration.

“By offering this training, NGA is standardizing tradecraft across the partnership, improving interoperability and increasing opportunities for GEOINT mission sharing all while building confidence in tradecraft expertise.”

NGA hopes to achieve two near-term outcomes from its international engagement: standardization of crisis response activities across the ASG and imparting tradecraft standards to Basic Exchange and Cooperative Agreement (BECA) partner students. A BECA provides the legal and technical foundation upon which two governments or two national agencies can exchange geospatial data and pursue co-production projects. It is also what authorizes NGA to provide training in the area of geographic information systems.
Currently, NGA offers the following in-residence courses to its BECA partners:

- Fundamentals of geographic information systems
- FalconView
- Intermediate GIS for analysis
- Advanced GIS using models

Maj. Maurizio Monteleone and Warrant Officer Aldo Nolli are members of the Italian Air Force who support the Multinational Geospatial Co-production Program, a 28-nation strong GEOINT effort designed to co-produce high-resolution vector data over regions of the world where large-scale data does not exist or to improve existing data of questionable quality. They foresee using all of the information they acquired during the one-week intermediate GIS course they attended in late August.

“The course gave us all the information we need to do what we are already doing in our agency, but better,” said Monteleone, as he completed his fourth NGC course. “The courses just keep getting better and help us improve our skills as well as our interactions with the international intelligence community.”

Several other initiatives are under way to increase NGA’s international training activities. For instance, OIA is in the process of developing a residential international training space to host partner analytic exchanges, specialized projects and tailored training events at NGA headquarters. Also, NGC is assessing new training development requirements to address partner tradecraft knowledge gaps. Additionally, it is working to create more Web-based learning opportunities, such as video instruction on how to use new applications on networks that serve up data that is more discoverable on partner-accessible networks.

That is good news to Australian Army officer Lt. Ben Moroney, who recently completed the fundamentals of GIS course.

“The information that we learned here is very applicable to our jobs back in the 1st Topographic Squadron,” said Moroney upon completion of the course. “We work with the GIS system back in Australia. Though we were familiar with about 20 percent of the content presented in the course, the overall foundational knowledge we gained will help us with the general challenges that go with the day-to-day operations of the system.”

A fellow Australian Army officer echoed Moroney’s sentiment.

Australian Army Maj. Kieran Vidal, an operational planning officer currently stationed at NGA Campus East, has completed four courses through this program, including introduction to light detection and ranging and introduction to photogrammetry, which were essentially refresher courses for an officer who earned a master’s degree in geospatial intelligence and airborne multispectral thermal imagery.

“Through NGA’s international training program, we are able to build additional partner capacity for collaborative analysis, research, warfighter support and co-production, facilitating a common operating picture across our partnerships,” said Dempsey. “NGA partners interested in training should work with their organizations and units to formally submit requests through their security assistance offices or office of defense cooperation.”

Italian Air Force Major Maurizio Monteleone and Italian Air Force Warrant Officer Aldo Nolli pose with National Geospatial-Intelligence College Director Barbara Salvatore and Deputy Director Will Hopkins (pictured from left to right) upon the officers’ completion of the fundamentals of geographic information systems course.
Agency Reflects on Role at 20th Anniversary of Hurricane Andrew

By Kathi Ghannam, Contractor, Office of Corporate Communications

**The Birth of a New Tradecraft**

The National Geospatial-Intelligence Agency’s involvement in supporting the Federal Emergency Management Agency during Hurricane Andrew in the summer of 1992 represented its first foray into providing civil support during natural disasters.

Hurricane Andrew made landfall Aug. 23 at Elliott Key, Fla., and Aug. 24 at Homestead, Fla., and was the costliest hurricane in U.S. history at the time, according to the National Weather Service.

The current chief of the Pakistan Weapons of Mass Destruction Analysis Cell worked for the National Photographic Interpretation Center (an NGA predecessor agency) at the time as an imagery analyst in a branch formed six months earlier to handle non-traditional issues. That branch was the forerunner to NGA’s current Integrated Work Group for Readiness, Response and Recovery (IWG-R3).

“At the time, NPIC wanted to explore new business areas, so we looked for things with untapped GEOINT potential,” said the chief.

“We were looking at using national imagery systems to examine things like deforestation in the Amazon, desertification in Africa and vegetation analysis in the Caribbean,” said the chief.

Joe Drummey, now director of NGA’s Office of International Affairs, was an analyst during that era.

Having just finished a developmental leadership assignment, Drummey asked...
to do something different than the missile analysis he had been doing.

“There had been some discussion about using NPIC’s assets for disaster response but we were hit straight in the face with the issue when Andrew hit,” said Drummey. “We were immediately asked to try to do something to help. I reported to the team the day Hurricane Andrew hit. In fact I was pulled off vacation to join the team.”

FEMA requested NPIC’s support, asking them to provide an initial report within 24 hours to help first responders triage their response based on level of damage and population concentrations, said the chief.

“Previously, responders had to make their way out to the impacted areas, or wait for images to appear on CNN to start assessing the damage, with no real sense of how to prioritize rescue and recovery operations,” said the chief.

“With no other tools or tradecraft at their disposal, our analysts began by using the search methodologies used in analyzing traditional imagery,” said Drummey. “We had a team of very talented analysts to address this issue. They were creative and good at coming up with new approaches. That hand-selected team included the right mix of people and skill sets.”

Until they developed more sophisticated systems, analysts would line up the imagery flats and search for the hardest hit areas, said the chief. They had to create a structure to help categorize the imagery they were seeing. Back then, they didn’t even know how to describe the various levels of damage.

“Obviously, this was very crude compared to what we do today, but it at least was a starting point for conducting this new mission,” said the chief. “But, we got immediate, effusive feedback from FEMA and other federal entities on our products’ utility.”

“The imagery activities of NGA were essential to the restoration of critical infrastructure by providing the first comprehensive overview of the damage resulting from the hurricane and flood by merging imagery with other information and creating hundreds of intelligence products per day that could be used and applied by response professionals to aid in decision making,” according to the Federal Geographic Data Committee.

NGA analysts addressed issues including recovery planning and operations, transportation infrastructure, critical and catastrophic damage, dike stability and breaches, industry damage and hazard spills, according to the committee. The agency’s World Wide Navigational Warning Service provided the Navy, Merchant Marine and Coast Guard with navigation information, relayed messages from the National Weather Service to people at sea, and aided in the location and recovery of oil platforms.

“The newly formed branch had to work closely with the agency’s Office of General Counsel to determine what, of the information collected, analysts could use because there were more restrictions on the use of national and foreign collection resources for domestic issues,” said the chief.

Once these policy issues were resolved, the agency developed an engagement strategy to let the intelligence and the domestic communities know about this evolving capability and to get their inputs on their specific requirements.

At that point, analysts started wearing pagers so that FEMA could reach out 24 hours a day to support disasters, said Drummey.

The North Ridge, Calif., earthquake in 1994 spurred the agency to take a major step to facilitate post-event damage imagery assessments, said Drummey. It started building specific directed search area outlines to capture before shots of vulnerable areas in California for use in future disaster analysis.

“For me it was a transformational analytic experience because I had been brought up doing very traditional work on military force disposition and suddenly we were given the freedom to do something different, which made me a better analyst and leader of GEOINT issues,” said Drummey.

**Current Capabilities**

Since Hurricane Andrew, NGA has continued to increase its capacity to support natural and manmade disasters from Hurricane Katrina to the Deep Water Horizon oil spill, said Stephen Jackson with NGA’s IWG-R3.

Since that era, the agency has saved lives and prevented additional harm by providing the data, analysis and products that are so critical to our emergency preparedness, response and recovery mission partners, said Jackson. ✨
Special Warning Kept Ships Away at Height of Missile Crisis

By Howard Cohen, Branch Chief, Tactical Ocean Data Branch, Maritime Safety Office

Millions of people in this country and throughout the world received news of the Cuban Missile Crisis by watching television, listening to the radio or reading a newspaper 50 years ago. But suppose you were at sea, in the middle of the ocean, or perhaps transiting Cuba during those 13 critical days in October. How would you know there was a naval blockade—a quarantine?

Special Warning Number 30 would have told you.

The National Geospatial-Intelligence Agency’s Maritime Safety Office, Maritime Watch, responsible for disseminating official U.S. government proclamations affecting navigation and political or military threats to the safety of U.S. mariners, disseminates these special warnings. The Department of State approves this limited series of messages, which convey urgency.

“Ships at sea are not the only ones to receive a special warning; the messages go to the White House National Security Council and the White House Situation Room,” said Peter Doherty, deputy director of the NGA Maritime Safety Office. “Top government officials, including the Secretary of Defense, Secretary of State and the Joint Chiefs of Staff, also receive them.”

Special Warning 30 informed ships at sea that the president of the United States proclaimed a quarantine of offensive military equipment under shipment to Cuba.
Dated Oct. 23, 1962, Special Warning Number 30 stated that the president of the United States proclaimed a quarantine of military equipment under shipment to Cuba and defined which areas around the coastline were either dangerous or safe.

President John F. Kennedy used the term quarantine, rather than blockade, because other nations, including the Soviet Union, could have interpreted the latter term as an act of war. The proposed interdiction was aimed solely at offensive weapons and the president did not intend it to be warlike.

That evening Secretary of Defense Robert McNamara made the following statement at a press conference about the quarantine and the retention of naval personnel on active duty: “The president, 30 minutes ago, at 7 p.m., signed the proclamation ordering the interdiction of offensive weapons moving into Cuba, and under the terms of that proclamation, I have taken the necessary steps to deploy our forces to be in a position to make effective the quarantine at 2 p.m., tomorrow, Greenwich Time. That will be the equivalent of 10 a.m., Eastern Daylight Time.”

McNamara was talking about Special Warning 30, issued by an element of the U.S. Naval Oceanographic Office that is now part of NGA. Special Warnings 31, 32 and 33 followed, each revealing quarantine specifics. And finally, Special Warning Number 34, dated Nov. 20, marked the end of the quarantine.

The Maritime Watch still issues special warnings today, such as the March 2010 Special Warning 120 for Yemen that stated, “The Department of State warns U.S. citizens of the high security threat level in Yemen due to terrorist activities and recommends postponing non-essential travel to Yemen.”

“The Maritime Safety Office’s Maritime Watch plays an integral role within our mission of providing global maritime geospatial intelligence in support of national security objectives including safety of navigation, international obligations, and joint military intelligence,” said Doherty.

The watch maintains 24-hour operations and is the only means of reaching all U.S. flagged ships, military and civilian, with maritime safety information, including threat notification.

“The Maritime Watch responsibilities also include providing time-sensitive warnings on hazards to navigation that might negatively affect shipping and the safety of life at sea, including icebergs, vessels in distress, hazardous closure areas, uncharted shoals, survey operations, tsunamis, inoperable aids to navigation, acts of piracy, military operations, dangerous objects adrift and port closures,” said Doherty.
Staying Sharp, Informed, Together: Evidence in Camera, World War II

By Dr. Gary E. Weir, NGA Historian, Office of Corporate Communications

In the uncertain days of October 1962, when President John F. Kennedy wrestled with the threat of Soviet nuclear ballistic missiles in Cuba, he regularly commented on the amazing ability of the photo interpreters from Arthur Lundahl’s National Photographic Interpretation Center to find in complex aerial photography those things that presented a threat to the United States. This skill still forms an integral part of the national intelligence process and now belongs primarily to the National Geospatial-Intelligence Agency.

Those who first combined the camera with all manner of aircraft made this possible. The British and French raised photo interpretation to a fine art during the Great War of 1914–1918 (World War I), and American wartime pioneers in photo interpretation, like the master of American art photography Edward Steichen, learned the craft from their European colleagues while fighting Germany and the Austro-Hungarian Empire on the Western Front. When demobilization in 1919 deprived the United States of much of its interpretative talent and knowledge, the country found itself a generation later learning once again from our allies a skill that NGA has continued to refine to the present day.

During World War II the British war effort depended heavily on the talent of photo interpreters like Constance Babbington Smith, Peter Riddell and Sarah Churchill to understand the effect of the air war, to plan aerial campaigns and to follow enemy activity on the ground. Proper training and regular information on the latest and most difficult targets became essential to keep skills sharp and the warfighters equipped with the best information available. The U.S. Army benefitted from this effort and from the expertise and training regimen of the wartime British armed forces.

With World War II well under way and the Americans involved in the conflict for barely one year, the new allies worked together to develop ways of training newcomers, enhancing skills and sharing insights. The U.S. Army’s Western Air Command had a photoreconnaissance unit, the 3rd Photo Group, commanded by Army Lt. Col. Elliot Roosevelt, the son of President Franklin D. Roosevelt. This unit joined the British photo interpreters (PIs) resident at Danesfield House in Medmenham, Buckinghamshire, England, primarily to work on photoreconnaissance aimed at German activity on land and sea.

Early in October 1942, the British Air Ministry began producing Evidence in Camera, a classic publication in the world of photo interpretation. To advance training and collaboration at Medmenham, Evidence in Camera carried page after page of state-of-the-art images that helped the PIs and pilots more clearly recognize strategically or tactically significant geography, formations and phenomena.

Each weekly issue of this magazine-format publication, designed for official use, opened with a humorous cartoon stressing the need to keep secrets out of casual conversation. One issue had a man suffering terribly in a dentist’s chair with the doctor’s hand in his mouth. The caption suggested that in all other cases the patient, obviously in uniform, should keep his mouth shut.

The opening pages of Evidence in Camera also included a mystery photo. This image offered particularly complex or unusual scenes for analysis to see if the PIs could handle the most difficult photography available. In one 1943 case the publication identified a bizarre pattern that appeared on the mystery photograph as a series of channels cut by water draining across the beach at low tide into the main stream of the Ems River (in northwestern Germany and northeastern Netherlands). With each mystery photograph PIs would have to wait a week to see if their identification proved correct.
Classification markings higher than for official use only did not appear on Evidence in Camera to permit wider distribution among those who might benefit from the publication. However, commanding officers knew that this learning tool should remain within a restricted audience. Within that readership the publication became very popular. Aware from the beginning that Evidence in Camera needed to have an appealing composition and appearance to attract regular attention like other magazines, the Air Ministry filled the otherwise plain blue cover with attractive, professionally rendered graphics and art. Its appearance, composition and content quickly made it an appealing and useful device for training and information.

In her book, “Air Spy,” Constance Babbington Smith noted that Royal Air Force Wing Commander Peter Stewart, the future commanding officer at Medmenham, “… brought into being an official picture magazine called Evidence in Camera, which many [reconnaissance] pilots maintain was the only official publication they ever looked at.”

Beyond the mystery photo this publication provided dozens of aerial images of all sorts of intelligence targets. One issue published in January 1943 included bomb damage assessment photographs of a rubber plant in Cologne, Germany; railways in the same city; aircraft attacks on U-boats in various stages of submerging; an ice-bound merchant convoy off Kiel, Germany; the U-boat pens at St. Nazaire, France; natural morning mist giving the valley of the Seine River in France the appearance of a coastline; and German camouflage treatments for aircraft and heavy guns. Each issue asked PIs, both British and American, to refine their tradecraft and bring their best skills to examining the photographs. The publication also asked pilots to expand their awareness of challenging natural or man-made phenomena.

Some of these techniques remain in use at NGA, although they now appear on computers and in many cases the images originate with satellites. During World War II, tools like Evidence in Camera both helped train photo interpreters in analysis and brought together British and American professionals. It made the enemy more vulnerable, and victory seemed closer at hand.
Sergio “Jo-jo” Lareza is chief of the Security and Financial Disclosure Branch at the National Geospatial-Intelligence Agency. The world traveler, 23-year military veteran and Ph.D. candidate joined the NGA team in 2004, and now lends his vast military and educational experience to the diverse workforce of NGA. “I enjoy the challenges of building new relationships and taking on new projects.”