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Geospatial companies hit ground running in Katrina's wake

Technology plays critical role in recovery and rebuilding process

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Most of the private companies of Mississippi's geospatial industry cluster are located in South Mississippi and the Stennis Space Center area that was greatly impacted by Hurricane Katrina. But these companies hit the ground running responding with the manpower, expertise and resources necessary to begin addressing critical problems and providing immediate assistance to emergency responders.

"In the days following Hurricane Katrina, normal transportation and modes of communication were simply not available," said Leland Speed, executive director of the Mississippi Development Authority. "Our resolve and ingenuity were tested like never before. Hurricane victims were stranded all over the Mississippi Gulf Coast. Help was on the way, but travel was limited at best. How would rescue workers locate victims or locate necessary supplies? How would we navigate the devastated landscape without the usual tools?"

Speed said that's where geographic information systems (GIS) came into play. With the technology of organizations like the Mississippi Emergency Management Agency, the U.S. Department of Homeland Security and various private entities, emergency responders were able to locate people and get them to safety and shelter.

"We were also able to make early assessments of the damage so that the recovery and rebuilding process would not be stalled," Speed said. "Those trying times have proven that GIS technology is not just for a small sector of professionals or private agencies. It has practical uses for our daily lives."

Starring role

Lisa Stone, acting director of the Enterprise for Innovative Geospatial Solutions (EIGS), said these companies are playing a major role in the recovery and rebuilding efforts.

"Geospatial technology is such a powerful tool to be used in the recovery and rebuilding of our state and we have the homegrown companies with the capabilities to fully participate in this recovery," Stone said.

EIGS supports the state's geospatial community that includes private businesses, universities and governmental agencies.

"Geospatial technology can be a vital component to disaster preparedness and emergency response providing critical capabilities to be better prepared for the next disaster. But the applications of geospatial technology to the state's rebuilding efforts don't stop there. From urban planning efforts to rebuilding critical infrastructure to assessing timber damage and even the need to re-draw voter districts because of population shifts, geospatial technology offers innovative, cost-effective solutions," she explained.

Stone said that over the past eight years Mississippi has concertedly built the infrastructure, capacity and expertise to effectively address any geospatial needs, and the cluster stepped up to the plate when it most mattered.

"It is important that we let the state, nation and world know how Mississippi's geospatial community not only persevered through this disaster, but is playing a key role in the rebuilding of the devastated region," Stone said.

Worth how much?

The truism that pictures are worth a thousand words was proven after Katrina when before and after satellite images of the Gulf Coast were broadcast around the world. Mere words couldn't come close to describing the total devastation of areas such as Waveland and East Biloxi. Those images spurred many private, non-profit and government groups to provide aid to the devastated areas.

The geospatial response to Hurricane Katrina included:

- When the Hancock County Emergency Operations Center was completely destroyed by Katrina, NVision Solutions Inc. stepped in to help by creating maps for emergency personnel such as search and rescue maps, relief distribution points, business recovery maps, debris clean-up zone maps, and routing of the blue roof program. NVision is now supporting the FEMA Biloxi Area Field Office as well. This support has resulted in the creation of more than 5,300 unique geospatial products with over 85,000 maps printed.

"Mississippi is setting the example of how government entities and states can use geospatial technologies to effectively respond, recover and rebuild after a disaster," said Craig Harvey, CIO of NVision Solutions.

- Despite having to evacuate its own offices in New Orleans and Slidell, La., Theodore, Ala., and the Stennis Space Center, 3001 Inc. launched its 3001 LandAir aircraft out of Peachtree, Ga., to fly damage assessment areas related to Hurricane Katrina. The area flown was approximately 11,800 square miles. After

completing flights each day, the imagery was delivered to their Gainesville, Fla., office for processing, and was delivered the next day to the U.S. Army Corps of Engineers and FEMA representatives in Washington.

- Even before the hurricane hit, the employees of Diamond Data Systems made themselves available to their clients to help with disaster planning and the subsequent recovery effort. In order to help their clients and assist the evacuation shelters with their IT infrastructure, some worked multiple 18-hour days covering over 2,000 miles throughout the state and slept on cots in shelters, others worked with evacuees and relief efforts, and still others helped government agencies bring their environments back to operating status.

- WorldWinds Inc. provided technical support and computer resources to the U.S. Army Corps of Engineers and the Louisiana Department of Natural Resources to model hurricane storm surge.

“We rode out the storm in our office at Stennis Space Center, ready to hold up the ceiling, but our office was fine,” said Elizabeth Valenti, president of WorldWinds Inc. “It was a blessing that we didn’t have any damage. We had just bought a new Linux Supercomputer before the storm, so we were very grateful that wasn’t damaged. We were able to come back on line 10 days after the storm and we immediately had work doing storm surge modeling for the Corps.”

While Valenti and her husband’s home was fine, their family lost seven houses in the storm.

“I was the only person in the family that had a house,” Valenti said. “So we had 15 people living with us.”

Firsthand knowledge

Valenti said that because they were actually on the Coast during Katrina, and had firsthand eyewitness accounts about what happened, it helped them do a better job — they were already intimately familiar with the area’s geography.

“It helps out science because we have so much first hand knowledge of what happened,” Valenti said. “We experienced it ourselves, so that adds a lot to our results. It really helped us do a better job.”

- Forest One Inc. forged a partnership with Galileo Group Inc. to provide immediate assistance to government agencies and private companies attempting to recover from Hurricane Katrina by offering rapid response mapping, remote sensing and GIS services. The combined capabilities of Forest One and Galileo offered the ability to collect the data and have it available for end users in hours, not days, at cost through the Mississippi Technology Alliance’s TechFix Disaster Recovery Program

“Lives have been lost, families broken apart, and the economic impact keeps mounting,” said Clark Love, CEO of Forest One. “It is going to take the combined services of hundreds of companies to recover from Katrina, and we want to do our part. Since we are based here in Mississippi, it is critically important to us both professionally and personally that we make the recovery effort a success.”

- Starting on the Saturday before the storm made landfall, Mississippi’s universities provided GIS support at the Jackson Emergency Operations Center and worked with GISCorp, GITA, ESRI, private businesses and some state agencies to provide equipment and personnel in support of the state and federal agencies responsible for responding to the disaster.

- Digital Quest Inc., with offices in Ridgeland and at Stennis Space Center, found itself responding in both locations to help with rescue and recovery efforts in the aftermath of Hurricane Katrina. Working at the Jackson Emergency Operations Center, Digital Quest created a Web-based data base that was used to document over 9,500 missing persons and calls for service in the first seven days of the storm. They also created a “map book” of the missing person/calls for the services database that shows the calls for service by county, by region and for the entire state.

- **In four short days, Air-O-Space International designed, fabricated and flight-tested a first responder Unmanned Aerial Vehicle (UAV) to provide high quality, real time video to Hancock County as an economical means of collecting aerial video for situational awareness and search and rescue/recovery.**

For more information about EIGS and Mississippi’s geospatial technology industry cluster, visit <http://www.eigs.olemiss.edu/> online.

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