

# HAZUS HOT ZONE

December 2010 Issue

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### 2011 Hazus Training Courses at EMI

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**Course Title:** Hazus-MH for Hurricane  
**Dates:** April 25-28, 2011

**Course Number:** E172  
**Course Title:** Hazus-MH for Flood  
**Dates:** January 3-6, 2011  
 July 11-14, 2011

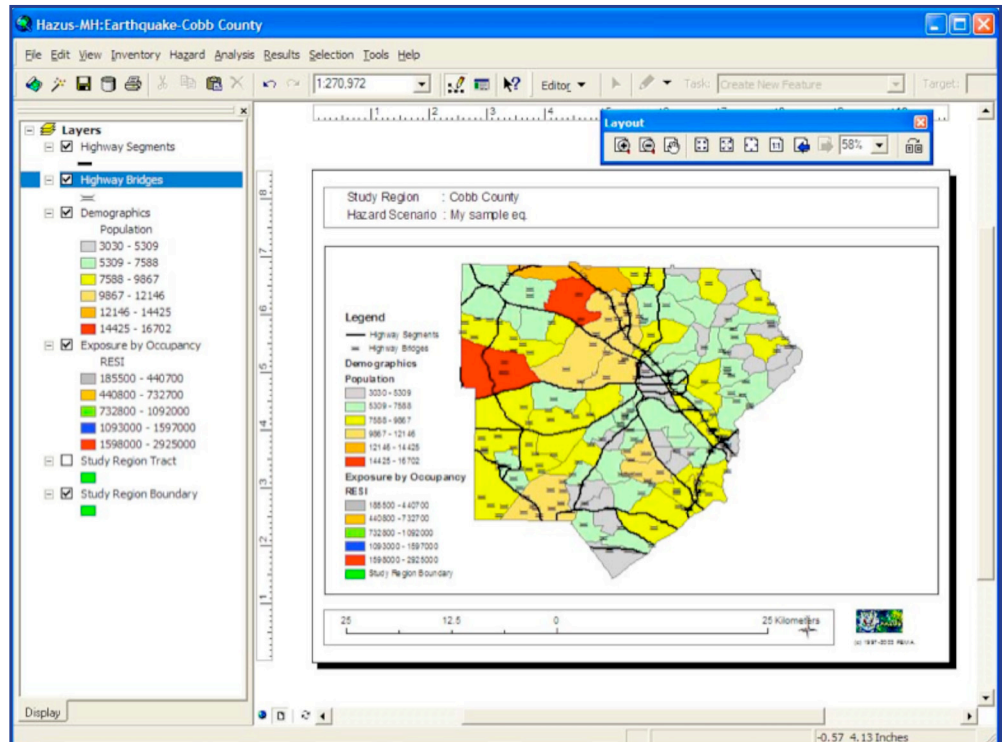
**Course Number:** E174  
**Course Title:** Hazus-MH for Earthquake  
**Dates:** February 7-10, 2011

**Course Number:** E190  
**Course Title:** ArcGIS for Emergency Managers  
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**Course Number:** E296  
**Course Title:** Application of Hazus-MH for Risk Assessment  
**Dates:** September 12-14, 2011

**Course Number:** E313  
**Course Title:** Basic Hazus-MH  
**Dates:** January 17-20, 2011  
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**Course Number:** E317  
**Course Title:** Comprehensive Data Management for Hazus-MH  
**Dates:** February 28-March 3, 2011



Hazus Study Region

## Automating Hazus For CalEMA

Dan Henderson, PBS&J

The California Emergency Management Agency (CalEMA) recently contracted PBS&J, an Atkins company, to automate the earthquake module of Hazus for use throughout the state of California and adjacent areas to model impacts of seismic events. To automate Hazus, some creative programming was required to enable the software to search the Internet for recent seismic events, download ShakeMap data from USGS, load it into Hazus and create a cartographic output.

### Project Goals

CalEMA had previously created a similar tool for the ArcView 3.x environment. The main goal of this project was to take the automation tasks and processes and integrate them into the existing ArcGIS environment and most current version of Hazus. The overall project goals are as follows:

- Modernize programming for current ArcGIS/Hazus environment
- Automate Hazus start-ups to enable processing to begin 24/7/365
- Generate high resolution maps for emergency managers
- Utilize multiple computers to avoid SQL file size limitations in Hazus
- Determine initial areas of loss to enable rapid response to earthquake damage
- Significantly decrease the time required for Hazus runs and map output

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## New Release: Hazus-MH MR5 and Reconstructed FEMA.gov Hazus Site

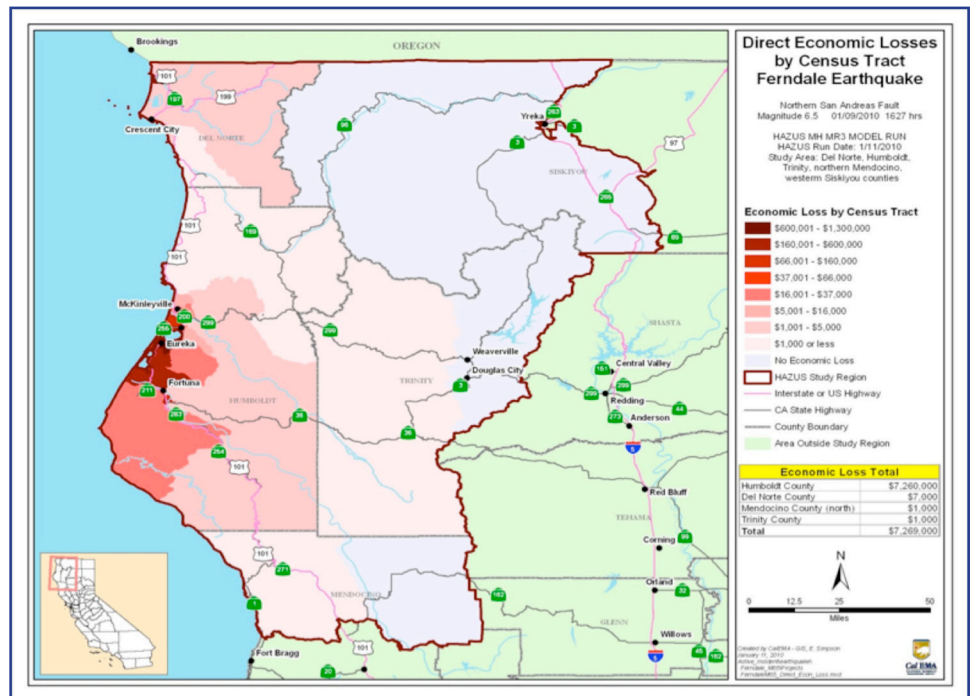
Everyone has heard the popular quote by Jack Dangermond, ESRI president, "the application of GIS is only limited by the imagination of those that use them" and we feel the same about Hazus. With all the new ideas and projects being implemented and designed by users across the county, we are continually growing and expanding to provide the very best services to Hazus users and decision makers across the country.

### MR5 - Software Release

We are pleased to announce that Hazus-MH MR5 is now available! The MR5 release includes several improvements to the usability and functionality of the software, including:

- Support for the Windows 7 operating system is now available (Enterprise and Professional Versions). Windows XP SP3 will continue to be available.
- An auto-patching feature has been developed which will automatically check web servers for new Hazus patches and let users choose whether they would like to update to the new patch.
- Study regions can be created by HUC-8 watersheds (for a flood-only study region).
- Multiple user-defined flood depth grids with differing return periods can now be imported.

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Custom Cartographic Output from Hazus Analysis: Direct Economic Losses

The development of automation tools for Hazus increases the efficiency of the loss estimation process, boosts accuracy of results and provides emergency planning and management personnel with a powerful tool to simplify and enhance the use of Hazus.

### Technical Details

The automation tool operates outside the Hazus environment. A Web crawler scans the USGS website for RSS feeds that indicate a seismic event of 5.0 or greater magnitude has occurred. Once a qualifying seismic event is found, the ShakeMap is downloaded from USGS. The script automatically starts Hazus then sets the directory environment so that the proper project files and study region can be created for Hazus to use for loss estimation. A master machine runs the program with one or more slave machines used to increase processing and avoid the SQL file size limitations that currently exist with the current version of Hazus.

Time savings was a significant achievement of this project. Based on testing of single machine runs versus the multiple machine solution created, a 30 percent time savings was realized. Since this is a real-time solution, actual time savings may be significantly larger, especially if no CalEMA staff are available to run Hazus at the actual time of the event.

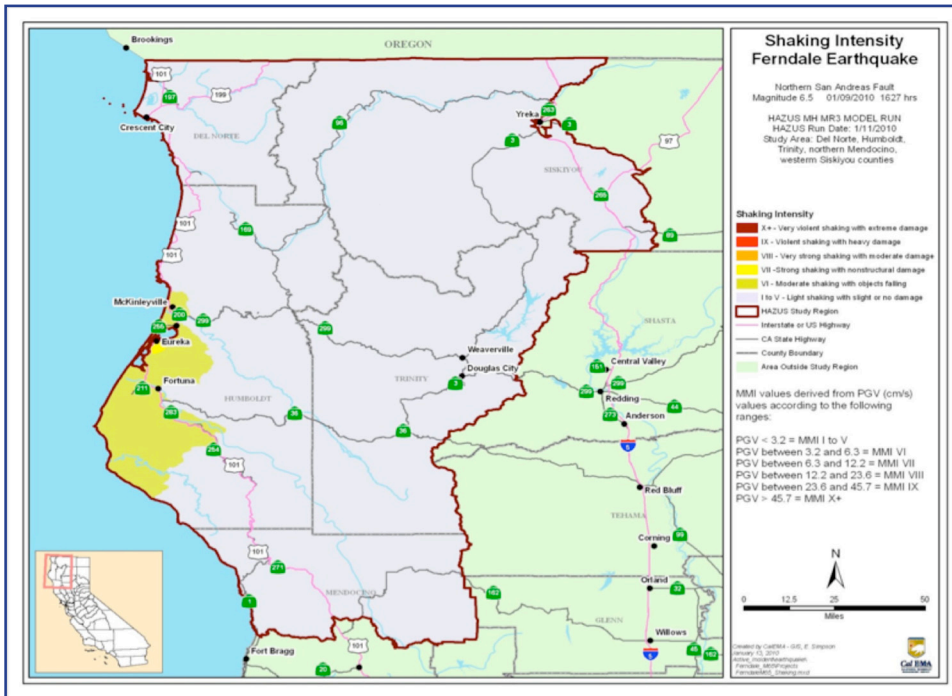
Other improvements include creating a single machine solution once the SQL file limitation is removed, creating custom map templates for output, and creating a custom interface to allow changes to maps "on the fly."

### Project Coordination and Future Directions

This project was primarily funded through FEMA grant funding and

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Custom Cartographic Output from Hazus Analysis: Shaking Intensity

through an existing FEMA Technical Assistance & Research Contract (TARC). CalEMA coordinated closely with FEMA to enable both agencies to benefit from the development of the automation tool. The two

agencies have continued to collaborate to create a roadmap for improving the current tool for use outside of California and to allow improved functionality to be integrated into future releases of Hazus.

## Hazus User Group Updates

Over the past several months we have seen a growth in interest in the Hazus Higher Education Resources Consortium (HERC). The South Carolina Hazus User Group (SCHUG) had a conference call on October 19, 2010, facilitated by Melissa Berry, which focused on the HERC. Participants included Christopher Emrich from the University of South Carolina Hazards & Vulnerability

Research Institute (HVRI), Melanie Gall from Louisiana State University (LSU), Maggie Harrelson from the College of Charleston and Scott Templeton from Clemson University. Each of these individuals gave an update regarding their use of Hazus and how the HERC could potentially benefit them. Dr. Emrich is interested in further exploring the differences between Level 1 “out-of-the-box” data and Level 2 data in analysis. Dr. Gall is using Hazus for the LSU hazard mitigation plan.

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### MR5 - Ordering

Federal, State and local government agencies and the private sector can order the latest version of Hazus free-of-charge on-line by visiting the FEMA Map Service Center (MSC) Web Store at [msc.fema.gov](http://msc.fema.gov). For more information about how to set up your account with the MSC and place your order please refer to the [Ordering Hazus - MH flyer](#).

### Hazus on the Web ([fema.gov/plan/prevent/hazus](http://fema.gov/plan/prevent/hazus))

The FEMA Hazus Website has been "under construction" for the past few weeks to better meet the needs of the Hazus user community. The new version of the website is due to go live in January. The program information has been brought up-to-date and users will have the ability to create searches in the library to find all available resources. The pages have been redesigned to make the website easier to navigate and quickly find what users are looking for. Additional Hazus resources have been incorporated throughout the site and we will look forward to comments and recommendations for continued updates.

## Contact Information

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Ms. Harrelson reported that the College of Charleston offers advanced GIS courses and some basic Hazus courses. Dr. Templeton is exploring the financial aspects and economic loss estimation algorithms used in Hazus.

Some common threads from the SCHUG call included having universities partner with communities and other college campuses through service learning projects, supporting universities with more guidance on data resources and collaborative opportunities, how to “sell” Hazus to university administrators, and the need to collaborate between universities to keep the science of Hazus progressing. With these points in mind we begin the more formal process of growing the HERC. The first HERC conference call was held November 16, 2010, from 4:30 to 5:30 p.m. Eastern time. The notes are posted on the website. Anyone interested in this concept is encouraged to participate. Website, <http://www.usehazus.com/herc>.

In other HUG news, **Philip McCormick** from the City of Riverside has become the leader of the Southern California HUG and **Dan Henderson** of PBS&J has become the leader of the California Central Valley HUG.



Kelly Durst,  
FEMA Region X

**Alexander Nemeth** has become the FEMA Region III Hazus point of contact, **Patricia Stiefer** has become the FEMA Region IX Hazus point of contact and **Kelly Durst** has become the FEMA Region X Hazus



Moses Wilkins,  
FEMA Region IV

point of contact. **Moses Wilkins** joins Gene Longenecker as a Hazus point of contact for FEMA Region IV.

The National HUG monthly conference calls include a leadership call, a topic specific call and a HERC call. The schedule for these calls through May 2011 is posted on the Hazus websites. The October 12, 2010 HUG leadership call featured a discussion about upcoming conferences that HUG leaders plan to attend and how the Hazus program can support their attendance. As a result, business card templates will be designed for all HUGs. In addition, the Hazus booth may be available for select conferences and Hazus flyers are always available. Please let your HUG leader know if you are heading to a conference so we can support you with outreach materials.

The September topic specific call featured Ed Leachman from Arkansas Tech University speaking about using Hazus in a virtual environment. The October topic specific call featured Eric Berman, Hazus Program Manager for FEMA, speaking about Hazus MR5. Jonathan Collins, an Arkansas HUG member, voluntarily recorded each of these calls and turned them into podcasts.

The podcasts are available for download on iTunes. More information about these podcasts and other Hazus podcasts is available on the Hazus websites.

