

HAZUS HOT ZONE

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Using HAZUS-MH to Support Preparedness for Hurricane Ike

By Annie Ding from CivilTech Engineering, Inc.

As Hurricane Ike approached the Texas coast on September 13, 2008, the City of Houston and nearby communities were ready. Improved evacuation plans and an emphasis on public education contributed to a smooth public response to Ike.

An important component of Houston's readiness strategy is HAZUS-MH, FEMA's standardized loss estimation methodology. With assistance from CivilTech Engineering, Inc., Houston's Office of Emergency Management provided continuous updates on forecasted wind speeds and areas most at risk. Evacuation orders and forecast wind speeds were depicted on a Houston area zip code map, which was displayed on a Web site developed by CivilTech. The wind data was based on the National Hurricane Center (NHC) advisory bulletins issued on the projected storm path and storm magnitude. HAZUS-MH modeled output was remapped by zip code for ease of public search. Users were able to see the predicted wind information for each zip code as well as historical wind information related to that zip code, current evacuation status, and expected wind damage for the predicted condition. This Web site was developed to help the general public with more detailed wind-related information for making better decisions on mandatory and voluntary evacuations.

In order to help officials better prepare for Hurricane Ike, CivilTech Engineering also provided Economic Damage Advisories (EDAs) during Hurricane Ike. The EDAs were created based on simulation model runs using HAZUS-MH for near real-time wind-induced damage assessments for hurricanes. Each EDA included predicted wind swath, wind distribution, building-related economic damage and debris. Advisories were released to county officials of Brazoria, Chambers, Fort Bend, Galveston and Harris within an hour after NHC advisory bulletins were issued.

Ike made landfall on September 13 at 2:10 a.m. as a Category 2 hurricane with winds of 112 mph. After Hurricane Ike had passed through the area, CivilTech Engineering deployed survey teams to collect field data. Wind data from 15 stations was obtained. Tree debris data was surveyed for 49 census tracts spread throughout Harris County.

Comparison of wind data reveals that HAZUS-MH calculated wind has significant linear correlation with observed wind data.

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FEMA

HUG News



Shane Hubbard

Shane Hubbard, a doctoral geography student at the University of Iowa who took the initiative to share his knowledge of HAZUS-MH with Johnson County, Iowa, emergency managers during the Midwest floods of 2008, has been honored with the 2009 1st Quarter HAZUS User of the Year award. Hubbard has generously shared his knowledge, tips and techniques with HAZUS-MH users throughout the United States.

New and Expanding HUGs

Progress continues to be made toward the goal for 2009 of having a HAZUS User Group (HUG) in each of the 50 states. Nick Delmedico, FEMA Region X, and Cathy Walker, GIS analyst for the Washington Military Department, are working to reestablish the Washington HAZUS User Group (WAHUG). They have a new Web page at www.usehazus.com/wahug and they are now gathering names for interested participants. Mr. Delmedico is also working to form a HUG in Alaska. The San Diego HUG (SDHUG) under the leadership of Bruce Ferguson, Nolte Associates, Inc., has scheduled its first leadership conference call for March 24, 2009. The SDHUG is actively seeking participants; anyone interested should contact Mr. Ferguson through the SDHUG Web site at www.usehazus.com/sdhug. Eric Coughlin of PBS&J has assumed leadership of the North Carolina HUG (NCHUG). They have scheduled a leadership conference call for March 24, 2009 and are planning to hold their official NCHUG kick-off meeting in August at the

3rd Annual HAZUS Conference in Raleigh, NC. Please contact Mr. Coughlin through his USEHAZUS forum post or via e-mail at eccoughlin@pbsj.com to join the NCHUG. Everyone interested in forming or expanding a HUG is encouraged to visit the National States Geographic Information Council Web site at www.nsgic.org for a list of their state GIS coordinators.

The Florida HUG (FLHUG) elected new officers at their February meeting. Richard Butgereit, GIS administrator for Tallahassee, has become the HUG President and Chris Zambito, senior planner at Dewberry, is the President-Elect. The group has determined that a "quick guide" to the Comprehensive Data Management System (CDMS) would be beneficial and PBS&J is to create this document, as well as implement several enhancements to CDMS Web Portal that have been recommended by the FLHUG.

HAZUS-MH Presentations

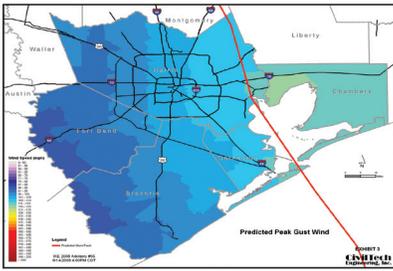
Vanessa Glynn-Linaris, FEMA Region III; George Heake, Temple University; and Thomas Mueller, Ph.D., California University of Pennsylvania, will be presenting on HAZUS-MH and HAZUS User Groups at the Pennsylvania GIS Conference in May 2009. For more information on this conference, visit www.pagisconference.org.

HAZUS User Groups

Since 1997, HAZUS User Groups (HUGs) have been formed throughout the nation. The HUGs are led by volunteers. HUGs provide a mechanism for creating partnerships between public and private sector organizations and industry. Through HUGs, mutually beneficial alliances are formed, and goals and projects are identified.

World HUG	FEMA Region V
FEMA Region I	Central U.S. HUG
Northeastern HUG	FEMA Region VI
FEMA Region II	Arkansas HUG
New York Metropolitan Area HUG	Louisiana HUG
FEMA Region III	Texas HUG
FEMA Region III	FEMA Region VII
Pennsylvania HAZUS Network	Heartland HUG
Three Rivers HUG	FEMA Region VIII
Southeast Pennsylvania HUG	Big Sky HUG
National Capitol Region HUG	Salt Lake HUG
Delaware HUG	FEMA Region IX
Virginia HUG	Bay Area HUG
FEMA Region IV	Southern California HUG
Florida HUG	San Diego HUG
(Southeast) HAZUS Technical Team	California Valley HUG
North Carolina HUG	Hawaii HUG
South Carolina HUG	Nevada HUG
	FEMA Region X
	Oregon HUG
	Washington HUG

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Predicted Peak Wind Gust

Hurricane Ike left millions of cubic yards of debris in the state of Texas. As of February 2009, the City of Houston had already collected more than 4 million of the estimated 5.6 million cubic yards of debris generated by the event.

HAZUS-MH estimated the similar amount of debris—4.5 million cubic yards—for the City of Houston. The HAZUS-MH modeled debris results used default tree inventory and parameters.

The City of Houston's Office of Emergency Management plans to continue using HAZUS-MH for evacuation planning, hazard awareness and public safety. CivilTech Engineering's proactive approach to technology transfer is an excellent model of a public-private partnership.

Save the Date: 3rd Annual HAZUS Conference

Annual HAZUS Conference: Connecting the Pieces for Mitigation

August 10-12, 2009

Raleigh, North Carolina

Marriott Raleigh Crabtree Valley Hotel

Who Should Attend: New, experienced and interested users of HAZUS-MH, first responders, local government decision makers, planners and GIS specialists.

On the Agenda: The sharing of information concerning effective approaches for using HAZUS to support decision-making at all levels of government.

Call for Speakers: Suggested topics include: the role of HAZUS in risk identification and communication, HAZUS application in estimation and mitigation planning, HAZUS and human-caused hazards, and innovative approaches to decision making.

The deadline for submission of abstracts is April 15, 2009.

To submit an abstract, please e-mail Beth Miller Howser at HAZUSuser@pbsj.com with the subject line: HAZUS Speaker Proposal and provide the following information:

- Proposed name of session
- Session format (presentation, workshop, panel discussion, etc.)
- Session description
- Contact information (including name, title, organization, phone number and e-mail)

Registration: More information on registration is coming soon. Please continue to check the HAZUS websites at www.fema.gov/plan/prevent/hazus and www.usehazus.com. For more information, please contact Beth Miller Howser at HAZUSuser@pbsj.com.

Training Information

HAZUS-MH for Earthquake

Course Number: E174 APRIL 27-30, 2009

The class begins with an in-depth discussion of the HAZUS inventory with emphasis on those inventory components that are of critical importance to the earthquake model and the process for updating both aggregate and site-specific inventory with local data. The class helps participants understand the impacts of modifying model parameters by providing focused discussion on the process of estimating losses for bridges, pipelines, and socioeconomic parameters.

Advanced HAZUS-MH for Flood

Course Number: E172 JULY 27-30, 2009

This course provides in-depth instruction and hands-on exercises that develop the skills needed to effectively use HAZUS-MH for modeling the impacts on communities from riverine and coastal flooding. Following a review of the hazard development process, the course will explore the multitude of maps, tables, and reports that HAZUS-MH generates with a focus on how to interpret the wealth of information provided in these outputs.

Application of HAZUS-MH for Risk Assessment

Course Number: E296 AUGUST 3-6, 2009

This course provides participants with an understanding of how they can use the HAZUS-MH risk assessment methodology and tools to assist them in their efforts to conduct the community risk assessments that are necessary to be compliant with the ongoing requirements of the Disaster Mitigation Act of 2000. The course includes hands-on computer exercises using the HAZUS-MH software and other tools such as the HAZUS-MH Risk Assessment Tool and Flood Wizard to perform risk assessment-related tasks.

Comprehensive Data Management

Course Number: E317 SEPTEMBER 14-17, 2009

This course will include an in-depth discussion of the methodologies that were used to develop and compile the HAZUS-MH provided inventory and it will identify the issues associated with using that inventory for purposes other than those for which it is intended. A significant portion of the course will be devoted to exploring a variety of strategies and techniques for updating both the site-specific and aggregate inventory with local data.

HAZUS Conference Events in 2009

The HAZUS-MH exhibit, along with HAZUS presenters and representatives, makes appearances at various conferences and trade shows throughout the year. Stop by the booth to hear about the latest HAZUS news, software updates and information about training courses.

ESRI Federal User Conference (HAZUS Presentation)

February 18–20
Washington, D.C.
www.esri.com/events/feduc

National Hurricane Conference (HAZUS Booth)

April 6–10
Austin, Texas
www.hurricanemeeting.com

National Flood Conference (HAZUS Workshop)

April 19–22
Boston, Massachusetts
www.fema.gov/business/nfip/natl_fldconf.shtm

American Planning Association Conference (HAZUS Booth)

April 25–29
Minneapolis, Minnesota
www.planning.org/nationalconference

ASFPM Annual Conference (HAZUS Booth)

June 7–12
Orlando, Florida
www.floods.org/Conferences,%20Calendar/Orlando.asp

ESRI International Conference (HAZUS Booth)

July 13–17
San Diego, California
www.esri.com/events/uc/index.html

NACO Annual Conference (HAZUS Booth)

July 24–29
Nashville, Tennessee
www.naco.org/Template.cfm?Section=Annual

3rd Annual HAZUS Conference: Connecting the Pieces for Mitigation

August 10–12
Raleigh, North Carolina

Did you know?

That you can receive free e-mail updates from FEMA? Sign up for FEMA's free e-mail subscription service and you will receive notifications when new updates become available, including information about risk analysis, risk reduction, hazard mitigation planning, EMI training, and other topics of interest to the HAZUS community. And, by establishing a subscription profile, you can automatically receive updates without having to return to the Web site to check for changes.

How to Subscribe

If you are interested in receiving updates from FEMA, subscribe by using these simple steps:

1. Visit the [Quick Subscribe](#) page at FEMA's Web site.
2. Select from the subscription options listed.
3. Pages throughout the site also feature a button labeled, "E-mail me when this page is updated." Clicking on this button will allow you to subscribe to updates for that particular page.
4. Select how often you wish to be notified about updates (e.g., immediately, daily, weekly, or monthly). Please note that some topics, depending on the subject, may only be updated at certain intervals.

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