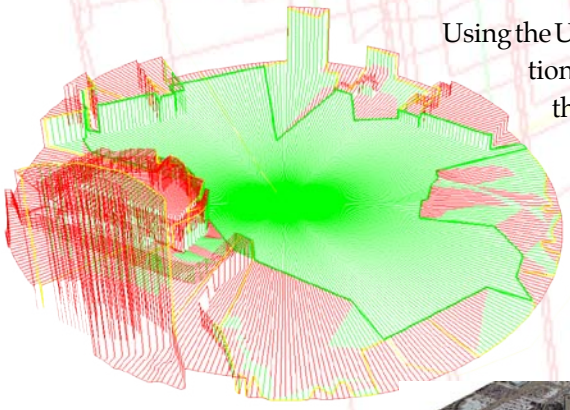
NGA Plays Central Role in Homeland Defense

By Monica Gaughan

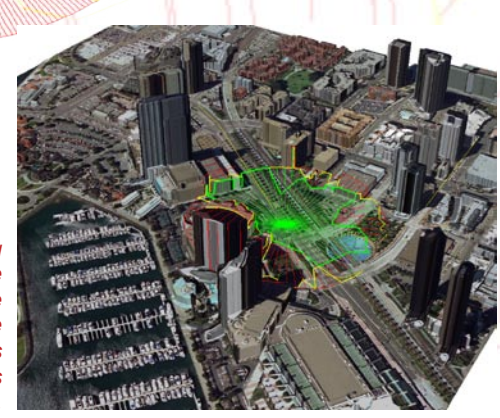
NGA's North America and Homeland Security Division stood up the day after Sept. 11, 2001. A small number of analysts, carved out of the Office of Americas, immediately began to focus skills and tradecraft they had applied to areas beyond our borders to protecting our homeland. The new staff joined with an analytic staff that had long supported the Agency's disaster readiness, response and recovery mission.

Since its standup, the division has dedicated itself to providing the best available geospatial intelligence (GEOINT) to protect the homeland. The scope of these efforts has made NGA, in our post-9/11 world, the developer, broker and integrator of GEOINT created to protect our homeland. At the same time, NGA is providing systems that give customers Web access and people to assist with analysis—on site and online.



Using the U.S. Geological Survey's National Map as the foundation, the division has provided the nation its first comprehensive homeland-security infrastructure database. Called the Homeland Security Infrastructure Program, it combines imagery, geospatial data and intelligence pertaining to critical infrastructure into a single, integrated database. With this database, federal decision makers and operational planners have a common frame of reference for:

- daily threat assessments,
- critical infrastructure vulnerability analysis, and
- domestic crisis response and consequence management.



NGA analysts are using newly collected airborne imagery to create high-resolution three dimensional models and visualizations of urban areas.

NGA Brokers the Data

Through its development of the infrastructure database, NGA has moved to the forefront of the homeland-security community as a broker of imagery, elevation data and vector data sets (graphics-based geographical features).

In 2004, NGA contracted for the acquisition and integration of airborne imagery over 83 high- priority urban areas. For many of these areas, analysts used the imagery to create high-resolution three-dimensional models and visualizations.

The Agency also obtained local imagery and vector data from cities hosting special-security events. For example, NGA partnered with the City of New York in the collection of six-inch resolution, color airborne imagery over all five boroughs—critical to the support NGA and the Department of Homeland Security provided to the Republican National Convention.

Besides imagery, NGA acquired and integrated a variety of data sets on 11 critical infrastructure sectors identified by the Department of Homeland Security.

Photo courtesy of the White House Media Center

On short notice, NGA provided on-scene support to the funeral of former President Ronald Reagan in Washington, D.C., above, and Simi Valley, Calif. Since the standup of the North American and Homeland Security Division, the Agency has supported many national special-security events through pre-event planning and the deployment of imagery and geospatial analysts.

From across the country, including the Canadian and Mexican borders, more than 1,500 data layers were added to the infrastructure database.

Access to the infrastructure database is through a Web-based system developed by ESRI, the Environmental Systems Research Institute, Inc. Inaugurated in 2004, Palanterra™ provides users a common operational picture on multiple networks that empowers them to visualize, analyze and act upon the latest GEOINT in real time. Users include the Department of Homeland Security's Homeland Security Operations Center, White House Situation Room, U.S. Northern and Joint Forces Commands, FBI, National Counterterrorism Center and the Transportation Security Administration's Transportations Security Operations Center.

Analysts Sit with Customers

NGA has supported numerous national special-security events through pre-event planning and the deployment of imagery and geospatial analysts. These events have included everything from the Super Bowl to the Presidential Inauguration. NGA has also continued and expanded its support to disaster readiness and recovery operations with the development of new types of products. It has expanded its support to the national interagency firefighting community, and it was fully engaged in numerous civil and military homeland-security exercises.

Deployed analysts sat in the customer's footprint, equipped with a complete suite of analytic tools and the best GEOINT available to solve any problem. Sometimes they deployed with only a few hours' notice.

The Geospatial Intelligence Readiness Challenge

NGA's Homeland Security Infrastructure Program gives decision makers and operational planners a single, integrated database that combines imagery, geospatial data and intelligence pertaining to critical infrastructure nationwide.

During the G-8 Summit in Sea Island, Ga., NGA received word that former President Reagan was close to death and that his funeral would be a special-security event. The funeral would be conducted both in Washington, D.C. and Simi Valley, Calif. Fortunately NGA already maintained significant data over the Washington Capital Region. Simi Valley, however, was a different case. NGA contacted the U.S. Geological Survey partners for assistance and by the time the deployed geospatial analysts arrived in California, they had the local data they needed.

NGA also responded to four hurricanes that hit Florida in 2004 in what became the largest relief effort in the history of the Federal Emergency Management Agency (FEMA). Analysts gathered, integrated and assessed geospatial and imagery information and conducted strike probability and vulnerability analyses that were critical to pre-positioning supplies in the hardest-hit areas. After impact, NGA analysts provided damage-assessment information to FEMA and first-responders that helped direct disaster managers to the hardest-hit areas.

After the first hurricane, Charley, NGA analysts deployed within 24 hours to provide tailored GEOINT to the FEMA Disaster Field Office. As an example, the analysts produced geospatial products that helped local officials select safe temporary housing sites for some 15,000 victims.

NGA supported efforts of the National Interagency Fire Center to fight wildfires in Alaska throughout the summer fire season. Analysts assessed more than 2.5 million acres of forest and provided critical infrastructure information for daily operational meetings.

The division also supported the U.S. Northern Command in two exercises. Members of the NGA Support Team assigned to NORTHCOM received "reach-back" support from division elements in St. Louis and Washington, D.C. Meanwhile, the division supported the FBI in an exercise aimed at safeguarding oil reserves in Oklahoma.

Depending on the event, NGA has demonstrated the capability to develop products tailored to specific requirements. Although Palanterra™ has become the system of choice, NGA has developed a series of hardcopy event books and multimedia products to give customers alternate formats to suit their individual business models.

New Products, New Customers

NGA continues to develop the Homeland Security Infrastructure Program and expand the available data layers. The Agency is working with the Department of Homeland Security to make the data available to state and local process holders.

NGA's role in homeland security has led to a widely expanded customer base. It is NGA's goal to be the information provider of choice for all customers involved in homeland security, as the Agency strives to find new and different applications of GEOINT to varied homeland-security issues.