HAZUS HOT ZONE

In This Issue

Pacific Disaster Center Uses Hazus For Hurricane Irene

As part of the disaster response efforts for Hurricane Irene in 2011, the Pacific Disaster Center (PDC) in Hawaii ran Hazus analyses utilizing two multi-state study regions at the county level. The first study region consisted of North Carolina, Virginia, Maryland, Washington D.C., and Delaware, and the second consisted of Pennsylvania, New York, New Jersey, Connecticut, New Hampshire, Vermont, and Rhode Island. To help reduce run times, PDC only selected those counties in New York and Pennsylvania that were close to the forecasted hurricane wind swath. PDC's models are run on virtual machine platforms, which allow the models to be accessed and run remotely.
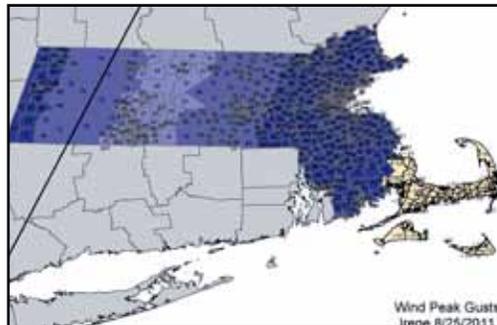

Wind peak gusts for Hurricane Irene

In addition, PDC personnel created maps of Total Direct Building Economic Losses, Peak Wind Gusts, and Max Sustained Wind Speeds, which were distributed to government and emergency response entities via email, ftp, and PDC's Emergency Management Operations System (EMOPS). Hazus reports, such as *Building Damage by Count by General Occupancy, Direct Economic Losses for Buildings,* and the *Global Report,* were also disseminated along with the shapefiles used to make the maps mentioned above.

These products were used by American Red Cross, particularly their National Headquarters, as well as in support of Federal entities in D.C., including State National Guards, defense agencies and offices concerned with foreign disaster assistance. Feedback received post event reflected that PDC's Hazus products were highly useful in the response to Hurricane Irene.

The PDC was initially conceived as support for the State of Hawaii and Hawaii State Civil Defense, in the wake of Hurricane Iniki, which devastated the island of Kauai on September 11, 1992. However, with support from the U.S. Department of Defense (DOD), the mission enlarged so that by the time the staff began work in 1995, the PDC had been broadened to encompass American interests in the Pacific, and shortly thereafter, the entire Pacific, or the area of responsibility of the U.S. Pacific Command. The Center's first major project was the Pacific Regional Emergency Management Information System (PREMIS). By 2000, PDC was working under the auspices of
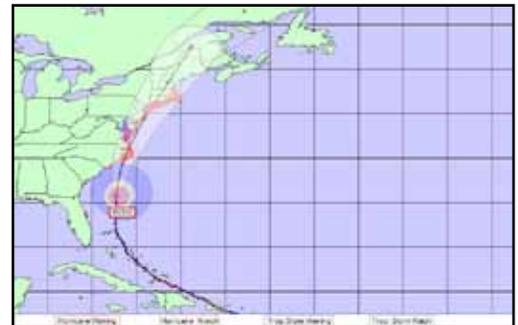
Storm track for Hurricane Irene

DOD to develop an Integrated Decision Support System (IDSS) for the Caribbean, and the Center's area of interest has been expanding ever since, in terms of support to U.S. military and civil organizations and in the conduct projects around the world. At this point, PDC products and service are genuinely global, as evidenced by the Global Hazards Atlas, the global coverage of PDC's Disaster Alert mobile app, and activities in Africa, South America, and Europe, as well as the Pacific region and North America, where PDC supported the response, for example, to hurricanes Katrina and Rita.
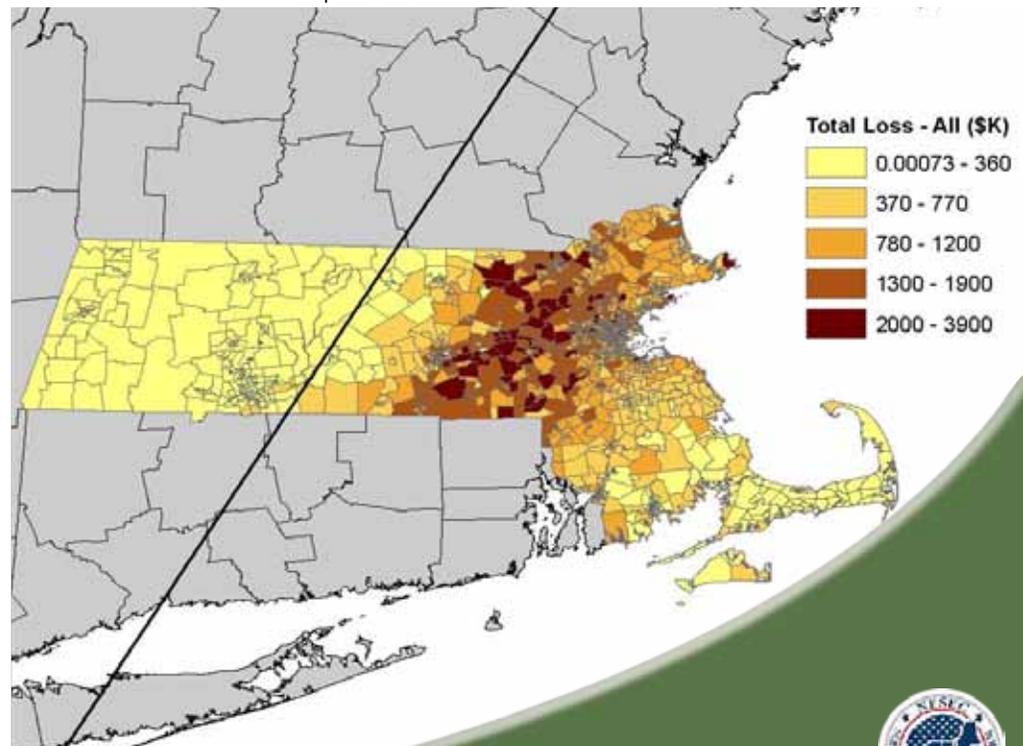
Tsunami Model Update

On Jan 10, 2012, the 11 member Tsunami Committee held its first meeting in Orange, California. After a welcome, introductions, and a review of the agenda, meeting objectives and FEMA objectives for the project, the Tsunami Development Team presented an overall framework for the tsunami methodology. Presentations followed on anticipated parts of the model to include the components of the other models such as damage assessment to buildings, damage assessment to lifelines, debris generated, casualty estimates, shelter demand, economic impacts, and most importantly the actual tsunami hazard analysis which will detail how a tsunami can affect an area. Another meeting will take place in March to discuss future steps and the next stages in the model development.

Hazus Used to Size up Earthquake Risks in Schools

FEMA piloted a program in Washington State in two school districts to efficiently determine earthquake risks. Schools were spending a large amount of money to perform assessments of their schools. The Washington State Seismic Safety Committee conducted this study and provided a report which details the exact approach that was taken. Hazus was used as part of this process to determine risks. In the process the school districts also updated their hazard mitigation plans. This pilot program will demonstrate how other schools with budget constraints can best target federal funding to assist their schools with upgrades. This model will help schools to become more prepared for various types of natural disasters by implementing mitigation strategies and actions.

Northeast States Emergency Consortium Uses Hazus for Hurricane Irene

Whereas the PDC used Hazus during response efforts to Hurricane Irene, the Northeast States Emergency Consortium (NESEC) worked with Hazus in August 2011 in the days prior to Irene touching land in the US to assess the threat and provide information to states that faced impacts from the storm.

The NESEC service region is comprised of the six New England states: Maine, New Hampshire, Vermont, Massachusetts, Connecticut and Rhode Island as well as, New York, and New Jersey. In advance of Hurricane Irene, as with any hurricane that appears to pose a significant threat to the region, NESEC began preliminary analysis of the projected impacts several days before the storm was predicted to make landfall. Utilizing Hazus' cross-compatibility with Hurrevac, a service of the National Hurricane Program, updated hurricane tracks were loaded directly into Hazus once a day for analysis. Following region-wide runs to determine the spatial extent of projected impacts, the NESEC states were broken out into sub-regions and run at a finer scale to create a more accurate portrayal of risk and damages.

Utilizing the integrated report-generating capacity Hazus provides, along with a variety of custom reporting templates and maps, NESEC produced packaged results for distribution, which included data on wind speeds, economic losses, tree debris, and other factors. The results of the hurricane analysis were distributed via listserv to state emergency management heads throughout the region. This process was repeated daily or however often a new track with significantly different projected impacts was released.

While final losses from the storm throughout the Northeast are still being tallied, Hazus proved to be an effective tool in identifying risk hot spots under the threat of a hurricane. Advanced planning capacity before hurricanes is only one of the many services that NESEC is capable of providing. The organization is engaged in relationships with states and communities throughout the region to provide GIS and hazard mitigation planning support based on a broad variety of potential risks. NESEC is also involved in exploratory research into new emergency management planning tools and techniques.

Hazus run Estimated dollar losses prior to Hurricane Irene

Hazus User Group Update

FEMA is proud to announce that Bert Struik, Natural Resources Canada, is the 4th Quarter Hazus User of the Year. Dr. Struik has been a lead contributor in building knowledge transfer and capability for use of Hazus in Canada. Dr. Struik was instrumental in last year's signing of the Canadian–United States agreement to share Hazus methodology, materials, and outreach between the two countries. He is connecting the two countries through the Canadian Hazus User Group (CanHUG) and Risk Assessment User Group (RAUG) initiatives, which helps to improve cross border modeling of natural hazards. He hosts teleconferences for each group monthly and assists with the maintenance of the (CanHUG) website at www.usehazus.com/canadianhug.

The Hazus User Groups (HUGs) continue to serve as an important resource for the Hazus user community. To date forty-four of the fifty United States have HUG representation and there are six regional HUGs representing multiple states. Moses Wilkins, from FEMA Region IV has taken the lead with the Georgia HUG, the newest HUG in the nation.

The Northeastern Hazus User Group will host their first in-person meeting at FEMA Region I Headquarters in Boston, Mass on March 8 from 10:00 a.m.–4:00 p.m. This meeting is going to be an introduction to the Hazus program. Confirmed speakers include; Larry Becker, Vermont State Geologist, Ed Fratto, NESEC Executive Director, and Darrin Punchard, AECOM Senior Project Manager.

Kelly Stone, FEMA Region X, the leader of the Washington HUG (WAHUG) has held several calls in recent months. The WAHUG December 2011 call featured an overview of Hazus with examples of Hazus use from Washington State. The January 2012 call featured presentations by John Schelling and Rebeckah Green on the Washington State Earthquake Scenario Catalog. If you missed any of these presentations you can view them on the WAHUG website at www.usehazus.com/wahug.

All Hazus users are encouraged to participate in monthly National Topic Specific HUG calls. The November 2011 call featured a presentation by Laura Dinitz and Jeff Peters, U.S. Geological Survey, titled "Land Use Portfolio Model to Evaluate Regional-scale Mitigation Policies for Natural Hazards." The December 2011 call featured Jamie Caplan and the HUG Leaders reviewing successes from 2011 and their plans for 2012. The January 2012 call featured Philip Schneider, National Institute of Building Sciences reviewing three tools that work with Hazus: the Integrated Rapid Visual Screening Tool, the Owners Performance Requirement Tool, and the Urban Blast Tool.

For more information regarding the monthly HUG calls visit www.fema.gov or www.usehazus.com. Guest speakers and topics are announced prior to each call. Future call dates include: Mar 20 and April 30. If you would like to present a project or your work with Hazus on an upcoming call, please contact Jamie@jamiecaplan.com.

FEMA and the Hazus outreach team make many resources available to the Hazus user community. New to this list of resources is the *Hazus Activities At A Glance* calendar on USEHAZUS. Here you can find the entire list of HUG meetings, conferences and training opportunities in one spot. Also available are Hazus Podcasts; twenty-three podcasts are available for download from iTunes. The podcasts include recordings of 5th annual Hazus conference sessions, HUG calls, and the Hazus Hot Zone.

Hazus 4th Quarter User of the Year
Dr. Bert Struik

Hazus Goes to Singapore

We're very proud to announce that the National University of Singapore (NUS) has received approval to conduct a Hazus pilot study. This is a significant accomplishment for the Hazus program and we are hopeful that this will lead to further use of Hazus in Singapore.

Earlier this year, the NUS was asked to perform a study for the government of Singapore on sea level rise using loss estimation methodology. After researching the best methodologies and tools available, the NUS concluded that Hazus deserved looking into further. NUS representatives then worked with FEMA to arrange for face to face meetings with members of the Hazus program team.

Eric Berman, Hazus Program Manager, Philip Moore of the Emergency Management Institute and Kevin Mickey from The Polis Center visited NUS in November to provide additional information on the Hazus software. Their presentation, which included a Hazus workshop and demonstration of the Hazus methodology, was attended by government representatives from Singapore, NUS and other local academic institutions. As a result of these meetings, NUS decided to pilot the use of Hazus for their study.

A leading international university centered in Asia, NUS offers a global approach to education and research. Its transformative education program includes a broad-based curriculum with over 36,000 students from 100 countries.

The Hazus Program Team looks forward to increased opportunities to work with Hazus internationally. This visit to Singapore follows the signing of an agreement between the U.S. and Canada in August to provide Hazus software to Canada.

Hazus for Floodplain Managers

Starting in 2012 the Hazus-MH education program will begin offering a new course titled Hazus-MH for Floodplain Managers (Course E176). This course will complement those already available to the Hazus user community including the Using Hazus for Risk Assessment (E296) and Applications of Hazus-MH for Disaster Operations (E179) courses.

The Hazus–MH for Floodplain Managers course provides in-depth instruction and hands-on exercises that develop the skills needed by certified floodplain managers and emergency planners to effectively use Hazus-MH and GIS tools for modeling the impacts on communities from riverine and coastal flooding. Those who complete this course will understand the roles that floodplain managers play as well as how geospatial technologies such as Hazus-MH can be used to protect communities beyond the minimum standards that floodplain managers are responsible for implementing. The audience for this course includes state and local floodplain managers; GIS specialists; Federal, state and local planners; and other personnel responsible for supporting flood mitigation and response activities.

FEMA successfully piloted the E176 course in Anniston, Ala. in November 2011. The first regular offering of this course will take place at the Emergency Management Institute in Emmitsburg, Md from April 23 to 26, 2012.

Other Training Courses that are offered at the Emergency Management Institute are listed below:

COURSE NUMBER	COURSE TITLE	DATES
E296	Basic Hazus-MH	April 2-5, 2012
E174	Hazus-MH for Floodplain Managers	April 23- 26, 2012
E179	ArcGIS for Emergency Managers	April 30- May 3, 2012

Newly Hazus Trained Professional and Practitioners

Practitioners:

Jeff Birdwell, Madison Fire Department, AL

Todd Warren Brown, Madison County Emergency Management, IA

Carly Cermak, ARCADIS, FL

Chris Corwin, Blaine County Emergency Communications, ID

Thomas P. Fisher, Muskingum Watershed Conservancy District, OH

David J. Green, Custer County Planning Department, SD

Gwynne Lindsey, City of Colleyville, TX

Mila Ready, Town of Hudson, WY

Rachel R. Rodriguez, Yurok Tribe, CA

Michael D. Ruzowski, Okaloosa County, FL

Eston Spain, IEM, Inc., VA

Patricia Stiefer, FEMA Region 9, CA

Tim Triesch, Pacific County Public Works Department, WA

Steven Ward, Gulf Engineering & Consulting, LA

Ed Whitford, Tetra Tech, WA

Trained Professionals:

Jeff Birdwell, Madison Fire Department, AL

Carly Cermak, ARCADIS, FL

Chris Corwin, Blaine County Emergency Communications, ID

Andrew D. Megrail, FEMA Region 7, MO

Mila Ready, Town of Hudson, WY

John D. Shell, City of Tacoma, WA

Jonathan B. Slone, AMEC Earth & Environmental, NC

Eston Spain, IEM, Inc., VA

Patricia Stiefer, FEMA Region 9, CA

Tim Triesch, Pacific County Public Works Department, WA

Steven Ward, Gulf Engineering & Consulting, LA

Ed Whitford, Tetra Tech, WA