
NATIONAL GEOSPATIAL-INTELLIGENCE AGENCY
CAPABILITIES
AND CONTRIBUTIONS
NATIONAL GEOSPATIAL-INTELLIGENCE AGENCY
UNITED STATES OF AMERICA

CONTENTS

MISSION

Provide world-class geospatial-intelligence and lead the Global GEOINT Enterprise

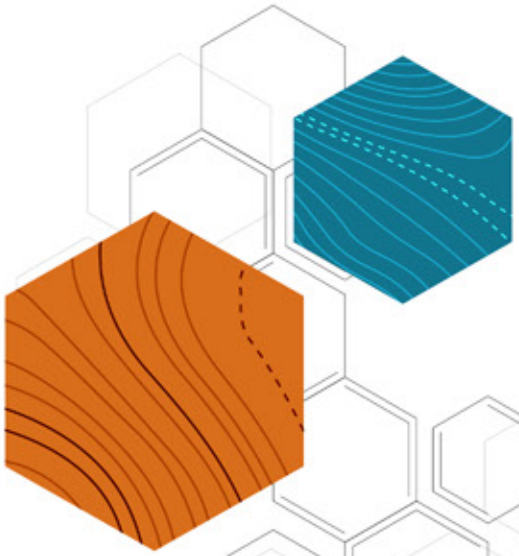
STRATEGIC OBJECTIVES

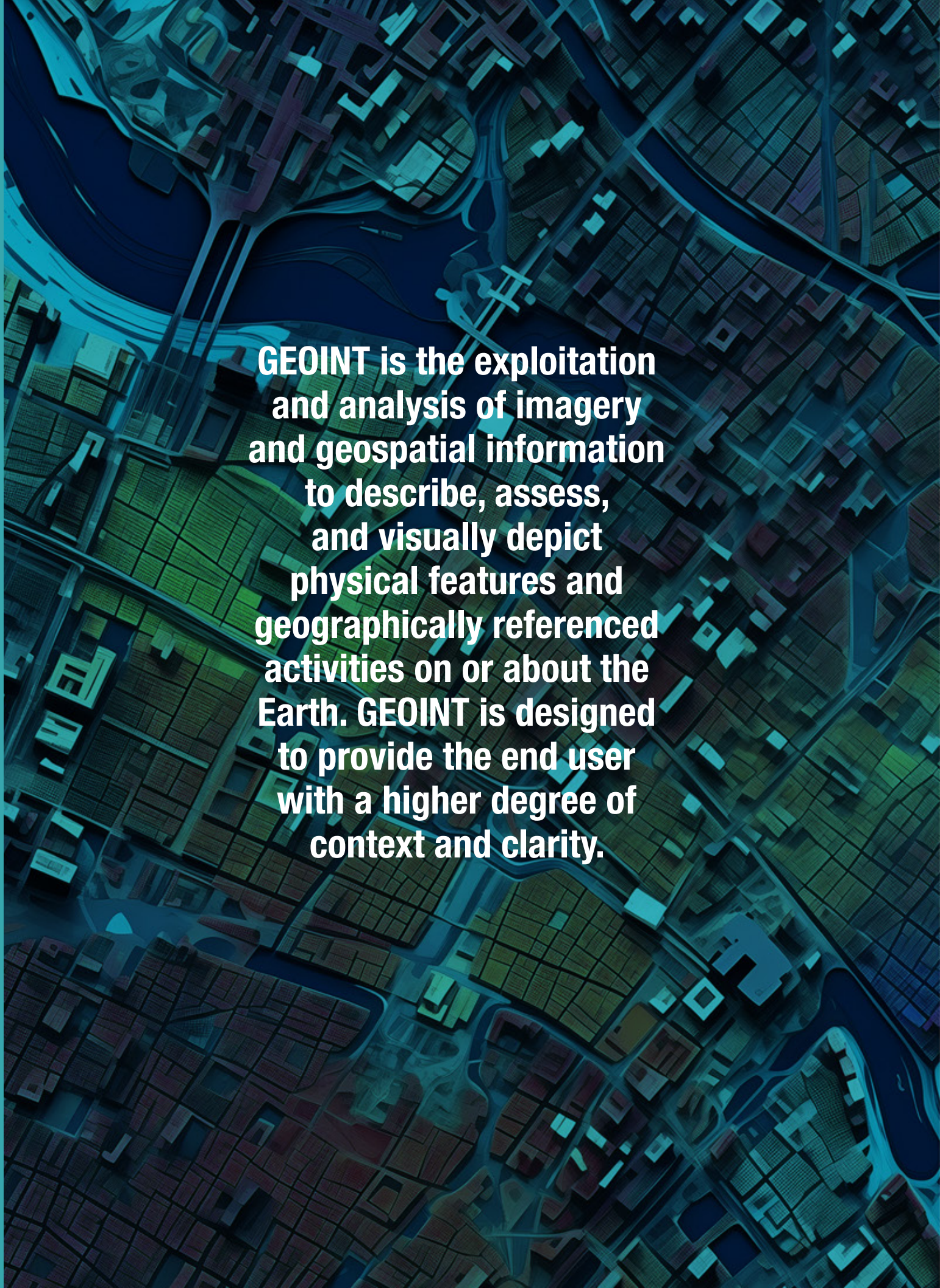
- Enhance operational readiness, indications and warnings, targeting, and AI adoption
- Attract and develop a highly skilled workforce
- Build resiliency by strengthening our partnerships
- Strengthen stewardship of GEOINT resources
- Accelerate GEOINT and AI technology acquisition and integration

"KNOW THE WORLD, SHOW THE WAY... FROM SEABED TO SPACE"

The NGA's motto, "Know the World, Show the Way…from Seabed to Space," acknowledges the Agency's expanding responsibilities and commitment to the foundational tradecraft that has carried the agency to this pivotal moment.

While NGA's core missions remain the agency's driving force, the dynamic, changing world requires a steadfast effort across every domain, including the emergent areas requiring the agency's most creative and dedicated attention. NGA's highly skilled workforce applies their tradecraft and advanced tools to evaluate imagery, maps, charts and multiple layers of foundation data — such as terrain, elevation, and gravity — and the full electromagnetic spectrum. Wherever NGA's workforce turns their focus, the motto emphasizes the decision advantage that NGA provides warfighters, decision makers, first responders, and partners in service of the security interests to the American people.





GEOINT is the exploitation and analysis of imagery and geospatial information to describe, assess, and visually depict physical features and geographically referenced activities on or about the Earth. GEOINT is designed to provide the end user with a higher degree of context and clarity.

NGA DELIVERS GEOINT AT SPEED AND SCALE FOR MISSION ADVANTAGE

NGA is the world leader in delivering the timely, relevant, accurate, and actionable GEOINT required to provide decision advantage to senior policymakers, combatant commands (CCMDs), and military services.

NGA, a unique combination of intelligence agency and Combat Support Agency, enables the US Intelligence Community (IC) and the Department of Defense (DoD) to meet their **warning, targeting, and safety** requirements. Anyone who fights wars, locates targets, sails a US ship, flies a US aircraft, makes national policy decisions, responds to natural disasters, or even navigates with a cell phone relies on NGA.

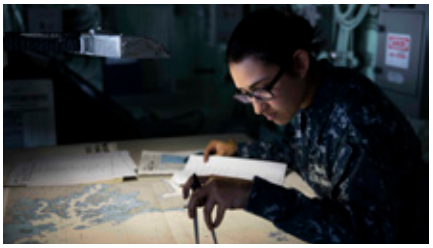
NGA maintains a worldwide presence that closely monitors events 24x7, 365 days a year; approximately 25 percent of our workforce works outside of our NGA Washington and St. Louis facilities, embedded with customers. NGA collaborates with our mission partners to predictively identify and respond to emerging threats and provide timely warning to US decision makers, mission partners, and allies. NGA's National GEOINT Operations Center (NGOC) evaluates newly arrived GEOINT for potential action and dissemination to executive branch decision makers and combatant commanders around the world.

CONSUMERS AND PARTNERS

CONSUMERS

NGA measures success by the value it provides to others: the speed, accuracy, and precision with which the agency delivers actionable information. As the lead federal agency for GEOINT, NGA serves three main groups of consumers:

National policymakers: NGA monitors, analyzes, and reports on adversary capabilities and intentions to support decision-making at the national level.



Warfighters: NGA supports mission planning, battlefield awareness and superiority, precision targeting, and safety of navigation to deter and defeat the adversary and protect our military forces.

First responders: Upon request from a lead federal agency, NGA provides foundation data and intelligence to aid in the response to domestic fires, floods, earthquakes, landslides, hurricanes, and other natural or manmade disasters.

PARTNERS

NGA is committed to a unified, coordinated, integrated, and resilient GEOINT community. Together, NGA's partners provide an asymmetric strategic advantage that no adversary can match. In this context, NGA collaborates with four primary partner sets:

Key Intelligence Community (IC) Partners: NGA collaborates closely with other intelligence agencies, including but not limited to the Defense Intelligence Agency, the National Security Agency, the National Reconnaissance Office, and the Central Intelligence Agency.

International Partners: NGA engages with GEOINT professionals from numerous international partner countries, including the GEOINT organizations of its Five Eyes partners in Australia, Canada, New Zealand, and the United Kingdom.

US Government (USG): As a Combat Support Agency, NGA provides significant support to the military services, combatant commands, and DoD leadership. NGA is also authorized to support the GEOINT requirements of the National Security Council and non-DoD federal departments and agencies.

Academia: NGA partners with the academic community on mutually beneficial activities, including through Cooperative Research and Development Agreements (CRADAs), NGA Academic Research Program (NARP) agreements, and other arrangements with universities to aid in education and in identifying students to train them to meet our future mission requirements.

COLLABORATIVE TOOLS

To foster collaboration between industry, academia, and GEOINT partners, the Agency created the NGA Unclassified Data Lake (NUDL). This platform hosts over 200 users encompassing engineers, data scientists, developers, geospatial, and artificial intelligence/machine learning (AI/ML) users across the USG, private industry, and academia. NUDL holds nearly 200 TB of licensed imagery, with 1.4 million images from Capella, ICEYE, BlackSky, Planet, Umbra, SRTM, and CDAS data sources.

NUDL features include the ability to interact with imagery and data through exploitation and geospatial features, including the Spatio-Temporal Asset Catalog (STAC), AI/ML/Computer Vision (CV), and Mosaic imagery tools. This allows users to build, train, and deploy ML models and algorithms across data holdings, at scale. NUDL continues to expand its scope in the global GEOINT environment to tackle real world problems with heavy analytics and AI/ML capabilities in the mission space.

THE NGA DIRECTOR LEADS BROADER GEOINT COMMUNITIES

The Director of NGA serves as the GEOINT Functional Manager (GFM) pursuant to Executive Order 12333 and is the principal advisor to the Director of National Intelligence (DNI) on the performance of GEOINT functions. The GFM is the cognizant authority with respect to the overall performance of GEOINT functions across IC elements and activities.

The Director of NGA is also designated as the Defense Intelligence Enterprise Manager (DIEM) for GEOINT. Among other responsibilities, the GEOINT DIEM ensures DoD GEOINT activities reflect DoD priorities and utilizes governance structures to resolve issues of common concern, drive effectiveness, and ensure unity of effort.

GEOINT is unquestionably bigger than a single government agency. The community is advancing a more professional, agile, and integrated GEOINT enterprise that includes partner and commercial entities prepared for the dynamic, complex, interconnected, and increasingly competitive environment. The community looks to NGA to be the leader and to provide cohesion in this vast landscape.

The GFM leads the US GEOINT community through the National System for Geospatial Intelligence (NSG), which includes 38 members of the IC, the military services, the Joint Staff and the combatant commands, and elements of the federal interagency community. Through the NSG, the GFM is responsible for developing plans, policies, programs, architectures, and standards that unite the members in an integrated community of producers and users of GEOINT.

To carry out these responsibilities, the GFM has an extensive governance process to take into consideration the requirements of all NSG partners to enact their GEOINT missions. This process, led by the National GEOINT Committee (GEOCOM), ensures transparency, provides authoritative venues to deliberate on items of common concern, and guides and stewards the prioritization of resources and efforts. This includes advocating for and orchestrating the integration of future capabilities and systems across the GEOINT IC and DoD GEOINT architecture to ensure end-to-end preparedness and readiness from concept to mission operation.

The Director of NGA is also the US principal for the Allied System for Geospatial Intelligence (ASG), which represents the GEOINT collaborative relationship among the Five-Eyes partners: Australia, Canada, New Zealand, the United Kingdom, and the United States. In this role, NGA is responsible for managing the Secretariat leading the ASG governance process.


The community is advancing a more professional, agile, and integrated GEOINT enterprise... prepared for the dynamic, complex, interconnected, and increasingly competitive environment.

NGA MISSION AREAS

NGA continuously provides warning, targeting, and safety across the globe that is relied upon by executive decision-makers and warfighters alike. NGA advances national security and foreign policy objectives of the United States through a series of interconnected areas of interest.

NGA executes operational missions that include orchestrating the collection of GEOINT data and performing analysis to provide intelligence on national security interests around the world; ensuring safety of navigation by air, land or sea; enabling combat support at the tactical level; and providing imagery intelligence to national decision-makers.

NGA's strategic approach balances providing key insights and indications and warnings (I&W) for conflicts worldwide with quick response to requests for support during natural disasters and humanitarian crises, such as the collapse of the Francis Scott Key Bridge in Baltimore, Maryland, when NGA coordinated immediate imaging system tasking and notified maritime authorities to ensure safety; or NGA's support to FEMA during and after Hurricanes Helene and Milton in the US Southeast region, when the Agency deployed analysts to assist with search and rescue efforts and damage assessments.

NGA's work ensures trillions of dollars of military equipment and personnel safely navigate the globe by air, land, and sea; proper targets are prosecuted to maximum effect, with minimum collateral damage; and decision-makers fully understand the capabilities of our enemies.

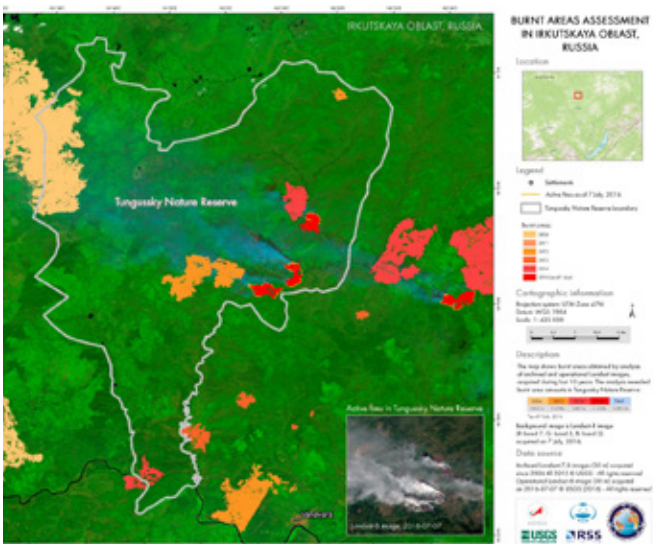
WARNING

NGA provides a wide range of GEOINT analyses, data, and services for customers, spanning from analysts to policymakers to warfighters. NGA advances national security objectives through GEOINT support to military operations, planning, decision-making, diplomacy, intelligence analysis, tactical and strategic warning, search and discovery, and targeting.

South China Sea: Construction of man-made reefs with pumped sand is documented by Maxar's satellites over a 25-month period.

MONITOR AND ASSESS ENDURING THREATS AND CHALLENGES

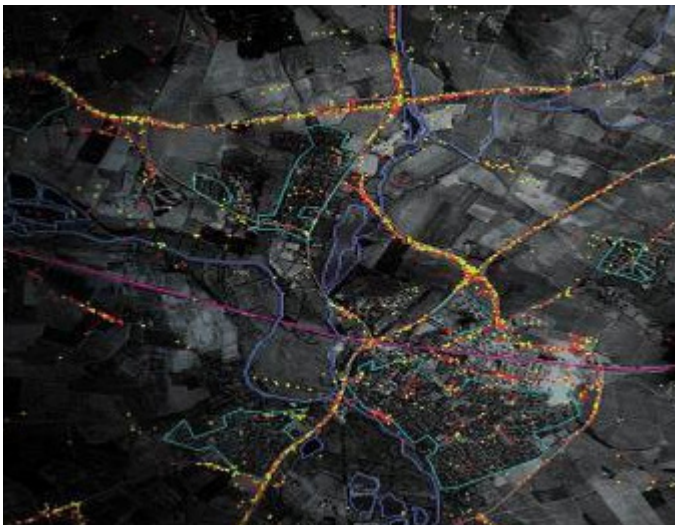
NGA analysts use GEOINT to continuously monitor and assess threats and challenges to the national security environment, including nuclear weapons–related developments, counterproliferation, counterterrorism, treaty verification, foreign military capability assessments, and economic issues. By continuously monitoring threats, NGA enables policymakers and operators to pursue responses serving US interests.



USGS

WARNING AND SITUATIONAL AWARENESS

NGA runs integrated operations centers which provide near-real-time GEOINT exploitation, analysis, and I&W for policymakers, military, and the first responder community. NGA analysts use GEOINT to monitor military movements, missile-related activities, emerging world events, and other critical, time-sensitive issues.



JSTARS image (DOD)

DISCOVER UNKNOWNS AND ATTACK HARD PROBLEMS

NGA conducts rigorous broad-area searches of terrain and research into foreign state and non-state programs to improve and increase DoD and IC understanding of topics. NGA creates visual products, such as 3D animations, time sliders, custom graphics, and fly-throughs, which uniquely convey intelligence findings.

DVIDS

SUPPORT TO MILITARY OPERATIONS

NGA provides GEOINT support down to the tactical edge by strategically inserting dedicated subject matter experts within many of our customers' organizations worldwide. NGA also provides direct military support to the DoD by developing and providing the World Geodetic System 1984 (WGS 84) and geodetic data that enable precision targeting by US weapons systems.

SOURCE: MAXAR

Satellite images used in assessing damage and danger from the Rapidan Dam breach in Minnesota

In support of lead federal agencies and mission partners, NGA provides GEOINT products and services to inform and enhance both domestic and international disaster response, humanitarian aid, and security.

SECURITY, HUMANITARIAN, AND DISASTER RESPONSE

In support of lead federal agencies and mission partners, NGA provides GEOINT products and services to inform and enhance both domestic and international disaster response, humanitarian aid, and security.

In support of homeland security, NGA provides GEOINT for counterterrorism, counternarcotics, border and transportation security, and domestic special events. Recent humanitarian assistance and disaster response efforts supporting the Federal Emergency Management Agency (FEMA) include hurricane, major flooding, and wildfire geospatial assessments.

In the autumn of 2024, NGA supported FEMA's Hurricanes Helene and Milton response and recovery efforts in the US Southeast region. NGA's employees deployed to the affected area to assist FEMA's Urban Search and Rescue teams and to provide products that helped first responders prioritize and manage their response. NGA identified the areas of greatest destruction, which enabled FEMA to begin disbursements of assistance payments to the affected areas.

NGA provides GEOINT in support of the US Department of State during international humanitarian and disaster response efforts; international security special events, such as the Olympics and political summits; and security of diplomatic facilities and personnel overseas. In February 2023, in response to magnitude 7.8 and 7.5 earthquakes that occurred in Turkey, NGA provided geospatial data and products that assisted the US European Command, partner nations, and interagency humanitarian and disaster response initiatives.

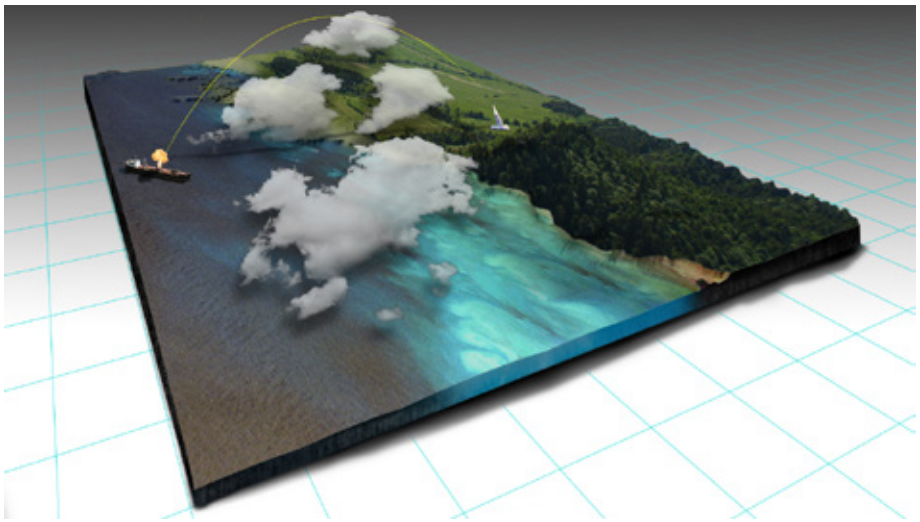
TARGETING

PRECISION ENGAGEMENT

NGA ensures the precision and accuracy of GPS and maintains the WGS 84 reference frame, which is the backbone for all geolocation. This effort also improves GPS geolocation accuracy for government civil agencies, commercial industry, and individual consumers.

TARGETING

NGA plays a crucial role in supporting US and allied partners in achieving military and intelligence targeting objectives. At its core, targeting matches appropriate responses to achieve desired effects while minimizing unintended harm. NGA enables targeting success through program accreditation, training certification, tool validation, data delivery, and federated operational support. The Agency also offers GEOINT expertise throughout the targeting cycle.



SOURCE: NGA

INFORMED COLLECTION ORCHESTRATION

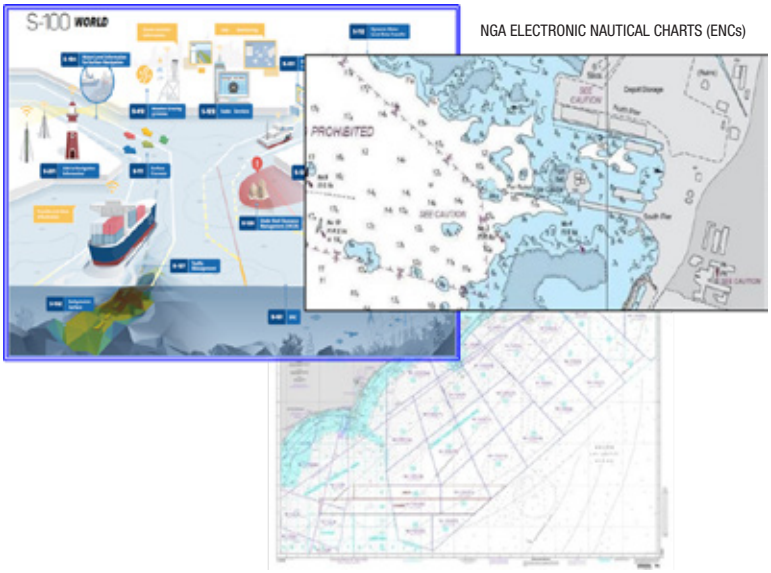
NGA leverages a complex constellation of US national and commercial sensors and navigates prioritized requirements to drive informed collection orchestration. NGA makes deliberate decisions to focus exquisite collection capabilities on priority requirements, informed by decades of regional and functional expertise.

NGA has a long history of expertise in the space domain. The Agency closely collaborates with the National Reconnaissance Office (NRO), the US Space Force (USSF), and counterparts across the globe to determine the best way forward in space for collection orchestration. NGA established a Joint Mission Management Center (JMMC) with the USSF that directly integrates warfighters into our collection process to prepare for an evolving and growing constellation network.

The JMMC unifies GEOINT collection operations at speed and scale during competition, crisis, and conflict.

The JMMC's unified collection operations will leverage the whole-of-GEOINT constellation to optimize and deconflict collection in real time. Through informed collection orchestration, the JMMC prioritizes daily requirements to task, collect, and deliver products to users across the Global GEOINT enterprise.

SAFETY



NGA ELECTRONIC NAUTICAL CHARTS (ENCs)

NGA prepares, compiles, publishes, distributes, and maintains worldwide maritime and aeronautical safety of navigation data and products and services to support DoD and partner warfighters, USG agencies, international and commercial partners, international treaties, and other agreements. These tasks are accomplished under Title 10, US Code (USC), CJCSI 3901.01G, and DoD Directive 5105.60, as well as military service-specific regulations and instructions. NGA leads the transformation of maritime and air navigation systems, standards, and products and services converting legacy products into digital content for dissemination to users through government-owned, web-based, and mobile applications.

MARITIME SAFETY OF NAVIGATION

NGA's maritime safety of navigation products and data include Electronic Navigational Charts (ENCs) for both surface vessels and submarines, notices to mariners, and nautical publications. Mariners depend on NGA products and services to safely conduct worldwide operations, training, and humanitarian missions. NGA enhances maritime safety through the Maritime Safety Office's 24x7 watch desk, part of the internationally coordinated Worldwide Navigational Warning Service. NGA is responsible for the production and maintenance of data on 70 million hydrography features worldwide for the IC and the DoD.

AERONAUTICAL SAFETY OF NAVIGATION

Under Title 10, USC, NGA is the sole government provider of flight information products to the DoD mission planning and aviation community. Military regulations, the International Civil Aviation Organization, and international agreements require US military flight crews to carry and navigate using current aeronautical flight information and publications. NGA's aeronautical safety of navigation products and data include airfield foundation data (AFD), vertical obstructions (VOs), Flight Information Publications (FLIPs), and the Digital Aeronautical Flight Information File (DAFIF). NGA is responsible for the production and maintenance of data on 49,000+ airfields worldwide for the IC and the DoD. Additionally, the Agency developed an industry-leading electronic library of instrument flight procedures to increase coverage and is developing associated digital Flight Management System (FMS) data. The library satisfies US and international mandates to transition to GPS-based air navigation, ensuring continued access to worldwide airspace and airports in support of national objectives.

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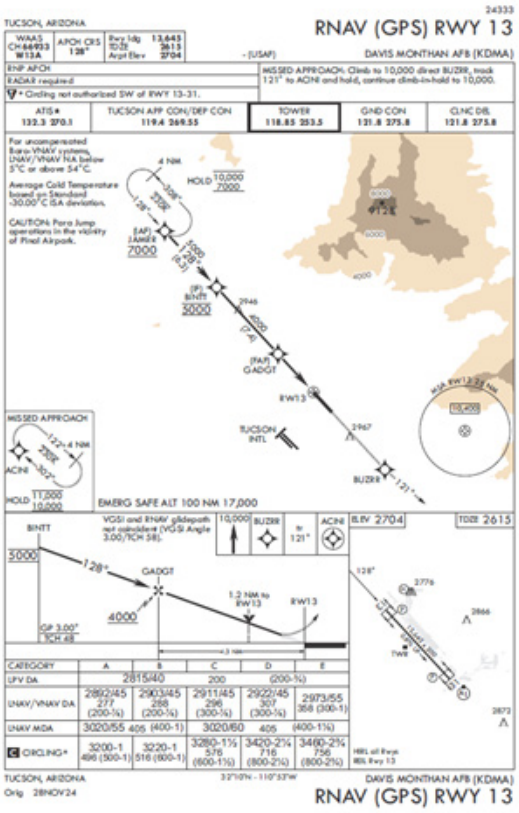
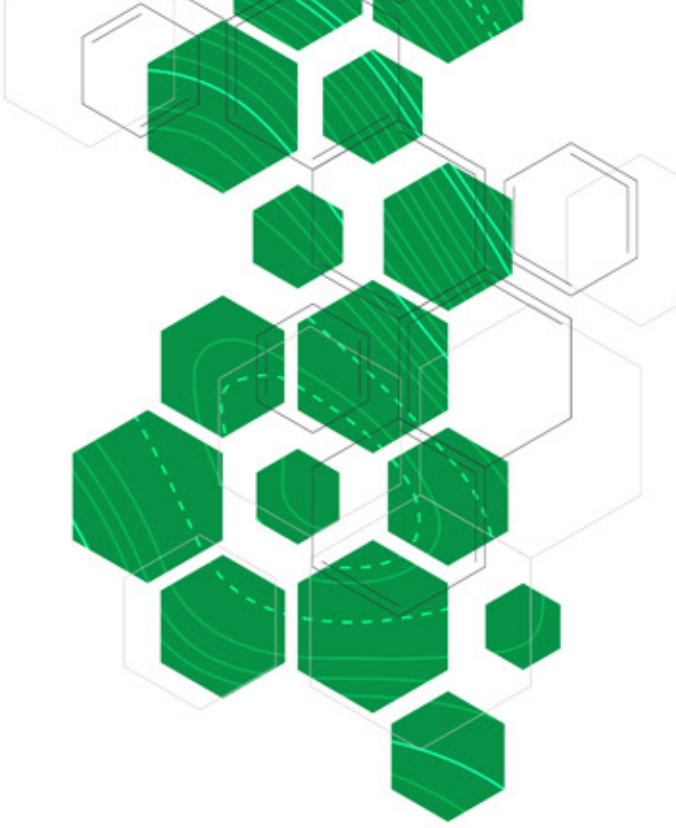


NGA AERONAUTICAL FLIPCHART



GEOINT SOURCES

NGA is the nation's leader in developing comprehensive strategies for the collection of GEOINT. This mission includes the discovery, procurement, production, accessibility, and delivery of GEOINT sources. A growing aspect of this mission is working with GEOINT analysts to make better use of automation, create more complex content strategies that increase effectiveness of collection, and allow analysts to leverage all of the GEOINT data sources available.

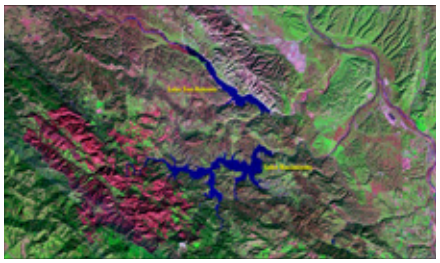
National assets provide exquisite and unrivaled capabilities to meet the most difficult challenges. However, to provide the best value for customers, NGA must leverage all types of geospatially-enabled content, whether from traditional or new GEOINT sources. NGA continues to partner with the commercial industry to improve delivery of commercial imagery and to expand into the use of commercial GEOINT analytics.

NGA employs advanced analytics to discover and provide tip-offs and alerts to systems, collectors, and analysts. These efforts involve the development of advanced analytic tools and techniques that enable analysts to interact effectively with data and models, discover new objects, and answer intelligence questions differently.

© 2016, MAXAR

PANCHROMATIC

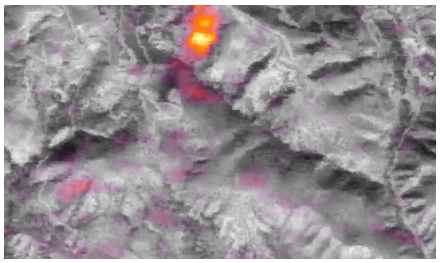
Panchromatic collectors produce an image similar to black-and-white photography. The images can provide a very detailed and accurate likeness of an area or object.



USGS

MULTISPECTRAL

Multispectral sensors capture light in frequency bands spanning across the electromagnetic spectrum. At its simplest, multispectral collection can create a color image of an object.



NASA

HYPERSPECTRAL IMAGERY

Hyperspectral imaging is an advanced form of multispectral imagery that collects data in hundreds of bands within the electromagnetic spectrum, offering better spectral resolution than multispectral capabilities. Certain materials reflect light at very specific frequencies. If electromagnetic signals are collected in those frequencies, it can form images useful in precise terrain or target analysis.

DVIDS

INFRARED

Infrared imagery is produced as a result of sensing electromagnetic radiations emitted or reflected from a given surface in the infrared portion of the electromagnetic spectrum. The information is displayed in a gray-scale image.

ADOBE STOCK IMAGE

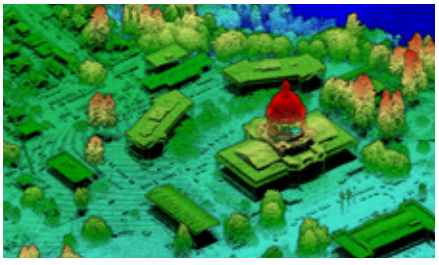
OVERHEAD PERSISTENT INFRARED (OPIR)

OPIR is a GEOINT source that provides space-based, on-demand, persistent, global and localized coverage. OPIR is a capability that detects energy radiation from various tactical and strategic targets.

DLR, CC-BY 3.0

RADAR

Radar imagery is collected by bouncing radio waves off a target, collecting the reflected signal, and reconstructing the data in the form of an image. As a result, these sensors can collect imagery day or night, in almost any weather conditions.

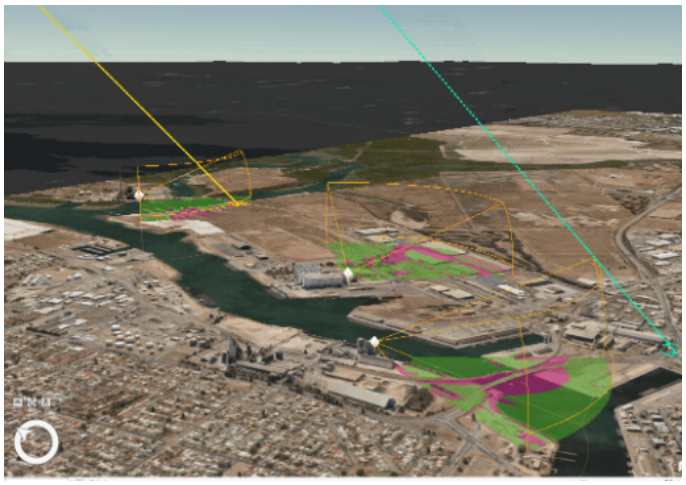


© SANBORN MAP CO.

LIGHT DETECTION AND RANGING (LiDAR)

LiDAR sensors use laser pulses in the visible and infrared portions of the electromagnetic spectrum. The sensor emits a pulse of laser light toward an object, which reflects some of the energy to the sensor. The time it takes for the energy to return provides elevation values; shorter roundtrips indicate higher elevations, and longer roundtrips indicate lower elevations. This process helps measure distances, heights, and other characteristics of an object. The process can be used to develop 3D models of an object, such as a building.

Getty Images, iStockphoto



Esri, Inc.

FULL-MOTION VIDEO (FMV)

Full-motion video uses sequential or continuous streams of images that enable observation of the dynamic (temporal) behavior of objects within the scene. This type of imagery is similar to a video or movie camera footage. FMV collectors can produce narrow or wide fields of view, and imagery may be full-color or panchromatic. FMV sensors also may have the ability to collect thermal infrared imagery, which helps for nighttime collection and operations.

MOVING TARGET INDICATOR (MTI)

Moving Target Indicator is radar-derived data that shows detections of objects that are in motion. MTI sensors transmit a pulsed radar signal and then measure the Doppler shift in frequency of the moving object's reflected signal in contrast to the returns from surrounding stationary objects. The resultant MTI view is presented graphically as dots to illustrate moving objects within the radar's field of view.

NGA

PERSISTENT WIDE-AREA SURVEILLANCE

Persistent wide-area surveillance provides observation over a broad region to increase the chance of detecting a specific activity. When coupled with software-based analytical tools that sort through large amounts of data, analysts can track that activity forward in real time or backwards forensically.

Wide-area surveillance provides the ability to rapidly collect large volumes of data to monitor areas of interest around the Earth. Various algorithms automatically extract the necessary feature information, which enable NSG analysts to formulate insights about behaviors and activities utilizing software-based analytical tools.

2008 US NAVY

AIRBORNE

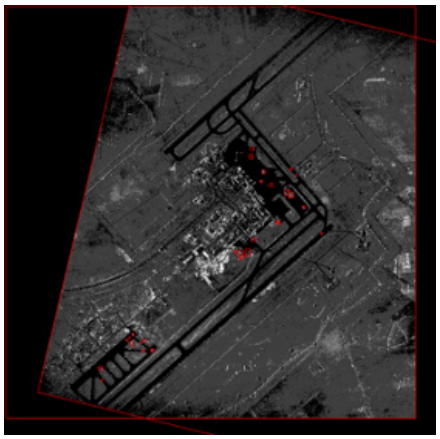
Airborne GEOINT comprises still imagery—which encompasses electro-optical/infrared (EO/IR), panchromatic, synthetic aperture radar (SAR), and hyperspectral collection capabilities—FMV, radar-based MTI, wide-area motion imagery, and LiDAR sources of collection at the forefront for tactical missions and crisis support around the globe. Manned and unmanned airborne sensors combine the ability to conduct multiple visits and dwell on targets for extended periods to help with change detection, characterization of activities, observation of behavior, and discovery of new activity. NGA integrates airborne sensor data into NGA's GEOINT dissemination architecture (libraries and streaming services) to provide accessibility to the data and to support imagery requirements throughout the DoD and IC.

OPEN SOURCE

Open source GEOINT includes publicly available information or commercially acquired information with a geospatial component used for GEOINT purposes. Common examples include ground-based media and imagery such as photographs associated with high-current-interest activity collected from social media, geolocated events and activity referenced in traditional media sources, and commercial or publicly available databases offering geospatial information relevant to the GEOINT mission. By leveraging geospatially-referenced open source information often in combination with other GEOINT sources, NGA may identify or confirm activities and events with greater confidence.

COMMERCIAL GEOINT

NGA integrates a full range of commercial capabilities from commercial satellite and sensor operators and GEOINT capability providers on behalf of the DoD, IC, and civil government including imagery and non-imagery data, products, and analytic services. Commercial sensor capabilities include space-based panchromatic, multispectral and radar imagery, emerging phenomenologies such as hyperspectral, and a variety of airborne sensors. Commercial imagery is key to NGA's foundation data mission; commercial imagery supports more than 90 percent of foundation mapping efforts. Since the imagery is unclassified, it is easily shareable to support humanitarian and natural disaster missions. For example, in the aftermath of the 2023 Maui wildfire as part of a FEMA Incident Support Team, NGA provided support to search and rescue efforts with commercial remote sensing data, including synthetic aperture radar, panchromatic, and multispectral imagery.



Damascus International Airport, Syria
Commercial SAR Detections and Iceye Imagery provided under license by Axim Geospatial

Commercial GEOINT data and analytics provide distinct advantages including speed, shareability, analytic variety, additional capacity, and novel capabilities. For example, commercial GEOINT is critical to combatant commands, enabling international sharing across a range of activities including military operations, diplomacy, strategic intelligence, disaster response, and I&W. Commercial GEOINT analytics enable timely interdiction of illicit maritime activity by the US Government and international partners, support to domestic disaster response, and civil applications, such as creation of digital elevation models to measure changes in topography, shoreline, and glacier flows.

FOUNDATION GEOINT DATA

NGA provides the basis for intelligence integration by building the foundation of a global geospatial operational framework. Foundation data helps NGA describe the world. Whether through a geographic information system–enabled application or hard-copy map product, foundation data enables military and civil operations, is a critical component of major weapons systems, and frames understanding of natural and man-made environments. NGA continues to lead the DoD and IC for the production, procurement, assessment, and cataloging of this data from US, foreign, and open sources.


NGA

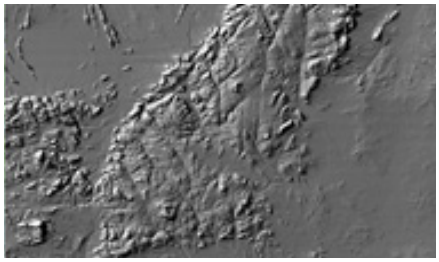
NGA STREETS BASEMAP

The NGA Streets is a dynamic cartographic visualization basemap created from 12 NGA databases. It allows users to zoom in at different scales, from a worldwide view to neighborhood level, for the entire globe in seven different themes. Available in both web-mapping services and vector tiles, it is used by analysts in GIS software and third-party applications across the DoD and IC. NGA Streets is available on unclassified and classified networks and averages more than 10,000 visits per day.


NGA

TOPOGRAPHIC DATA

Topographic data is information captured, generated, enhanced, and depicted in a graphical manner. It delineates natural and man-made features of any place on Earth, showing relative positions and elevations. This data is stored and service-enabled for the discovery, retrieval, and generation of mapping and geodetic information and products.


NGA

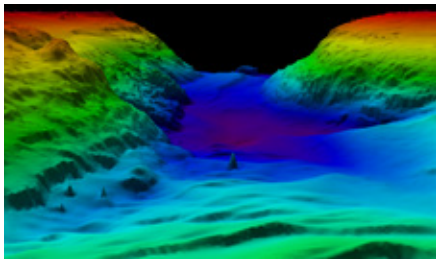
ELEVATION AND TERRAIN

High-resolution digital elevation terrain models provide an unclassified seamless terrain dataset that represents a “bare earth” lay of the land. High-resolution digital reflective models provide 3D representation of the Earth. Elevation data provides the essential quantitative data for military systems that require terrain elevation, slope, and gross surface roughness information. Elevation data also supports the image-orthorectification process and is used in mission planning, terrain modeling, and visualization.


NGA

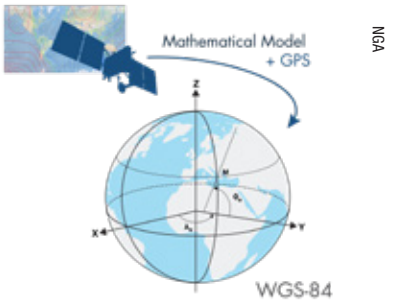
LAND COVER

Land cover representations, as either raster or aerial vector data, depict natural conditions, such as landforms, water, and vegetation, and broad patterns of human land use, including population centers, agricultural areas, and resource harvesting or extraction. Land cover is a thematic human geography content category that reflects the physical environment and the spatial distribution of human activities within that environment.


NGA

BATHYMETRY

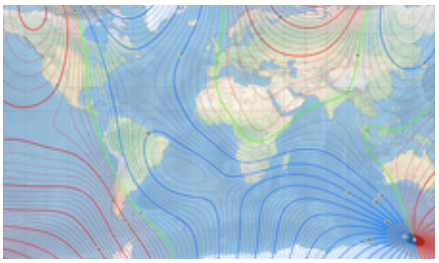
The ocean floor changes in elevation as much as the elevation of the ground. NGA collects worldwide bathymetric measurements to map the ocean floor using direct measurement, sound navigation and ranging (sonar), and specialized radar sensors. This data can be used to assess the depth of water and potential hazards to navigation, such as reefs and islands, which is particularly helpful to submarine navigation.



NGA

GEODESY, GEOPHYSICS, AND THE WORLD GEODETIC SYSTEM 1984

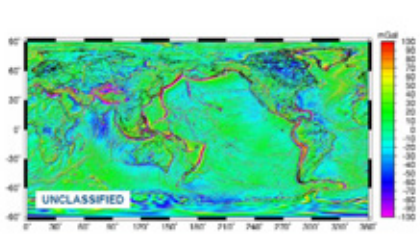
Built from satellite, gravity, elevation, and other geodetic and geophysical foundation data, the WGS 84 provides the single reference frame to geolocate all GEOINT data to support safety of navigation, targeting accuracy, and intelligence activities. Through constant monitoring of the dynamic Earth, WGS 84 precisely defines latitude and longitude and provides a magnetic model to aid navigation and an Earth Gravitational Model that helps define global mean sea level.



NGA

THE WORLD MAGNETIC MODEL 2025

NGA releases the World Magnetic Model (WMM) updates approximately every five years, with the 2025 update in December 2024, in partnership with the National Oceanic and Atmospheric Administration and the British Geological Survey. The updated model provides precise navigational data for all military and civilian aircraft, ships, submarines, and GPS units. As Earth's magnetic field is constantly changing, the difference between geographic and magnetic north also changes, requiring the WMM to be updated as necessary.



NGA

GRAVIMETRY

Gravimetry is the measurement of the strength of the Earth's gravity field in three dimensions. Around the world, the strength and direction of gravity varies slightly due to various geophysical phenomenon. Although humans cannot sense these small variations, the effects on military guidance systems can be tremendous. NGA's worldwide gravity model supports military customers by enabling gravimetric products essential to inertial navigation systems and ballistic missiles. The model is necessary for minimizing downrange and cross-range errors for weapons systems.

NGA

TRANSPORTATION AND INFRASTRUCTURE

Transportation and infrastructure reflect the physical environment and the spatial distribution of human activities within that environment. Spatial representations of infrastructure, typically captured and maintained as vector feature data, constitute the constructed human environment in aggregate and include elements related to energy, water, waste, habitation, communication, economic activity, and governance. Vector data related to transportation, a subset of the infrastructure content holdings, represents the linear network segments and nodes that allow for the physical movement of people, materials, and products through a given environment.

NGA

BOUNDARIES AND NAMES

NGA maintains the authoritative USG database for foreign geographic names and political boundaries and provides support for the US Board on Geographic Names' Foreign Names Committee. The authoritative foreign geographic names data is available for use by the whole of the USG via NGA's Geographic Names Server. The US Department of State bears authority for the USG recognition of international boundaries. In partnership with the US Department of State, NGA produces data for international land boundaries, maritime boundaries and claimed limits, and internal administrative land boundaries for incorporation into USG products and reporting.

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MONO MISSION PLANNING AND STEREO POINT POSITIONING PRODUCTS

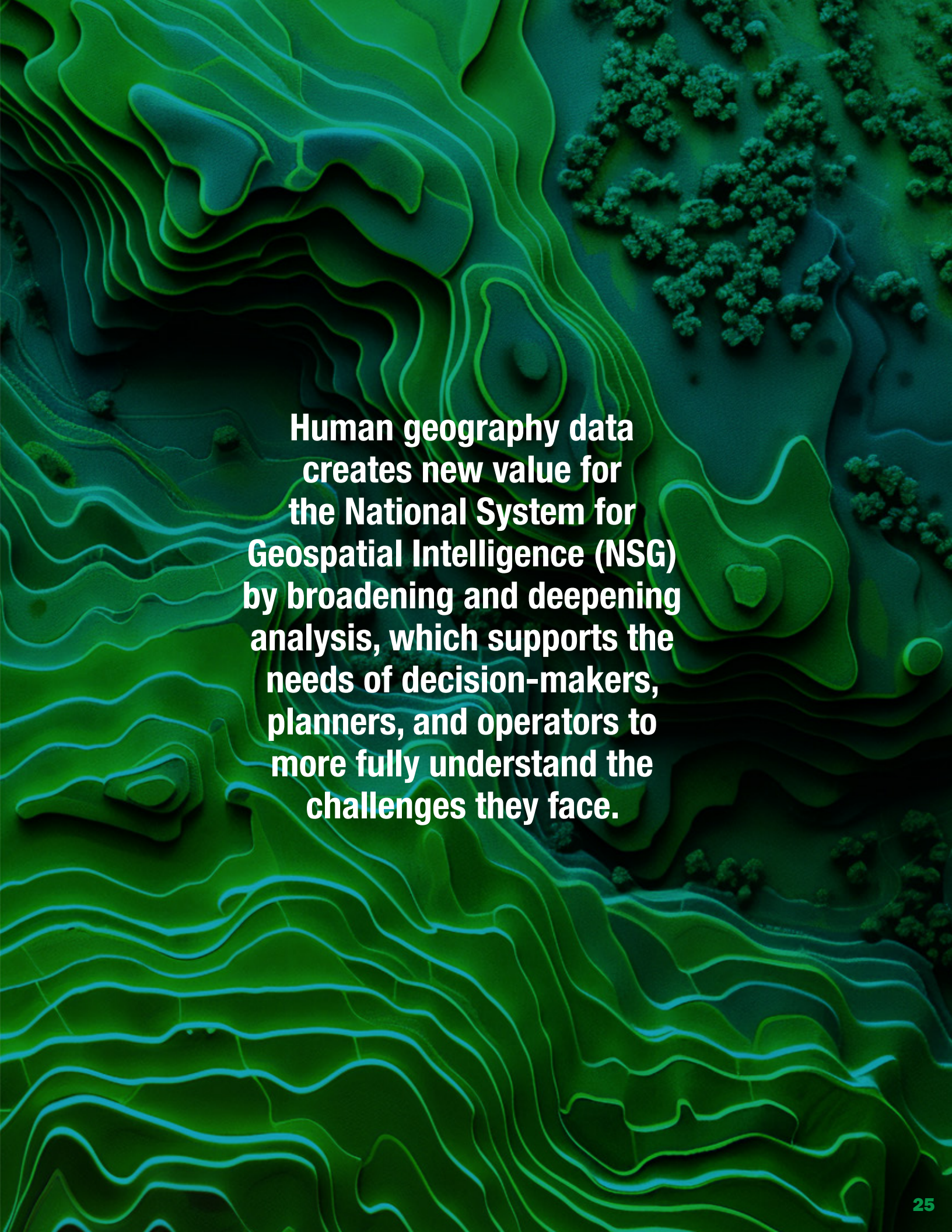
Photogrammetric techniques, resulting in validated triangulation solutions with unprecedented accuracy, are the foundation for NGA's mono image mission planning controlled image base and stereo targeting digital point positioning database. The controlled image base is a seamless database of digital ortho-mosaic imagery used for mission planning and military aircraft and vehicle navigation.

THINKSTOCK

HUMAN GEOGRAPHY

The analysis of spatial and temporal patterns of human behavior is critical to understanding a population's behaviors and perspectives within the context of the local environment. Current operations need, and future operations will demand, an understanding of this environment that extends beyond the physical terrain. Human geography data creates new value for the NSG by broadening and deepening analysis, which supports the needs of decision-makers, planners, and operators to more fully understand the challenges they face. Human geography provides perspectives to assist with nontraditional issues and sociocultural struggles that shape much of current intelligence interest, providing critical insight to the IC and the ASG on conflict and stability factors across the globe.

NGA's Foundation GEOINT Human Geography mission supports warfighters and current operations, decision-makers, and allies by addressing intelligence analysis gaps with reliably sourced, precision GEOINT that reveals sociocultural trends and drivers of conflict and explains civil capacity for stability. Human geographers and linguists create detailed, scalable datasets illustrating literal and nonliteral phenomena, such as transportation systems, popular access to essential services such as electricity or potable water, foreign election outcomes and foreign voter turnout, and ethno-religious identity groups. NGA's Foundation GEOINT Human Geography content is used across the IC, NSG, and ASG to assist in results-driven intelligence analysis.


Human geography data
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GEOINT ARTIFICIAL INTELLIGENCE

Over the next decade, NGA anticipates that the volume of available GEOINT data will triple. By applying AI to GEOINT, NGA will be able to leverage this deluge of data to maintain a competitive edge. Accordingly, NGA is producing GEOINT data and AI models of increasing accuracy that generate high-quality detections that can be applied to defense and intelligence missions, enabling decision advantage for warfighters, policymakers, and mission partners.

NGA is exploring and applying all forms of AI, including machine learning (ML), computer vision (CV), large language models (LLMs), and Generative AI (GenAI). When AI is applied to GEOINT, it enhances the ability to process and analyze large volumes of geospatial data more efficiently and effectively. AI facilitates the training of models on millions of NGA reports, resulting in improved analytic research, report writing, data analytics, and GEOINT products.

NGA employs AI to decrease the time needed to sift through GEOINT data to discover and provide tip-offs and alerts to systems, collectors, and analysts. This allows analysts to interact effectively with the data, discover new objects, and ask intelligence questions that provide the context necessary to deliver decision-ready, expert GEOINT. In other words, GEOINT AI provides trusted GEOINT at speed and scale.

In 2025, the Agency announced an AI reorganization to implement an integrated approach to AI transformation, establishing directors of AI Standards, AI Mission, and AI Programs. Collectively, the directors will lead NGA's accelerated adoption and delivery of AI capabilities while ensuring the safe and secure development and deployment of GEOINT AI across the community.

NGA is leading the IC and DoD in advancing AI in several areas, including:

- Applying high-quality CV to improve positive identification, geolocation, and speed. NGA will improve and scale existing overhead imagery Broad Area Search-Targeting and FMV lines of effort by employing novel algorithms and techniques to deliver target detections from new modalities.
- Coordinating with DoD and IC partners to align GEOINT ontologies to a common set of top and mid-level standards, which will result in significant gains in data interoperability, federated search and discovery, decreased analytic timelines, and better cost efficiency.
- Establishing a certification program to govern the responsible development and use of GEOINT AI. Responsible AI is an approach to developing, assessing, and deploying AI systems in a safe, trustworthy, and ethical way. NGA's Responsible AI program is based upon existing legal, ethical, and policy frameworks such as the DoD AI Ethical Principles and the ODNI's Principles of Artificial Intelligence Ethics for the Intelligence Community.

NGA's AI CV efforts are contained within the NGA Maven and Analytic Services Production Environment for NSG (ASPEN) programs, which are already delivering significant advantage to warfighters.

MAVEN

NGA Maven is DoD's lead geospatial AI/ML program focused on providing state-of-the-art capabilities at speed and scale to maximize the Defense Intelligence Enterprise's ability to achieve decision advantage. Established in 2017 as the DoD's flagship AI project to integrate AI into military workflows, Maven's state-of-the-art CV and AI capabilities integrate into analytic workflows – to automatically detect, identify, characterize, extract, and attribute features and objects in imagery and video. It is the first DoD AI program to successfully use the non-traditional program path known as the Software Acquisition Pathway.

NGA Maven is already producing large volumes of CV detections for warfighter requirements. Maven data and detections are fed into multiple platforms and are an important component in the tapestry of connected sensors from all branches of the armed forces in a unified AI network.

NGA Maven augments the capabilities of DoD personnel by offloading tedious cognitive or physical tasks, enhancing situational awareness, and supporting logistic and maintenance efficiencies.

- NGA Maven benefits maritime domain awareness, target management and NGA's ability to automatically search and detect objects of interest.
- NGA Maven enhances battlespace awareness and enables the rapid processing of large amounts of imagery and brings GEOINT AI to analysts and warfighters.
- NGA Maven is already realizing critical targeting capabilities through military exercises and directed Research & Development (R&D) that will enable warfighters and decisionmakers.
- NGA Maven produces large volumes of computer vision detections for warfighter requirements. It has produced millions of labels and computer vision detections.

NGA Maven is DoD's lead geospatial AI/ML program focused on providing state-of-the-art capabilities at speed and scale to maximize the Defense Intelligence Enterprise's ability to achieve decision advantage.

ASPEN

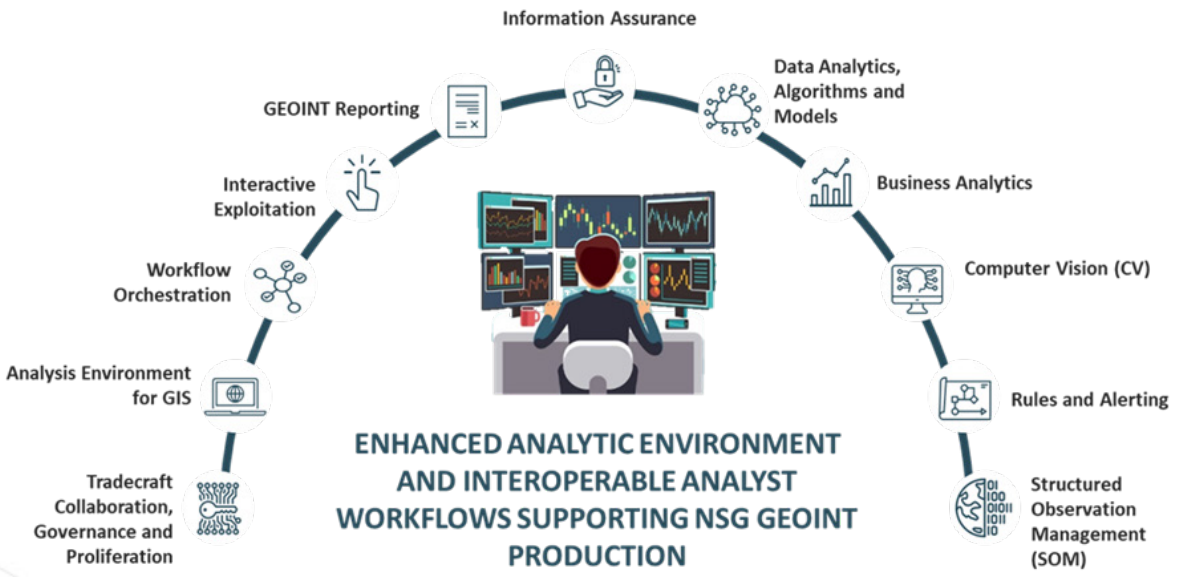
NGA's ASPEN program is a Major System Acquisition that is designed to modernize analyst workflow production for thousands of analytic users and consumers. ASPEN automates end-to-end production processes to free up resources for tailored human analysis and leverages CV to accelerate GEOINT exploitation and dissemination while enabling deeper analytic insight.

ASPEN will provide the backbone of modern tools and technologies - including Structured Observation Management, CV, and automated intelligence reporting capabilities - that analysts will use to maximize the potential of the growing influx of GEOINT data and pixels to deliver trusted I&W to the DoD and IC.

ASPEN's program goals include:

- Accelerating the intelligence cycle and enabling deeper insights;
- Enhancing indications, warnings, and targeting;
- Enabling an enterprise suite of AI, CV, and ML capabilities for automated production and reporting;
- Providing and maintaining user-driven, machine-enabled, and highly customizable workflows to NSG analysts;
- Delivering capabilities on Secret and Top Secret domains; and
- Employing modern software methodologies (Dev/Sec/Ops) to iterate rapidly and develop, test, and deliver mission needs.

ASPEN delivers on 11 DoD and IC-validated Required Performance Metrics



ACCREDITATION OF GEOINT AI MODELS (AGAIM)

NGA's AGAIM pilot is intended to ensure that models are evaluated and users can be confident that they are trustworthy and reliable. It will test, evaluate, validate, and certify GEOINT AI models, with four levels of accreditation based on mission/use case and level of autonomy. It also implements risk management, promotes a responsible AI culture, accelerates AI adoption and interoperability, recognizes high-quality AI, and identifies areas for improvement.

In order to ensure that GEOINT AI is safe, secure, and trustworthy, NGA has launched two key Responsible AI programs, Accreditation of GEOINT AI Models (AGAIM) and GEOINT Responsible and Ethical AI Training (GREAT).

GEOINT RESPONSIBLE AND ETHICAL AI TRAINING (GREAT)

NGA's GREAT program ensures that personnel producing GEOINT AI capabilities understand the imperative of meeting DoD & ODNI policy guidance and producing quality, trustworthy AI outputs. This certification program ensures personnel are properly trained and held to responsible AI principles, ethical considerations, and compliance with DoD and ODNI policy guidance. It also ensures the capabilities produced adhere to ethical standards and responsible practices while yielding consistent quality, building trust in AI-derived outputs.

GEOINT ASSURANCE

The global proliferation of geospatial data, capabilities, and tradecraft has had a powerful and positive economic effect. AI-enhanced systems offer the potential to amplify the benefits and risks of geospatial data even further for friendly and adversarial entities alike. These same technologies are being used by adversaries to enhance their understanding of the environment while undermining ours. NGA leads a consortium of USG, allied, and industry partners to challenge adversary GEOINT efforts that undermine US global interests.

INFORMATION TECHNOLOGY MODERNIZATION

NGA is leveraging the proliferation of data and imagery, combined with technological innovation in the commercial market, to enable faster and more agile information technology (IT) systems and services that deliver GEOINT to customers wherever and whenever it is needed. NGA is continuously improving technical capabilities, as the global technology environment evolves and NGA and the IC face a wider range of challenges than ever.

NGA is committed to accelerating the speed, availability, value, usability, and security of intelligence through increased integration and information sharing, and the modernization of infrastructure, tools, and services. This is especially true in conflict zones, when time is of the essence and connectivity is unreliable or nonexistent.

NGA provides the connectivity, interoperability, bandwidth, storage capacity, and cybersecurity protections necessary to incorporate data from traditional and new sources. Transitioning from an “as-is” to an envisioned “to-be” architecture will evolve NGA’s IT systems from human-initiated processes to modeling and automation. This will enable NGA to facilitate future transactions that maintain pace with industry best practices and IT operations in a Zero Trust environment.

NGA’s edge strategy, supporting users in disconnected or disadvantaged environments, adopts new technologies and expedites the delivery of critical GEOINT capabilities, providing network resilience, improved bandwidth, and reduced latency. This strategy prioritizes the requirements of NGA’s partners and provides AOR-specific content, GEOINT and partner applications, and high-performance computing.

SOURCE: NGA

Approved for public release. NGA-U-2024-02094

SOURCE: NGA

JOINT REGIONAL EDGE NODE (JREN):

The Joint Regional Edge Node (JREN) provides data processing systems that can be placed at the edge to speed commanders' requests for access to remote sensing imagery and analysis. A mesh/content delivery network will reduce time from sensor to effect.

JREN extends resiliency, common data standards, and distribution efficiency to NGA and its mission partners, enabling containerized applications and algorithms at the edge. It uses an open-platform hosting environment to maximize the ease of integration in a containerized architecture, while maintaining a sound security posture.

Odyssey is a highly scalable, smaller form factor version of a JREN. One or more Odyssey systems are designed to be fully interoperable and augment a theater-based JREN with component tier, country, or mission-specific GEOINT products and services.

JREN serves a wide community of users across the IC and DoD, supporting a range of expertise from a novice with minimal Geographic Information Systems (GIS) expertise to an expert analyst applying the available content services to execute robust analytics. The JREN also provides geospatial analytic capabilities, which allow analysts to run analytics in web applications on large local datasets.

ENTERPRISE METADATA GOVERNANCE PLATFORM (EMGP)

NGA is leading the IC in managing data as a strategic asset to enhance interoperability across the IC, DoD, USG, and international partners through shared data standards and compliance. The Enterprise Metadata Governance Platform (EMGP) will catalog all of NGA's data to enhance search, discovery, and data lifecycle management across all data types throughout the enterprise. An enterprise master data catalog will enable the agency to gain efficiencies in data storage policies to expedite data transition to archival storage, provide a data-driven cost avoidance strategy, and enable the implementation of a Data Maturity Framework (DMF). A master data catalog will provide the foundation for effective business analytics and provide the decision advantage into how intelligence is utilized to inform GEOINT acquisition.

SLIM GEOINT INFORMATION MANAGEMENT SERVICES (GIMS)

Slim GEOINT Information Management Services (Slim GIMS) is NGA's enterprise application for submission of GEOINT requirements at the theater-level. Slim GIMS allows both novice and experienced users to quickly and intuitively request products from the full range of GEOINT collection capabilities and services available in GIMS.

Slim GIMS was developed to maximize national and tactical GEOINT collection integration using a simpler user interface and shorter training duration. Its simplified workflows reduce required operator training time from weeks to hours. Expedited GEOINT collection requests allow the ability to task in four easy steps. During participation and testing at numerous recent US military exercises, user tasking requests were completed on operationally relevant timelines.

Slim GIMS is hosted on the JREN hardware.

NGACORE
COMMON OPERATIONS RELEASE ENVIRONMENT

COMMON OPERATIONS RELEASE ENVIRONMENT (CORE):

CORE is NGA's enterprise software solution for quickly and securely moving critical warfighter-support applications from concept to reality. NGA CORE includes industry-leading tools, reusable templates, and other capabilities to accelerate the delivery of mission critical applications to the cloud or to a traditional data center. It also provides support for software testing and ensures software security is accounted for throughout the development and deployment processes.

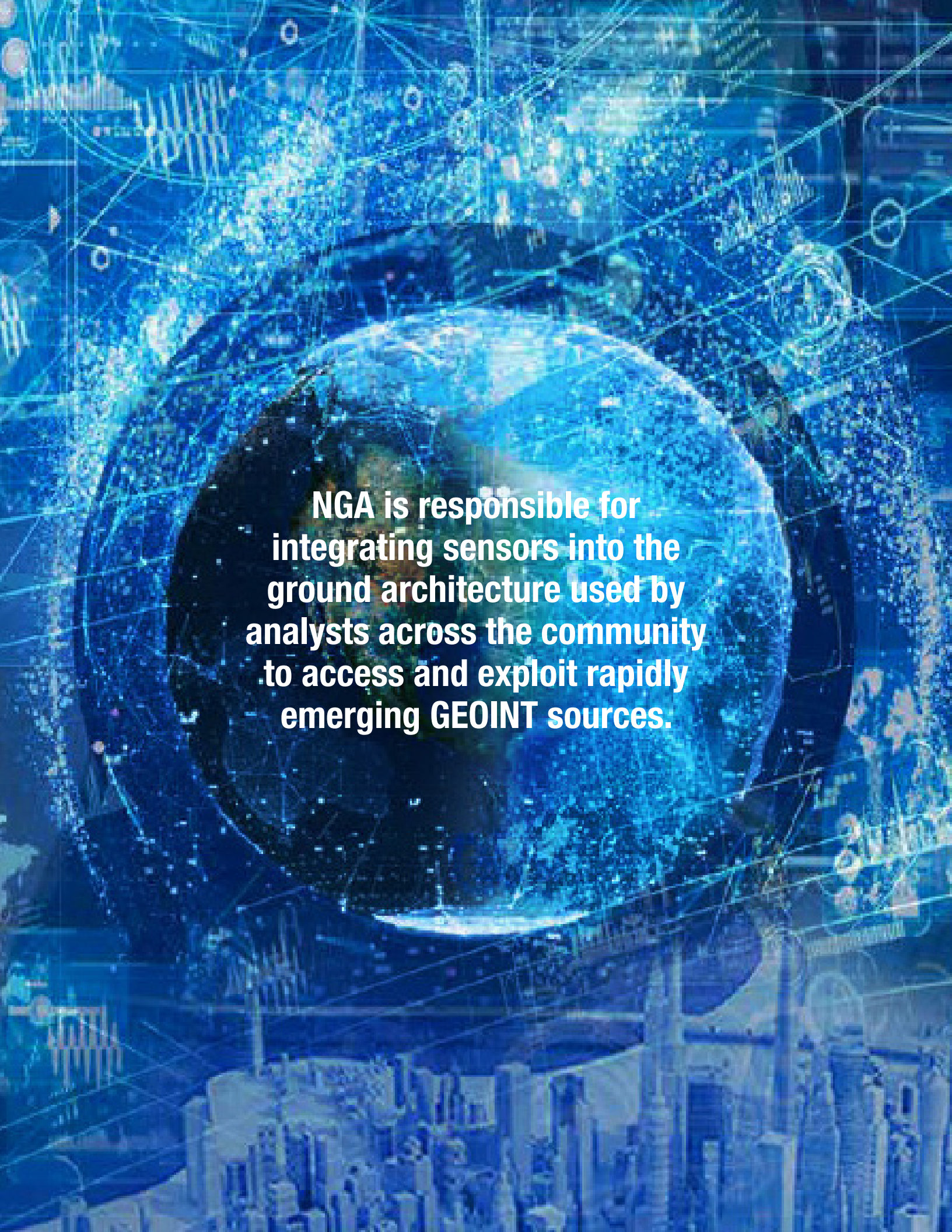
FUTURE ARCHITECTURE

The future GEOINT architecture is a collection of national and commercial sensors used to fulfill defense and intelligence missions. This constellation, coupled with the GEOINT ground network, provides rapid access and delivery of data to users who range from strategic to at-the-tactical-edge, across all security domains.

Growth in national, defense, and commercial GEOINT sensor data collection from space is accelerating, providing key capabilities for maintaining competitive advantage over US adversaries. NGA is working with NRO, the US Space Force, and counterparts across the globe to determine how best to apply informed collection orchestration to develop space-based intelligence as these capabilities become available.

NGA, NRO, and USSPACECOM jointly share information about current and future threats to commercial satellites and conduct measures to avoid or reduce harm to commercial systems through the Commercial Space Protection Tri-Seal Strategic Framework.

NGA is responsible for integrating sensors into the ground architecture used by analysts across the community to access and exploit rapidly emerging GEOINT sources. These programs develop the user interface and capabilities necessary to leverage commercial and national collection systems, supporting nearly 100,000 DoD, IC, and Allied customers worldwide at multiple security classification levels.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RESEARCH AND DEVELOPMENT

NGA's Research and Development (R&D) component leads the Agency's efforts to find solutions to hard problems by developing, demonstrating, and delivering new GEOINT capabilities that meet mission partner needs across the IC, DoD, and federal agencies.

NGA is committed to cross-government collaboration, innovative solutions, and programmatic rigor to remain on the forefront of technological advances in GEOINT. NGA R&D efforts are aligned with customers' and end users' diverse needs to ensure responsiveness to the dynamic threat environment and technology opportunities. NGA R&D and Agency operational elements work together to develop and prioritize GEOINT hard problems, allowing R&D experts to explore the art of the possible and deliver operationally responsive capabilities.

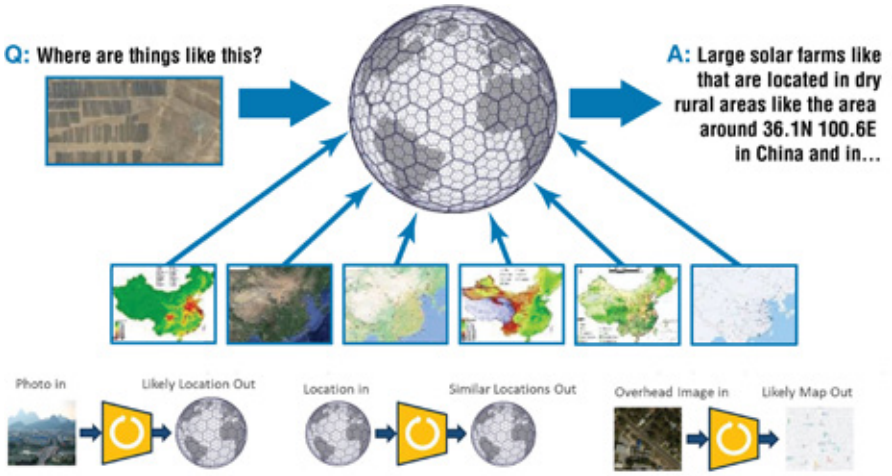
In FY23 and FY24, NGA R&D delivered mission capabilities that close intelligence gaps; enable precision targeting from 3D data; accelerate the processing of safety of navigation messages; enable alternative positioning, navigation, and timing methodologies; and leverage multimodal models for GEOINT analysis.

What follows are two examples of NGA R&D projects.

GIGA | Extending Multimodal Models for GEOINT Analysis

GEOINT Analysis at Speed and Scale

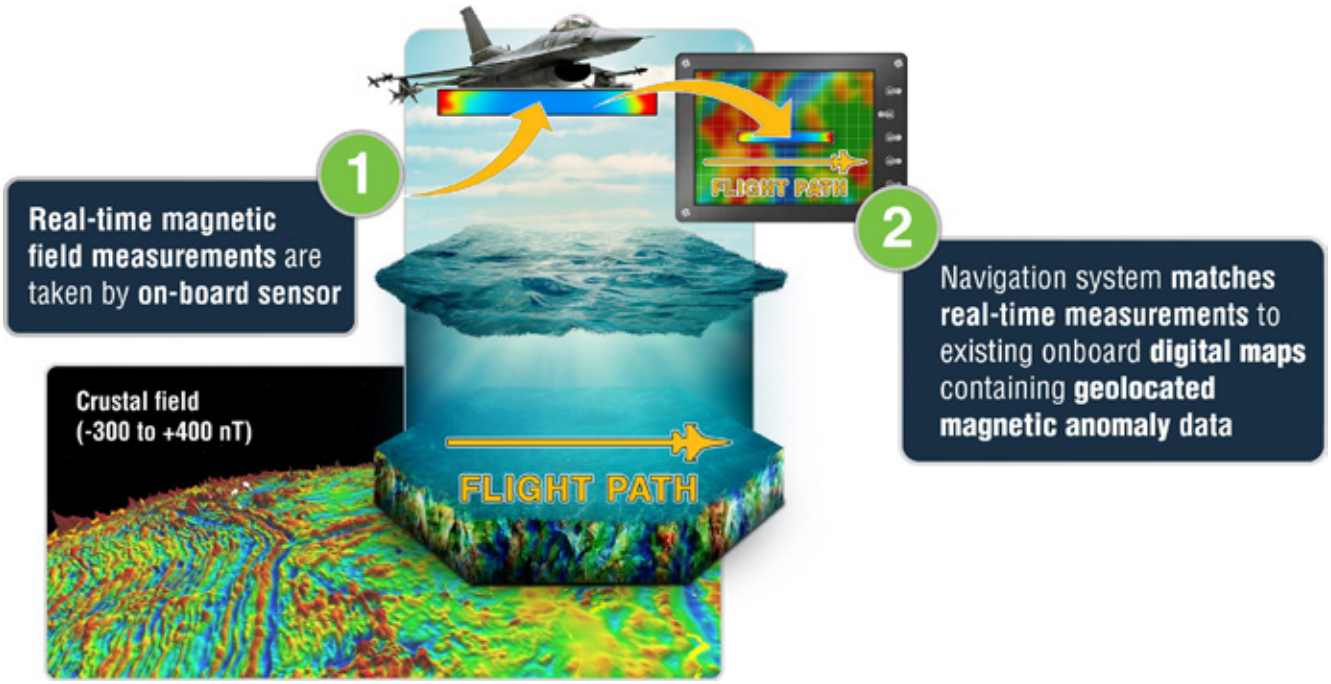
Description: NGA is developing the first multimodal foundation model to specifically answer geospatial questions with precision, accuracy, and confidence. One projected outcome allows users to geolocate photographs and satellite images within a kilometer or less.



MAGNETO | Crustal Magnetic Navigation Maps

Accelerate Foundation GEOINT Modernization

Description: NGA aims to produce digital maps of the Earth's crustal magnetic field, accompanied by reliable accuracy estimates, capable of supporting navigation in the absence of Global Navigation Satellite System access. This alternative navigation technique will provide a passive, all-weather, day/night capability.



RESOURCES

Team NGA

NGA's total workforce includes civilians, active duty and reservists, and full-time contractors at more than 250 sites in more than 30 countries around the world. NGA Support Teams (NSTs) directly support NGA's mission partners at combatant commands (CCMDs) and partner agencies around the globe. Approximately 25 percent of NGA's workforce is co-located or deployed with customers and partners. NSTs are embedded with CCMD and warfighting headquarters, delivering immediate GEOINT I&W, targeting, imagery, and analytical support to warfighters.

NGA continues to invest in its ability to recruit, engage, develop, train, and retain a world-class workforce that advances tradecraft and innovates new solutions to meet emerging mission needs. To fuel and drive the entire global GEOINT enterprise, NGA continues to enhance collaboration and interoperability and to expand and strengthen partnerships to keep pace with intelligence and foundation GEOINT needs in an increasingly complex and ever-changing world. Currently, NGA has numerous imagery and mapping agreements with international partners. NGA offers training, education, and certification initiatives to all partners for unified GEOINT mission execution. This interoperability across the GEOINT enterprise allows NGA to concentrate resources, tradecraft development, and operations to extend NGA services.


NGA

NGA CAMPUS EAST, SPRINGFIELD, VA

NGA Washington

NGA Washington is the third-largest federal facility in the Washington DC area at 2.77 million square feet. NGA Washington has its origins in the 2005 base realignment and closure round, which consolidated three Washington DC-area campuses into a single building on Fort Belvoir North area in Springfield, Virginia. By constructing a purpose-built facility at that location, NGA modernized key elements of its infrastructure to provide a secure and modern working environment. The building and facilities improved the efficiency of collaborative interaction and communication within and outside of the Agency. Consolidation of the NGA workforce in the Washington DC metropolitan area was completed in September 2011.


NGA

2ND STREET CAMPUS, ST. LOUIS, MO

NGA St. Louis, NGA Arnold, and Next NGA West

For more than 70 years, NGA has maintained a presence in the St. Louis, Missouri area, where nearly 25 percent of the NGA workforce operates. NGA's two facilities in the St. Louis area are the 2nd Street riverfront campus, just south of the Gateway Arch, and a secondary campus located in nearby Arnold, Missouri. Much of NGA's aeronautical analysis, geodetic science work, and a variety of other critical missions are performed at its 2nd Street campus facility.

Progress continues on construction of the Next NGA West facility located just north of downtown St. Louis. When complete, this state-of-the-art facility will significantly improve NGA's current and future mission productivity, flexibility, operational efficiency, and security. It is an opportunity to provide a safe, secure, adaptable, and efficient environment for the workforce in the St. Louis area that will sustain the evolving GEOINT mission.

The new facility, scheduled to open in 2025, will include approximately 712,000 square feet of office space, parking garages, a visitor's center, an inspection facility, and access control points. Plans also include wireless technologies—which, while standard in private industry, have been a challenge for the IC to adopt for a secure, classified work environment. The facility will be purpose-built for wireless capability, which will enhance operational efficiencies while also improving collaboration with academic, industry, and government partners through the inclusion of unclassified workspaces, a first for the IC.


NGA

ARNOLD FACILITY, ARNOLD, MO


NGA

NEXT NGA WEST FACILITY, ST. LOUIS, MO

VICE ADMIRAL FRANK D. WHITWORTH

DIRECTOR, NATIONAL GEOSPATIAL-INTELLIGENCE AGENCY

Vice Admiral Frank Whitworth is the eighth Director of the National Geospatial-Intelligence Agency. He leads and directs NGA under the authorities of the Secretary of Defense and Director of National Intelligence. He became NGA's director on June 3, 2022.

Whitworth is a 1989 graduate of Duke University in Durham, North Carolina, with a Bachelor of Arts in Political Science. He holds a Master of Arts in National Security Studies from Georgetown University, Washington, District of Columbia, as well as a diploma from the Naval War College in Newport, Rhode Island.

Whitworth's command tours included commander, Joint Intelligence Center Central; commanding officer, Navy Element of US Central Command; and commanding officer, Kennedy Irregular Warfare Center.

Whitworth's operational tours included director of Intelligence for The Joint Staff, director of Intelligence for US Africa Command, director of Intelligence for Joint Special Operations Command, director of Intelligence and deputy director of Maritime Operations Center for Commander, US Naval Forces Central Command, US Fifth Fleet; director of Intelligence for a Special Operations Task Force in Afghanistan during three deployments supporting Operation Enduring Freedom; director of Intelligence for Naval Special Warfare Development Group; special assistant for Political-Military Affairs at US Sixth Fleet during Operation Allied Force; indications and warning officer at US Naval Forces Central Command, US Fifth Fleet, in support of Operation Desert Storm; and intelligence officer for Fighter squadron 31 during USS Forrestal's deployment in support of Operation Provide Comfort.

Whitworth's shore-based tours included the National Security Agency, chief of targets for the US Central Command area of responsibility; Navy federal executive fellow to American Enterprise Institute; senior duty officer at the White House Situation Room; intelligence briefer for the Chief of Naval Operations and Secretary of the Navy; and intelligence watch analyst at the Office of Naval Intelligence and the National Military Joint Intelligence Center.

Whitworth is a member of the Council on Foreign Relations. His decorations include the Defense Superior Service Medal (three awards), Legion of Merit, Bronze Star (four awards), Defense Meritorious Service Medal (four awards), as well as the Edwin T. Layton Leadership Award, Vice Admiral Rufus L. Taylor Leadership Award, the Army's Knowlton Award for excellence in intelligence, the Republic of France's Médaille de la Défense nationale (Gold), and the Defense Intelligence Agency Directors Award.

COLLABORATING WITH NGA

Educational institutions, private organizations, and businesses have many opportunities to partner or collaborate with NGA:

- **Register in the System for Award Management (SAM):** SAM is a consolidated portal used across the US government to conduct acquisition and financial assistance processes and share information on the latest solicitations. SAM is unclassified. For additional information, visit ***https://sam.gov***.
- **Register in the Acquisition Resource Center (ARC):** ARC is a website for members of the US intelligence community (IC) to exchange information with industry on business opportunities and conduct source selection activities. ARC is both unclassified and classified. For additional information, visit ***https://acq.westfields.net***.
- **Register with Grants.gov:** Grants.gov operates under the governance of the Office of Management and Budget to provide a centralized location for grant seekers to find and apply for federal funding opportunities. Grants.gov is unclassified. For additional information, visit ***https://grants.gov***.
- **Leverage cross-government collaborations:** Resources such as the General Services Administration (GSA) provide a wealth of information on how to work with NGA. For additional information, visit ***https://gsa.gov***.
- **Explore opportunities:** NGA uses Federal Acquisition Regulation (FAR), the Defense Federal Acquisition Regulation Supplemental (DFARS), and non-FAR-based agreements for collaborating with non-government entities. SAM, Grants.gov, and ARC provide opportunities to work with NGA. Thoughtful responses to FAR-based solicitations, such as broad agency announcement (BAA) requests, requests for information (RFIs), and requests for proposals (RFPs), help NGA understand available capabilities and make more informed decisions on Agency acquisitions.

COLLABORATION TOOLS

- **Broad Agency Announcements**. BAAs solicit innovative ideas on basic and applied research. BAAs are normally posted on SAM, Grants.gov, and/or ARC. NGA's primary BAA is the Boosting Innovative GEOINT Science and Technology Broad Agency Announcement (BIG-ST BAA). For additional information, contact ***BigSTBAAPMO@nga.mil***.
- **NGA Bailments**. NGA uses bailments to create a no-cost agreement between NGA and a commercial vendor to test, evaluate, and analyze a product or service. A bailment is appropriate for mature products and services with an identified mission requirement and mission user. For additional information, contact ***SC_Industry_Engagement@nga.mil***.
- **Cooperative Research and Development Agreements (CRADAs)**. A CRADA is a low-risk, flexible opportunity to collaborate on a research and development (R&D) project. Although CRADAs do not come with funding, agreement members can share resources (personnel, facilities, equipment, data, etc.). For additional information, contact ***ORTA@nga.mil***.
- **Education Partnership Agreements (EPAs)**. NGA uses EPAs to develop joint education projects and curriculum that support and enhance STEM education objectives. Although an EPA has no direct funding, partners can share resources (personnel, equipment, facilities, etc.). For additional information, contact ***ORTA@nga.mil***.
- **In-Q-Tel (IQT) Investments**. As a non-profit 501c(3) corporation, IQT helps the IC and DoD invest in early-stage technology companies. Using NGA problem sets, IQT works on NGA's behalf with companies via specific, one-to-three-year work programs. For additional information, contact ***ngaqicall@nga.mil***.
- **Partnership Intermediary Agreements (PIAs)**. NGA uses PIAs to engage with non-traditional organizations, companies, and small businesses in order to transfer unclassified technology, drive the geospatial market, and conduct pre-acquisition discovery support. For more information, contact ***ORTA@nga.mil***.
- **Other Transactions (OTs)**. An OT agreement is a flexible acquisition tool for prototype projects that enhance the mission effectiveness of the DoD. A competitively awarded prototype OT can include an option for a noncompetitive follow-on production OT to be awarded after successful completion of the prototype. For more information, contact ***OT@nga.mil***.
- **Small Business Innovation Research (SBIR)**. NGA uses DoD's SBIR program to fund early-stage research and development at small technology companies for projects serving a DoD need and with commercial and military market potential. For more information, contact ***SBIR@nga.mil***.

- **Tearline**. NGA provides unique opportunities under the Tearline Project for academia, think tanks, nonprofits, and NGOs to access commercial imagery in exchange for researching and publishing UNCLASSIFIED geospatial findings on topics of shared interest. These reports are published via the public-facing website at ***www.tearline.mil*** and include topics such as China's Belt and Road Initiative, Russian energy projects abroad, and DPRK economic issues. NGA has published 93 total articles since the inception of the program, 38 percent of which were China-related. NGA has run the Tearline Project since 2018 and the FY 2021 Intelligence Authorization Act (IAA) required NGA to establish a formal mechanism for research partnership activities on the People's Republic of China (Sec. 612). In 2024 alone, Tearline had over 20,000 unique site visitors. For additional information, visit ***www.tearline.mil*** or download the Tearline app.

CONTACT US

For more information, reach out to any of the following:

- **Small Business Program Office**. Small businesses must complete a SAM Small Business Profile for Dynamic Small Business Search (DSBS) at ***https://web.sba.gov/pro-net/search/dsp_dsbs.cfm*** before reaching out to NGA. For specific assistance on an existing contract, contact ***smallbusiness@nga.mil***.
- **NGA Industry Engagement**. To communicate with NGA or to discuss your solutions and provide a capabilities demo, contact ***IndustryEngagement@nga.mil***.
- **NGA Research and Development**. For GEOINT research opportunities, contact ***NGA_RD@nga.mil***.
- **NGA Academic Engagement**. For inquiries on research grants and possible EPAs, contact ***academia@nga.mil***.