

**CONNECTING THE PIECES FOR MITIGATION
AUGUST 10-12, 2009**

Jane S. McKimmon Center
NC State's Extension and Continued
Education Conference Center
Raleigh, North Carolina



WELCOME TO THE 3RD ANNUAL HAZUS-MH CONFERENCE

On behalf of the Federal Emergency Management Agency and its partners, I welcome you to the 2009 Annual HAZUS-MH Conference.

This year's conference brings together a unique group of almost 200 attendees, drawn from all levels of government, research and academia, nonprofit organizations, International users and the private sector.

This year's theme is "Connecting the Pieces for Mitigation" which will elaborate on the changes that are happening in the HAZUS-MH world! We will continue to explore the Comprehensive Data Management System (CDMS) and the two pilot states that have utilized the Web Portal as well as offer a CDMS training workshop for participants. Innovative uses of HAZUS-MH within the four phases of emergency management will also be a focus along with the HAZUS-MH program's integration into Risk MAP and the concept of creating one seamless program. This year we also have our very first Map Gallery solely for the HAZUS-MH Conference in order to share all of the great work that users have been doing.

One of our keynote speakers and author, Dr. John Pine and his contributor, Dr. Gavin Smith, will present on their book, *Natural Hazards Analysis: Reducing the Impacts of Disasters* and how the HAZUS-MH software can enhance the decision-making process in the emergency management field.

Again, welcome to Raleigh, NC and the 3rd Annual HAZUS-MH Conference. We look forward to your input and contributions as we collectively work to improve the HAZUS-MH model and its applications.

A handwritten signature in black ink that reads 'Eric A. Berman'.

Eric Berman

HAZUS-MH Program Manager
Federal Emergency Management Agency



STATE OF NORTH CAROLINA
OFFICE OF THE GOVERNOR
20301 MAIL SERVICE CENTER • RALEIGH, NC 27699-0301

BEVERLY EAVES PERDUE
GOVERNOR

July 30, 2009

Dear Friends,

On behalf of the State of North Carolina, it is a pleasure to extend warm greetings to everyone attending the 3rd Annual FEMA HAZUS Conference. It is my privilege to join the citizens of our great state in recognizing and celebrating this event.

The HAZUS_MH methodology benefits North Carolinians by estimating the potential and actual losses from earthquakes, hurricane winds and floods. Using the latest technology, HAZUS_MH provides accurate information and plans in record time. Thank you for providing the resources to help our state plan and recover from disaster.

Your dedication and hard work produces extraordinary benefits for the State of North Carolina and our country. Best wishes for a successful conference.

Sincerely,

A handwritten signature in black ink that reads 'Bev Perdue'.

Bev Perdue

MGM/lw

DAY ONE

MONDAY, August 10, 2009

11:00 am – 1:00 pm	REGISTRATION	
1:00 pm – 1:30 pm	OPENING REMARKS Eric Berman , HAZUS Program Manager, FEMA Headquarters, Washington, DC John Dorman , North Carolina Floodplain Manager, North Carolina Division of Emergency Management, Raleigh, NC Josh Creighton , Emergency Management Director, Wake County, NC	
1:30 pm – 3:00 pm	RISKMAP PILOT STUDIES This session will highlight lessons learned and results from the HAZUS RiskMAP pilot studies in Southern California. The session will cover, in depth, inventory database enhancements for these pilot studies. Finally, critical success factors for all HAZUS flood projects will be reviewed.	Moderator: David Montague , ABS Consulting, Irvine, CA Speakers: Steve Kalaf , Dewberry, Fairfax, VA Ray Lenaburg , FEMA Region IX, Oakland, CA James Mawby , Dewberry, Fairfax, VA Hope Seligson , MMI Engineering, Huntington Beach, CA
3:00 pm – 3:30 pm	BREAK	
3:30 pm – 4:30 pm	EMBRACING RISKMAP HAZUS is an integral part of the RiskMAP project. This session will examine the role of HAZUS in the implementation of RiskMAP and how as HAZUS users we can participate in the larger RiskMAP project.	Moderator: Vincent Brown , FEMA Headquarters, Washington, DC Speakers: Doug Bellomo , FEMA Headquarters, Washington, DC
4:30 pm – 5:30 pm	NETWORKING AND INTERNATIONAL HUG MEMBERS GATHERING	

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DAY TWO

TUESDAY, August 11, 2009

8:00 am – 9:00 am	REGISTRATION AND NETWORKING	
9:00 am – 10:30 am	INNOVATIVE USES OF HAZUS-MH This session includes a presentation of how Texas coastal communities prepared for Hurricane Ike, demonstrating an innovative approach to support decision making, and highlighting the City of Houston OEM's wind reporting system: a semi real-time website that publishes wind information to the public during a hurricane event. Shanna Michael will demonstrate how the AECOM team was able to run the entire National Flood Hazard Layer thru HAZUS-MH in approximately 6 weeks using an internally developed tool. Using the methodology of the Advanced Engineering Building Module in HAZUS-MH, Stuart Moffatt will demonstrate how he has produced a loss estimation map with model-generated structural dollar losses for over 250,000 single-family residences of Salt Lake County.	Moderator: Tracy Toutant , National Geospatial-Intelligence Agency, Washington, DC Speakers: Annie Ding , CivilTech Engineering, Cypress, TX Shanna Michael , AECOM, Kansas City, MO Stuart Moffatt , EmCODE.org
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DAY TWO (CONTINUED)

TUESDAY, August 11, 2009

9:00 am – 10:30 am	USING HAZUS-MH FOR MITIGATION PLANNING This session will describe the Hawaii HAZUS Atlas which has been used to support State and County training exercises and a real earthquake event on the Big Island. Also covered will be techniques and lessons learned in using HAZUS in Hazard Mitigation Plan risk analyses for State and local governments. Darrin Punchard will present how the City of Savannah used HAZUS to update their CRS Flood Mitigation Plan.	Moderator: Nathan Slaughter , PBS&J, Raleigh, NC Speakers: Andrea Chatman , Pacific Disaster Center, Kihei, HI Shelby Hudson , AMEC Earth and Environmental, Lakewood, CO Darrin Punchard , AECOM, Boston, MA
10:30 am – 11:00 am	BREAK	
11:00 am – 12:30 pm	CDMS AND HAZUS-MH DATA COLLECTION Both Florida and South Carolina have successfully incorporated the CDMS tool into their HAZUS projects. Representatives from each state will demonstrate their incorporation of this tool and answer questions regarding setting-up CDMS Web Portals.	Moderator: Rick Burgess , FEMA Region IV, Atlanta, GA Speakers: Melissa Berry , South Carolina Emergency Management Division, West Columbia, SC Richard Butgereit , Florida Division of Emergency Management, Tallahassee, FL Ron Ernest , PBS&J, Orlando, FL Margaret Griffith , PBS&J, Columbia, SC
11:00 am – 12:30 pm	USING HAZUS-MH FOR RESPONSE AND RECOVERY This session highlights three innovative approaches in the use of HAZUS for response and recovery. Doug Bausch will show how HAZUS-based loss estimates will be critical in testing the recommended emergency activation levels from USGS products. Nick Delmedico says, "Don't abandon projects that have 100 meter DEMs, huge census blocks, large geographical areas, and limited populations," because HAZUS can still provide answers. Mike Robinson will illustrate how HAZUS analysis has great potential for supporting FEMA's Individuals and Households Program.	Moderator: Nate Workman , IT Specialist, Washington, DC Speakers: Doug Bausch , FEMA Region VIII, Denver, CO Nick Delmedico , FEMA Region X, Bothell, WA Mike Robinson , PBS&J, Raleigh, NC
12:30 pm – 2:00 pm	LUNCH BREAK	
2:00 pm – 3:30 pm	FUTURE OF HAZUS TECHNOLOGY The greatly anticipated HAZUS-MH MR4 has been released. Come to this session to learn about all of the enhancements and how to apply them toward your risk analysis projects. In addition, learn about the future options and directions for the HAZUS methodology.	Moderator: Eric Berman , FEMA Headquarters, Washington, DC Speakers: Mourad Bouhafs , PBS&J, Atlanta, GA David Montague , ABS Consulting, Irvine, CA Phillip Schneider , National Institute of Building Sciences, Washington, DC

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DAY TWO (CONTINUED)

TUESDAY, August 11, 2009

3:30 pm – 4:00 pm	BREAK	
4:00 pm – 5:00 pm	AVAILABLE RESOURCES: ONLINE, IN THE CLASSROOM AND IN PRINT	
	The Federal Emergency Management Agency provides support to all HAZUS users in the form of online resources, training and printed publications. Phillip Moore from EMI will outline the HAZUS training program for the coming year, including the HAZUS Practitioner and HAZUS Professional training programs. This is a great session for learning how to collaborate online with other HAZUS users.	<p>Moderator: Kevin Mickey, The Polis Center, Indianapolis, IN</p> <p>Speakers: Jamie Caplan, Jamie Caplan Consulting, Northampton, MA Phillip Moore, FEMA Emergency Management Institute, Emmitsburg, MD Janice Roper-Graham, Outreach Process Partners, Annapolis, MD</p>

DAY THREE

WEDNESDAY, August 12, 2009

8:00 am – 8:30 am	REGISTRATION AND NETWORKING	
8:30 am – 10:30 am	<p>HAZUS USER GROUP MEETING: WELCOME NORTH CAROLINA HUG AND HAZUS HIGHER EDUCATION RESOURCES CLEARINGHOUSE</p> <p>FEMA is proud to feature the North Carolina HAZUS User Group at this year's conference. This session will highlight how and why to participate in a HAZUS User Group. Learn from several HUG leaders about their achievements and how to apply them in your region. The session will also introduce the expanding HAZUS Higher Education Resources Clearinghouse.</p>	<p>8:30 am – 9:00 am</p> <p>NCHUG Concept and Mission Eric Coughlin, PBS&J and Jamie Caplan, Jamie Caplan Consulting</p>
		<p>9:00 am – 9:30 am</p> <p>HAZUS Higher Education Resources Clearinghouse Kevin Mickey, The Polis Center</p>
		<p>9:30 am – 10:00 am</p> <p>Updates from other HAZUS User Groups Rick Burgess, FEMA Region IV HAZUS Technical Team</p>
		<p>10:00 am – 10:30 AM</p> <p>Participant Introductions and Future Direction of NCHUG Vincent Brown, FEMA Headquarters and Eric Coughlin, PBS&J</p>
8:30 am – 10:30 am	<p>Do you have a question about the inner workings of HAZUS? This session is a fabulous opportunity to meet face-to-face with the HAZUS model developers.</p>	<p>Speakers: Mourad Bouhafs, PBS&J, Atlanta, GA Nikolay Todorov, ABS Consulting, Irvine, CA Peter Vickery, Applied Research Associates, Raleigh, NC</p>

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DAY THREE (CONTINUED)

WEDNESDAY, August 12, 2009

8:30 am – 10:30 am	HAZUS VALIDATION STUDIES	<p>Moderator: Larry Voice, FEMA Region VI, Denton, TX</p> <p>Speakers: Doug Bausch, FEMA Region VIII Herbert Eugene Longenecker, FEMA Region IV, Atlanta, GA</p>
10:30 am – 11:00 am	BREAK	
11:00 am – 1:30 pm	KEYNOTE SPEAKERS AND AWARDS CEREMONY	<p>Please join us for an exciting final session where we have the pleasure of two keynote speakers, Dr. John Pine and Dr. Gavin Smith. Dr. John Pine will present his work on using HAZUS for decision making and Dr. Gavin Smith will address the broad policy and planning implications of assessing natural hazards risks. Following their presentation, Eric Berman and David Maurstad will host the annual awards ceremony where we will present the Innovation Awards, User Group Awards, and Certified HAZUS-MH Professionals and Practitioner Awards.</p>
		<p>Moderator: Eric Berman, FEMA Headquarters, Washington, DC</p> <p>Speakers: John Pine, Director, Research Institute for Environment, Energy and Economics, Appalachian State University, Boone, NC Gavin Smith, University of North Carolina, Center for the Study of Natural Hazards and Disasters, Chapel Hill, NC David Maurstad, PBS&J, Chantilly, VA</p>
1:30 pm – 2:00 pm	BREAK	
2:00 pm – 4:00 pm	CDMS TRAINING WORKSHOP	<p>Speakers: Kevin Mickey, The Polis Center, Indianapolis, IN Tracy Toutant, National Geospatial-Intelligence Agency in Washington, DC</p>
	<p>This workshop will focus on enhancing the HAZUS-MH supplied inventory with locally developed data. It is recommended for GIS analysts, database administrators, and others who will be responsible for migrating local data into the HAZUS-MH database structure. Workshop presenters will demonstrate the tools and capabilities of the Comprehensive Data Management System (CDMS) that streamline the data update process. The workshop presenters will also identify those inventory elements that have the most impact on the estimation of losses for flood, earthquake, and hurricane events.</p>	

SPEAKERS BIO

DOUG BAUSCH, FEMA Region VIII, Denver, CO:

Mr. Bausch is the FEMA Region VIII Earthquake Program Manager and Physical Scientist in Denver, Colorado. He assists states and communities in developing sound risk assessments to support all-hazard mitigation planning, including the incorporation of FEMA's HAZUS Loss Estimation and Map Modernization programs. He helps facilitate FEMA's risk-based approach for implementing a broad range of programs, including grant, mapping, and disaster recovery. He has assisted in disaster response and recovery by providing GIS, remote sensing and modeling expertise during the 2004 and 2005 hurricane seasons. Mr. Bausch is an experienced HAZUS-MH user and is one of only a few certified instructors nationwide.

DOUG BELLOMO, FEMA Headquarters,

Washington, DC: Mr. Bellomo is a civil engineer with the Federal Emergency Management Agency (FEMA) in Washington, DC. He is currently the Director of the Risk Analysis Division within the Mitigation Directorate of FEMA. Division responsibilities include flood hazard mapping as part of the National Flood Insurance Program, Risk Assessment, Mitigation Planning, as well as the National Hurricane and Dam Safety programs. Mr. Bellomo is a professional engineer and holds a B.S. and M.S. in Civil Engineering. He has been working with flood hazard and other mitigation issues for about 14 years.

ERIC BERMAN, FEMA Headquarters,

Washington, DC: Mr. Berman is the current HAZUS Program Manager. He has approximately 20 years of hazard identification studies and mapping experience with an emphasis on GIS. He holds a bachelor's degree in civil engineering from Tennessee Technological University and represents the Department of Homeland Security on the U.S. Board on Geographic Names.

MELISSA BERRY, South Carolina Emergency

Management Division, West Columbia, SC: Ms. Berry is the Risk Assessment Coordinator for the South Carolina Emergency Management Division. She is responsible for providing risk analysis and emergency management support to the state. She is currently the lead for the state-wide Comprehensive Data Management System web portal for updating and improving HAZUS-MH data and the lead for the South Carolina HAZUS User Group (SC HUG).

MOURAD BOUHAFS, PBS&J, Atlanta, GA:

Mr. Bouhafs is a senior group manager for the Applied Technology Group and head of the Software Development Group (SDG) at PBS&J in Atlanta. Mr. Bouhafs is also the project manager for HAZUS-MH. Mr. Bouhafs was also the lead on the HAZUS project since 1997. Mr. Bouhafs' 25-year software engineering experience focused on building enterprise engineering applications in areas such fire spread simulation, risk analysis, hazard assessment, financial risk modeling, civil structural modeling, network flow models, data collection and optimization, GIS and mapping.

VINCENT BROWN, FEMA Headquarters,

Washington, DC: Mr. Brown, a Senior Program Specialist in FEMA's Risk Analysis Division, is responsible for HAZUS outreach and training, including the coordination of HAZUS User Group activities. He also is a team leader in FEMA's Flood Map Modernization Program. Mr. Brown has over 35 years of experience in the world of emergency management and has been with FEMA since its inception in 1979.

RICK BURGESS, FEMA Region IV, Atlanta, GA:

A HAZUS user since 2004 from Florida, Mr. Burgess is a HAZUS Champion advocating the use of HAZUS by individuals from both government and the private sector. He is a member of the Florida HAZUS User Group and has been working for the last several years to provide educational opportunities for user group members at the Emmitsburg, Maryland-based Emergency Management Institute (EMI), and at FEMA-sponsored and locally hosted events in FEMA Region IV. In 2008, Mr. Burgess joined FEMA and is currently deployed as a Reservist, a (DAE) Disaster Assistance Employee, with FEMA Region IV in the Risk Analysis Branch and he conducts outreach and education to state, tribal, local government and HAZUS User Group members. He holds a bachelor's degree in business management from the University of Phoenix, is a Certified HAZUS Trained Professional, a Certified Flood Plain Manager (CFM), and a Certified Federal Contracting Officers Representative (COTR).

SPEAKERS BIO (CONTINUED)

RICHARD BUTGEREIT, Florida Division of Emergency

Management, Tallahassee, FL: Mr. Butgereit is the GIS Administrator for the Florida Division of Emergency Management (DEM). He came to Florida DEM following a 14 year career with the Florida Department of Environmental Protection. His experience includes GIS for natural resource management programs for endangered species protection, exotic species control, prescribed fire, ecological restoration, and extensive experience in the development and of programmatic GIS for wetland resource protection. With FDEM, Richard has been the project manager for the Division's coastal LiDAR project, leading the development of baseline specifications and the collection of over 30,000 square miles of data. He chairs a steering committee for statewide GIS coordination. He is the current President of the Florida HAZUS user group, and has been involved in Florida's implementation of the National Grid. Through his small consulting company, Richard has also developed a GIS of submerged cultural resources within the Florida Keys National Marine Sanctuary, national heritage park plans and a site file for the Bahamas, and other environmental and cultural resource management projects. Richard has a Bachelor's in Biology from New College of Florida.

JAMIE CAPLAN, Jamie Caplan Consulting,

Northampton, MA: Ms. Caplan has been working in the field of emergency services for fifteen years. She began her work in emergency management with the American Red Cross in the San Francisco Bay Area in 1994. Creating Jamie Caplan Consulting LLC in 1997 gave her the opportunity to combine her expertise in event management and disaster relief. For the past eleven years, Ms. Caplan has focused on forming and managing HAZUS User Groups nationwide, and she is a recognized national expert in HAZUS User Group creation and coordination. She also created FEMA 404, "How to Create A HAZUS User Group," a guide for forming multi-hazard HAZUS User Groups. Ms. Caplan has worked directly with FEMA headquarters and all ten of the FEMA regional offices. Ms. Caplan owns and manages www.USEHAZUS.com, an all HAZUS Website developed in response to the needs of the HAZUS user community.

ANDREA CHATMAN, Pacific Disaster Center,

Kihei, HI: Ms. Chatman has more than eight years of experience in the field of disaster modeling, analysis of data output and dissemination of products for support to emergency managers and disaster organizations within the Indian Ocean and Pacific Region. In regards to the HAZUS-MH model, she assisted in the development and implementation of the Hawaii HAZUS Atlas, a tool designed to support of emergency managers in planning for and responding to earthquake events in Hawaii. The Pacific Disaster Center is responsible for running the HAZUS model in support of Hawaii State Civil Defense in the event of an earthquake in Hawaii.

ERIC COUGHLIN, PBS&J, Raleigh, NC:

Mr. Coughlin is a Senior GIS Analyst, a certified Geographic Information Systems Professional (GISP), and a Certified Floodplain Manager (CFM). Mr. Coughlin possesses more than ten years of progressive experience with geographic information systems and directs the development of GIS activities for PBS&J within the Carolinas. In March 2009, Mr. Coughlin formed the North Carolina HAZUS-MH User Group. The group's mission is to champion the use of HAZUS-MH and encourage partnerships between local, state, and federal government; the private sector; and centers of higher education throughout the state. Mr. Coughlin received his Bachelor of Arts degree in Geography and certificate in Geographic Information Systems from San Diego State University in 1999.

JOSHUA CREIGHTON, Wake County Emergency

Management, Raleigh, NC: Mr. Creighton is the Director of Wake County Emergency Management based in Raleigh, North Carolina. Early in 1998, Mr. Creighton moved to North Carolina when he began working for Wake County. During his time with the County, Mr. Creighton has served as the Emergency Operations Center Manager, the nuclear power plant planner, the Homeland Security Advisor, the all-hazards planner and has gained extensive experience in scores of incidents both large and small including the EQ incident in Apex and the recent ConAgra Plant explosion and its consequential building collapse.

SPEAKERS BIO (CONTINUED)

NICHOLAS DELMEDICO, FEMA Region X, Bothell, WA: Mr. Delmedico has been with FEMA for over 14 years. Most of his early career was spent in GIS where he ran GIS field operations. He helped set up FEMA's first field deployed Enterprise GIS Server following Hurricane Charley in Florida 2004. He is currently a Risk Analyst in Region X where he is also the HAZUS point of contact. In addition to being a Certified Floodplain Manager (CFM), Mr. Delmedico has been a Microsoft Certified Solution Developer with specialties in Visual Basic and SQL Server. He has a degree in Natural Sciences from the University of North Florida and a Masters in Business from Jacksonville University.

ANNIE DING, CivilTECH Engineering, Inc, Cypress, TX: Dr. Ding is the Director of Geographic Information Systems (GIS) at CivilTech Engineering, Inc. and has over 17 years of experience in GIS programming and analysis for a wide variety of surveying, mapping, infrastructure management, water resources, environment, engineering, and economic projects. As a certified GIS Professional and through her advanced education, she is recognized as an expert in advanced scientific applications such as FEMA HAZUS-MH "Hazards U.S. Multi-Hazard" and HEC-FDA "Flood Damage Analysis" software applications. Dr. Ding has been awarded vendor certification by the Federal Emergency Management Agency (FEMA) for the HAZUS-MH Flood and Hurricane Modules. Dr. Ding has published numerous technical publications related to HAZUS-MH including two success stories for FEMA in the use of HAZUS-MH for Risk Assessment and Hurricane Preparedness for Harris County and the City of Houston as published by FEMA.

JOHN DORMAN, North Carolina Floodplain Manager, North Carolina Division of Emergency Management, Raleigh, NC: Mr. Dorman is the Director of the Geospatial and Technology Management Office in the North Carolina Division of Emergency Management. In this capacity, he is responsible for the development, implementation and management of all information technology infrastructure, geospatial data, and applications. Mr. Dorman previously served as the Statwide Planning Administrator for the Office of State Budget, Planning, and Management. In this position he oversaw statewide programmatic and performance planning and budgeting, the North Carolina Geodetic Survey, the State Data Center, and the North Carolina Center for Geographic Information and Analysis. Following Hurricane Floyd in 1999, North Carolina petitioned FEMA and became the first state in the nation to be designated a Cooperating Technical State under FEMA's Cooperating Technical Partners program. From this designation, the North Carolina Floodplain Mapping Program was created and placed under his supervision. In 2001, the Floodplain Mapping Program was moved to the Department of Crime Control and Public Safety to support emergency managers, first responders and law enforcement organizations with the identification and mapping of natural and man-made hazards and threats. In 2005, Mr. Dorman was given the additional responsibility for managing all information technology infrastructure and applications in the Division of Emergency Management. Mr. Dorman is a graduate of North Carolina State University with a degree in political science. He is married and has seven children.

RON ERNEST, PBS&J, Orlando, FL: Mr. Ernest is a Senior IS developer in PBS&J's Applied Technologies division in the Orlando, Florida office. For the past 15 years his enterprise/corporate application development experience has provided him the ability to produce several web, windows, and handheld software solutions. During his PBS&J career, Mr. Ernest has done web-based projects for the Seminole County Florida Public Works division, the Panama City-Bay County International Airport, Florida Turnpike, and the Florida Department of Transportation among many others. Mr. Ernest has been involved with the Comprehensive Database Management System (CDMS) for the last two years. He has been extensively involved with and is the primary developer of the CDMS portal, a prime data collection tool for CDMS and HAZUS. In addition, he has assumed the development mantle for the desktop version as well.

SPEAKERS BIO (CONTINUED)

MARGARET GRIFFITH, PBS&J, Columbia, SC: Ms. Griffith, CFM, brings a wealth of expertise and experience in disaster relief management and coordination. She has provided damage assessment, federal assistance training, and coordinated efforts between public and private aid agencies for the South Carolina Emergency Management Division. She has also managed Department of Homeland Security (DHS) grant allocations, and organized relief efforts for Hurricane Katrina evacuees in South Carolina. She was the Citizen Corps Coordinator for the State of South Carolina managing and controlling the state grant along with overseeing the counties' funding. During her employment at PBS&J she has assisted in plan development in the areas of COOP planning, recovery planning, and is currently developing and emergency communications plan for the California Department of Water Resources. She also assisted in training and exercise design for various projects. She has also be part of the CDMS Web Portal team that trained individuals in the two initial states, South Carolina and Florida. Currently, she also provide support for the HAZUS-MH outreach team.

SHELBY HUDSON, AMEC Earth & Environmental, Lakewood, CO: Since starting with AMEC in the spring of 2006, Ms. Hudson has developed skills and experience using GIS to perform analysis and create maps for hazard mitigation and emergency management projects. She is responsible for the utilization and management of HAZUS-MH (Hazards US), FEMA's multi-hazard loss-estimation software, for the office. She has been successful in producing statewide flood models for both the Missouri and the Mississippi State Mitigation Plans. She's performed GIS analysis on the impact of natural hazards for four state hazard mitigation plan updates and thirteen local or county plans. Shelby has completed the Certificate of Advanced Studies in (GIS) Geographic Information Systems at the University of Denver.

STEVE KALAF, Dewberry, Fairfax, VA: Mr. Kalaf is a Certified Floodplain Manager and Senior Associate working with Dewberry LLC in Fairfax, Virginia. He has been involved in flood hazard analysis and mapping activities under contract with FEMA since 1978. He is the service line manager for all HAZUS related activities for Dewberry as well as the Quality Manager for the flood mapping program. He is also the Program Manager for modernization of the Coastal Barrier Resources System mapping under contract with the US Fish and Wildlife Service.

RAY LENABURG, FEMA Region IX, Oakland, CA: As the Risk Analysis Branch Chief within the Mitigation Division of the Department of Homeland Security - FEMA Regional IX Office in Oakland, CA, Mr. Lenaburg supervises the Flood Map Modernization, Earthquake, Hurricane and all other hazards Program work in Arizona, California, Nevada, Hawaii, and the other Pacific Trust Territories. Prior to joining the National Flood Insurance Program in 1976, he worked with the United States Army Corps of Engineers Districts in Los Angeles and San Francisco, California.

GENE LONGENECKER, FEMA Region IV, Atlanta, GA: Mr. Longenecker is a Physical Scientist and manager of FEMA Region IV's Earthquake and HAZUS Programs. He has assisted in federal and state disaster response operations by providing planning section support as a situational intelligence unit leader, as well as subject matter expertise in GIS, remote sensing, and modeling support for hurricane operations. Gene is an experienced HAZUS-MH user who has developed numerous tools for improving model processes, and he has helped build credibility in model estimates through a number of validation studies by scientifically comparing modeled and observed losses. For FEMA's Risk Analysis Branch, Gene assists states in creating HAZUS-MH user groups and implementing model estimates for mitigation planning, as well as by communicating risk to the public as a part of the RiskMAP initiative. He currently holds a Master of Arts degree from and is working toward a doctorate at the University of Colorado at Boulder Geography Department.

DAVID MAURSTAD, PBS&J, Chantilly, VA: Mr. Maurstad has over 30 years of experience and serves as vice president and national business sector manager for PBS&J's risk and emergency management division. Prior to joining PBS&J in 2008, he served as assistant administrator and federal insurance administrator for the U.S. Department of Homeland Security. He was appointed in April 2006 by President George W. Bush to provide leadership for some of the nation's leading multi-hazard risk reduction programs which seek to secure the homeland from hazards both natural and manmade. He previously served as the Director of Federal Emergency Management Agency Region VII coordinating federal, state, tribal and local management of emergency through planning, preparedness, mitigation, response and recovery.

SPEAKERS BIO (CONTINUED)

JAMES MAWBY, Dewberry, Fairfax, VA: James is a Certified Floodplain Manager and Lead Geographer working with Dewberry LLC in Fairfax, Virginia. James graduated from The Richard Stockton College of NJ in 1998 with a B.S. in Environmental Studies and has been involved in GIS and GIS-based H&H since 1999. Prior to employment with Dewberry James has worked for Wright Water Engineers, Glenwood Springs, CO; Thomas & Hutton Engineering Co., Savannah, GA; and CMX (formerly Schoor DePalma) Manalapan, NJ. Currently, James is the service line project lead and analyst for HAZUS-related activities within Dewberry as well as a Lead Geographer for FEMA flood mapping activities.

SHANNA MICHAEL, AECOM, Kansas City, MO: Shanna Michael has been working with FEMA and the National Flood Insurance Program (NFIP) for seven years. She graduated from the University of Missouri in Kansas City (UMKC) with a Bachelor of Science in Environmental Science in 2002. She accepted a position with AECOM, formerly Watershed Concepts, continuing her role as FEMA Liaison as well as branching into other areas related to the NFIP such as the following: DFIRM production, Compliance and Adoption regulatory management, HAZUS, and various tasks under the Mapping on Demand Program (MapMOD). Currently she has been working with HAZUS and the Mid-term Levee Inventory database management in preparation for FEMA's RiskMAP program.

KEVIN J. MICKEY, The POLIS Center, Indianapolis, IN: Mr. Mickey is Director of Professional Education for The Polis Center at Indiana University Purdue University Indianapolis, an Adjunct Assistant Professor at the Loma Linda University School of Public Health Department of Environmental Engineering, and an Adjunct Instructor in the Department of Geography at Indiana University Purdue University Indianapolis. Kevin is an expert in the Federal Emergency Management Agency (FEMA) HAZUS-MH application. His work with that application includes curriculum design as well as instruction of introductory through advanced courses in flood, earthquake, and hurricane modeling. He provides HAZUS-MH education at locations across the United States and is a senior instructor at the National Emergency Training Center/ Emergency Management Institute in Emmitsburg, Maryland. In addition he chairs the Midwest HAZUS Users Group Steering Committee which supports the needs of HAZUS-MH users and beneficiaries in the Midwestern United States.

STUART MOFFAT, EMCODE.org, Salt Lake City, UT: Stuart is the founder and principal designer with EmCODE.org, an open-source software group focused on creating innovative applications for emergency management researchers and practitioners. After spending 14 years as a web applications developer in the high-tech and telecommunications industries, Mr. Moffatt is now pursuing a Ph.D. in Crisis, Emergency and Risk Management at The George Washington University. He previously studied Disaster Management at the University of Utah during which time he also served as the technical manager of the Disaster Resistant University project at the school.

A relative newcomer to the HAZUS community, Stuart has established himself as an innovator. At the 2008 conference he presented his development of the InCAST Web Edition software tool, an open-source, multi-user web application to collect building inventory for earthquake analysis in HAZUS. For the 2009 conference Stuart presented his findings on a parcel-level earthquake loss estimation of 240,000 single-family homes in Salt Lake County. The novel approach pushed the limits of HAZUS AEBM and earned Stuart the "Innovative Applications for HAZUS Earthquake Award."

DAVID MONTAGUE, ABS Consulting, Irvine, CA: Mr. Montague is Senior Vice President of Technology for ABS Consulting, the principal developer of the flood model in HAZUS MH. He has accumulated 30 years of experience in reliability, safety, human factors, and risk assessment of complex engineered systems. His work at ABS Consulting Inc., formerly JBF Associates, Inc, has involved analyzing the risk associated with natural hazards and man-made events. He has managed and participated in numerous hazard and operability studies (HAZOPs), system reliability and safety analyses, and probabilistic risk assessments (PRAs). He has also provided expert testimony in government and legal arenas regarding the risks associated with numerous process systems. Mr. Montague has extensive experience in reliability methodology development and in software development for reliability data processing. Mr. Montague is one of the principal authors of the book Guidelines for Hazard Evaluations Procedures, Second Edition with Worked Examples, produced for the AIChE's Center for Chemical Process Safety. He also authored portions of the book Guidelines for Chemical Process Quantitative Risk Assessments and numerous journal articles on risk assessment.

SPEAKERS BIO (CONTINUED)

PHILLIP MOORE, FEMA/Emergency Management Institute, Emmitsburg, MD: Mr. Phillip Moore has over 20 years of experience in emergency management. He directed the emergency management training at the Defense Special Weapons School in Albuquerque, New Mexico. Mr. Moore represented 273 individual Local Emergency Planning Committees for the State of Texas, for whom he wrote and coordinated response plans that delineate requirements for emergency actions prior to, during, and following natural and man-made disasters.

Mr. Moore is currently a Training Specialist for the Mitigation Section at EMI. In this position, he manages and conducts training on various HAZUS courses, ArcGIS for HAZUS, Benefit-Cost Analysis, and Residential Coastal Construction courses. Mr. Moore has a B.S. with an emphasis in microbiology from Montana State University and an M.B.A. in business administration from City University.

JOHN PINE, Research Institute for Environment, Energy and Economics, Appalachian State University, Boone, NC: Dr. Pine joined Appalachian State University after serving twenty-nine years on the faculty of Louisiana State University in Baton Rouge. He served in a joint appointment between the Department of Environmental Sciences in the School of the Coast and Environment and the Department of Geography and Anthropology in the College of Arts and Sciences. He directed LSU's multi-disciplinary graduate and undergraduate program in Disaster Science and Management. His research focused on risks associated with natural and human caused disasters. His book Natural Hazards Analysis was published by Taylor Francis in 2009.

DARRIN PUNCHARD, AECOM, Boston, MA: Mr. Punchard is a certified planner and floodplain manager who has spent his entire career working with local communities to assess and minimize their risk to natural hazards. He has nearly 15 years of applied experience in hazard mitigation planning with particular expertise in GIS-based risk assessment and land use planning. Since 2001, he has served as a private consultant to FEMA, state agencies, regional councils, local governments, tribes, universities, and school districts across the United States, assessing and reducing their vulnerability to natural and man-made hazards. Prior to joining AECOM in December 2008, he was Senior Project Manager for PBS&J's Risk Consulting division in which he oversaw the

company's national hazard mitigation planning practice. His team was responsible for developing some of the nation's first FEMA-approved local hazard mitigation plans and helped more than 500 local jurisdictions gain compliance under the Disaster Mitigation Act of 2000.

MICHAEL ROBINSON, PBS&J, Raleigh, NC: Mike Robinson is a senior planner with PBS&J's emergency management division. He has over 10 years of experience in hazard mitigation planning, vulnerability assessment, and risk communication, and has been a Certified Floodplain Manager (CFM) since 2001. Over the past several years, he has created a focus within his work on combining HAZUS-MH modeling and loss estimation with other GIS-based risk assessment techniques to assess and understand the vulnerability of local study regions. Mr. Robinson has supported a range of such projects, from local risk assessment work to larger state and Federal projects, such as Individual Assistance housing missions under FEMA's IA-TAC program.

JANICE ROPER-GRAHAM, ABC, Outreach Process Partners, Annapolis, MD: Ms. Roper-Graham, is an Accredited Business Communicator with the International Association of Business Communicators (IABC) and a Certified Floodplain Manager with the Association of State Floodplain Managers. She brings over 25 years of experience specializing in outreach/communications in the environmental, engineering and technology disciplines. An award-winning writer, seasoned interviewer, and skilled facilitator, she listens to understand each stakeholder's perspectives and cultivates consensus by seeking common ground. She worked closely with the programs managers from the National Dam Safety Program and HAZUS-MH to draft strategic plans and prepare stakeholder outreach strategies. She prepared the public communications plan for the I-95/MD-24 construction project for the Maryland Transportation Authority which included a toll-free hotline, web content, eNews online subscription, direct mail/hand-delivered flyers, and a public workshop with displays boards.

SPEAKERS BIO (CONTINUED)

PHILIP SCHNEIDER, National Institute of Building Sciences, Washington, DC: Over the past 17 years, Mr. Schneider has directed the development of HAZUS, the Federal Emergency Management Agency's nationally applicable hazards risk assessment software program. For the development of HAZUS and the CDMS, Mr. Schneider manages four oversight committees for the flood, hurricane and earthquake hazards and software. He also coordinates the efforts of three major contractors, one for each hazard, as well as contractors for software testing, validation, and special loss studies.

HOPE SELIGSON, MMI Engineering, Huntington Beach, CA: Ms. Seligson is an Associate with MMI Engineering in the firm's Huntington Beach, California, office. She has over 20 years of experience in the areas of natural hazard risk assessment, earthquake engineering, and regional loss and casualty estimation. She has performed numerous research and applications projects funded by the National Science Foundation, the Pacific Earthquake Engineering Research Center, the Consortium of Universities for Research in Earthquake Engineering, the Southern California Earthquake Center, the United States Geological Survey, the California Office of Emergency Services and FEMA. She has been part of the interdisciplinary team that developed the flood loss estimation methodology for HAZUS and uses HAZUS extensively in research and applications. Ms. Seligson is also working with researchers at the UCLA Center for Public Health and Disasters to enhance the state-of-the-art in earthquake-related injury modeling techniques, as well as to examine the public health impacts of recent floods and hurricanes. Ms. Seligson holds a master's degree in structural engineering from Stanford University, with an emphasis in earthquake engineering.

NATHAN SLAUGHTER, PBS&J, Raleigh, NC: Mr. Slaughter is a certified planner, floodplain manager and project manager with an experienced background in emergency management, hazard mitigation and disaster recovery planning. For the past six years, he has been working as a Planner for PBS&J, serving as lead planner/project manager in the development of hazard mitigation plans and disaster recovery plans for local and state government clients across the country. Before joining PBS&J, Mr. Slaughter served as a Hazard Mitigation Planner with the North Carolina Division of Emergency Management providing training and technical assistance to local

governments throughout North Carolina on preparing local hazard mitigation plans. He was also responsible for the review and approval of local mitigation plans completed in North Carolina prior to their submission to FEMA. Mr. Slaughter received his Bachelor of Arts in Community and Regional Planning from the University of Southern Mississippi in 1997.

GAVIN SMITH, Center for the Study of Natural Hazards and Disasters, Department of City and Regional Planning, University of North Carolina at Chapel Hill, Chapel Hill, NC: Dr. Smith is the Executive Director of the Center for the Study of Natural Hazards and Disasters (UNC Hazards Center) and the Department of Homeland Security's Center of Excellence-Disasters, Coastal Infrastructure and Emergency Management (DIEM). The UNC Hazards Center research focus areas include modeling, land use planning, technology applications, the social implications of hazards and disasters, environmental hazards management, law and policy, public health, business and economics. In this role Dr. Smith oversees the administration of the UNC Hazards Center including the identification of research opportunities, building partnerships among hazard scholars and practitioners and managing additional research initiatives and sub-centers as they emerge. Dr. Smith also serves as the Executive Director of the Department of Homeland Security, Center of Excellence-Natural Disasters, Coastal Infrastructure and Emergency Management. The Center of Excellence research focus areas include: hazard modeling, engineering, human behavior, and land use planning. Dr. Smith is currently engaged in planning-related research within the center, focused on a national evaluation of local and state hazard mitigation plans.

Dr. Smith is an Associate Research Professor in the Department of City and Regional Planning at the University of North Carolina at Chapel Hill and teaches courses in Disaster Recovery, Hazard Mitigation and Special Topics. Dr. Smith is currently writing the text, A Review of the United States Disaster Assistance Framework: Planning for Recovery (Public Entity Risk Institute) and recently completed book chapters addressing the linkage between hazards analysis, planning and sustainable development.

SPEAKERS BIO (CONTINUED)

NIKOLAY TODOROV, Consulting, Irvine, CA: Nikolay Todorov has over 10 years of experience in the area of software engineering and GIS in particular. As a HAZUS-MH Flood Model Software Development Manager at ABS Consulting he participates in software and flood committee discussions; system requirement specifications gathering; software analysis, design and development; configuration and build management; relational database analysis and optimization and involved in the overall software development lifecycle of the HAZUS-MH Flood Model as well as related risk assessment projects. Mr. Todorov has expertise in multi-tiered enterprise resource planning (ERP) systems' development & integration from a prior employment with a Fortune 500 software company.

Mr. Todorov holds Masters of Science in Geodesy, Photogrammetry and Cartography from the University of Architecture, Civil Engineering and Geodesy, Sofia, Bulgaria; and Masters of Science Degree in Computer and Information Science from Texas A&M University.

TRACY TOUTANT, National Geospatial-Intelligence Agency: Ms. Tracy Toutant is a Geospatial Intelligence Analyst for the National Geospatial Intelligence Agency (NGA) in Washington, D.C. Currently she works Target Analysis for the Precision Engagement Division of the Office of Targeting and Transnational Issues. Ms. Toutant is a FEMA HAZUS vendor, and a HAZUS instructor for the Emergency Management Institute. She served on the Executive Board of the Florida HAZUS User Group (FLHUG) and served as the Chair of the Technical Committee and the HAZUS Data Coordinator. She coordinated Level II HAZUS data update efforts for multiple Florida counties and the State of Arkansas, as well as HAZUS analysis support for various emergency plan updates at the local and state level.

PETER VICKERY, Applied Research Associates, Raleigh, NC: Dr. Vickery is a Principal Engineer with Applied Research Associates in Raleigh, North Carolina. Dr. Vickery has over 25 years of experience in wind engineering. He has over 15 years experience in the application of hurricane modeling relevant hurricane wind speed hazard modeling and to insurance loss analysis/rate making, and over 10 years experience in coastal flood modeling and risk assessment. Dr. Vickery serves on the ASCE-7 wind load task committee developing wind loading provisions for use in the United States, and has

served on the Board of Directors of the American Association for Wind Engineering. He was responsible for developing the wind load and damage portion of the loss model used for residential structures and played the primary role in the development of ARA's hurricane simulation model. Dr. Vickery was Co-PI on ARA's effort to develop the HAZUS Wind Loss Estimation methodology and software and the Mitigation Grant Feasibility Study for the Hawaii Hurricane Relief Fund.

LARRY VOICE, FEMA Region VI, Denton, TX: Larry Voice is a Civil Engineer in the Mitigation Division Risk Analysis Branch at FEMA's Region VI office in Denton, Texas. His job responsibilities at Region VI include flood insurance studies, HAZUS Point of Contact, and Building Science Workgroup representative. Projects he has worked on include:

Louisiana coastal flood risk mapping projects, including participation in the Louisiana Mapping Project (LaMP) and the Hurricane Katrina Advisory Base Flood Elevations.

Project officer for ongoing flood insurance studies in 17 coastal Texas counties.

Completed pilot project to perform HAZUS Level I flood studies for the state of New Mexico.

Prior to joining FEMA, he worked for 10 years as an environmental engineer.

NATE WORKMAN, IT Specialist, Washington, DC: Nate Workman serves as the Mapping and Analysis' (MAC) acting operations manager for Enterprise GIS Solution's (EGS) and has assumed a lead role as NRCC GIS Coordinator. In this capacity, Nate has the responsibility to ensure that GIS tools and technology are applied to meet the needs of the various directorates the MAC supports for planning for, responding to and recovering from disasters. David Alexander, Deputy Chief of EGS, in coordination with Eric Berman have developed a HAZUS Concept of Operations which outlines how the modeling tools will be applied to assist the planning, response and recovery missions within FEMA. Nate is currently leading efforts to refine and incorporate FEMA HAZUS user's input into the HAZUS ConOps. The MAC uses HAZUS in all phases of disaster lifecycle as a modeling tool that provides critical information to aid planning, response and recovery activities, per the direction of the HAZUS ConOps.



HAZUS User Groups

Region I

Northeastern HUG (NEHUG)
<http://www.usehazus.com/nehug/>

Region II

New York Metropolitan Area HUG (NYHUG)
<http://www.hazus.org/NYHUG/>

Region III

Delaware HUG (DEHUG)
<http://www.hazus.org/DEHUG/>

Maryland HUG (MDHUG)
<http://www.usehazus.com/mdhug/>

Mid-Atlantic HUG (MAHUG)
<http://www.hazus.org/MAHUG/>

National Capital Region HUG (NCRHUG)

Pennsylvania HAZUS Network
<http://www.usehazus.com/pennhazus/>

3 Rivers HUG (3RiversHUG)
3 Rivers HUG Student Chapter
<http://www.usehazus.com/3rivershug/>

Southeast Pennsylvania HAZUS User Group (SEPAHUG)
<http://www.usehazus.com/sepahug/>

Virginia HUG (VAHUG)
<http://www.usehazus.com/vahug/>

Region IV

Alabama HUG (ALHUG)
<http://www.usehazus.com/alhug/>

FEMA Region IV HAZUS Technical Team
<http://www.usehazus.com/r4hug/>

Florida HUG (FLHUG)
<http://www.usehazus.com/flhug/>

North Carolina HUG (NCHUG)
<http://www.usehazus.com/nchug/>

South Carolina HUG (SCHUG)
<http://www.usehazus.com/schug/>

Southeast Regional Florida HUG (SERFHUG)
<http://gis.broward.org/GISUsersGroup/Hazus/default.htm>

Region V

Central HUG (CHUG)
<http://www.usehazus.com/chug/>

Region VI

Arkansas HUG (ARHUG)
<http://www.usehazus.com/arhug/>

Louisiana HUG (LOUHUG)
<http://www.hazus.org/LOUHUG/>

Texas HUG (TXHUG)
<http://www.usehazus.com/txhug/>

Region VII

Heartland HUG (HeartlandHUG)
<http://www.hazus.org/HeartlandHUG/>

Region VIII

Montana HUG (BigSkyHUG)
<http://www.hazus.org/BigSkyHUG/>

Salt Lake City HUG (SaltLakeHUG)
<http://www.hazus.org/SaltLakeHUG/>

Region IX

California Central Valley HUG (CAValleyHUG)
<http://www.hazus.org/CAValleyHUG/>

Hawaii HUG (HIHUG)
<http://www.hazus.org/HIHUG/>

Nevada HUG (NVHUG)
<http://www.hazus.org/NVHUG/>

San Diego Imperial County HUG (SDIHUG).
<http://www.usehazus.com/sdhug/>

San Francisco Bay HUG (BAHUG)
<http://www.hazus.org/BAHUG/>

Southern California HUG (SoCalHUG)
<http://www.hazus.org/SoCalHUG/>

Region X

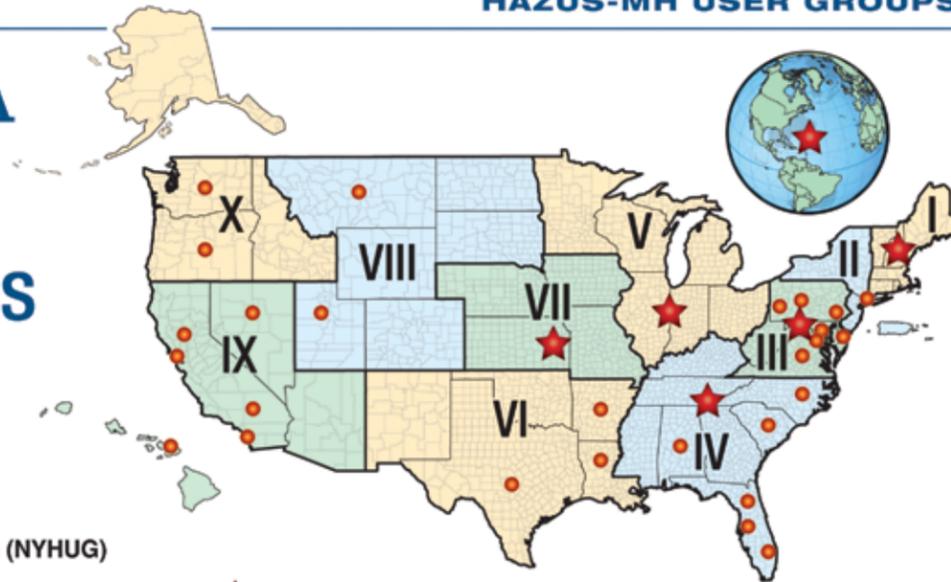
Oregon HUG (ORHUG)
<http://www.hazus.org/ORHUG/>

Washington HUG (WAHUG)
<http://www.hazus.org/WAHUG/>

Other Regions

International HUG
www.usehazus.com/worldhug

HAZUS-MH USER GROUPS



★ Regional HAZUS User Group
● HAZUS User Group

HAZUS-MH ORDER FORM

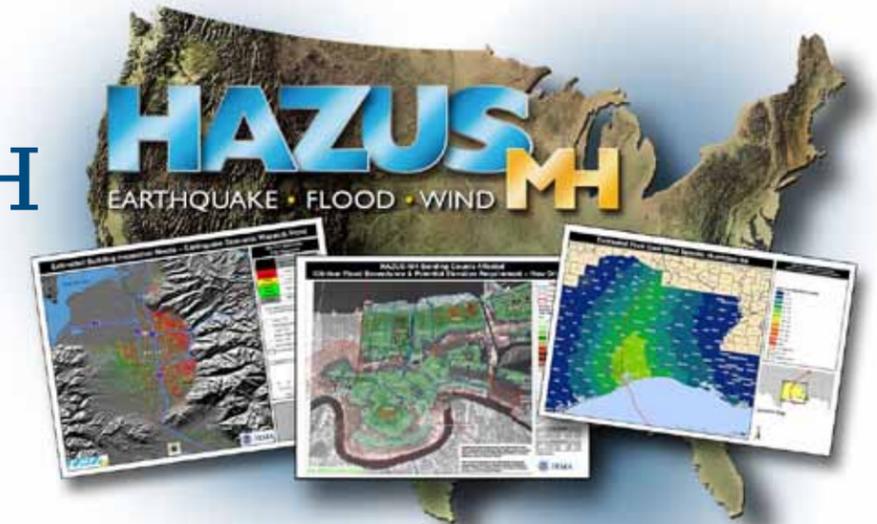


FEMA

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FEMA's Software Program for Estimating Potential Losses from Disasters

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August 2009



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Prior to ordering, please ensure that your system meets the requirements to run HAZUS-MH MR4. For system requirements, visit http://www.fema.gov/plan/prevent/hazus/hz_reqmnts.shtm.

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E-mail: _____

HAZUS-MH MR4 (HAZUS-MH Version 1.4, August 2009)

To install and run HAZUS-MH MR4, the user needs to have the Applications DVD that contains the Setup, and at least one of the following multi-state Data DVDs. Please indicate your preference below.

- _____ Applications DVD – Setup, Shake Map Utility for Earthquakes, and data for CA and NC*
- _____ Data DVD #1: (A1) – AK, AZ, CA, HI, ID, NV, OR, UT, and WA
- _____ Data DVD #2: (B1) – CO, IA, KS, MN, MO, MT, ND, NE, SD, and WY
- _____ Data DVD #3: (C1) – AR, LA, MS, NM, OK, and TX
- _____ Data DVD #4: (D1) – AL, FL, and GA
- _____ Data DVD #5: (E1) – NC, PR, SC, and TN
- _____ Data DVD #6: (F1) – CT, MA, ME, NH, NJ, NY, RI, and VT
- _____ Data DVD #7: (G1) – DC, DE, MD, PA, VA, and WV
- _____ Data DVD #8: (H1) – IL, IN, KY, MI, OH, and WI

* CA and NC data is included to help with the setup verification

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Integrating User Supplied Hazard Data into the HAZUS-MH Flood Model	\$29.00 USD
Introduction to Using HAZUS-MH for Hurricane Loss Estimation	\$29.00 USD
Introduction to Using HAZUS-MH for Earthquake Loss Estimation	\$29.00 USD



Excellence doesn't happen overnight, but FEMA's training courses will equip you with tools to deliver a knowledgeable plan of action back to your community.

Classroom style training lets you delve deeper into HAZUS-MH.

3 ½ day HAZUS-MH resident training classes are offered at FEMA's Emergency Management Institute (EMI) in Emmitsburg, MD. Course enrollment for the HAZUS-MH EMI curriculum is at no cost for Federal, State, and local community

officials. Complimentary housing considerations can be made for state and local community officials. Contact your state training officer to see if you qualify. Course participants are responsible for the cost of meals. Required meal tickets are approximately \$20 per day and include breakfast, lunch, and dinner.

EMI Course Schedule	2009 – 2010 Dates
E170 HAZUS-MH for Hurricane	February 8–11, 2010
E172 HAZUS-MH for Flood	January 4–7, 2010
E174 HAZUS-MH for Earthquake	April 19–22, 2010
E179 Application of HAZUS-MH for Disaster Operations	April 26–29, 2010
E190 ArcGIS for Emergency Managers	November 2–5, 2009 ; March 15–18, 2010
E296 Application of HAZUS-MH for Risk Assessment	August 2–5, 2010
E313 Basic HAZUS-MH	December 7–10, 2009; April 12–15, 2010; July 12–15, 2010
E317 Comprehensive Data Management for HAZUS-MH	March 1–4, 2010; September 13–16, 2010

ESRI Speaker Series Podcast Introduces HAZUS-MH Web Courses

Vincent Brown, Senior Program Specialist in the Mitigation Division at FEMA, and Kevin Mickey, Director of Professional Education and Outreach at The Polis Center, Indiana University, Indianapolis, provide a more detailed overview of the HAZUS-MH Web courses. To listen to the podcast, visit www.esri.com/podcasts.

New for FY2009

EMI has developed a curriculum track of courses leading to a certificate as a "HAZUS Trained Professional" or "HAZUS Practitioner". Interested participants should be advised that although the course codes are the same, some of the course titles have changed to better reflect course content and level.



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- E313 Basic HAZUS MH
- E317 Comprehensive Data Management for HAZUS-MH
- Minimum of ONE of the following: E170 HAZUS-MH for Hurricane; E172 HAZUS-MH for Flood; or E174 HAZUS-MH for Earthquake



HAZUS Practitioner Track: Expands upon the HAZUS Trained Professional track by incorporating specialized instruction in topic-specific areas.

- E190 ArcGIS for Emergency Managers (prior GIS experience may substitute)
- E296 Application of HAZUS-MH for Risk Assessment or E179 Application of HAZUS-MH for Disaster Operations
- E313 Basic HAZUS-MH
- E317 Comprehensive Data Management for HAZUS-MH
- Minimum of ONE of the following: E170 HAZUS-MH for Hurricane; E172 HAZUS-MH for Flood; or E174 HAZUS-MH for Earthquake



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For program-specific questions, contact: Phillip Moore at (301) 447-1248 or phillip.moore@dhs.gov



