



National Geospatial-Intelligence Agency Magazine

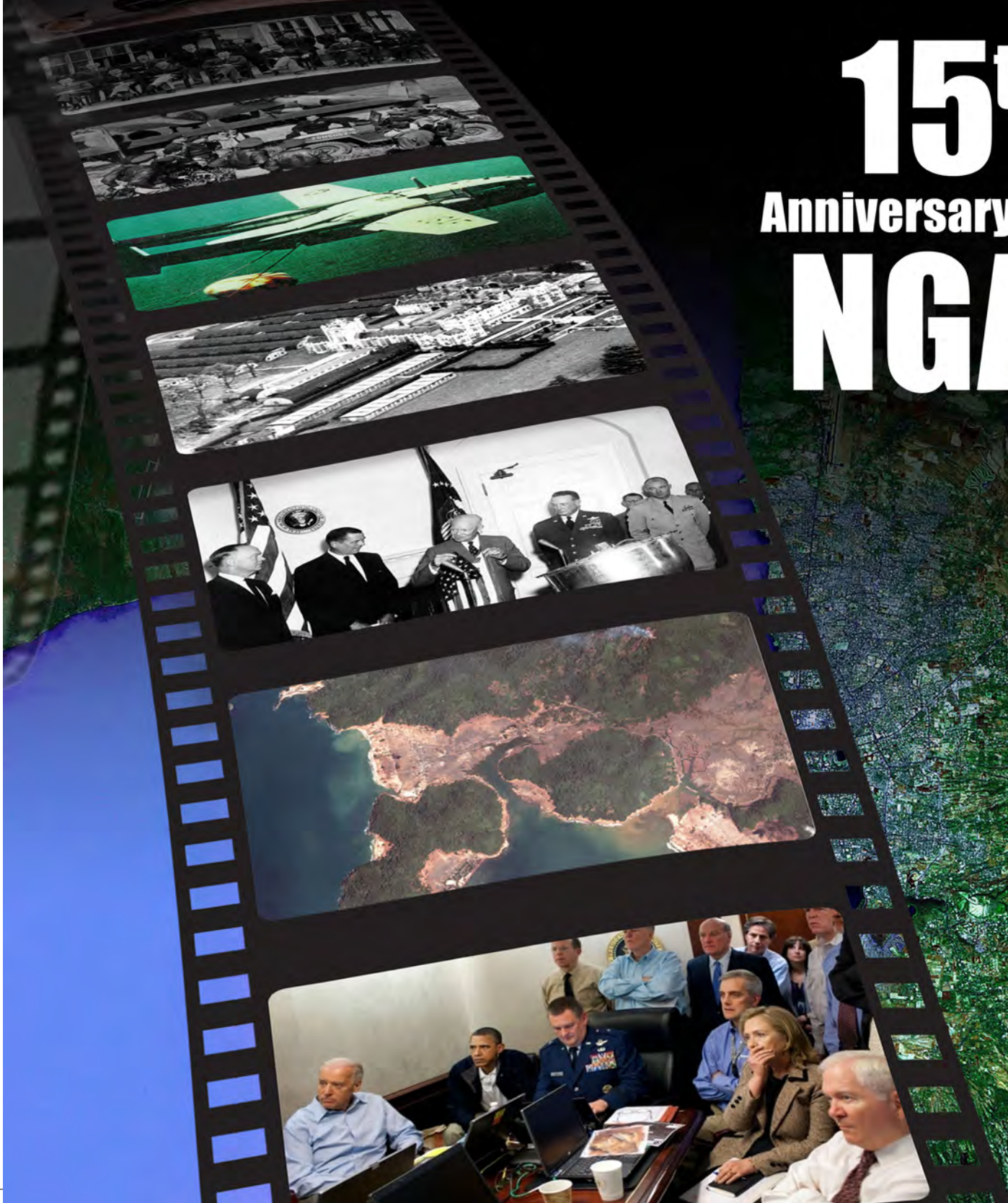
# PATHFINDER

Know the Earth... Show the Way... Understand the World

Vol. 9 No. 5

September/October 2011

## 15<sup>th</sup> Anniversary of NGA







ON MY MIND

## NGA at 15: Our Past, the Lodestar for Our Future

This year, the National Geospatial-Intelligence Agency (NGA) commemorates 15 years of excellence, built on a foundation of solid expertise and strong leadership. Originally created as the single agency within the Department of Defense (DOD) with responsibility to improve the overall effectiveness and efficiency of imagery and mapping support, we evolved to an agency with responsibility for geospatial intelligence (GEOINT). I congratulate those who have served NGA in the past and those who now serve.

Analysts, scientists and all other occupational specialists and support personnel are part of NGA's GEOINT team. These men and women, and the many other GEOINT experts whose talent, commitment, skills and abilities have made NGA the GEOINT leader for our military, civil, national and international customers, are the reason for our success.

So too are the leaders of this great organization, including the agency directors who preceded me, starting with our formal establishment as the National Imagery and Mapping Agency—our immediate predecessor organization—in 1996. These leaders provided the vision, and they led the hard work that moved us from eight separate agencies to the integrated organization we are today, providing GEOINT products and services for combat support, national and international humanitarian assistance and disaster relief, counterterrorism, homeland security and safety of navigation, just to cite a few of our missions.

The merging of cultures, tradecrafts and information technology architectures was no simple task. It required leaders from multiple agencies and disciplines to overcome barriers to transformation and execute the agency stand-up master plan. Cooperation was key to effectively supporting missions and protecting the lives of service members in places like Bosnia, Serbia, Afghanistan and Iraq. These missions required GEOINT, not stovepiped tradecraft.

The terrorist attacks of Sept. 11, 2001, posed a different set of challenges for our young agency; the attacks signaled a devastating new kind of threat—the killing of thousands of people, in one place at one time, by militant extremists striking anywhere in the world at any time. Where were they? Where were their safe houses, their training facilities? To answer critical questions like these, the intelligence, defense and civil communities had to collaborate, not just within agencies, but across agency lines.

NGA responded to this challenge by expanding GEOINT tradecraft, increasing GEOINT analysis and ramping up support to military operations, including deploying our people forward with combat troops and military headquarters. NGA also leaned forward to embed more GEOINT specialists inside partner Intelligence Community, DOD and civil agency organizations.

When I became NGA's director in August 2010, I came to an agency known throughout the intelligence and defense communities as a leader in GEOINT collaboration and integration. In its short history, NGA has risen to meet the demands of a changing threat matrix and the continuing dangers posed by natural and manmade disasters. Looking to the next 15 years and beyond, we will continue to build on this tradition.

As we move forward to put the power of GEOINT in users' hands, we draw on the work of those who, from our beginnings in 1996, believed in and worked for a unified agency reaching out to deliver the right GEOINT at the right place at the right time. At 15, NGA continues to take GEOINT to the next level.

**LETITIA A. LONG**  
Director

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## On the Cover

The National Geospatial-Intelligence Agency (NGA) marks its 15th anniversary in 2011, but naturally recollects the tradecrafts and talent that assembled under the aegis of the National Imagery and Mapping Agency in 1996. The cover of this anniversary issue recalls not only the recent success against Osama bin Laden, but also successes involving the Cuban missile crisis, Corona, Medmenham and with Commonwealth partners, tsunami relief activities, and the origins of imagery analysis in the photo interpretation of World War II. As geospatial intelligence itself emerges from a synthesis of many sources, so too NGA's history must mark both the coming together 15 years ago and those skills each professional ancestor brought to the new agency. Read more about NGA's history online at [www.nga.mil](http://www.nga.mil). Cover design by Amy Battison using NGA Historical Research Center images.

## On the Back Cover

At right, first responders stand atop the Pentagon during the Pentagon Memorial dedication ceremony Sept. 11, 2008, at the spot where American Airlines Flight 77 crashed into the building on Sept. 11, 2001, killing 59 people aboard the flight and 125 in the building. At left is a photo of the World Trade Center site, taken on Sept. 23, 2001, at an altitude of 3,300 feet. The World Trade Center was destroyed in the Sept. 11 terrorist attack. Back cover design by Amy Battison using a Department of Defense photo of the Pentagon by U.S. Navy Petty Officer 1st Class Jennifer Villalovos, and a National Oceanic and Atmospheric Administration image of the World Trade Center.



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Urban Terrain Zone maps: depicted here is the Penn State University Campus.



## PATHFINDER

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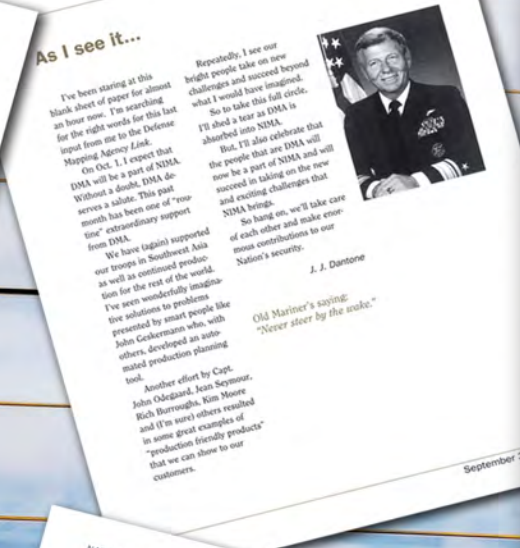
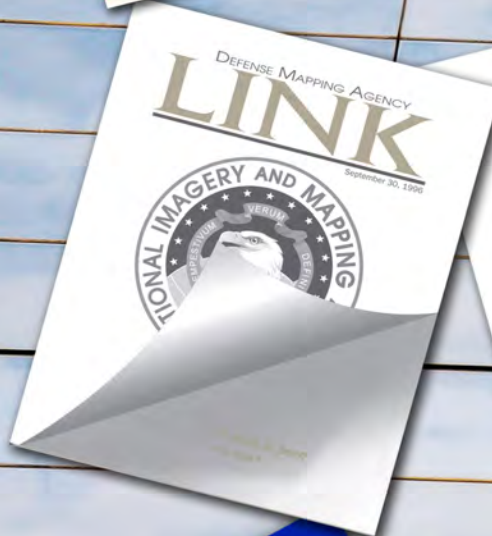
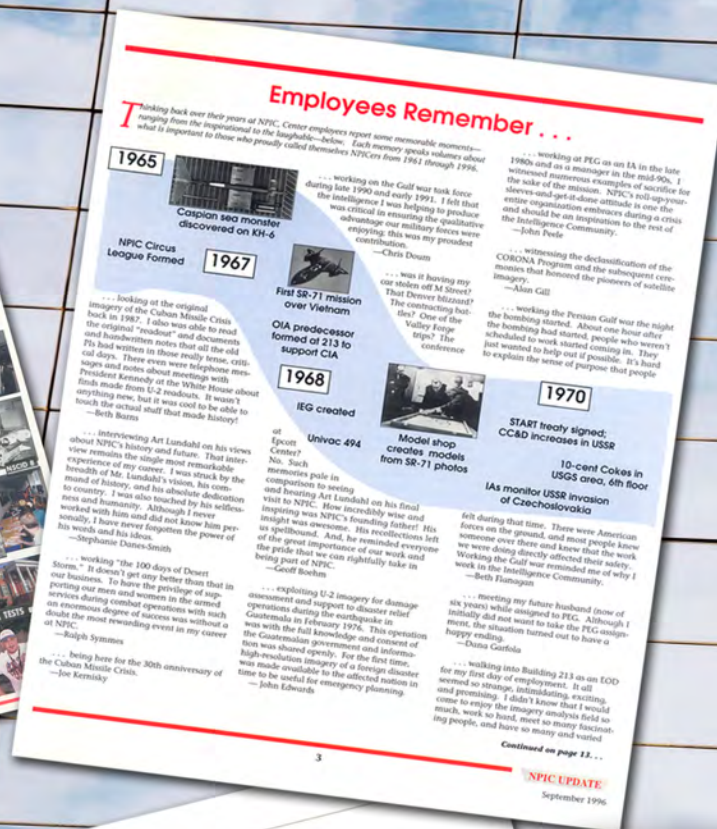
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Amy Battison

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# DMA Link, NPIC Update, NIMA Edge and NGA Pathfinder



## Publications Span the Gap From Past to Present

Depicted are reproductions of the last issues of the flagship publications of the National Geospatial-Intelligence Agency's (NGA's) two largest predecessor agencies, the National Photographic Interpretation Center and the Defense Mapping Agency; the first issue of the National Imagery and Mapping Agency publication; and the 10th anniversary issue of the NGA Pathfinder. These publications provide a snapshot of the agency as it was formed, as it grew and as it is today.



## NGA Hydrographer First American to Receive UK Dalrymple Award

BY ERICA FOUCHE, OFFICE OF CORPORATE COMMUNICATIONS

NGA photo by Larry Franklin



Chris Andreasen, at left, receives the U.K. Hydrographic Office Alexander Dalrymple award from Royal Navy Rear Adm. Nick Lambert.

A National Geospatial-Intelligence Agency (NGA) hydrographer became the first American to receive the U.K.'s Hydrographic Office (UKHO) Alexander Dalrymple Award on June 27. The UKHO bestows this honor on a person who has performed outstanding service in the area of hydrography.

Chris Andreasen, a geospatial intelligence maritime analyst in the Maritime Safety Office, received the award at ceremonies at NGA's Bethesda, Md., campus and at the British Embassy in Washington, D.C. UKHO named the award for the man who established the office in 1795 and is regarded as the world's first hydrographer.

"The U.K. Hydrographic Office believes Andreasen's success in the field stems from his strategic vision that is respected across the globe," said Royal Navy Rear Adm. Nick Lambert, Deputy Chief Executive to UKHO and U.K.'s National Hydrographer. "It's his expertise and dedication to hydrography that has made him the sixth recipient of the prestigious Dalrymple Award."

Andreasen, a retired National Oceanic and Atmospheric Administration rear admiral, served as the president of the International Hydrographic Organization and led negotiations for the bilateral agreements between the UKHO and NGA.

## Army Awards Contract for Child Development Center

The Fort Belvoir North Area Child Development Center (CDC)—which will serve up to 248 children from 6 months to 5 years old—is under development near the National Geospatial-Intelligence Agency Campus East in Springfield, Va.

Due to ongoing environmental review and permitting processes, a schedule for opening the CDC is not yet available. Originally planned to open in late 2011, the CDC may now open as late as 2013.

The Army Corps of Engineers awarded the design/build contract for the CDC infrastructure (utilities, roads and rough grading) on June 15 to AKHI Construction Company LLC. "When completed, this child development center will be an important enabler for the critical DOD (Department of Defense) missions performed at Fort Belvoir," said Mike Rogers, deputy chief of the programs and project management division.

Army Family and Morale, Welfare and Recreation Command awarded a separate contract for the construction of the buildings and grounds to Atlantic Marine Construction Co. last year. Once completed, Army Child, Youth and School Services (CYSS) will operate the center, which will be open to all eligible DOD personnel.

For additional information, please contact the Fort Belvoir CYSS, Parent Central Services Registration Office at (703) 806-0791 or e-mail cer@conus.army.mil.



Atlantic Marine Construction Company, Inc., photo

The Child Development Center at Fort Belvoir's North Area will consist of two buildings similar to this 124-person center at Fort Story, Va.

## Retired NGA Executive Installed as National ASPRS President-Elect

The American Society for Photogrammetry and Remote Sensing (ASPRS) installed Roberta E. Lenczowski, a retired National Geospatial-Intelligence Agency employee, as national president-elect at their national conference in Milwaukee in May.



Roberta E. Lenczowski

Lenczowski, who retired as the NGA executive director of St. Louis operations after 28 years of federal service, will serve in this role for one year. She previously served as NGA's technical executive and is currently an independent geospatial information-intelligence consultant. In addition, she is board director for GeoEye and Fugro EarthData Inc. and the non-profit Leonard Wood Institute.

"Roberta 'Bobbi' Lenczowski is a very welcome addition to the team of elective officers at the national level of the ASPRS," said Gary Florence, ASPRS President. "She brings to the Society a wealth of experience gained from her years of federal service, active participation in the ASPRS St. Louis Region, and extensive involvement in numerous other organizations within the imaging and geospatial profession."

Founded in 1934, ASPRS is a scientific association serving more than 7,000 professionals worldwide. Its mission is to promote the ethical application of active and passive sensors, the disciplines of photogrammetry, remote sensing, geographic information systems and other supporting geospatial technologies; to advance the understanding of the geospatial and related sciences; to expand public awareness of the profession; and to promote a balanced representation of the interests of government, academia and private enterprise.

NGA is a sustaining member of ASPRS.

Photo by Bill Molloy using ©DigitalGlobe 2009 NextView imagery

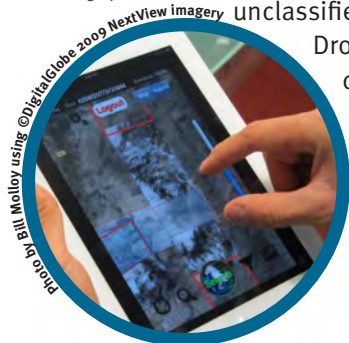


# New Mobile Application Fuses Innovation and Technology

BY ERIK NORRIS, CONTRACTOR, VISION IMPLEMENTATION COMMUNICATION TEAM

This iEQUIS application displays a detailed image of northwestern Afghanistan on an iPhone 4, downloaded from NGA's WARP library of commercial satellite images.

An operator selects his area of interest using the iEQUIS application on an iPad 2. Depicted is an NGA commercial satellite image shown against a backdrop of Google maps hybrid view, which overlays map data on top of satellite imagery.



**The National Geospatial-Intelligence Agency (NGA)**—in partnership with the National Reconnaissance Office (NRO)—has developed a new mobile application that provides service members and others in the field immediate access to imagery. The new Enhanced Quality Imagery Search (EQUIS) mobile application fuses innovation and technology into an easy-to-use solution.

“The capability to now download and view unclassified commercial imagery on the Droid and iPhone is a direct result of collaboration, innovation and the development contractor’s ability to cultivate this cutting-edge application,” said Lavergne White, the Web-Based Access and Retrieval Portal (WARP) Program Manager.

“The EQUIS Mobile application is definitely value-added and in keeping with the NGA vision, ‘Putting the Power of GEOINT in Your Hands,’” said White.

WARP system engineers worked very closely with the EQUIS Mobile development contractor during all phases of the system development lifecycle. After the team completed system development, it transferred the EQUIS Mobile application to NGA’s WARP Program; it is now available for download by users.

The EQUIS application meets increasing demand for in-the-field smart-phone applications, with iEQUIS for Apple’s iPhone operating system devices and EQUIS Droid for Google’s Android operating system devices. Modeled after the previously developed EQUIS architecture, EQUIS Mobile allows smart phones and other personal electronic devices to access and download commercial satellite imagery from NGA’s unclassified image library.

EQUIS Mobile, one of several smart phone projects under way across NGA, exemplifies the new capabilities supporting the NGA vision of providing online, on-demand access to NGA’s GEOINT knowledge. EQUIS Mobile empowers users of GEOINT

with the tools, data and information required to meet their needs when and where they need to better understand the world.

Service members on foot patrol in the streets of Afghanistan, Iraq or anywhere else need the latest picture of their environment. They need the situational awareness that access to real-time imagery provides in a constantly changing security dynamic. NGA will realize its vision—“Putting the Power of GEOINT in Your Hands”—when creativity, innovation and technology come together to solve complex challenges facing the GEOINT consumer, including the warfighter.

NGA and NRO are jointly addressing this challenge. Said Rob Zitz, former Director, NRO-NGA Support Team and Deputy Director, NRO Mission Support, “The NRO and NGA mission partnership is stronger than ever, and the results lead to improved support for all of our customers.”

EQUIS is an easy-to-use Web application that combines discovery, display and dissemination of national, airborne and commercial imagery directly to a user’s desktop. EQUIS Mobile builds upon this foundation to deliver intelligence to mobile hand-held devices.

“Project EQUIS is but one example of the technologies emerging from the partnership between NGA and NRO,” said Zitz. “NGA has placed engineers and analysts inside NRO where they are helping to enable NGA’s vision. Other examples include innovative and user-friendly ways to task satellites via broadband wireless devices, extraordinary new processing routines to automate image exploitation and inventing methods to gain precise geolocational data from video sources real-time,” added Zitz.

EQUIS Mobile applications for iPhone and Droid smart phones deliver a powerful new capability to users, literally putting the power of GEOINT into their hands and changing their online experience by allowing better interaction with content and services through online, on-demand access. ✨

# InnoVision Celebrates 10 Years and a Legacy of Improving GEOINT

BY ROGER GANT, CONTRACTOR, INNOVISION COMMUNICATIONS TEAM

**The National Geospatial-Intelligence Agency's** (NGA) research and development (R&D) component—the InnoVision Directorate—stood up after the establishment of the National Imagery and Mapping Agency (NIMA) in 2001 and celebrates its 10th birthday this year. But its pedigree dates back three decades to the systems and technology (S&T) offices and laboratories of NGA's legacy organizations, including the National Photographic Interpretation Center and the Defense Mapping Agency.

“The challenges were many,” recalled then-NIMA Technology Office Director Darryl Garrett of those early days. They included “bandwidth, collaboration, applications like automated target recognition and new hardware like high-definition monitors. As our world focus expanded, and more imagery data became available, we needed to surge our ability to rapidly develop tools. We also wanted to improve the adoption process and our infrastructure.”

Significant R&D innovation followed the 1991 Persian Gulf War as U.S. and allied policymakers and warfighters challenged the Intelligence Community (IC) to improve the timeliness, flexibility and accuracy of geospatial intelligence (GEOINT) products. Analysts crafted software tools so users could access and tailor GEOINT capabilities to their needs, ranging from situational awareness to precision targeting. Marine and Navy combat teams participating in the 1995 NATO Operation Deny Flight used a new tool suite to successfully plan and execute the low-level helicopter rescue of downed U.S. Air Force pilot Capt. Scott O'Grady from hostile Bosnian territory. Combat-proven tools helped inspire new analytical processes and tradecraft as users leveraged the power of the Internet and broadband communications as well as increasing amounts of GEOINT data from spaceborne and airborne sensors.

At the same time, the new organization eyed potential game changers in technology and business processes. The Technology Office further refined the applications used for the O'Grady rescue; they developed “NIMA in a Box,” a laptop-based tool suite that helped refine workflow and tradecraft through its use in 1999 by air units waging the campaign against the Federal Republic of Yugoslavia.

Technology Office scientists exploited new capabilities of traditional remote sensing technologies, including film photography, infrared, radar and light detection and ranging (LiDAR). The evolution of these sensors led to new tools for analysts to detect and characterize objects over increasingly larger swaths of terrain. Accordingly, neuroscience, cognition and automated target recognition were explored for their ability to help users move from analyzing discrete objects to larger patterns and trends. The terrorist attacks of Sept. 11, 2001, challenged the agency and the S&T community to contend with new asymmetrical threats, while continuing to face traditional ones.

Retired Air Force Lt. Gen. James R. Clapper Jr., who became NIMA director following 9/11 and is currently the Director of National Intelligence, established a new organizing principle for the agency—the “now, next and after-next.” The NIMA S&T Directorate reoriented to include a role in long-term R&D as the after-next, or 10-20 year future component. The directorate's challenge was to embrace risk, exploit disruptive technologies and transition capability with the potential to provide game-changing GEOINT advances.

Today's InnoVision Director wears several hats: NGA's director for R&D, community GEOINT functional manager for R&D and partner with Commonwealth allies. InnoVision continues its R&D legacy, exploiting new wrinkles of existing GEOINT technologies to deliver near-term capabilities to users, while seeking new



technologies, processes and concepts to advance the potential of geospatial science. InnoVision's users are global, comprising the National System for Geospatial Intelligence (NSG), which includes NGA, Intelligence Community, Department of Defense and other federal agencies, and, through the Allied System for Geospatial Intelligence, NGA's Commonwealth partners.

According to current InnoVision Director Bert Beaulieu, the directorate ably juggles its many priorities. "InnoVision's greatest strength is our ability to maintain a balance between providing near-term innovative solutions, while still investing in the future of GEOINT as we look for gamechanging capabilities to address enduring challenges," said Beaulieu.

InnoVision's major research thrusts have always focused on users' toughest intelligence problems. These include detecting homemade explosives and illicit narcotics; monitoring weapons of mass destruction; tracking suspect ships at sea; and detecting objects through dense foliage or underground. Research also addresses the community's need to better anticipate and determine the damage from natural disasters, automate analytical process and workflow, and improve mission planning and coordination. Helping mitigate the problems of data storage, exploitation and fusion are among InnoVision's

top priorities. Research with partners in creating algorithms for full-motion video processing is ongoing; NGA and the Department of Energy have demonstrated the ability to provide critical move-intelligence information, while significantly reducing the data footprint. Such efforts will enable analysts to focus less on discrete events and more on patterns of activity and knowledge.

While developing tools and processing algorithms, InnoVision has helped advance GEOINT science. Many of InnoVision's success stories supporting the nation's warfighting operations are sensitive. However, some tools warfighters use also support humanitarian efforts. NGA-provided LiDAR high-resolution, 3-D images supported the U.S. response to the 2010 Haiti earthquake. InnoVision scientists deployed as part of an NGA team that processed airborne LiDAR data that delivered first-look, 30-centimeter resolution imagery within days of the initial quake. Through a technique called change detection, LiDAR imagery depicted the movement of persons in and out of affected areas and answered critical questions on the location of displaced persons. The 3-D LiDAR data aided U.S. Southern Command and U.N. authorities' efforts to deliver needed aid to quake victims and plan follow-on reconstruction of the island's shattered infrastructure.



Penn State University's Applied Research Lab image

*A recent cooperative research and development agreement with Penn State University will create both the framework and process for NGA to produce Urban Terrain Zone maps; depicted here is the Penn State University Campus.*



**“IT’S A PRIVILEGE TO BE PART OF THIS WORLD-CLASS ORGANIZATION,” BEAULIEU SAID. “WE’RE TRULY PUTTING THE FUTURE OF GEOINT IN USERS’ HANDS TODAY.”**

The continuing challenge—to seek new solutions to enduring problems—leads InnoVision to embrace new sciences and skills. InnoVision recruits biologists; chemists; computer; Earth and other scientists; and mathematicians as part of its strategic workforce plan. InnoVision engages with the academic community to help grow the next generation of geospatial scientists; the directorate’s academic engagement focuses on areas like compressive sensing, full-motion video and human geography. InnoVision’s academic portfolio includes a research program featuring 107 active research grants (total value over \$50 million), research initiatives, a robust post-doctoral research program (41 grants with 34 universities) and a visiting scientist program.

InnoVision likewise partners with industry. Participation in CIA’s In-Q-Tel small-business program dates back years; InnoVision sponsorship, for example, helped develop fledgling technology that now powers Google Earth. Areas of InnoVision industry investment include energy cooling and economy; desktop visualization; immersive environments; cyber security; and mobile technologies. InnoVision’s industry engagement portfolio also encompasses more than 21 cooperative R&D agreements to increase creativity and synergy with industry and academia.

InnoVision also partners to focus limited R&D resources on common problems of greatest value. InnoVision initiated an NSG R&D Forum (NRF) in 2008 to increase community awareness and networking across the R&D community. This year’s NRF, planned for September, will build on the knowledge gained from previous forums, which discussed topics including weapons of mass destruction and human geography.

An R&D legacy that began three decades ago continues to inspire InnoVision to discover and transition new ways to “put the power of GEOINT into users’ hands.” InnoVision’s laboratory environment and Geospatial Intelligence Advancement Testbed are at the forefront of the directorate’s effort to make online, on-demand access to Web services and applications even more accessible. InnoVision is also helping advance NGA’s vision through the development of R&D incubators and efforts to incorporate open-source technology to a greater extent.

“Every day I gain a new appreciation of InnoVision and our contributions to GEOINT solutions for partners and users,” Beaulieu said.

As InnoVision prepares to step into its next decade, it will leverage its greatest strength—people and the unique scientific knowledge they bring to bear on the nation’s toughest GEOINT R&D problems. ✨



Fotolia Image

*NGA’s InnoVision Directorate delivers research and development solutions to put geospatial intelligence in the hands of users.*

# Rich Maritime Tradecraft Heritage Docks at NGA Campus East

BY HOWARD COHEN, BATHYMETRY BRANCH CHIEF

**On June 6, the National Geospatial-Intelligence Agency's (NGA) Maritime Safety Office (SH) docked at its new home port at the NGA Campus East in Springfield, Va. The Maritime Safety Office lives up to a proud tradition by providing geospatial intelligence in support of NGA's navigation safety mission, national security objectives, international obligations, intelligence activities and joint military operations.**

"We have moved several times over the past 25 years and this is the most satisfying," said Peter Doherty, office Deputy Director. "Our new home brings together cohesion amongst the workforce in a state-of-the-art facility. We've come a long way since the beginning from a rented house near the White House in 1830, and the dedication from our maritime workforce to the safety of navigation mission has never faltered."

NGA's maritime tradecraft professionals—including maritime analysts and bathymetrists—work cooperatively with their counterparts in the National Ocean Service, the Naval Oceanographic Office, the U.S. Coast Guard, contractor partners and nearly all foreign hydrographic offices worldwide. Their duties are performed in fulfillment of NGA's marine navigation obligations under U.S.

Code, Title 10 and other federal and international laws and regulations in support of national security goals, concerns and strategies.

The Maritime Safety Office's tradecraft dates from Dec. 6, 1830, when the U.S. Navy established a depot of charts and instruments to collect navigational charts, publications and instruments. This was the government's first attempt to assume responsibility for hydrographic surveying and charting.

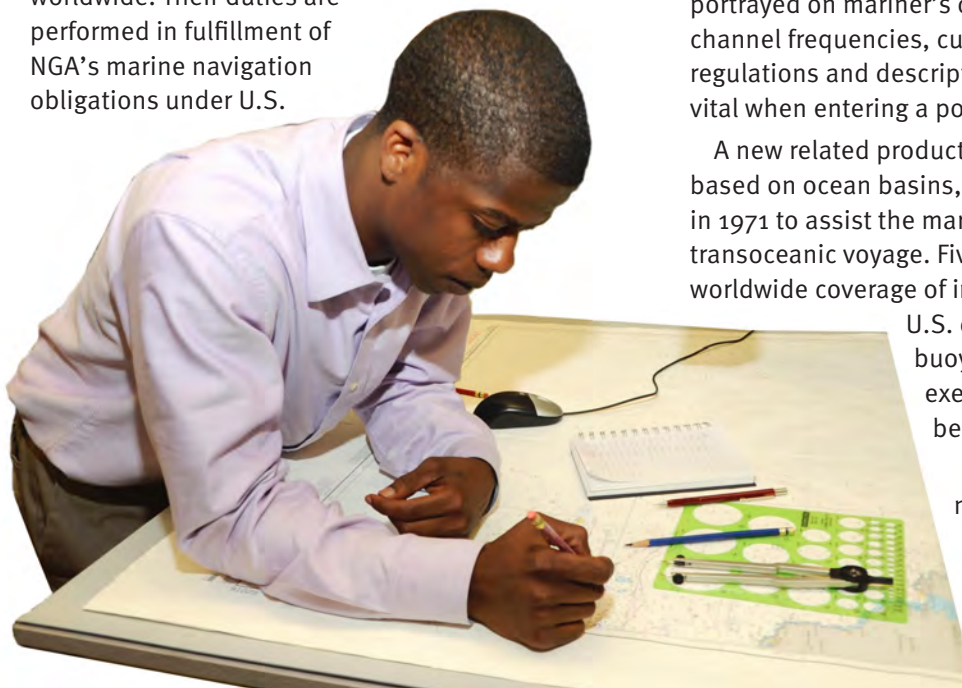
By the early 1850s the depot had gained global recognition as an observatory and a hydrographic office, largely through the dedicated work and contributions of noted scientists Louis M. Goldsborough, Charles Wilkes, James M. Gilliss and Matthew Fontaine Maury. They specialized in the fields of navigation, hydrography, astronomy and oceanography, respectively.

When Commodore Matthew C. Perry negotiated a treaty in 1854 that established the U.S. presence in Asia, the depot composed Sailing Directions for the new ports that facilitated future trade. Now, 37 volumes of this publication provide expanded foreign coastal and port information that cannot be portrayed on mariner's charts. Knowledge of pilot channel frequencies, currents, local weather, port regulations and descriptive views of the area is vital when entering a port.

A new related product series, Planning Guides, based on ocean basins, came into existence in 1971 to assist the mariner in planning a transoceanic voyage. Five volumes provide worldwide coverage of information about non-U.S. countries, governments, buoyage systems, military exercises and mined areas to be avoided.

The Safety Office's most noted publication is the U.S. Notice to Mariners, which has maintained a

*Ryan Samuel adds a new Notice to Mariner's correction.*




NGA photo by Larry Franklin



continuous weekly production cycle since 1869. First published by the Bureau of Navigation, it is the oldest continuously running U.S. government publication. Until it went online only in January 2005, it retained a government publication's printing priority second only to the Congressional Record.

NGA, the National Oceanic and Atmospheric Administration National Ocean Service and the U.S. Coast Guard jointly produce the weekly U.S. Notice to Mariners. U.S. military forces and civilian mariners worldwide use it to update and correct their U.S. charts and navigation publications. The U.S. Notice to Mariners informs the military and civilian maritime community about corrective information regarding hydrographic discoveries, changes in channels, navigational aids and other important data. It is the only publication officially authorized to update and maintain our nation's portfolio of nautical products.

The Maritime Safety website can be accessed via the NGA home page ([www.nga.mil](http://www.nga.mil)) under the products and services link or directly at <http://msi.nga.mil/NGAPortal/MSI.portal>.

## Sept. 11 Revisited

By SUSAN H. MEISNER, OFFICE OF CORPORATE COMMUNICATIONS

**The National Geospatial-Intelligence Agency** (NGA) celebrates 15 years of geospatial intelligence as the nation remembers 9/11. NGA—then the National Imagery and Mapping Agency (NIMA)—was a youthful organization in 2001, still developing its processes, procedures and culture. The events of Sept. 11 supercharged those changes and launched a new era for the Agency, for the Department of Defense and for the Intelligence Community.

Following are two of the stories from the October 2001 Edge, the precursor to today's Pathfinder magazine.

***A Horrible View from the Washington Navy Yard***  
BY PAUL HURLBURT, EDGE EDITOR (ABRIDGED VERSION FROM THE OCTOBER 2001 ISSUE OF THE EDGE)

Gail Betts-Anderson and her staff, Lyndell Walker and Barry Harrelson, have a commanding view from their 6th-floor offices in Building 213 at the Washington Navy Yard. In Betts-Anderson's office, the view is across a widening Potomac toward America's military center, the Pentagon.

As symbols of freedom and power, these buildings normally provide an inspiring and reassuring sight, but the morning of Sept. 11 the view across the river horrified NIMA employees. In the words of Betts-Anderson, Chief of the NIMA Research Division Washington operations (DSRW), what they saw was a sky full of "pitch black smoke."

Earlier that morning, Betts-Anderson was providing feedback to promotion applicants. Michael Betts, a division chief in the Imagery Analysis Office and her brother, had knocked on her door with the New York news.

"Terrorists have attacked the World Trade buildings. Keep your eyes open," she recalled him saying.

It wasn't long before Betts-Anderson's branch chief, Barry Harrelson, knocked. "Look out the window!" he exclaimed.

"Everything fell apart when the black smoke appeared," said Betts-Anderson. "I said, 'Oh, my, what's going on?' Somebody said, 'It looks like the Pentagon's been hit!'"

Almost immediately, Harrelson reappeared to report the news the Pentagon had been struck.

Minutes later, employees began evacuating the upper floors, as supervisors notified them. They regrouped on the windowless first two floors, but were soon told they could leave the building. None of Betts-Anderson's people did, she said, except for a worried employee located at a remote site in the Information Services Branch, Reggie Carver. His sister, Sharon Carver, worked at the Pentagon as an Army civilian. She was missing and later listed as a victim.

"They had the option to go, but we are a family," Betts-Anderson said. With responsibility for the NIMA Map Library at the Pentagon and providing support to imagery analysis operations

there, she and her staff were concerned about colleagues across the river. They also knew there was much work to be done. Contacting the Pentagon staff, of course, was top priority but keeping operations going, they knew, would be essential.

When Harrelson finally got through to the Pentagon Map Library senior team lead, David Armstead, about 4 p.m., he learned that all NIMA personnel were safe.

That afternoon Research Division staff led by Chief David Kraus, who also works at the Navy Yard, met with counterparts from Customer Operations, Imagery Analysis and other NIMA offices to formulate contingency operations. Immediately, the Research Division began a 24/7 schedule for NIMA East sites, with personnel from Bethesda and the Navy Yard supplementing the Pentagon Map Library. The next day Armstead resumed operations at his normal location in the Pentagon after Betts-Anderson determined that there was connectivity and no damage.

A normal workday Sept. 11 turned out to be their last on Earth for many. It turned out to be a long and traumatic day that lasted into the night for Research Division employees and staff. ✨

## ***NIMA Team at Pentagon Moves into Action***

BY PAUL HURLBURT, EDGE EDITOR (REPRINTED FROM THE OCTOBER 2001 ISSUE OF THE EDGE)

“NIMA personnel are located all over the Pentagon,” notes Air Force Lt. Col. Ted Barco, NIMA Liaison to the Under Secretary of Defense for Policy. As members of the NIMA Support Team Pentagon, led by Navy Cmdr. Roland de Jesus, these personnel provide on-the-scene support to the National Military Joint Intelligence Center (NMJIC), Joint Staff and Under Secretary of Defense for Policy.

When the hijacked airliner crashed into the Pentagon on Sept. 11, the NIMA Support Team immediately moved to a crisis mode, while the tragedy unfolded around them. “Commander de Jesus remained in the building and began calling in personnel [to meet the crisis],” said Andrew Mason, Chief of the NIMA Support Team Pentagon Operations Desk. The NIMA Support Team is made up of the Pentagon Imagery Center (PIC) and the Pentagon Support Center (PSC).

Mason said he deployed with elements of the J2 (Joint Chiefs of Staff, Intelligence) to an alternate facility, as a contingency measure, as did NIMA Technical Representative Jerry Hiller and Imagery Liaison Officers Brent Guernsey and Lyle Schrupf. The Director, J2 and Director of the Defense Intelligence Agency (DIA) remained at the Pentagon.



Photo by John Iler

Gail Betts-Anderson and her staff Lyndell Walker, left, and Barry Harrelson saw a horrible scene from the 6th floor of Building 213 on Sept. 11.



Says Barco, “The Ops Desk in the NMJIC is one of the best examples of NIMA personnel working together to get the information edge to the customer”—evident in the Pentagon’s response to the terrorists. “This outstanding teamwork and support includes NIMA’s Pentagon Map Library, Remote Replication Service and tech reps and imagery analysts” assigned elsewhere in the Pentagon, Barco added. “We are a big closely interrelated team here.”

The NMJIC is the central body for the management of national military intelligence operations. With ties to DIA, the NMJIC supports the intelligence needs of the Joint Staff and unified commanders, focusing on global indications and warning, operational intelligence and national targeting support. ✨

### Sept. 11 Revisited

Following are updates from Paul Hurlburt, who wrote these stories back in 2001 and retired from NGA in 2007; Ted Barco, on duty at the Pentagon on Sept. 11 and now with NGA’s Inspector General’s Office; and Gail Betts-Anderson, then chief of the NIMA Research Division at the Washington Navy Yard and now senior staff officer to the Enterprise Operations Directorate technical executive. They reflect 10 years later on events of the day and changes since.

**Paul Hurlburt, editor of the NIMA Edge magazine in 2001:** “Arriving at the Pentagon two weeks after it was struck, I discovered our map library operating 24/7 to meet the demand for our products from an ‘insatiable military community.’ This was just one example of how our agency scrambled to meet the demands of our customers fighting back in the ensuing global war on terrorism, as it was then called. In the next six years as editor, I had the thrill of helping to track and share with readers breakthrough advances from every corner of the agency. So, it was no surprise when I read in the national media of the key role NGA played in the capture and killing of Osama bin Laden. While we can never forget what happened on Sept. 11, 2001, 10 years later we can say we have come a long way.”

**Air Force Lt. Col. Ted Barco, NIMA liaison to the Under Secretary of Defense for Policy in 2001:** “9/11 provided us a wealth of opportunities to confront assumptions we understood to be examples of common sense wisdom, which in reality often worked against our national, organizational and/or personnel

interests. As a result 9/11 changed how I saw the world, reignited my intellectual curiosity and renewed the strength of character I needed to comprehend and challenge the Gordian Knot (intractable problem) of assumptions within my own profession.

“Though the agency has also significantly changed, in many ways it has come full circle. Leading up to 9/11 we were piloting the design of a narrow class of very contextually rich geospatial intelligence products for senior Office of the Secretary of Defense decision makers. By Sept. 11, working with P (Analysis and Production Directorate), we had proactively developed almost 30 such products, which enabled the nation’s policymakers to quickly respond to emerging developments in a post-9/11 world.

“Fast forward 10 years and today the agency has got it about right; only by broadening and deepening analytic expertise can we hope to put GEOINT in the hands of the user when and where it is required. At the heart of this calculus lies profound questions relative to how we hire, develop, certify and posture our workforce with the insights and technical acumen needed to address today’s challenges and tomorrow’s opportunities.”

**Gail Betts-Anderson, chief of the NIMA Research Division Washington operations in 2001:** “My children at the time were ages nine and three; my daughter is now entering her last year of college and my son is entering high school this fall. Sept. 11 changed their lives forever. They are now part of the world where passengers are lined up—taking off their belts and shoes so strangers can run their hands around their waists. Signs warn them to report any suspicious activity. Dealing rationally with the risks of terrorism is hard; catastrophes are not supposed to happen to us (Americans). For the first time we have this fear factor in our lives. This is one of the reasons I volunteered to support my country—leaving my family for six months to support our troops in Afghanistan. I had life experiences there I will never forget, including visiting the hospital and seeing personnel severely wounded from a suicide bomber. We need to be proactive and use a more rational approach to protect ourselves from terrorism, as well as use our technology and intelligence to outsmart the bad guys.” ✨

## 9/11 Remembered by NGA Employees Who Lived to Tell the Tale

BY KATHI GHANNAM, CONTRACTOR, OFFICE OF CORPORATE COMMUNICATIONS

**At 9:37 a.m. on Tuesday, Sept. 11, 2001, as** people inside the Pentagon watched the news and saw an airplane hit the second twin tower in New York City—American Airlines flight 77, a Boeing 757 airliner, struck the southwest portion of the Pentagon’s E-ring.

Cindy Wright, then Deputy Chief of the National Imagery and Mapping Agency (NIMA) Analysis and Production Operations Center (NOC-P), and colleague Amy Joe Bizub were traversing the bridge that spans Route 110 from the Pentagon to the North parking lot when the plane hit. Luggage in hand, they were supposed to be on their way to St. Louis.

“We didn’t see anything at first,” said Wright, now deputy director of the Office of Americas. “We just heard two loud thumps, like the sound of tractor trailers hitting metallic plates on the highway. Moments later we saw smoke and smelled the sweet-sour odor of burning jet fuel.”

Wright recalled that after several seconds of silence, alarms rang out and floods of people came running from the building yelling, “Get out of here and don’t go back in the building.” Said Wright, “Some appeared to be in shock, others were crying and still others wore looks of sheer fear. Everyone knew at this point we were at war.”

One of the most memorable and moving moments for Wright was witnessing the evacuation of the Pentagon’s Day Care Center; the magnitude of what was happening really hit home when she saw the staff rush the children out of the area at break-neck speed.

Until all air traffic was grounded shortly after 10 a.m., there were thought to be as many as six to eight additional planes aloft and ferrying suicidal hijackers. With the fear of additional strikes looming, Pentagon security forces directed the crowds amassed at their rallying points to move further away, almost to the Potomac’s waterline.

At about 1 p.m., as Wright, Bizub and another NOC-P colleague, Army Sgt. Joelle Jackson, approached the building hoping to retrieve their car keys, security representatives asked if they would aid in search and recovery efforts. They returned to the burning building and stayed until 10:30 p.m., laying out body bags delivered to the center courtyard and waiting to assist with recovery of the dead or injured.

During the initial chaos, taking accountability for all NOC-P personnel proved a great challenge; it took the staff four hours to determine everyone was fine. As they located each other, employees embraced and gave thanks for being alive.

Once fire and rescue personnel gave the “all clear,” Secretary of Defense Donald Rumsfeld declared the terrorists were not going to close down the Pentagon. He was determined the building be reoccupied the next day. It was.

On that bright, beautiful fall morning, incoming NIMA Director retired Air Force Lt. Gen. James R. Clapper Jr. (now the Director of National Intelligence) arrived in Bethesda for his second day of transition to his new job. By Friday of that week, Clapper was squarely at the helm—reorganizing the agency to more effectively address the clear and present threat.

Three women from NOC-P experienced a day they will always remember, a defining moment for both them and the nation. ✨



Cindy Wright



# Evolution of the NGA Deployer Program—Providing GEOINT Forward

BY SARA FISKE, CONTRACTOR, OFFICE OF CORPORATE COMMUNICATIONS

**The war in Iraq, the 2010 earthquake in Haiti and the last Presidential Inauguration** all have one thing in common: National Geospatial-Intelligence Agency (NGA) analysts on the ground, side-by-side with the customer, providing direct geospatial intelligence (GEOINT) support. From helping the warfighter find the enemy, showing relief workers where people need help, or mapping potential trouble spots for the Secret Service, NGA and its predecessor organizations have provided forward support inside their customers' footprints since well before the 1996 standup of the National Imagery and Mapping Agency (NIMA).

Using the Defense Mapping Agency's (DMA's) service and command team model as a starting point, NIMA stood up its first Customer Support Teams (CSTs). In addition to working with the military services and joint commands, CSTs also supported national customers, such as the State Department, the Defense Intelligence Agency (DIA) and the National Security Agency (NSA). CST liaison officers worked on policy and planning issues with these customers, while technical representatives—Tech Reps—provided technical support in the field.

“Tech Reps were out there to teach the customers how to fish,” said Steve Bramow, who began his career with DMA and was part of NIMA's original Customer Support Office. “The goal was to educate the customer about GEOINT, but tech reps became so popular with customers that they ended up whetting their appetite,” he said, for more GEOINT support in the field. The program depended upon a robust reachback system, which bridged the gap between in-house analysts and deployed personnel.

## A Turning Point

Sept. 11, 2001, was a turning point for both the country and the agency. Not only did terrorists attack the United States, but two days later, retired Air Force Lt. Gen. James R. Clapper Jr. assumed leadership of NGA. Clapper spearheaded major changes in the agency, including how it conducted

its business at home and abroad. In October he created NIMA Support Teams (NSTs) and deployed personnel with the first wave of special operations forces for Operation Enduring Freedom. In March 2003 he sent more than 100 military, government and contractor personnel to the Central Command (CENTCOM) area of responsibility. NIMA personnel accompanied all of the major elements into Iraq.

In August 2003 Clapper consolidated several of the various customer support elements throughout the agency to create the Office of Deployed and Externally Assigned Personnel (ODP). ODP prepared personnel for deployment, eventually establishing the NGA Volunteer Deployment Team (NVDT) in 2004 to manage the ever growing demand for a cadre of trained volunteers who could be ready to support contingency operations anywhere in the world.

“He (Clapper) inverted the model (of the CSTs),” says Bramow. In addition to serving as customer service liaisons, analysts were now out in the field producing GEOINT on site.

NSTs provide a different type of forward support, however, than do NVDT deployers. NSTs are more established—if not permanent—teams of NGA analysts and support personnel embedded within mission partner and customer organizations. They support GEOINT requirements, serve as the representative of the National System for Geospatial Intelligence, manage all NGA resources on site, and act as an advocate for customer needs. NGA currently has NSTs at all combatant commands headquarters; within each of the military services and service intelligence centers; inside other Intelligence Community and federal agencies such as NSA, DIA, the Department of Homeland Security (DHS) and the State Department; as well as in international locations to support NGA's GEOINT relationships with other countries. The work of the NSTs is as varied as the organizations they support, and individual assignments can last up to three years.

While NVDT deployers perform many of the same functions, their missions are temporary, and individuals typically serve for four to six months at a time. They provide crisis and contingency support for disaster recovery and relief efforts, National Special Security Events (NSSEs) and warfighting efforts in Iraq, Afghanistan and elsewhere.

NSTs and the NVDT collaborate on joint missions. For example, the CENTCOM NST has been heavily involved in NGA's NVDT support to the wars in Iraq and Afghanistan, while the DHS NST is heavily involved when NVDT deployers respond to domestic missions.

### **NIMA to NGA**

In 2003 NIMA became NGA with passage of the 2004 Defense Authorization bill, ODP became the Office of Global Support (OGS), and Clapper increased NGA's forward support inside the United States. NIMA analysts surveyed the World Trade Center site after the terrorist attacks of 9/11 and began supporting the Olympic Games in 2002. In 2004 the agency began sending teams to support NSSEs, beginning with the national political conventions of that year. These teams collaborated with the NSTs at DHS, the FBI and the Federal Emergency Management Agency (FEMA).

NGA now supports numerous NSSEs each year from pre-event planning through deployment of GEOINT analysts on site, always at the request of a lead federal agency. NGA also supports disaster readiness and recovery operations. In 2005, the White House cited NGA for its outstanding and timely support to the Hurricane Katrina relief effort.

Agency deployers have always been volunteers, willing to leave the comforts of home and family and work in difficult and sometimes dangerous locations. Sometimes even getting to their deployment locations could be a challenge. NGA analyst Lou Halbert, who estimates he has deployed at least 20 times in his career, says, "Early on, you were on your own. You had to find your own military transport from Europe, and you were dependent on the host unit for all your communications. You even had to set up your own tent and camouflage netting."

Today an entire logistics team is in place to get deployers where they need to go and house them once there.

Training for deployers has improved, too. Producing GEOINT in the field is much different from producing it at home. A deployed analyst needs to be more of a jack-of-all-trades than he or she is at NGA, where specialization is more common. Training now provides real-life exercises that simulate what deployers might encounter in the field.

By 2006, when Vice Adm. Robert B. Murrett took the helm of NGA, the United States was fully engaged in two wars, and NGA had more people in the field than ever before. The agency had shifted its focus from an internal or national mission to an external, combat-support mission. Murrett believed that NGA could be much more responsive if NGA personnel were alongside mission partners and military customers in the war zone. "We could better understand their mission, and anticipate requirements much faster, sharing their hardships and their successes," says Gary Dunow, former Deputy Director of NGA's Expeditionary Operations office.



NGA photo

*NGA analysts discuss details for mission operations in Ethiopia.*



# “PUTTING THE POWER OF GEOINT IN YOUR HANDS”

In January 2007, Murrett created the Combat Operations Support Team to help manage the growing GEOINT support required by the U.S. military surge in Iraq. Country team leads were responsible for all NGA personnel in country, and were familiar enough with NGA’s products and services to be able to market them to the customer, who often had little or no knowledge of NGA or GEOINT. By “leaning way forward into the customer’s footprint,” says Dunow, “we also educated them on the power of GEOINT. This model was the right model for the time period. The country was on a war footing, and our presence in theater saved lives.”

Dunow believes GEOINT played a critical role in the success of the 2007 surge in Iraq and “directly contributed to our ability to safely draw down the United States’ presence from Iraq this year.”

Another benefit of embedding GEOINT analysts into a customer’s footprint is the opportunity for true multi-intelligence (multi-INT) collaboration with analysts from other Intelligence Community agencies who also have embedded support. Breaking down the proverbial stovepipes between agencies, this multi-INT support has led the way in the kind of interagency collaboration mandated by the 9/11 commission. “In the field, it just happens naturally,” says Halbert.

## The Road Ahead

With the arrival of new agency director Letitia A. Long in 2010, Dunow says the pendulum is starting to swing back to a more balanced approach between warfighter support and the national security mission.

Forward-deployed NGA teams vary in size and makeup—each team customized to support the unique needs of the specific mission partner or customer at a given time, says Bramow. As a result, some teams are quite large, and include a diverse mix of NGA personnel, in addition to the typical GEOINT analyst and staff officer. NGA forward support has been praised as a model for embedded support across the Intelligence Community. Most NGA employees who deploy or take an NST assignment find it to be a highlight of their NGA career.

But the new agency vision to “put the power of GEOINT in your hands” means NGA’s forward-deployed support will continue to evolve as the agency provides more self-service capability for its customers. The customer now understands GEOINT much better and has more advanced technology to access it. But no one sees the deployed mission going away anytime soon says Dunow. “Because we’ve educated the warfighter, they’re not going anywhere without us.” ✨



NGA employees participate in a planning session at Headquarters, Southern Command in Miami, Fla.

NGA photo

## The End of an Era, the Birth of a New One

With this issue, the National Geospatial-Intelligence Agency (NGA) marks the end of an era. Legacy facilities in the East—at main post, Fort Belvoir, Va.; the Washington Navy Yard, Washington, D.C.; Reston, Va., and Bethesda, Md.—close as NGA Campus East celebrates its grand opening at Fort Belvoir’s North Area in Springfield, Va.

The completion of the 2005 Base Realignment and Closure-mandated consolidation of NGA’s East facilities at Fort Belvoir by Sept. 15, 2011, completes the physical transformation that began with the birth of the National Imagery and Mapping Agency in October 1996. NGA bids farewell to the structures that housed the agency, from its first World War II-era buildings in Bethesda and Fort Belvoir, to its Cold War-era building at the Washington Navy Yard to its 1980s-era and later buildings at Reston, Va. ✨



*Facilities in Bethesda, Md., served as agency headquarters from 1996 to 2011. Buildings included the Ruth Building, at left, opened June 15, 1942, as part of the Army Map Service and named for Army Capt. Charles H. Ruth, first commanding officer of the Army Engineer Reproduction Plant*

*The Fremont Building, opened in January 1944, was named for Army Maj. Gen. John C. Fremont, an explorer and surveyor and a member of the Army Corps of Topographical Engineers*



NGA photos

*Clockwise from left are Erskine, Abert, Maury and Roberdeau Halls. Facilities in Bethesda, Md., included Erskine Hall, named for Col. Robert Erskine, geographer and surveyor general in George Washington’s Army (note: Erskine Hall housed the NIMA and NGA director’s suite), and opened in 1945; Abert Hall, named for Army Col. John James Abert, head of the Corps of Topographical Engineers and opened in 1961; Roberdeau Hall, named for Army Maj. Isaac Roberdeau, head of the Topographical Bureau of the War Department in 1818, and opened in 1965; Maury Hall, named for U.S. Navy Cmdr. Matthew Fontaine Maury, who developed a system of recording the oceanographic data of naval vessels, and opened in 1989; and Emory Hall (not depicted), named for Army Maj. William Hemsley Emory, foremost authority of the trans-Mississippi Southwest in the United States and opened on an unknown date as part of Army Map Service facilities. The Warren Building (not depicted), adjacent to the Ruth Building, opened in 1943 and was named for Army Maj. Gen. Gouverneur Kemble Warren, who was chief topographical officer in Gen. William S. Harney’s expedition against the Sioux in the southern Nebraska Territory.*





*The Washington Navy Yard (above), known as Building 213, was home to the National Photographic Interpretation Center and became part of National Imagery and Mapping Agency (NIMA) facilities in 1996.*

*The NGA College at Fort Belvoir included Building 214, Bagley Hall, built in 1940 and named for Army Lt. Col. James W. Bagley, Chief of the Intelligence Section of the Chief of Engineers; Building 220, Marshall Hall, likely named for former Secretary of State Army Gen. George C. Marshall; Building 211, depicted; and Building 215. Buildings 211 and 215 have no historical names. These buildings originally formed part of Army Engineer School facilities.*



*The Reston complex—which eventually included three buildings—opened as part of Defense Mapping Agency facilities on Feb. 16, 1988, and then became part of NIMA facilities in 1996. Reston 1 is depicted below.*



NGA photos

# The National Geospatial-Intelligence Agency at 15: Coming of Age, 1996-2011

DR. GARY E. WEIR, OFFICE OF CORPORATE COMMUNICATIONS

## We began with a passing of the flag.

On Oct. 1, 1996, Deputy Secretary of Defense John White handed the new National Imagery and Mapping Agency (NIMA) flag to Acting Director Rear Adm. Joseph J. Dantone Jr. As an idea first suggested by Robert Gates when he served as Director of the CIA/Director of Central Intelligence (DCI), but refined and developed in a more receptive political atmosphere by DCI John Deutch, full collaboration between imagery analysts and geospatial specialists within a dedicated agency seemed ideal as the 20th century ended and new, more asymmetrical threats emerged around the world. For Dantone, directing the new agency meant breaking down cultural barriers between analysts and scientists who did not have a history of easy, regular communication.

The previous year, Dantone assumed the chairmanship of the transition team that established the mission, function, organizational structure and program plan for NIMA. During his tenure, he focused attention on transferring resources from eight different agencies into the new agency after winning the approval of Department of Defense (DOD), the Intelligence Community and various oversight congressional committees. In the meanwhile, the agencies that would become NIMA, especially the Defense Mapping Agency (DMA), provided phenomenal geospatial and imagery support to the success of the Dayton Peace Accords, sealed at Wright-Patterson Air Force Base, Ohio, in 1995, clearly exhibiting the potential of the proposed NIMA collaboration.

From its beginning on Oct. 1, 1996, NIMA faced extraordinary internal and external responsibilities. Outwardly, DOD looked to the new agency for direct analytical combat support in aerial and space-based reconnaissance and cartography.

In addition, its founding statutes required NIMA to support national-level policymakers and government agencies. NIMA also became a member of the Intelligence Community and the central authority for access to the best imagery and geospatial information as well as the ultimate arbiter of standards for these critical sources. The primary creators of the agency, White and Deutch, sought to form NIMA around the concept of a single, national geospatial information system, linking the existing imagery and cartographic exploitation functions as they emerged into the digital world.

NIMA absorbed four agencies at its birth in 1996 and took imagery and cartographic functions from four others. The new agency consumed DMA, the National Photographic Interpretation Center (NPIC), the Defense Dissemination Program Office and the Central Imagery Office. It also took control of various aspects of the intelligence mission once performed by CIA, the Defense Intelligence Agency (DIA), National Reconnaissance Office and the Defense Aerial Reconnaissance Office.

We took our first significant steps learning to communicate and collaborate.

Army Lt. Gen. James C. King assumed command of NIMA in March 1998 and began the process of practical growth and development. One of the most revealing advances of his tenure emerged from the production cells established by NIMA and dedicated to understanding the potential power of combining geospatial techniques with the seasoned imagery analysis developed at NPIC, now part of NIMA. The Eurasia Branch production cell at the Washington Navy Yard's Building 213 began issuing collaborative products that drew applause from the entire community, prompting then DCI George Tenet to examine their "Wall of Fame" while on a visit to NIMA. This kind of collaboration and



experimentation provided the magic ingredient that brought the effort and the output to another level. Intellectual insight into a crisis situation expressed in a tight, complementary symphony of image, geospatial reference and idea quickly set a new standard for professional achievement.

On the eve of Sept. 11, 2001, NIMA had clearly begun to define and satisfy its customers with timely and specific solutions, but the obstacle of internal integration persisted, holding the agency back from fully realizing its possibilities. The major internal tradecraft cultures, whether imagery analysts or cartographers, feared that one mission or the other would disappear in the process of integration, with one group eclipsing the other. Both cultures greeted any effort to integrate with profound suspicion. As the Report of the NIMA Commission established by Congress in 2000 noted, these cultural distinctions even emerged in the agency's mission statement: The NIMA mission—to provide timely, relevant and accurate imagery, imagery intelligence and geospatial information in support of national security objectives—shows the same multiplicity.

While responsive and expert, in September 2001 the agency still had a long way to go. However, it would soon travel much of that long road in a very short period of time. For NIMA, the Sept. 11 terrorist attacks on the United States acted as a very potent catalyst. The agency response in the days after the attacks propelled reforms in organization and practice forward at a truly breathtaking rate. The terrorists had unwittingly provided the reason and opportunity for significant changes inwardly which almost immediately manifested themselves outwardly in tradecraft developments and warfighter support.

### **Sept. 11 defined us.**

The terrible events of that day enabled our predecessor command, NIMA, both to master its mandate more effectively and to integrate its components more thoroughly. Opportunistic leadership and internal expertise used the terrorist threat to unite the agency as never before, allowing its community to respond with creativity and energy to the national need.

Retired Air Force Lt. Gen. James R. Clapper Jr. became the director of NIMA just as the attacks took place in 2001. Lamenting the lack of a blueprint to DIA when he became its director, just before his retirement from the U.S. Air Force in 1995, Clapper arrived at his new assignment with the NIMA Commission Report under his arm, finding in its conclusions the compelling vision of those who created NIMA in 1996 from multiple agencies and missions. He saw a clarity and completeness in their effort that gave him a sense of the best way ahead. When appointed to lead NIMA, he embraced their plans and then saw in the 9/11 attacks the opportunity both to fulfill quickly the commission's ambitions for NIMA and to bring the agency to the front line against the terrorist assault.

For Clapper the image of a world held in the grip of terrorism recalled the weeks he spent on the commission investigating the 1996 bombing of the Khobar Towers in Saudi Arabia. In the absence of the Cold War superpower rivalry, Clapper envisioned "a much more lawless world" of multiple decentralized threats. He walked through the wreckage at Khobar and hoped he did not see what the future would bring.

Said Clapper, "And I'll never forget walking up the stairwell, which was completely covered in blood; blood all over the walls of the place ...

You know, I'd never been exposed to that. So it made a tremendous impression on me, and it was a graphic example to me of what terrorism is all about. And as a consequence, I got deeply involved in that even when I was retired and the whole subject of terrorism and homeland security and homeland defense ...”

Every aspect of NIMA that an incoming director would want critically revealed in a constructive way appeared in the commission's report. It discussed outsourcing especially repetitive cartographic tasks to free civil servants for more essential work. This independent view also suggested that NIMA should look hard and long at commercial imagery collection and some partnerships with private industry in that realm. The commission also emphasized the need to collaborate across boundaries of office, geography, culture and agency. If, for example, the best signals intelligence informed imagery intelligence and visa versa, collaboration with the National Security Agency seemed natural. However, in the Intelligence Community at large, such collaborations did not occur with frequency or very naturally. Above all, as Clapper read the report, he saw that the commission had no illusions about limited funds and resources. The armed forces needed to define as precisely as possible the nature of the products it needed and they had to define the meaning of information superiority.

Clapper could not have hoped for a more thorough blueprint or more informed set of constructive criticisms when he took over at NIMA in a country reacting to attack and preparing for war.

In many cases the attitudes toward the changes and reforms Clapper envisioned would have taken years to address, and implementation would have required even more time. The events of Sept. 11 permitted him to suspend a comfortable reality within the Intelligence Community and to implement changes as part of the national emergency. Not long after the attacks he commented, “Some would argue that the worst time you want to make changes is during a crisis. My experience here tells me that's the best time

to make changes. Because basically it minimizes the resistance. It's a lot easier to make changes in the name of doing things more efficiently in the case of a war. It makes it a lot simpler, a lot more sellable. So we didn't, you know, we didn't take all the delivery time you would normally take to have offsites and focus groups and handholding employees—and we didn't do that. We said we're gonna do it—you know; as a consequence, we got a jump start on making a lot of changes.”

As NIMA director, Clapper reshaped the agency into what would become NGA in 2003.

Clapper used America's determination to counter the terrorist threat to advance the reach and role of NGA at home and abroad. Mobilization for the war in Afghanistan provided ample motivation and reason for the tradecraft communities within NIMA to come together, bringing greater unity to the agency. He then projected NIMA/NGA into the theater of operations by setting the stage for the NGA support teams (NSTs) to become the face of our agency with the warfighter. The NIMA/NGA leadership also adopted a scheme of “now, next and after next” to make sure that agency thinking always looked beyond the present and tried to anticipate the future needs and achievements that would arrest the terrorist threat. This new unity of thought and tradecraft matured into GEOINT, a term for NGA's primary intelligence product that Clapper took from the dialogue within the agency and made official in both work and in the agency's name.

This work laid the foundations for our activity in Afghanistan and Iraq, our domestic homeland security and disaster relief functions, as well as the potent messages sent to the terrorists both by our success in the field and the recent welcome elimination of Osama bin Laden. When Vice Adm. Robert B. Murrett succeeded Clapper in 2006 the emphasis he chose for his tenure through 2010 rested upon the early initiatives taken by Clapper to project NGA forward. Placing GEOINT into the hands of the warfighter, encouraging NGA staff and leadership to deploy and work alongside those doing the fighting, and expanding the size



and role of the NSTs became daily reality. Murrett himself spent significant time in theater, working on collaborative arrangements with allies, visiting NSTs and making NGA a reality to those who needed to use GEOINT.

He also led the NGA domestic staff into the NGA Campus East (NCE) project, which would provide NGA's physically scattered staff with a very capable home that would help the entire NGA community work together more closely and productively. As NCE opens for business, the corporate vision currently emerging from discussions among the NGA leadership, with an emphasis on placing GEOINT into the hands of the warfighter, clearly builds on the policies and initiatives of both Clapper and Murrett. As it should, our past has informed the present. At 15, NGA has clearly come of age as a leader in the American Intelligence Community. ✨

*Editor's note: Quotes from retired Air Force Lt. Gen. James R. Clapper Jr. stem from his oral history interview with former NGA historian Dr. Martin Gordon.*



*NIMA Director Army Lt. Gen. James C. King presented the NIMA Medallion for Excellence to John J. Hamre, Deputy Secretary of Defense. King praised Hamre for his support of NIMA and called him a "significant part of the legacy of NIMA."*

## Alumni Organizations Keep the NGA Spirit

Did you know there are private organizations whose membership is made up of current and former employees of NGA and its legacy organizations? These associations support social interaction, recreation, education and other benefits for their members.

In late July 2011, the Association of Aerospace Charting Seniors (ACS), located in the West, and the National Geospatial Intelligence Alumni Association (NGIAA), located in the East, combined to form the National Geospatial-Intelligence Alumni Association (NGAA). NGAA has chapters in the East and West, with a membership of over 500. Their websites are at [www.ngaaeast.org](http://www.ngaaeast.org) and [www.ngaawest.org](http://www.ngaawest.org), respectively.

Current and former NGA employees may also join the Association of Mapping Seniors (AMS); their website is at [www.mappers.org](http://www.mappers.org).



# *“Lest We Forget”*



[www.nga.mil](http://www.nga.mil)