

People everywhere communicating with everyone

The geospatial revolution

—by Katelynn Levanduski and Marlee Kattler



Trapped beneath the rubble of a collapsed house, two injured women send text messages for help. Searching amid the destruction for his missing brother, a worried man posts a message for assistance. In need of water and food, a distressed community submits a request for aid. Thousands of miles away, a group of volunteers translates and maps these reports. At the scene of the disaster, first responders receive this information and react.

After a devastating 7.0 magnitude earthquake struck Haiti in January 2010, people were found, lives were saved, and aid was distributed—all through the use of geographic information systems.

“We see something bad happen, and the innate reaction is to want to help,” said Patrick Meier, director of crisis mapping and strategic partnerships for Ushahidi.

Ushahidi, an open source platform that uses crowdsourcing in crisis mapping, allowed anyone in the disaster zone to share incidents with exact coordinates. Over the following weeks, hundreds of volunteers donated their time to translate and geolocate these incidents.

This innovative process was featured in the first episode of Penn State Public Broadcasting’s (PSPB) Geospatial Revolution Project, an integrated public

service media and outreach initiative about the world of digital mapping and how it is changing the way we think, behave, and interact.

“Wanting to help is no longer limited to those who are geographically in the same area. You can do a lot online to make a difference and even save lives,” Meier said.

While watching the crisis in Haiti unfold on television, Meier knew something needed to be done. Within hours, he and his Ushahidi colleagues created a Ushahidi platform to aid the Haitian earthquake relief efforts.

From this information, a real-time map of the crisis in Haiti was created. Federal Emergency Management Agency officials called it the most comprehensive and up-to-date map available to the humanitarian community. The Ushahidi Haiti platform was a vital tool utilized by first responders from the U.S. Coast Guard, the U.S. Marine Corps, and others.

“We needed to know where we could go in and so we used geospatial technology to map the area with information before we even got there,” said Capt. Arturo Derryberry of the Marine Corps during the first episode of the Geospatial Revolution Project.

Geospatial information systems (GIS) have revolutionized how society responds during crises. The



technology not only provides critical information for first responders, but also empowers ordinary people to actively serve those in need, regardless of location.

"It's more than just about the technology," added Meier. "It really is a social movement that, in a way, we haven't seen before. We have to make sure to continue nurturing the elements of this movement in order to make its tools really powerful." Indeed, location-based information continues to help responders address suffering caused by the recent cholera outbreak in Haiti.

PSPB's Geospatial Revolution Project depicts how GIS technology is making location awareness a lifestyle. The four-part series, which debuted with episode one in September 2010, highlights the transformation of geospatial technology from a highly technical field to an everyday fixture of our lives.

Episode two, which debuted in November, focuses on the use of GIS technology in government. Featured in this episode was the City of Portland, Oregon, and its GIS-based decision-making. The audience learned how digital mapping can help pinpoint locations that need healthier food options and how businesses use the technology in everyday practices to make more informed decisions.

Viewers can expect future episodes to cover the use of geospatial intelligence in environmental, health and law enforcement. The project will also explore key issues surrounding the privacy of geographically coded information.

Comments from viewers confirm that which motivated the creation of the Geospatial Revolution Project series. Seeing geospatial technology in action can be an eye-opening experience for

many young people and their parents and, through this highly visual and graphic experience, public awareness of the geospatial field and its possibilities increase.

"I am thrilled to have this opportunity to point them to this," said David DiBiase, senior lecturer in the Department of Geography at Penn State University and director of the John A. Dutton e-Education Institute.

DiBiase said many people are not aware about the career opportunities GIS offers. The GIScience and technology can open up a new vista to those who want to work in a successful, cutting-edge field.

"I hope the program will inspire people who never thought about GIS as a career possibility to think twice about it," said Cheraine Stanford, producer and co-director of the Geospatial Revolution Project.

Stanford said the idea for a project on digital mapping was conceived several years ago—before smart phones with mapping apps became ubiquitous in the marketplace. Producers had to make adjustments to its content as the technology changed. There is no doubt that through crowdsourcing spatial information, GIS mapping will continue to shape the way we interact and share spatial knowledge with others—to make government more effective, to help victims of natural disasters, and to prevent catastrophes.

"If lots of people watched the series and learned something new that they didn't know before they joined the GIS revolution, then we will be successful," Stanford said.

Check out the series at <http://geospatialrevolution.psu.edu/episode1/omc> online.