



By Tim Little,
Office of Corporate Communications

NATURE'S FURY

*NGA teams anticipate,
respond during
national crisis*



Beach erosion and flooding near Breezy Point in the Queens borough of New York. (NGA photo)
(Domestic imagery collected in accordance with a valid use memorandum approved by NGA, and does not target U.S. persons.)

When Hurricane Sandy struck the East Coast of the U.S., the National Geospatial-Intelligence Agency's Integrated Work Group-Readiness, Response and Recovery team, known as IWG-R3, was readying 20 NGA analysts to deploy into areas affected by the violent storm in support of the Federal Emergency Management Agency.

Before the storm reached U.S. shores, and prior to any formal requests for assistance from FEMA, NGA employees were hard at work planning for every turn Sandy might take.

Having provided similar support during storms like Hurricanes Isaac and Katrina, analysts were able to anticipate many of the products first responders would need before, during and after the storm, said Chris Kannan, IWG-R3 communications representative.

"FEMA support covers mitigation recovery and response efforts during natural disasters," said Katie Baucom, IWG R3 analyst. "Traditionally, NGA only provided GEOINT support during the response phase, now we're looking for innovative ways to provide support to mitigation and recovery, as well."

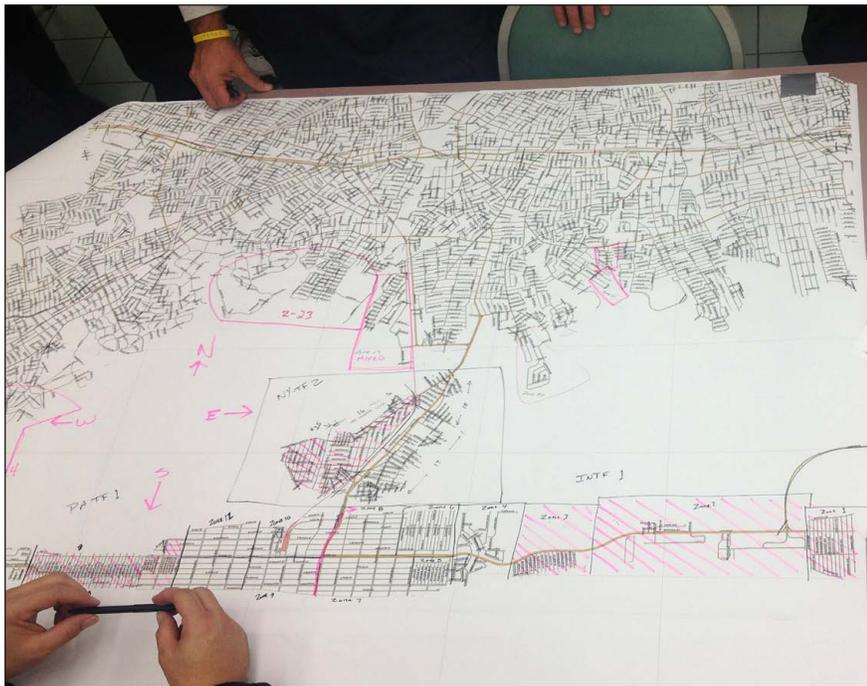
In the days leading up to the storm, NGA devised contingency tasking plans for pre- and post-hurricane imagery analysis from North Carolina to Maine, said Kannan. The pre-strike hurricane products included images of 24 coastal cities whose critical infrastructures and key resources would be susceptible to damage if a hurricane landed in their vicinity. While its primary focus was on areas that flooded during Hurricane Irene the previous year, NGA remained ready to

activate and deploy wherever needed.

The agency began deploying analysts Oct. 28, sending teams of analysts to FEMA's East Coast regions in Boston, New York and Philadelphia, said IWG-R3 staff officer Jeff Redinger. Once on site, analysts prepared for their missions, establishing contacts with the lead federal agencies, performing communications checks with deployed equipment, evaluating customer needs and focus, and identifying vulnerable critical infrastructure.

To support the R3 mission, analysts rely on the data holdings within the Homeland Security Infrastructure Program.

"The HSIP database is assembled by NGA for use by Homeland Defense, Homeland Security, National Preparedness—Prevention,



Areas in pink on the map above show first responders where searches have already been conducted. (NGA photo)

Protection, Mitigation, Response and Recovery communities,” said Bill Mullen, a senior advisor for content technology in R3. “It is a compilation of approximately 475 of the best available geospatially enabled baseline infrastructure data sets for all 18 critical infrastructure key resource sectors assembled from federal, state, local government and private mission partners.”

During pre-hurricane analysis of the coastline, analysts reviewed more than 21,000 square miles of satellite data, said Redinger. This “before” picture of the landscape proves extremely useful for first responders as they assess the extent of damages and its impact to the population and infrastructure.

After the storm, the focus shifted to the impending clean-up effort and resumption of services, said Baucom. As FEMA put it, their focus became “people, power and pumps.” In support of this effort, FEMA Region II Regional Response Coordination Center members from NGA operated 24/7 to create and update prod-

ucts on issues such as fuel status and power outages.

“A major priority for planning and conducting recovery operations was ensuring responders could safely access the hardest hit areas,” said Kannan. “To that end, NGA provided storm, port and airport assessments, and identified alternate helicopter landing zones to support long-term operations.”

The IWG-R3 teams created and pushed out unclassified products to a webserver accessible to NGA customers.

“Having a platform that allows customers to review existing GEOINT products and request new ones reduces the likelihood of duplication of efforts,” said Baucom. “This increased situational awareness and efficiency allows NGA to be more responsive to its customers and reduce the burden on NGA personnel, freeing them to do more complex analysis.”

While providing on-demand GEOINT in a self-service environment is certainly helpful for first responders, it does not nullify the need for full-service embedded NGA support on the ground or

IWG 101

- NGA officially launched its first Integrated Work Group during the board of directors off-site in November 2011
- The first IWG created was the Integrated Work Group-Iran (IWG-I)
- Subsequently, two additional IWGs have been created in the agency for Yemen/Horn of Africa (IWG-Y/HOA) and Readiness, Response and Recovery (IWG-R3)
- IWGs were established to develop new tools, analytic methods and work processes, which address high priority intelligence interests by focusing on three key areas: analytic expertise, geospatial intelligence, and analytic content and GEOINT in the unclassified domain
- IWGs are led by a GEOINT mission manager, overseeing the day-to-day operations of the group and a national GEOINT officer, supervising and prioritizing all analysis NGA does on a specific issue
- IWGs have dedicated subject matter experts from specialties including human resources, counterproliferation analysis, security and infrastructure
- IWGs provide robust contextual GEOINT analysis of places, events and activities, using all the GEOINT analytic tradecrafts in an open IT environment where users from across the community can create, contribute, collaborate and consume GEOINT content



NGA products, like the map on the previous page, help prevent search and rescue personnel from conducting redundant searches. (NGA photo)

(Domestic imagery collected in accordance with a valid use memorandum approved by NGA, and does not target U.S. persons.)

in a reach-back capacity during a large-scale emergency, said NGA analyst Scott Matheson.

Some teams of analysts utilize the Domestic Mobile Integrated Geospatial System, or DMIGS. Owned and operated by NGA's military support directorate, the DMIGS is loaded with a host of equipment and reachback

capabilities, said Jill Leas, chief of the expeditionary operations support division. Built on the chassis of a fire truck with two slide-out rooms to accommodate analysts, DMIGS integrates GEOINT hardware and software, including plotters that allow teams to print large products on site and on demand. It is also

equipped to receive geospatial data from multiple sources.

The tools and technical expertise accompanying the DMIGS are clearly an asset, but the greatest value is derived from its mobility, said Andrew Lardner, a senior systems engineer for NGA.

"Having the DMIGS provide GEOINT makes the situation easily understood by our partners," said Lardner. "Now that their urban search and rescue operations are transitioning to a humanitarian health and welfare operation, they have asked us to come with them to Fort Dix (N.J.) to produce GEOINT products.

This is why we have the DMIGS in the first place. It's a mobile asset that we can pack up and take to where the customer needs us to be," said Lardner.

In addition to the mobile DMIGS, the military support directorate deployed lightweight, highly mobile flyaway satellite communications and production system support teams, said Leas.

"These teams allowed NGA analysts embedded with urban

NGA's IWG-R3 launches the R3 Dashboard

By Tim Little, Office of Corporate Communications

To further NGA's strategic goal of providing online, on-demand access to GEOINT, NGA's Integrated Work Group—Readiness, Response and Recovery team, or IWG-R3, recently launched the R3 Dashboard and Event Page websites with the assistance of the IT directorate.

"The R3 dashboard is a situational awareness website that depicts significant natural and manmade events occurring worldwide, describes NGA's level of involvement and allows the downloading or viewing of unclassified products for those events," said Mike Nagelin, an integration support specialist for IWG-R3.

The R3 dashboard also serves as an access point to event pages focused on specific NGA-supported events. The event pages provide services such

as requests for intelligence, geospatial products and content, situation assessments, and other communication and collaboration tools.

"The most recent example of this is the event page created for support during Hurricane Sandy," said Nagelin. "That page was used extensively by NGA, FEMA and other responders during Hurricane Sandy."

The R3 dashboard and events pages can be accessed from the SBUNet, NIPRNet and Internet by those users with a common access card, DHS PIC SmartCard or GEOINT Online account.

"It is important to understand that this is not something that anyone can simply get online and see and share this information," said Chris Kannan, a representative from IWG-R3. "Individuals need to be authorized to use the system." ✨

search and rescue teams in the hardest hit areas of New York and New Jersey to maintain access to reachback support in areas where most communications and infrastructure had been severely degraded by the storm," said Leas. "These mobile teams moved with their supported units and were often up and operational within 30 minutes of arrival on scene, providing communications, hardcopy and softcopy production in extremely austere conditions."

FEMA was not the only one to benefit from IWG-R3's products and personnel. NGA also worked closely with the U.S. Coast Guard, providing mission-essential support, said Rear Adm. Christopher Tomney, director of Coast Guard Intelligence.

"NGA provided decision advantage to Coast Guard commanders on the ground by enabling access to and supplying analyzed images that led to superior situational awareness," said Tomney.

The images helped the Coast Guard understand the extent of flooding and the condition of its facilities and identify visible waterway blockages, said Tomney.

"This information was essential to determine our operational capabilities as we worked to support post-storm cleanup activities," said Tomney. "Both the quality and timeliness of NGA support to the Coast Guard has been excellent, and is greatly appreciated."

FEMA also recognized IWG-R3's professionalism and support, said Matt Gamm, an IWG-R3 analyst who worked alongside FEMA members.

"FEMA (Incident Support Team) leadership said they no longer consider us a partner, but now consider us a part of the family and want to make NGA a sitting member of the IST," said Gamm. "Both the FEMA Urban Search and Rescue Task Force leader and the Long Island section leader said our NGA forward deployed personnel were a tremendous asset and the products created for the forces on the ground were relied upon and used heavily." ✨

Continuity key to NGA responsiveness

By Jessica Daues, Office of Corporate Communications

Hurricane Sandy's pounding winds and rains whirled west across the Atlantic Ocean Oct. 28, poised to strike the East Coast from North Carolina to New York.

Because of the storm's severity and because the National Geospatial-Intelligence Agency Campus East in Springfield, Va., was included in the affected area, NGA leaders enacted redundancy procedures at NCE and transferred NGA functions to NGA Campus West in St. Louis and Arnold, Mo.

The strategic redundancies and shared responsibilities between NCE and NCW allowed NGA's Integrated Work Group-Readiness, Response and Recovery team to support the Federal Emergency Management Agency during and immediately following the storm, said Robert Jensen, head of the Hurricane Sandy Focus Cell in Arnold.

Personnel from IWG-R3 prepare for and respond to special events and emergencies, said Jensen. The division of IWG-R3 personnel between the Springfield and Arnold campuses allows NGA to respond effectively and quickly to emergencies, even when those emergencies affect an NGA campus.

"Right after 9/11, (then-director of NGA) James Clapper pushed the need for redundancies to ensure production is not interrupted (in the event of an emergency situation)," said Jensen.

The Hurricane Sandy Storm Cell, led by IWG-R3 in Arnold, was created Oct. 29, said Jensen. Five Arnold and three Springfield IWG-R3 analysts deployed to assist FEMA on-site. An additional 23 IWG-R3 analysts—along with analysts and staff members pulled in from other offices in Arnold, including NGA's Americas and Asia Pacific branches—worked around-the-clock shifts to help FEMA identify areas with flood damage or power loss, and check the status of airports, harbors and oil refineries in affected areas.

NCE reopened Oct. 31, and a day later, IWG-R3 East team members resumed work as if they had never been absent, said Jensen.

"It was a seamless transition," said Jensen. "The collaboration between offices was truly remarkable."

This wasn't the first time NGA's ability to respond to a crisis was enhanced by the East-West split, said Jeff Redinger, staff officer for IWG-R3. For example, NGA was providing support for responders to the earthquake in Haiti when "Snowmageddon" hit Washington in 2010, causing another closure of the East campus.

An emergency could very easily happen in the St. Louis area, said Redinger. If that happens, East IWG-R3 analysts and staff members will be ready to step up. ✨