

# HAZUS HOT ZONE

March 2011 Issue

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## HUG Leadership and Topic Specific Calls

HUG Leadership Calls (1:30-2:30 PM Eastern Time) and Topic Specific Calls (3:00-4:00 PM Eastern Time) are scheduled for the following dates in 2011:

- April 26
- May 24
- June 21
- July 26
- August 16
- September 20
- October 25
- November 15
- December 13

To register for these calls, please contact Jamie Caplan at [Jamie@jamiecaplan.com](mailto:Jamie@jamiecaplan.com).

## Puerto Rico Hazus Training

Vanessa Glynn-Linaris, GeoRevs

On January 23, 2011, Eric Berman, FEMA Mitigation Directorate, Hazus Program Manager; Brian Shumon, FEMA Region II, Hazus Point of Contact; and Vanessa Glynn-Linaris, Hazus Trained Professional, Practitioner, and Instructor from GeoRevs, teamed up at the Joint Field Office (JFO) in San Juan, Puerto Rico to deliver two Emergency Management Institute (EMI) field courses: L190 ArcGIS for Emergency Managers and L313 Basic Hazus-MH. Originally designed for 15 students, the courses were quickly expanded to accommodate the overwhelming request, allowing 20 students to complete both training courses.

data, utilizing the query tools, working with spatial and tabular data, georeferencing, editing data, geocoding, adjusting data and working with the Spatial Analyst extension. The class was broken into four groups of five and asked to gather data for a Municipio and create presentations showcasing maps they made utilizing their new GIS skills. A Municipio is an administrative subdivision, often equivalent to a county-level community. The presentations demonstrated the students' comprehension of the GIS material.

The remainder of the week was spent on the basics of Hazus-MH, including how to create a



Participants in the EMI field courses in San Juan, Puerto Rico.

Participants included employees from Puerto Rico's Emergency Management Agency, the Puerto Rico Planning Board, and FEMA's Caribbean Area Divisions including GIS, Individual Assistance, Public Assistance, the National Flood Insurance Program (NFIP), Planning, Mitigation, and Information Technology (IT). Training and IT Specialists from the JFO ensured that the software was installed correctly and that the courses ran smoothly. Orlando Olivera, Luis Torres-Colon and Antonio Vazquez were the IT Specialists who made this a true success because they were hands-on courses.

The week began with an introduction to ESRI's ArcGIS with explanations and exercises of the various capabilities for symbolizing

study region, an introduction to the Hazus-MH inventory, flood hazard, flood analysis, flood results, earthquake hazard, earthquake analysis, earthquake results, hurricane wind hazard, hurricane wind analysis, hurricane wind results, mitigation applications and a course review.

The students were enthusiastic and delved into questions that related to their daily responsibilities, such as how to create spatial data from NFIP excel spreadsheets,

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## 5th Annual Hazus Conference

Plan to attend the 5th Annual Hazus Conference in the latter part of summer 2011. Conference details will be available on all Hazus websites in the next couple of weeks.

## Map Gallery Submissions

Everyone is invited to participate in the 5th Annual Hazus Conference by entering his or her map in the Hazus Map Gallery. Don't miss your chance to display your map throughout the conference and be included in the conference proceedings. Individuals and groups may submit up to three maps. We encourage you to submit maps even if you cannot attend the conference.

Awards will be presented for the following categories (you do not have to be present to win):

- Best practice for data improvements to Hazus-MH (Level 2 or 3 analyses)
- Best practice for incorporating Risk MAP
- Best incorporation of a Hazus-MH analysis into a mitigation plan
- Most innovative practice of Hazus-MH
- Best multi-hazard analysis
- Best integration of other tools with Hazus-MH

All maps should be submitted electronically in PDF format by July 15, 2011. You must also submit an abstract (less than 500 words) to accompany your map(s). Abstracts should include a title, the award category you are submitting under, and names and title of all individuals that assisted with the map production (names are not included in the word count). For your convenience, we will print all maps and display them at the 5th Annual Hazus Conference and in the conference proceedings. If you have any questions regarding the Hazus Map Gallery, please contact Margaret Walton at 919.357.3299 or at [margaret.walton@atkinglobal.com](mailto:margaret.walton@atkinglobal.com).

the best ways to express Hazus results for losses and short-term public sheltering and the various options for using local flood hazard data in Hazus-MH. These students have now completed half of the required training to earn their Hazus Trained Professional credential. A Hazus Trained Professional is an individual who has completed prescribed Hazus curriculum that provides a foundation of basic Hazus-MH skills plus focused instruction on at least one hazard.

Puerto Rico is threatened by many hazards including tropical storms, earthquakes and flooding. In October 2010, Tropical Storm Otto brought heavy rainfall and severe thunderstorms that caused flooding, mudslides, landslides and contamination of water supplies in parts of Puerto Rico. This event led to a Major Disaster Declaration, which was issued on October 26, 2010 (DR-1946). DR-1946 currently includes 25 designated communities in Puerto Rico.

Course participants were quick to see the value of Hazus in terms of disaster mitigation as well as response and recovery. They began to improve the Puerto Rico Flood datasets during



Vanessa Glynn-Linaris teaching one of the courses.

the courses to enable hurricane wind modeling. In addition, Hazus Level 1 Earthquake and Flood analyses are nearly complete for Puerto Rico. Interest in Hazus is growing, and discussions have begun regarding establishing a Puerto Rico Hazus User Group (HUG). If you or someone you know is interested in the Puerto Rico HUG, please contact Jamie Caplan at [Jamie@jamiecaplan.com](mailto:Jamie@jamiecaplan.com).

## Hazus User Group Updates

The Hazus User Group flyer was recently updated. You can find it in the FEMA library. It features a colorful map indicating the location of all Hazus User Groups. This is a terrific resource to distribute at a regional conference.

In international news, a report regarding Earthquake Loss Estimation in Israel has been posted to the World HUG page at [www.usehazus.com/worldhug](http://www.usehazus.com/worldhug). The report details how Hazus has been adopted to suit typical conditions and parameters of Israel.

The Hazus Higher Education Resources Consortium (HERC) has recently posted a draft strategic plan to their website: [www.usehazus.com/herc](http://www.usehazus.com/herc). The last HERC conference call held on March 15, 2011, featured a conversation about how to integrate research, teaching and service learning opportunities into the HERC. A public-private partnership that models this concept is not known. Several HERC members including Kevin Mickey of The Polis Center and Silvana Croope of the Delaware Department of Transportation are going to work on developing a

concept paper. In addition, the HERC will host a Speakers' Bureau for all HUGs. In the near future, Hazus users will have the opportunity to register as speakers or look for a speaker by visiting the HERC website.

In regional HUG news, the Central U.S. HUG (CHUG) call on February 18, 2011, featured a presentation by Dr. Jonathan Remo of Southern Illinois University (SIU). The topic of this presentation was earthquake loss estimation using FEMA's Hazus Program for disaster mitigation planning in Illinois. You can download Dr. Remo's presentation on the CHUG website at [www.usehazus.com/chug](http://www.usehazus.com/chug).

In other regional news, Gary Johnson has taken over the position as the leader of the Nevada HUG. Ron Hess will be missed. He did a tremendous job forming the Nevada HUG, and we wish him well with retirement.

# Featured Hazus Trained Professionals and Practitioners

## Michelle Brock



Michelle Brock, Winston-Salem/Forsyth County, Hazus Trained Professional

Michelle Brock is an emergency manager with the Winston-Salem/Forsyth County Office of Emergency Management in central North Carolina. She is responsible for mitigation planning and updating the Hazard Mitigation Plan in the county, which are the main reasons that she began exploring the uses of maps. Mapping and the use of Hazus allows local emergency managers and mitigation planners to identify and focus on potential problem areas for specific hazards. It also allows planners to generate economic damage estimates for elected and appointed officials. Potential economic losses have a way of opening eyes and can be a key to convincing those officials to be proactive thereby mitigating potential hazards.

As an emergency manager, Ms. Brock thinks it is important to work closely with GIS Specialists within your community. As she took Hazus classes, she learned how to better communicate with the mapping experts and learned the benefits of using Hazus and working with GIS experts for all aspects of emergency management, including mitigation, response and recovery planning.

## Nicholas Graf

Nicholas Graf works as a GIS analyst for the Kansas Adjutant General's Department, which oversees the Air and Army National Guard, as well as the Kansas Divisions of Emergency Management and Homeland Security.

"I started using Hazus in 2009 and have been using it ever since," says Graf. "Hazus is primarily used by my agency in one of two ways. We use Hazus in either preparation for exercises



Nicholas Graf, Kansas Adjutant General's Department, Hazus Trained Professional

or response to actual events. If an exercise has a flood component, the GIS section uses the flood model to help create a more realistic scenario for the exercise. During a response, we will run a model based on the projected peak stream discharge to get an idea of the extent of flooding. This allows us to be better prepared to respond during the event and greatly aids decisions of state leadership."

Graf provides all of the Hazus data for his agency and really felt compelled to complete the Hazus Trained Professional curriculum because he enjoys the modeling and science that are utilized to better prepare the constituents of Kansas.

## Craig Eissler

Craig Eissler is an independent GIS consultant based in Austin, Texas. His recent contract work with H2O Partners involves using GIS and Hazus for hazard risk assessments to be included in a community's mitigation plan.

Upon plan approval, these communities are then eligible for mitigation funds to implement the identified actions and ensure their communities are less vulnerable to hazards—those identified in the risk assessment.

"Although loss estimation with Hazus is not required by FEMA for mitigation plans, it is a great tool to use to make it worthwhile for smaller jurisdictions," says Eissler. In his opinion, the most valuable Hazus product is the flood depth grid.

Eissler is also a long-time instructor at FEMA's Emergency Management Institute where he teaches various Hazus courses and an introduction to GIS. He has also taught at the college level and as a contractor to the Texas Geographic Society (TXGS). Part of the TXGS mission is to train Texans in the use of GIS and Hazus for risk assessment and mitigation planning functions.



Craig Eissler, Independent GIS Consultant, Hazus Practitioner

## Hazus Higher Education Resources Consortium Calls

- May 24, 2011, 4:30-5:30 PM Eastern Time
- July 26, 2011, 4:30-5:30 PM Eastern Time
- September 20, 2011, 4:30-5:30 PM Eastern Time
- November 15, 2011, 4:30-5:30 PM Eastern Time

To register for these calls, please contact Jamie Caplan at [Jamie@jamiecaplan.com](mailto:Jamie@jamiecaplan.com).

## Hazus Program Opportunities

There are many opportunities for Hazus users to get involved with the Hazus Program. Everyone should consider:

- **Joining a Hazus User Group.** There is one in your area!
- **Participating in National Conference Calls.** Calls are scheduled monthly.
- **Submitting a Map for the 2011 Hazus Map Gallery.** You can win great prizes!
- **Writing a Technical Compendium Article.** Share your Hazus technical expertise.
- **Giving a Presentation.** Present your work on a national topic specific call or a regional HUG call.
- **Documenting Your Success.** Success stories are a wonderful way to display your work with Hazus.

Contact [margaret.walton@atkinsglobal.com](mailto:margaret.walton@atkinsglobal.com) regarding these opportunities.

## Contact Information

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### Hazus User Groups (HUGs)

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## Federal 100 Alice Lipowicz, Federal Computer Week

Eric Berman, FEMA's Hazus Program Manager, breathed new life into FEMA's sophisticated risk analysis and mapping technology and, by doing so, made the tool a global standard.

Hazus, which FEMA uses to calculate probable damages from natural disasters, is highly sensitive to user inputs, and past inconsistencies led senior officials to suspend the program in 2005. Last year, with a modest budget and no direct staff, Mr. Berman rebuilt Hazus by incorporating quality control, standard operating procedures and scientific peer review.

Thanks to Mr. Berman's hard work, Hazus was used in Haiti to help with recovery and rebuilding

after the country's devastating earthquake. Chilean officials also intend to develop a Hazus-like tool to deal with earthquakes in their country, and CNN now uses Hazus to let the public know what to expect from impending hurricanes. For his efforts, Mr. Berman has been named as one of the Federal Top 100 individuals who have uncanny ability to figure out how to get a job done with whatever resources are available.



Eric Berman, FEMA  
Hazus Program Manager

## Hazus User of the Year: Shanna Michael



Shanna Michael, AECOM

Congratulations to Shanna Michael, Hazus Lead of AECOM, who is the recipient of the 1st Quarter 2011 Hazus User of the Year award. Ms. Michael's extraordinary dedication, hard work, and independence have made her a leader in the use and implementation of Hazus at both the national and local levels. Ms. Michael was the technical lead for the first-ever Level 1 and Level 2 Hazus analysis and reporting completed for a whole FEMA Region, and won the Innovative Applications Award for Hazus at the 2010 Annual Hazus Conference.

Ms. Michael's work has many highlights especially in the areas of flood and mitigation. She is the Hazus lead for studying the impacts of climate change on the National Flood Insurance Program (NFIP) and improving coastal floodplain mapping and has also led the GIS efforts in performing a Hazus analysis for stream network creation for the Georgia Department of Water Resources. The stream networks were run at 1 and 10 square mile densities for various scoping projects.

Ms. Michael was also the Hazus project lead for the Hazard Mitigation Plan Update for the Middle Rio Grande Region along the Rio Grande River in Texas. This project involved performing a risk assessment and loss analysis for seven counties along the Rio Grande River to update their hazard mitigation plan as part of the 5-year update cycle.

In addition, Ms. Michael also conducted a loss analysis for use in a multi-jurisdictional hazard mitigation plan update for the City of Charlotte and for the Counties of Mecklenburg and Catawba in North Carolina. She led the GIS efforts in creating a Situational Awareness Web Tool for FEMA Region I. This project involved conducting a Level 1 and Level 2 analysis for FEMA Region I. The data was then used to create a mitigation and response website for responders to monitor weather and flooding and create reports for high-risk communities and critical facilities.

Ms. Michael is the Heartland HUG Leader, a regional group spanning the four states in FEMA Region VII. She is a Hazus Trained Professional and Certified Floodplain Manager. Ms. Michael has presented at multiple conferences including the Annual Hazus Conference. She possesses extensive GIS experience including GIS product development, project management, spatial data creation, maintenance and training. Her eight years of GIS experience have focused on DFIRM production for FEMA FISs and community outreach both locally and nationally.

FEMA is proud to present Shanna Michael with the 1st Quarter 2011 Hazus User of the Year Award for her outstanding commitment and achievement to the Hazus Program.