NIMA
MARCH/APRIL 2003

PATHFINDER

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the future

Geospatial Intelligence

Capstone Concept

NATIONAL IMAGERY AND MAPPING AGENCY

PATHFINDER

MARCH/APRIL 2003
NATIONAL IMAGERY AND MAPPING AGENCY

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On the Cover

The Geospatial Intelligence Capstone Concept is NIMA's first step toward developing a doctrine for the new discipline of Geospatial Intelligence. Barbara Klemmer, Chief of the NIMA Doctrine Office, describes the content of the document and discusses its role in the National System for Geospatial Intelligence. See page 8. Jason Collins designed both the Pathfinder cover and the cover and contents of the GI Capstone Concept.

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On My Mind ...
Unauthorized Disclosures

As we continue our efforts in the global war on terrorism, the Deputy Director and I share your pride in the Geospatial Intelligence support we provide to senior decision makers and war fighters. We are making a real difference in their ability to make the decisions necessary to ensure our security.

We also recognize that the public and the media increasingly demand from government as much information as possible. In that context, we must be part of the collective government concern about the unauthorized disclosure of classified intelligence. For example, media reports about monitoring Osama bin Laden's cell phone calls likely had harmful results and may have even caused him to quit communicating on his cell phones. Jack Nelson of the Los Angeles Times had it right when he wrote, "Everybody understands you don't publish that the 82nd Airborne is planning to land somewhere, but not everyone understands that it's a national security problem to report we are intercepting Osama bin Laden's cell phone calls."

We always wonder how sensitive information finds its way into the public forum and how the public benefits by gaining access to this information. We must also remain vigilant to the possibility that seemingly disparate bits of unclassified material may be aggregated into revealing sensitive information. All we can do in NIMA is to take all precautions to safeguard the information for which we are responsible.

We classify information to deny it from those who would harm us. The more our potential adversaries learn about our intelligence collection sources and methods, the more they become capable of developing ways to defeat, deny and deceive. To quote President Bush, "The dictator of Iraq is not disarming; to the contrary, he is deceiving."

We adhere to strict guidelines that prescribe our responsibilities for unauthorized disclosures, security violations and other compromises of intelligence information. They reaffirm the Intelligence Community's strong commitment to aggressive, consistent and effective measures to protect intelligence. As the functional manager for the National System for Geospatial Intelligence and a senior official within the Intelligence Community, it is my responsibility to establish the policies and procedures necessary to protect classified information and to deter, investigate and promptly report unauthorized disclosures. I take this responsibility seriously, but I cannot do it alone. It is a team effort.

First, if we identify a potential disclosure of classified NIMA products, we must aggressively investigate it, determine the potential damage to national security and take the appropriate action as required. Our new Office of Counterintelligence will have the lead to investigate and identify unauthorized disclosures that, if exploited by our adversaries, could complicate and frustrate our Geospatial Intelligence support efforts.

Second, we must continue our security and counterintelligence training and awareness campaigns to ensure we are continually reminded of our counterintelligence responsibilities.

Third, we must routinely examine our security programs, policies and procedures in order to strengthen safeguards and update them as necessary in light of events. For example, interactions with the public, commercial partnerships and emerging technology could prompt a review. We must also look for innovative ways of bringing back the concept of "need to know" and *compartmentation* into our reporting process while maintaining access to that same information to the widest group of customers who need it. In this regard, NIMA will move ahead with such information technology concepts as Public Key Infrastructure (PKI) and establishing communities of interests.

Finally, we must apply our full range of security, analytic and investigative resources to identify and remove those who would jeopardize our intelligence support mission either through intentional disclosure or blatant disregard for established procedures. There is simply no room for these people within our work force.

I commend your current vigilance in safeguarding NIMA's secrets. In the war against unauthorized disclosures, your continued commitment is essential.

JAMES R. CLAPPER, JR.
Lieutenant General, USAF (Ret.)
Director

DIA Analysts Get Desktop Imagery In Joint Project with NIMA

By Robert Seebald

Photo by DIA

NIMA Director retired Air Force Lt. Gen. James R. Clapper Jr. and DIA Director Vice Adm. Lowell E. Jacoby jointly cut the ribbon for the DIA Imagery Access Project.

Analysts at the Defense Intelligence Agency (DIA) have access to digital imagery at their desktops, thanks to a project that combined the efforts of personnel at both NIMA and DIA.

The Digital Imagery Analysis Project (DIAP) gives DIA analysts the capability to exploit digital imagery at their desktops, fuse it with other intelligence and archive the information in databases. DIA had asked NIMA for help in acquiring such a system in the aftermath of the Sept. 11, 2001 terrorists' attacks.

NIMA Director retired Air Force Lt. Gen. James R. Clapper Jr. and DIA Director Vice Adm. Lowell E. Jacoby jointly cut the ribbon and officially proclaimed the project operational last September. DIA is now completing the training of its analytical work force.

Design and Development

DIAP was a cooperative process between the two agencies. DIA provided the desktop workstations, communications network and funding. NIMA provided the systems engineering, systems acquisition and installation.

Two National System for Geospatial Intelligence (NSGI) segments were chosen to satisfy DIAP requirements: the Integrated Exploitation Capability (IEC) and Image Product Library (IPL). The IEC provides online imagery access, the IPL, processing and archival imagery services.

The NIMA Information Library (NIL) is now DIA's primary imagery source. Analysts use a NIMA discovery and retrieval tool, Client 2001, provided by the Information Access Services (IAS) system, to browse and order imagery.

To meet DIA all-source analysts' requirements, the DIAP project team worked closely with the DIA systems infrastructure personnel to tailor a system that would function in—and not adversely impact—DIA's information enterprise.

Testing and Training

NIMA's Integrated Testing Facility (ITF) provided test engineers to develop and execute test plans that were reviewed and approved by DIA.

The National Geospatial Intelligence College, IPL, IEC and IAS program offices and DIA worked together to determine the scope of user training and conduct three "train the trainer" sessions.

Significant Accomplishments

The project brought DIA into a softcopy environment compliant with the NSGI. DIA analysts can now obtain softcopy imagery in a near real-time environment and have it readily available for exploitation. The imagery can be stored, accessed and retrieved by a wide variety of users for a wide variety of uses.

There's still a lot of work remaining before the vision of "imagery to the desktop" is realized, but the basic architecture is in place. The next steps are to enhance user workstations, long-haul communications and DIA network bandwidth.

The project team demonstrated a successful joint effort, which it completed on time, within budget and with both agencies very satisfied with the result.

About the Author

As Deputy Chief of the Systems Design Management Division within NIMA's Acquisition Directorate, Robert F. Seebald was project manager for the DIA Imagery Access Project. Recently he became Deputy Chief of the Analysis and Production Directorate's Homeland Security Division, responsible for future plans and programs. During Operation Allied Force, the 1999 air campaign against Serbia, he was Deputy Chief of the NIMA Liaison Office to Headquarters, U.S. European Command. A native of Cleveland, Seebald began his federal service with the Defense Mapping Agency in 1985.

New System Supports War on Terrorism

By Larry Feidelseit

A new system provides an enterprise geospatial data environment to support the war on terrorism.

This system, Geospatial Intelligence Database Integration (GIDI), is built on two systems NIMA developed to provide crisis support, the Feature Level Database (FLDB) and the Knowledge Centric Geospatial Database (KCGDB).

NIMA's Analysis and Production Directorate has identified GIDI as one of its top priorities.

When Congress established NIMA in 1996, the Agency inherited many legacy systems with tightly coupled toolsets, which did not facilitate communication or interoperability.

Fulfills Vision

The vision for GIDI is to incrementally establish an authoritative, integrated environment that will serve as NIMA's Geospatial Intelligence information factory for production and dissemination of both geospatial and intelligence information.

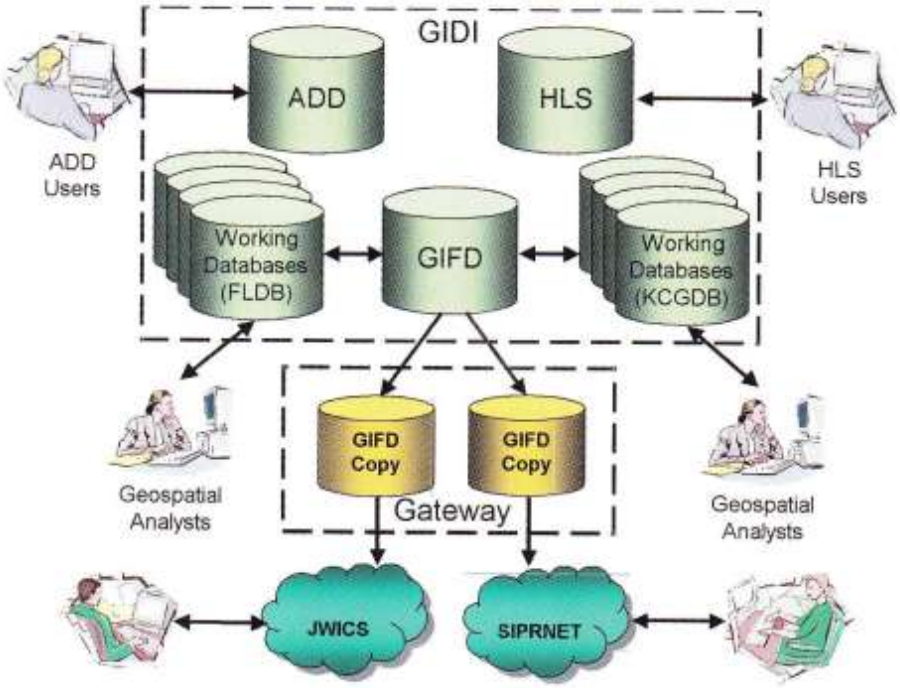
Spiral 1, the first release, allows FLDB and KCGDB users to share feature data in a common database, the Geospatial Intelligence Feature Database (GIFD). Users can add features to the GIFD, pull feature data, make changes to the features and post the changes back to the GIFD.

Spiral 2 builds on the current functionality and meets new requirements for Homeland Security (HLS) and the Air Defense Database (ADD). While ADD and HLS are somewhat independent in this spiral, the goal is to integrate all GIDI functionality so that it is transparent to the user. Spiral 2 also provides for the dissemination of the GIFD via two military communication networks, SIPRNET and JWICS.

Non-Traditional Acquisition

GIDI differs from traditional NIMA acquisition programs in several areas.

Development cycles are shorter, with critical functionality delivered in less time and for lower cost.



The Geospatial Intelligence Database Integration (GIDI) system allows users to share information from existing databases in a Geospatial Intelligence Feature Database (GIFD). The next release meets requirements for Homeland Security (HLS) and the Air Defense Database (ADD). It provides for dissemination via two military networks.

NIMA personnel are more involved in the program, forming a Cross-Functional Team (CFT) with the contractor and systems integrators.

The NIMA Program Office, contractor and systems integrators are collocated, with daily face-to-face customer and engineering contact. While portions of the team are located in St. Louis, Huntsville, Ala. and Garland, Texas, a core group resides at the contractor's facility in Reston, Va.

Testing is streamlined, with test engineers that are members of the CFT performing, monitoring and documenting testing alongside the contractor and customer.

NIMA's management and approval authorities have shortened the traditional approval process, allowing special review boards and "walk-arounds" for individual signatures. The program's major reviews and formal milestones for each spiral have also been streamlined to accommodate the program's shortened development cycles.

The CFT has developed an iterative requirements development process that provides the flexibility to allow for changing customer needs. During Spiral 2's development phase the team is identifying and prioritizing customers' Spiral 3 requirements.

Larry Feidelseit is a systems integrator in the Acquisition Integration Division.

e-Business Arrives

NIMA's Procurement and Contracts Office is moving to an e-business environment with deployment of PRISM™, a Web-based automated end-to-end procurement system. PRISM was available to contracting offices in March and will be available to all offices in NIMA by the end of August.

With commercial, off-the-shelf (COTS) hardware and software, PRISM automates the entire requisition, contract and contract execution processes. Program offices are able to generate contract requirement packages and purchase requests online and check the status of their requirements through an online query process. The system tracks purchase requests through various approval processes. All funding obligations, invoice payments and certifications for receipt of items also are available online.

For contractors, PRISM provides an e-business solution for submitting electronic invoices tied to an internal capability to match the invoice with receipt of goods and the subsequent generation of electronic payments.

—Kenneth B. Whitt

Analyst's First Map In National Geographic

Geospatial analyst Jessica Warner's first NIMA product wound up in National Geographic magazine. Her map, featured in the February 2003 issue, illustrates the Nuba Mountains for a story about the Nuba people.

Warner, who now works at the NIMA Pentagon Geocell, provides products to a wide range of customers, including the Joint Staff and offices of the Secretary of Defense. "The map was originally created for the U.S. Agency for International Development in response to the civil war in Sudan," said Warner.

The map showed the spatial relationship of the Nuba Mountains to the nearby oil fields and pipelines, said Warner. Sen. John Danforth, presidential envoy to the Sudan, used it for peace talks between the Sudan People's Liberation Army and the government of Sudan.

Sarah Wenger, a geospatial analyst in the Office of Central and Southwest Asia, adapted the map to National Geographic's specific needs. "Specifically, they wanted elevation data, pipeline data and some names clarification," said Wenger.

National Geographic initially contacted Bret Duncan, production manager in the Central and Southwest Asia office, for assistance. Duncan coordinated release of the map with NIMA and Office of the Under Secretary of Defense officials.

—Sue Meisner

Courtesy of National Geographic

A map of Sudan's Nuba Mountains in the February National Geographic draws upon the work of NIMA geospatial analyst Jessica Warner.

Photos by Al Schul

An aeronautical information analyst demonstrates how Airfield Initiative data can be used to simulate airfield terrain, including features and obstructions.

Airfield Safety Initiative Turns 100 (CDs)

NIMA's Aeronautical Safety Division recently produced its 100th CD-ROM in the Airfield Safety Initiative.

The initiative began after an aircraft crashed near Dubrovnik, Croatia, killing Secretary of Commerce Ron Brown. Then Secretary of Defense William Perry stated the need to "implement, as a matter of highest priority, the installation of GPS (Global Positioning Systems) for flight safety on all military aircraft" and to require that "all military aircraft fly by DoD Instrument Approach Procedures."

To help accomplish the initiative, NIMA is collecting a comprehensive set of geospatial information around U.S. military and major international airfields, using a combination of sources including the latest imagery, survey data and host-nation information.

Plans call for about 1,000 CD-ROMs covering airfields throughout the world, both U.S. military bases and major multipurpose facilities. The information will be made available to the U.S. military terminal instrument developers and individually to host countries.

NIMA is collaborating with the Federal Aviation Administration (FAA), industry, other government agencies and international communities to develop a global integrated Safety of Navigation information environment.

Ava Wilkerson, director of FAA's International Aviation Office, said the agency is very pleased with the support that NIMA's Airfield Initiative is providing to enhance global aviation safety. The surveys conducted under the initiative are "an important enabling step for countries seeking to develop and implement Global Navigation Satellite System procedures," Wilkerson said.

—Wells Huff

CRADAs Exploit New Sources of Intelligence

By Judi Ignotz

NIMA recently signed Cooperative Research and Development Agreements (CRADAs) with two commercial firms that focus on new sources of intelligence. A CRADA is a mechanism for technology transfer, allowing NIMA and its commercial or academic partner to share research and development knowledge, facilities, resources and/or capabilities for mutual benefit.

The new agreements are with ALPHATECH Inc. and Research Systems Inc.

Multi-INT Exploitation

The CRADA with ALPHATECH focuses on advanced algorithms the company developed for multi-source, multi-intelligence (multi-INT) processing and exploitation.

"I think we are doing work in areas that will support the NIMA mission," said Nils Sandell, president and chief executive officer of ALPHATECH. Through the CRADA, ALPHATECH expects to gain insight into appropriate transition paths for its technology, he added.

Multispectral Imagery

Research Systems Inc. (RSI), a wholly owned subsidiary of the Eastman Kodak Co., is working with NIMA to develop unique image analysis and exploitation expertise contained within RSI's Environment for Visualizing Images (ENVI) software product.

A CRADA is a mechanism for technology transfer, allowing NIMA and its commercial or academic partner to share R&D.

With the growing need for tools that exploit imagery of different wavelengths, including those not visible to the human eye, capabilities derived from ENVI will become critical in addressing NIMA's expanding mission. The CRADA will address, among other things, the development of exploitation tools for hyperspectral and multi-spectral source material, improvements in cartographic and hardcopy output functions, and increased automation of geometric correction procedures.

The CRADA partners will add government-developed tools and government-unique data formats to the ENVI commercial line, while simplifying interfaces and the work flows for analysts and other users.

Some of the investigative work for this CRADA will be conducted in NIMA's Geospatial Intelligence Advancement Test bed. Part of NIMA's transformation strategy, the test bed is used for developing exotic technologies unique to NIMA's mission, including the fusion of multi-INT sources to enable the creation of Geospatial Intelligence.

About the Author

Judi Ignotz is the NIMA CRADA program manager. Her career with NIMA and the Defense Mapping Agency spans 25 years as a cartographer, physical scientist and staff officer.

NIMA Employee Cited for Service to America

A NIMA employee was one of nine people to receive the first Service to America Medal. Alfred League, Chief of the Imagery and Geospatial Sciences Division, received the medal for contributions to national security and international affairs in a ceremony at the White House. The medal honors federal civil servants who have directly improved Americans' lives.

League's "technological innovations provide American military personnel with real-time information they need to ensure operational success and protect our national security," the citation says. Reporting on the award, George Cahlink in the magazine *Government Executive* wrote, "League has built a unique technology think tank within NIMA that encourages creativity among 70 scientists, analysts and technologists."

League's team used experimental technology to provide current digital maps and imagery of the disaster sites following the Sept. 11, 2001 terrorist strikes. The team also harnessed computer networks to guide troops with Geospatial Intelligence during Operation Enduring Freedom in Afghanistan.

Andrew Card, Chief of Staff to President Bush, and John Spencer, the actor who plays Leo McGarry, chief of staff to President Bartlet on the television series "The West Wing," helped hand out the medals.

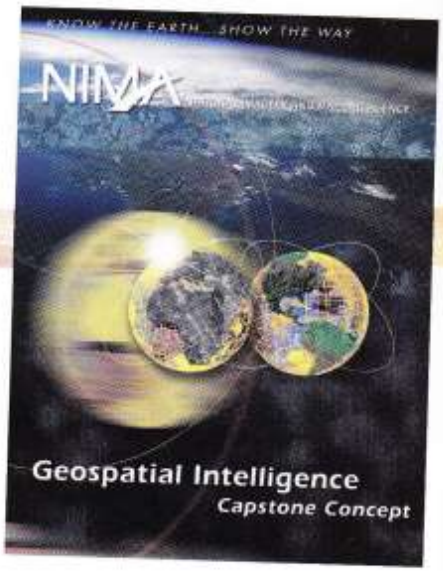
The awardees met President Bush the following day.

Alfred League

Geospatial Intelligence Capstone Concept

Landmark Document Sets Stage for GI Doctrine

By Barbara Klemmer



The term *Geospatial Intelligence* was coined last year in the *NIMA Statement of Strategic Intent* to reflect the increasingly integrated way that NIMA and other agencies are employing imagery and geospatial capabilities.

More recently, NIMA Director retired Air Force Lt. Gen. James R. Clapper Jr. approved the *Geospatial Intelligence Capstone Concept*, a landmark document that elaborates on the vision of this new discipline.

As functional manager for the National System for Geospatial Intelligence (NSGI), NIMA is responsible for developing and communicating doctrine to lead the NSGI community. The *Capstone Concept*, as part of a larger vision, is NIMA's first attempt to explain the discipline of Geospatial Intelligence and its first step toward developing a doctrine to guide the employment of Geospatial Intelligence capabilities.

In setting the stage for the development of Geospatial Intelligence doctrine, the document opens a dialogue about the nature of Geospatial Intelligence within NIMA and among the imagery and geospatial professionals in the NSGI community. To that end, the *Capstone Concept* will be instrumental to the NSGI in the coming months as it develops its flagship document, Geospatial Intelligence Publication 1, the NSGI's formal capstone doctrine.

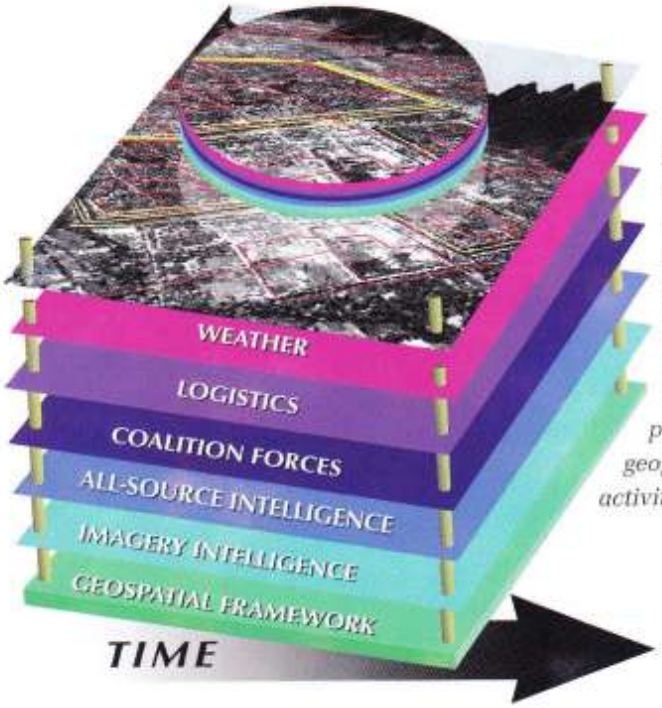
Toward a Formal Doctrine

For NIMA and the NSGI, the *Capstone Concept* is comparable in scope to the Joint Chiefs of Staff *Joint Vision 2020*. While it is not, strictly speaking, formal doctrine, it provides a conceptual starting point that will be critically evaluated and refined through discussion and debate as NIMA engages the community to develop a formal body of doctrine.

The document recounts the creation of NIMA in 1996 from multiple government organizations including the National Photographic Interpretation Center, Defense Mapping Agency and others. It goes on to explain why the new field of Geospatial Intelligence is the logical product of that convergence of agencies and the new realities of our post-Sept. 11, 2001 national security environment.

Geospatial Intelligence is defined as "the exploitation and analysis of imagery and geospatial information to describe, assess and visually depict physical features and geographically referenced activities on the Earth." It is described as the convergence of imagery analysis and mapping, charting and geodesy into a single integrated discipline with synergistic strengths beyond the sum of its parts.

The *Capstone Concept* describes both enduring and evolving aspects of Geospatial Intelligence. It highlights the timeless centrality of the human analyst in the production of Geospatial Intelligence and discusses its purposes and applications. It also addresses the discipline's technology, outlining the broad range of evolving processing and remote sensing capabilities that are united under the umbrella of Geospatial Intelligence.



Geospatial Intelligence is defined as "the exploitation and analysis of imagery and geospatial information to describe, assess and visually depict physical features and geographically reference activities on the Earth."

The document also describes the emergence of Geospatial Intelligence as a medium for multi-disciplinary intelligence collaboration. NIMA and its collaborative partners throughout the Intelligence Community have already begun to realize this potential, testing and implementing alternative models for intelligence fusion, including the use of multi-disciplinary analyst teams and the production of fused, finished Geospatial Intelligence products.

In its final chapter, "The Future of Geospatial Intelligence," the document states that in order to realize the vision of NIMA's founders, NIMA and the NSGI must continue their transformation to a future state with four characteristics:

(1) Geospatial Intelligence analysis—the full integration of our imagery analysis and geospatial processes, products and tools,

(2) migration of NSGI systems, processes and tools to an all-digital, data-centric environment,

(3) reliance on Web-based e-business strategies, and

(4) use of the ubiquitous knowledge map as the interoperable foundation of the common operational picture.

With the power to help people align to organizational goals, doctrine can be an important instrument for transformational change within NIMA and the NSGI.

Doctrine informs the training curriculum, and perhaps most importantly, it provides a medium and a process for evaluating, capturing and communicating lessons learned.

As NIMA and the NSGI gain more experience with the convergence of the imagery and geospatial specialties, Geospatial Intelligence Doctrine will provide the medium for capturing the lessons learned from experiments, operations and exercises.

Doctrine can be of most value to the NSGI at this time of technological revolution, as NIMA and the NSGI gain more experience with the convergence of the imagery and geospatial specialties. At the same time, doctrine provides the historical long view, ensuring that the enduring lessons of history are not prematurely forgotten in a rush to judgment.

Beyond the Capstone Concept

The *Geospatial Intelligence Capstone Concept* is a product of the NIMA Doctrine Office, which is chartered by the Director of NIMA to create the NSGI's Geospatial Intelligence doctrine.

Thinking beyond the *Capstone Concept*, NIMA has put in place an organizational structure to engage the critical thinkers throughout the NSGI community in developing a formal body of Geospatial Intelligence doctrine. A Doctrine Steering Group (DSG), consisting of senior-level representatives from across NIMA, has been assembled and external members have been invited to participate as advisory members. The DSG met for the first time Dec. 12 to approve the DSG Charter, to review the final draft of the *Capstone* document and to validate a proposal for a formal capstone doctrine publication. The DSG approved the *Capstone Concept* Jan. 8 and forwarded it to the NIMA Director for his approval. The publication is being distributed in hardcopy, on CD-ROM and via the World Wide Web.

For more information about Geospatial Intelligence Doctrine, contact the NIMA Doctrine Office at tdd_mail@nima.mil. Readers may download a copy of the *Geospatial Intelligence Capstone Concept* document from the NIMA Internet site at *http://www.nima.mil/pa/newsroom/Capstone%20Concept.pdf*.

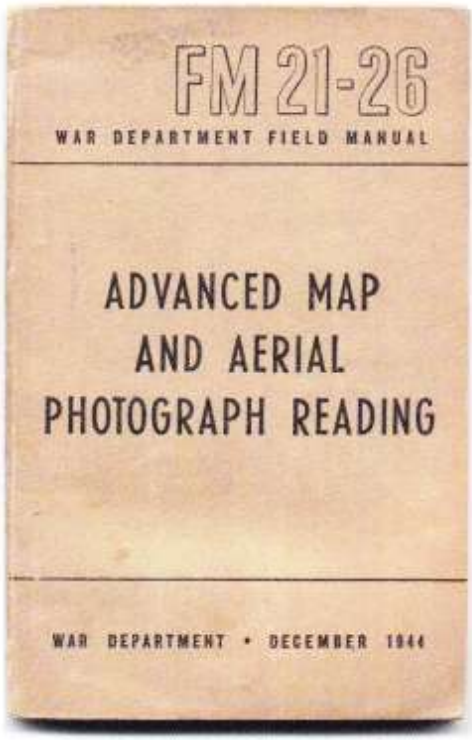
Dennis Ebersole and Air Force Maj. Rich Kraus contributed to this article.

About the Author

Barbara Klemmer is Chief of the NIMA Doctrine Office. She recently returned to NIMA from the information technology industry. Her previous assignment in NIMA was as an imagery performance officer in the Central Imagery Tasking Office. She originally came to NIMA with a background as an all-source collection manager at the combatant commander level.

Imagery Analysis Collection Spans 150 Years

By Dave Collar



This small pocket guide served as an introduction to aerial photographic interpretation, as well as map reading, in World War II.

Imagery analysis has been an integral part of war and national policies longer than many may realize. Recently, the NIMA Library, in support of the National Geospatial Intelligence College, began assembling a collection of books, journals and pamphlets on imagery analysis that spans 150 years.

Already, the historical imagery analysis tradecraft collection numbers over 100 unclassified books, with many more on order. The collection is housed at the Washington Navy Yard in the library on the sixth floor of Building 213.

The tradecraft of imagery analysis has been under development since the first balloon was tethered above a battlefield. Although the camera was impractical for tactical aerial use for much of the 19th century, the enemy's lines were sketched to give the commander an advantage, creating the first aerial-derived products.

During World War I, photo interpretation was practiced by—and taught to—thousands of proto-imagery analysts on both sides of the war. The tradecraft collection includes contemporary instructional material written by participants during the war, as well as later history books covering the effort. Principles learned from these early efforts are still applicable today, such as using images over time for change detection. In addition to the use of aircraft-mounted cameras, much of the war was fought under the watchful eyes of observers manning dirigibles that overlooked the front lines.

During World War II, photographic interpretation evolved further into the science of imagery analysis. German "wonder" weapons were discovered on imagery before they were deployed, aiding in the development of

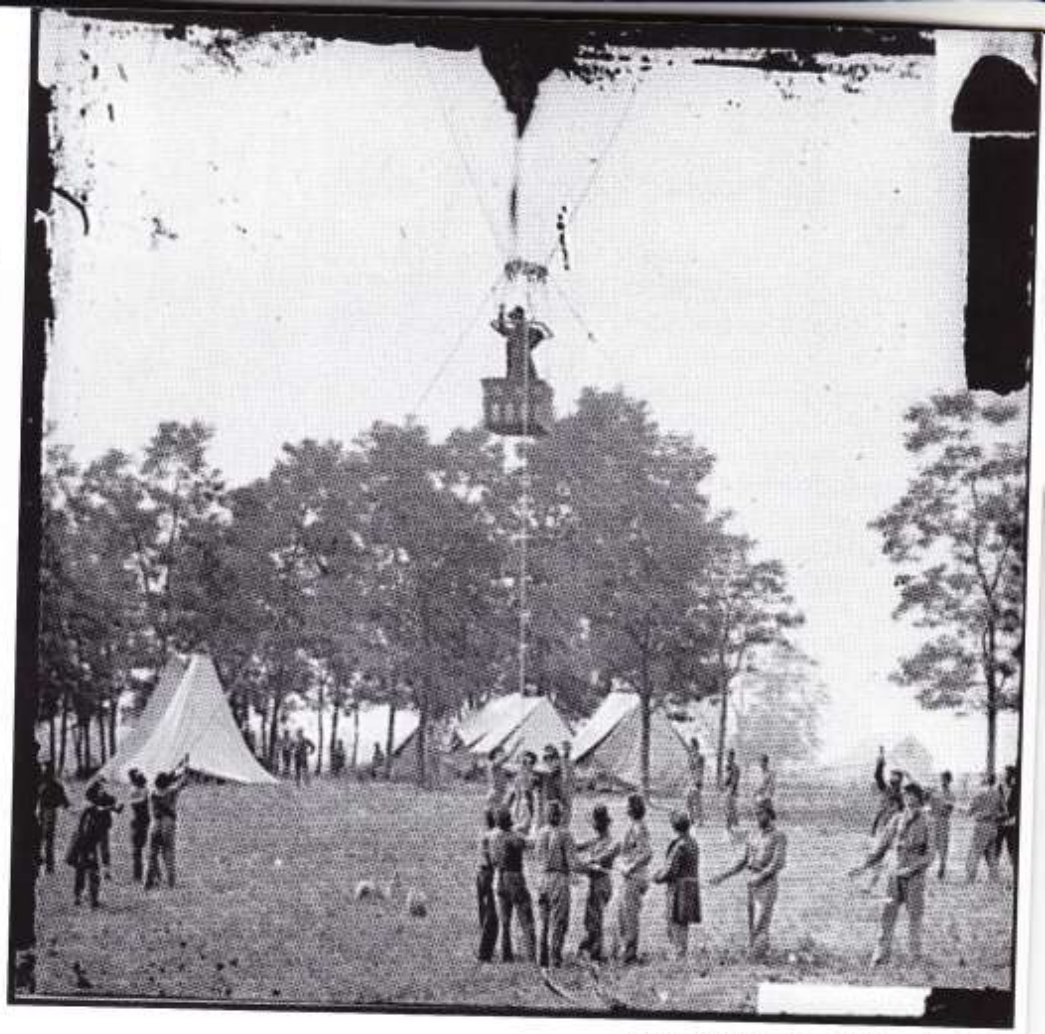
National Reconnaissance Office photo

Development of Earth-orbiting satellites led to rapid advances in the imagery analysis tradecraft. The Corona was the nation's first photo reconnaissance satellite system.

countermeasures. Enemy industry was analyzed for potential output and weaknesses. Imagery taken during and after bombing attacks was used to assess the effectiveness of raids against targets, preceding today's Battle Damage Assessment (BDA) programs.

The development of the U-2 plane and later earth-orbiting satellites led to rapid advances in tradecraft, enabling strategic assessments of territory denied to other sources. Cold War analysis benefited from imagery intelligence, helping to close the "bomber gap" and later the "missile gap," saving the United States millions of dollars in defense costs against a threat that was not as large as previously believed. Imagery allowed the United States to avoid strategic surprise during the Cuban missile crisis, giving the president options that would not otherwise have been available. (See "United States Depended on Skills and Dedication of Photo Interpreters in Cuban Missile Crisis" in the October NIMA *Edge* magazine.) Later in the Cold War, techniques were developed for monitoring forces to assess treaty compliance.

As infrared and radar sensors were added to aircraft during the Vietnam War, the title of photo interpreter was changed to imagery interpreter to reflect the use of non-camera media, and was later changed to imagery analyst. The last name change recognized that as intelligence professionals, IAs do more than just count tanks: they estimate where the tanks are headed, how long it may take them to arrive at their destination, and what unit or location they came from.



Library of Congress Prints and Photographs Division

Professor Thaddeus S. Lowe observes a battle in Fair Oaks, Va., from his balloon, Intrepid, in May 1862. Enemy lines were sketched from balloons during the Civil War, creating the first aerial-derived intelligence products.

Advances in the profession are represented in the library by histories, as well as a growing collection of instructional material and working aids, written by participants during the post-World War II years.

Today, imagery analysis remains an integral part of the intelligence community, providing support to war fighters as well as national-level policy makers. NIMA's tradecraft collection documents the emergence of imagery analysis as a technological science and as an analytical art. Although the technological advances have been dramatic, the human connection of examining the data and anticipating an adversary's next move has not changed since the first balloons. Lessons learned over the 150 years covered in the tradecraft collection are still applicable.

About the Author

Dave Collar has been an imagery analyst for 22 years—the first 20 in uniform—serving in leadership positions in Saudi Arabia during the Gulf War and later in Panama. Currently, he is the Imagery Analysis Professional Advisory Board manager and a staff officer in the Office of Tradecraft.

Conference Sets New Direction in Contracting

This year's Commercial Partnerships Conference focused on the direction NIMA will take as it transitions to the new Global Geospatial Intelligence (GGI) and Clearview (CV) contracts. Over 150 people attended the conference in the new Roberdeau Hall multipurpose conference facility in Bethesda Jan. 27-28 and 30.

The new contracts, awarded Jan. 14, will revolutionize NIMA's ability to rapidly acquire commercial imagery, geospatial information and imagery intelligence in support of national and military customers worldwide.

Speakers, including NIMA Director retired Air Force Lt. Gen. James R. Clapper Jr., emphasized the importance of combined efforts between government and industry in the new security environment. The conference was sponsored by the Commercial Partnership Division of the Analysis and Production Directorate and the Procurement and Contracts Production Support Office in the Acquisition Directorate.

The GGI contract provides the flexibility of an Indefinite Delivery, Indefinite Quantity (IDIQ) contract. In addition to geospatial data production and production prototyping activities, it allows for the procurement of imagery analysis, production management support and end-to-end production capability.

The Clearview contract provides a mechanism to facilitate the integration of commercial imagery into NIMA's day-to-day operations. A multi-year, IDIQ, government-wide acquisition contract, Clearview enables the entire U.S. government to procure high-resolution imagery from contracts with Space Imaging and Digital Globe. In addition, the contract allows for future high-resolution companies to receive awards following successful launch. Orbital Imaging, which plans to launch a 1-meter system this spring, is a candidate for future award.

Presentations and panel discussions by NIMA regional and functional teams contributed to an environment of understanding and shared goal setting. Each of the six GGI prime contractors also gave presentations on their organization, capabilities and previous experience working with NIMA.

—Alan Weeke

Photo by Bob Cox

Tom Coghlan, Director, Analysis and Production Directorate, addresses the Commercial Partnerships Conference. Speakers emphasized the importance to the nation of combined efforts between government and industry in the new security environment.

Industry Day Reaps Results

"Fiscal 2003 is the first year contractor FTEs (full-time equivalent) will exceed that of the government work force," NIMA Director retired Air Force Lt. Gen. James R. Clapper Jr. remarked during Industry Day. The conference, hosted by the Armed Forces Communications and Electronics Association (AFCEA), drew 450 industry representatives to the Defense Intelligence and Analysis Center at Bolling Air Force, Washington, D.C., in January.

NIMA is "moving away from quality control ... to quality assurance, trusting contractors to 'do the right thing,'" Clapper said. The contractor consortium used for support of missions in Afghanistan was a "great success story," he

Photo by Jeff Thornton

NIMA is "moving away from quality control ... to quality assurance, trusting contractors to "do the right thing." NIMA Director retired Air Force Lt. Gen. James R. Clapper Jr. told industry representatives.

added. "We received information in six weeks, rather than the six months it would have taken government (sources)."

Discussions on NIMA's strategic intent, business plan and transformation as a data-centric provider of Geospatial Intelligence rounded out the day.

AFCEA Conference coordinator Steve Ritchey spoke positively about the day. "I heard many compliments from members of industry on NIMA's willingness to engage with them on the Agency's future plans. They particularly responded to the message that you see them as partners in providing solutions to your requirements."

AFCEA is a non-profit international association with a stated purpose of "providing an ethical environment that encourages a close, cooperative relationship among civil government agencies, the military and industry."

—Sue Meisner

Customers Discuss and Rank Future Funding Requirements

Over 100 participants representing external and internal NIMA customers attended a two-day conference hosted by the Office of Geospatial Intelligence Management (OGM) in Sterling, Va. in December.

The Geospatial Intelligence Board (GIB) Requirements Special Session provided customers a forum to discuss and rank order their proposed funding requirements for the National System for Geospatial Intelligence (NSGI) in the fiscal 2005-2009 Program Objective Memorandum (POM) and Intelligence Program Objective Memorandum (POM/IPOM) budget cycle.

"The top requirements of each NSGI member are critical to the preparation of the POM/IPOM," OGM Deputy Director Michele Williams told participants in her opening remarks. For the first time, the conference also provided organizations an opportunity to support community-wide NSGI requirements through co-sponsorship.

The GIB is the senior action-officer level forum within the NSGI community to resolve many Geospatial Intelligence-related issues. It also represents NIMA's functional management responsibilities within the NSGI community. OGM is the focal point within NIMA and the NSGI community for NIMA directorates and customer organizations to submit their requests for resources, such as Integrated Exploitation Capability (IEC) workstations and technical support personnel.

Representatives from the Office of the Secretary of Defense, four military services, nine of 10 Unified and Specified Commands, the U.S. Coast Guard, Defense Intelligence Agency, Central Intelligence Agency, National Reconnaissance Office, Department of Energy, Geospatial Transition Plan group and NIMA's Analysis and Production Directorate attended the conference.

—Jo Anne Russell

Conference Focuses On New D&R Policy

The Office of International and Policy, Disclosure and Release Division, hosted NIMA's inaugural Disclosure and Release (D&R) Conference in Sterling, Va. Feb. 5-6. The conference brought together 90 individuals who will play a critical role in the success of NIMA's new D&R policy.

NIMA Instruction 8955.6, "Disclosure and Release of Classified and Unclassified NIMA Information, Data, Products and Records," which took effect last October, outlines a streamlined process for the D&R of NIMA products. The instruction also establishes a D&R team to ensure effective customer support while protecting the integrity of NIMA data. The team is composed of D&R officers in NIMA's Office of International and Policy and D&R representatives in NIMA organizations and support teams, who interface directly with the customer.

D&R officers will address disclosure and release issues both at a tactical level—interpreting requests for exceptions to policy on a case-by-case basis—and at a strategic level—creating, coordinating, revising and communicating policy for NIMA information, data and products.

D&R representatives are responsible for helping customers understand whether their need or request falls within policy requirements and pointing out when potential issues may exist. Where possible, D&R representatives work with customers to identify alternative information to satisfy their need, and if necessary, help customers articulate requests for exceptions to policy using the NIMA D&R request form.

An invaluable aspect of the conference was the opportunity for representatives to bring to the forefront any concerns facing their customers they felt needed to be addressed.

—Katherine Zimmerman

John Walsh, Director, Foreign Disclosure Office, U.S. Southern Command, addresses NIMA's inaugural Disclosure and Release Conference.

NIMA to Induct 5 into Hall of Fame

Five individuals are scheduled for induction into the NIMA Hall of Fame April 23 in Bethesda. The Hall of Fame honors former employees to whom the Agency owes a debt of gratitude. By their accomplishments, they set the standards of excellence that illuminate the road ahead.

Lawrence F. Ayers, Defense Mapping Agency (DMA) deputy director for management and technology from 1982-87,"led the digital revolution in mapping, charting and geodesy." He was also the first head of DMA's research and development program. He is cited for "teaming with successive Army, Navy and Air Force directors of DMA to firmly establish the Agency as an organization that could be counted on to deliver accurate products, on time and where needed. At the same time he undertook a total revolution in the associated technology."

Retired Vice Adm. Shannon D. Cramer, DMA director from 1974-77, consolidated and streamlined production elements, while increasing the output of mapping, charting and geodetic products and services. By consolidating the DMA Hydrographic and Topographic Centers, he eliminated duplicate functions while combining production equipment and manpower resources. At the same time, he "maximized the Agency's responsiveness to current and future needs of the armed services and military commands," officials said.

Robert M. (Rae) Huffstutler, director of the National Photographic Interpretation Center (NPIC) from 1984-88, encouraged analysts to "push the threshold of imagery's contributions to tough intelligence issues." He established a National Exploitation Laboratory, which advanced exploitation technology across the Intelligence Community. Officials also cited him for his inclusive management style, attention to personnel issues and ability to instill pride in the work force. From NPIC, Huffstutler moved to CIA, where he became executive director.

Paul L. Peeler Jr., director of DMA's Hydrographic/Topographic Center, Reston Center and Technical Services Center and technical director of DMA's Aerospace Center and Reston Center, was instrumental in leading the transformation from manual production methods to digital production. At the Reston Center, he led DMA's prototyping activities including production of its first map using a digital production system. After retiring in 1996, he has continued to serve as the U.S. government representative to the Pan American Institute of Geography and History.

Retired Army Col. Lloyd L. Rall was the principal architect of the Post Hostilities Mapping Program on the staff of Gen. Douglas MacArthur in the Far East. Later, he led efforts to create the Inter American Geodetic Survey. He was instrumental in establishing NATO mapping programs and conceived and led the establishment of the Five Nations agreement, which pooled mapping and imagery collection activities of Australia, Canada, New Zealand, the United Kingdom and the United States. As director of the Engineer Topographic Laboratories, he established the Army's space-based geodesy and mapping programs. His career culminated at the Defense Intelligence Agency, where he championed the establishment of DMA. Rall died in January.

Presidential Rank Awards

Three NIMA personnel received 2002 Presidential Rank Awards for sustained accomplishments in the areas of leading change, achieving results, leading people, business acumen and building coalitions/communication.

Tom Coghlan, Director, Analysis and Production Directorate, received the Distinguished Executive award for his sustained career record of outstanding change management. He was NIMA's lead for the Intelligence Program Review Group that established Geospatial Intelligence as a discipline meriting substantial investment. In 1998, he led the NIMA Outsourcing Study, which resulted in a decrease in government positions from 67 to 49 percent of the work force in four years.

Deputy Business Executive **Lloyd Rowland** received the Meritorious Executive award for building the foundation for Geospatial Intelligence, based on his expertise in geospatial production, international cooperation, industrial base expansion and program management. He crafted NIMA's first-ever business plan in 2000, a model for success. As Director of Geospatial Production, he co-signed an international standards agreement with 19 other NATO and European nations that provided for common formats leading to interoperable Geographic Information Systems.

NIMA West Senior Executive **Steve Wallach** received the Meritorious Executive award for his combination of technical, organization and management and interpersonal skills. As Director of Targeting and Navigation, he led NIMA into the future by shifting focus to take advantage of multiple intelligence sources in support of time-sensitive targeting. In 2001, as chair of the Commercial Outsourcing Study, he worked to transform NIMA from distributor of standard legacy products to information provider.

Tom Coghlan

Lloyd Rowland

Steve Wallach

THE DIRECTOR OF CENTRAL INTELLIGENCE
WASHINGTON, D.C. 20505

19 March 2003

James R. Clapper, Jr., Lt Gen (Ret) USAF
Director, National Imagery & Mapping Agency
Bethesda, Maryland

Dear Jim: JM

I would like to express my sincerest appreciation for NIMA's outstanding contribution to the Secretary of State's United Nations Security Council presentation on Iraq's failure to disarm and Baghdad's attempts to deceive the inspections process. The expertise of NIMA's analysts and production support personnel in reviewing and clearing material for use, and their willingness to work against an extremely tight deadline, contributed much to the success of this historic event.

Secretary Powell has communicated to me his gratitude for the intelligence support he received in preparing his address. NIMA employees played a significant role in the process, and their efforts are in keeping with the tradition of excellence of the entire NIMA workforce.

Please accept my personal thanks for the hard work and dedication of your employees.

Sincerely,

George

George J. Tenet

NIMA | NATIONAL IMAGERY AND MAPPING AGENCY

Know the Earth | *Show the Way*

All photos courtesy of the United Nations and U.S. Department of State websites

"Let me say a word about satellite images before I show a couple. The photos that I am about to show you are sometimes hard for the average person to interpret, hard for me. The painstaking work of photo analysis takes experts with years and years of experience, poring for hours and hours over light tables. But as I show you these images, I will try to capture and explain what they mean, what they indicate to our imagery specialists."

--Secretary of State Colin Powell
Speech to the UN Security Council
5 February, 2003