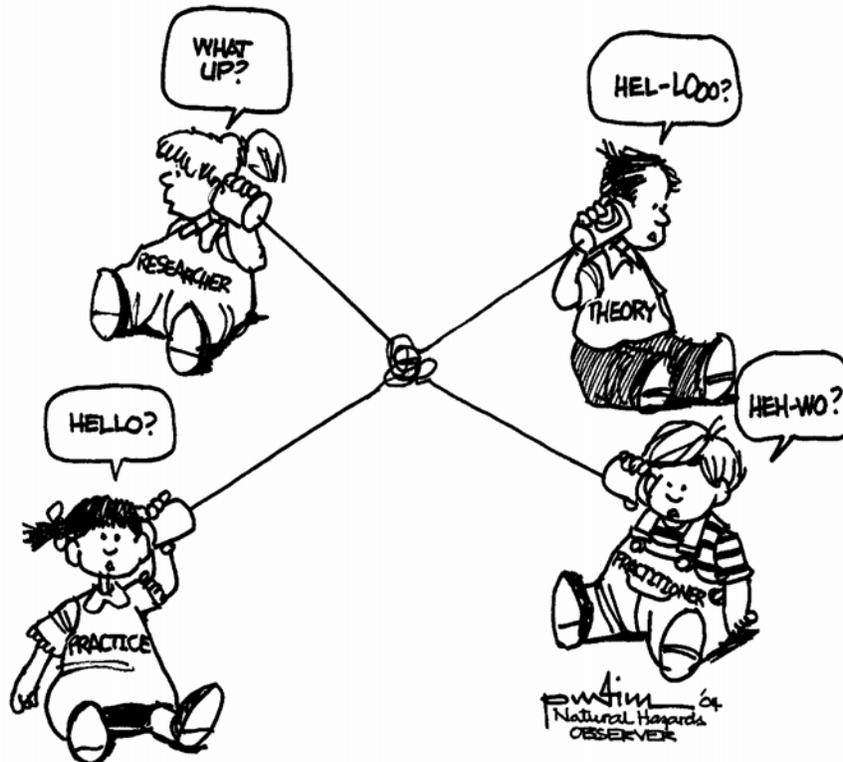




# NATURAL HAZARDS Observer

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## Building Researcher and Practitioner Coalitions Safeguarding Our Future Against Disasters

— an invited comment

The multidisciplinary nature of disaster management requires strong links between research and practice. However, today's experienced disaster managers have rarely been introduced to the profession through the halls of academia. Researchers, whose work is very much needed in this field, are often not invited, encouraged, nor find it practical to become engaged in disaster management projects at the planning level. Thus, research and disaster risk reduction planning at the community level have been *forcibly* linked. As developing science and technology endeavors evolve to provide disaster management practitioners with advanced analytic tools and solutions for situational awareness, planning, and decision making, strengthening this link becomes vital to saving lives and reducing losses. Building a researcher-practitioner-stakeholder coalition that brings the parties together is critical

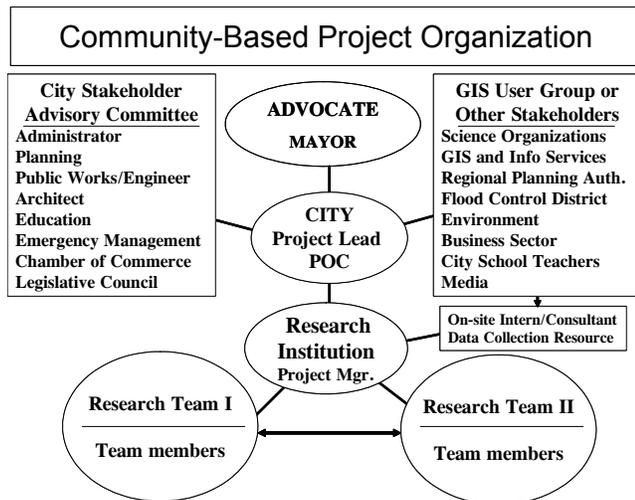
for effective disaster mitigation planning and community safety.

In the United States, opportunities for researcher-practitioner-stakeholder interactions have become more widespread as a result of community-based risk planning projects, which are required by the Disaster Mitigation Act of 2000. Likewise in Asia, the U.S. Agency for International Development's Office of Foreign Disaster Assistance has funded the Asian Urban Disaster Mitigation Program, which has had positive planning effects in 10 Asian countries. With a congressional mandate to engage in activities and partnerships that provide products and services for emergency managers in the Asia-Pacific region, the Pacific Disaster Center (PDC) in Hawaii has led the development of several community-based risk planning projects and training programs for island and urban

environments in the United States and the Asia-Pacific region.

### Building a Researcher-Practitioner-Stakeholder Coalition

The PDC's program has promoted research into practice by integrating its research teams into local government organizational frameworks that include a broad coalition of stakeholders (see figure below). Such an arrangement sustains mitigation planning activities beyond the scope of the project by identifying and mobilizing accessible local resources available to a community. The framework includes Geographic Information System (GIS) stakeholders that often provide a natural link between the research and practitioner communities. These stakeholder coalitions have fostered knowledge transfer environments where risk managers have increasingly shown a willingness to seek information from scientists, engineers, and GIS data managers on local, national, and regional levels. These stakeholder coalitions also offer scientists an understanding of practitioners' needs.



**Community-Based Project Organization.** Using a city example, this organizational structure integrates research teams with local practitioners and stakeholders.

### Inherent Communication Gaps

Communication between researchers and practitioners has remained an impediment to achieving effective disaster mitigation knowledge transfer to the community level. This is because researchers and practitioners tend to communicate very differently as a result of differences in audience, comfort with uncertainty, vocabulary, and associations. Generally, scientists communicate mainly with peer technical communities, have a low comfort with uncertainty, use a complex vocabulary, and associate with technical groups. On the other hand, practitioners and public decision makers communicate with a broader public, often have a much higher tolerance for uncertainty, use a simpler vocabulary, and associate in public settings.

Also, the two worlds of science and practice differ because the rewards systems for the two worlds differ. In order to create a bridge, we should explore improving the

rewards systems of universities and science organizations by rewarding interdisciplinary research and applied projects that meet practitioners' needs. Such a rewards system could operate in parallel with the current peer review reward systems.

### Dialogue Between Theory and Practice

In academic research, the primary means of validating new research and findings is the peer review process, submitting articles or proposals to peers in the field for review and comment. Decisions regarding funding for new research or publication of findings from research undertaken are based to a large extent on the assessment of the merit of the question and the validity of methods and findings as determined by recognized peers in the field. The review is blind to ensure candor and protect confidentiality of authors and reviewers. This method of validation depends upon a recognized set of professional standards and responsible performance by members of the profession.

For the most part, this method of validating scientific work operates reasonably well, but like all human-designed processes, it is subject to distortion, particularly when it comes to innovative or interdisciplinary work. There tends to be an inherently conservative bias in the peer review process, similar to the "increasing returns" argument of economists studying complex systems; that is, researchers whose work is reviewed favorably and published in prestigious journals tend to be regarded more favorably in the next review process. Those researchers who are breaking new ground, especially in crossing interdisciplinary boundaries, as is almost always the case in hazards and disaster management research, tend to be held to a more rigorous standard by colleagues in single disciplines, especially if their findings contradict mainline theories in one or another of the disciplines they are using to frame their research questions.

A vital voice in this dialogue is that of experienced practitioners, who see the problems emerge in complex environments and can lend a critical perspective that grounds the problem in practice. The real test of theory is whether it explains practice, and the validation of results by experienced practitioners is an important component of building good theory. Including insights from experienced practitioners throughout the research process—from formulation of research questions to periodic checks on the conduct of research to validation of research findings—will strengthen our coalitions and accelerate the research knowledge transfer process to community stakeholders.

### Programs Promoting Research into Practice

Below are four programs that bring together disaster management practitioners and researchers.

- *U.S. Geological Survey (USGS) Science Impact Program.* This program is a focused effort to improve and expand the use of the USGS' science to support societal decision making. Primary research focuses on linkages between science and decision making and the development of applications and decision support tools.
- *National Science Foundation Programs (NSF).* The NSF promotes projects that seek outcomes beneficial to

the practitioner community. Currently, NSF review guidelines require proposals to be evaluated on only two criteria: intellectual merit and broader impacts. The latter includes impacts upon society and the potential for knowledge dissemination and use by practitioners.

- *Earthquakes and Megacities Initiative*. On a global scale, this initiative has effectively linked researchers and practitioners in 17 cities since 1997 through a cluster cities arrangement and serves as a model for linking researchers with practitioners.
- *Federal Emergency Management Agency's Higher Education Project*. Over the past decade, this project funded curriculum development to establish disaster management degree programs within U.S. institutions. It ensures that the next generation of disaster managers will be trained professionals matriculating from academic institutions where disaster managers have fully integrated research, science, and technology into the policy-development and decision-making processes.

In summary, in the ongoing effort to safeguard our future against disasters, the importance of strong working relationships between research and practice cannot be overlooked. As outlined in this article, improvements upon these relationships can be made by building coalitions, closing the communication gap, developing new reward systems that recognize interdisciplinary efforts, loosening the strictures of the peer review process to include practitioners, and learning from the experiences of others. The

two groups have the same goals. It is time they worked together to achieve them.

Jim Buika, Pacific Disaster Center  
Louise Comfort, University of Pittsburgh

Additional Contributors:  
Carl Shapiro, United States Geological Survey  
Dennis Wenger, National Science Foundation

### Internet Resources

<http://www.pdc.org/>  
Pacific Disaster Center

<http://www.iisis.pitt.edu/>  
Interactive, Intelligent, Spatial Information System, University of Pittsburgh

[http://www.usgs.gov/science\\_impact/](http://www.usgs.gov/science_impact/)  
United States Geological Survey Science Impact Program

<http://www.nsf.gov/>  
National Science Foundation

<http://www.earthquakesandmegacities.org/>  
Earthquakes and Megacities Initiative

<http://training.fema.gov/EMIWeb/edu/>  
Federal Emergency Management Agency's Higher Education Project

## The Public Health Risk of Disasters: Building Response Capacity

In the wake of 9/11, the need for enhanced collaboration and coordination among all stakeholders involved in emergency management and response has assumed heightened urgency. While public health risks have always been associated with disasters, the previously inconceivable tactics used by terrorists on that date, along with the subsequent introduction of anthrax into the U.S. Postal System one month later, demonstrated that the United States is clearly vulnerable to human-induced disasters that pose even greater health risks than previously contemplated.

To prepare for such threats, local, state, and federal government officials have been working to integrate and rapidly disperse response assets by developing the National Response Plan, a single, unified, comprehensive national plan. Also, the U.S. Department of Health and Human Services recognizes the importance of incorporating health care system response plans into health department plans and now requires that the two be considered together for government-funded preparedness activities.

Having a multidisciplinary preparedness plan is only a part of disaster impact reduction. Effective communication before, during, and after disasters to culturally diverse audiences of wide-ranging scientific literacy is critical to

any preparedness effort. To disseminate emergency risk communication messages rapidly, the U.S. Centers for Disease Control and Prevention (CDC) has established a communications center with videoconferencing capabilities. In addition, the CDC has enhanced its capacity to rapidly communicate directly with physicians, which is important because Americans generally rely on their physicians to provide accurate, urgent health information.

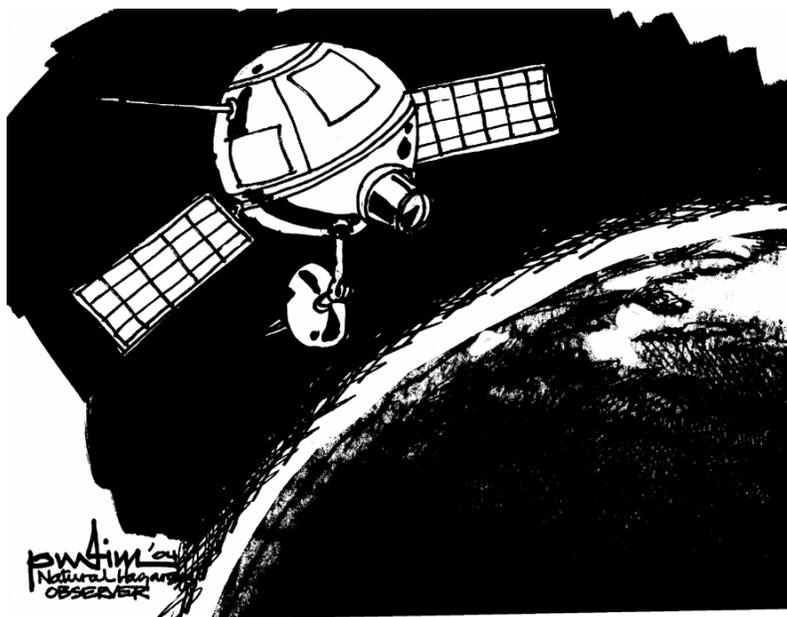
The United States is currently better prepared to respond to the health risks of disasters than it was three years ago. However, in order to bring the full range of the nation's preparedness capabilities to bear, further collaborations among industry, nongovernmental organizations, and members of the engineering, scientific, and academic communities are necessary to successfully prevent and mitigate the

health effects of disasters.

The National Research Council's Disasters Roundtable recently convened a workshop on these topics to discuss America's capacity to respond to the health risks of disasters. A workshop summary is available at <http://dels.nas.edu/dr/> or by contacting *Melissa Cole*, National Research Council, 500 5th Street, NW, Washington, DC 20001; e-mail: [mcole@post.harvard.edu](mailto:mcole@post.harvard.edu).



## New QR Report from Hazards Center and MCEER



A new Hazards Center Quick Response (QR) report features damage survey data gathered using satellite imagery by Beverly J. Adams and other researchers from the Multidisciplinary Center for Earthquake Engineering Research (MCEER) in the wake of Hurricane Charley. Charley represents the first category 4 hurricane for which both before and after satellite imagery is available from very high-resolution systems, offering the opportunity to investigate the use of remote sensing for postdisaster urban damage assessment and response activities.

In order to validate building damage characteristics identified on the satellite imagery, corresponding ground-based observations were required. Two field reconnaissance trips were conducted to collect perishable damage data using the VIEWS (Visualizing Impacts of Earthquakes with Satellites) system. It is envisioned that the data collected will ultimately form the basis of research activities extending the application of postdisaster damage assessment methodologies and algorithms developed for earthquakes to multiple hazards and improving the effectiveness of disaster response.

This QR report is available free online at <http://mceer.buffalo.edu/research/Charley/Charley-screen.pdf>. Other Hazards Center QR reports and information about the Quick Response program can be found at <http://www.colorado.edu/hazards/qr/>.

### 2004 Workshop Summaries and Abstracts Now Available Online

In July 2004, hazards researchers and professionals, including federal, state, and local government officials; representatives from nonprofit organizations and private industry; and other interested individuals, convened in Boulder, Colorado, for the Hazard Center's 29th Annual Hazards Research and Applications Workshop. As is typical for the workshop, participants debated, explored, and shared information on a wide range of issues. This year's session topics included the National Response Plan, community-based hazards management, the Project Impact spirit, risk communication, land use planning, benefits and costs of mitigation, remote sensing and GIS, public health, the National Flood Insurance Program, and the legal aspects of hazards and disasters. Plenary sessions addressed hazards and disasters in a homeland security environment, the 2003 California wildfires, and the social impacts of the Bam earthquake and the implications for community recovery.

To share the ideas and discussions presented during the workshop, the Center publishes brief summaries of each session, abstracts of the research presented, and descriptions of the projects and programs discussed. This is a valuable resource for those who were unable to attend, as well as for those who were. Session summaries and abstracts are available online at <http://www.colorado.edu/hazards/workshop/2004/>.

### . . . And the Winners Are

The Hazards Center is pleased to announce the winners of our inaugural Hazards and Disasters Student Paper Competition. First place papers were awarded in both graduate and undergraduate categories. Entrants represented a variety of disciplines related to natural, human-caused, and technological hazards and disasters.

The undergraduate award went to Tristan Emery of Purdue University for a paper about the open flow of disaster- and hazards-related information. Walker Ashley of the University of Georgia took home the graduate award for a paper on derecho hazards in the United States. Copies of these winning papers are available online at <http://www.colorado.edu/hazards/specialprojects.html>.

## What if Hurricane Ivan Had Not Missed New Orleans?

*Author's Note: This column was originally intended to be the final disaster in the "Disasters Waiting to Happen" series. As I was developing the hypothetical situation depicting a devastating hurricane striking New Orleans, Louisiana, the disaster waiting to happen threatened to become a reality: Hurricane Ivan, a category 4 hurricane (with 140 mph winds) fluctuating to a category 5 (up to 155 mph winds), was slowly moving directly toward New Orleans. Forecasters were predicting a one-in-four chance that Ivan would remain on this direct path and would be an "extreme storm" at landfall. In real-ity, the storm veered to the north and made landfall east of Mobile Bay, Alabama, causing devastation and destruction well into the central Gulf shoreline and throughout the Southeast and the Mid-Atlantic states.*

### What if Ivan Had Hit New Orleans?

New Orleans was spared, this time, but had it not been, Hurricane Ivan would have:

- Pushed a 17-foot storm surge into Lake Pontchartrain;
- Caused the levees between the lake and the city to overtop and fill the city "bowl" with water from lake levee to river levee, in some places as deep as 20 feet;
- Flooded the north shore suburbs of Lake Pontchartrain with waters pushing as much as seven miles inland; and
- Inundated inhabited areas south of the Mississippi River.

Up to 80 percent of the structures in these flooded areas would have been severely damaged from wind and water. The potential for such extensive flooding and the resulting damage is the result of a levee system that is unable to keep up with the increasing flood threats from a rapidly eroding coastline and thus unable to protect the ever-subsiding landscape.

### Evacuation Challenges

Researchers have estimated that prior to a "big one," approximately 700,000 residents of the greater New Orleans area (out of 1.2 million) would evacuate. In the case of Hurricane Ivan, officials estimate that up to 600,000 evacuated from metropolitan New Orleans between day-break on Monday, September 13 and noon on Wednesday, September 15, when the storm turned and major roads finally started to clear.

To aid in the evacuation, transportation officials instituted contraflow evacuation for the first time in the area's history whereby both lanes of a 12-mile stretch of Interstate 10 were used to facilitate the significantly increased outbound flow of traffic toward the northwest and Baton Rouge. The distance of the contraflow was limited due to state police concerns about the need for staff to close the exits. And, although officials were initially pleased with the results, evacuees felt the short distance merely shifted the location of the major jams.

These feelings were justified by the amount of time it took residents to evacuate—up to 11 hours to go the distance usually traveled in less than 1.5. For many who evacuated into Texas, total evacuation time frequently exceeded 20 hours. Since the storm, a consensus has developed that to alleviate this congestion much more secondary highway coordination is necessary throughout the state, contraflow needs to be considered for much greater distances, residents who are able and willing to evacuate

early must be doubly encouraged to do so, families with multiple cars need to be discouraged from taking more than one unless they are needed to accommodate evacuees, and all modes of transportation in their various configurations must be fully considered for the contributions they can make to a safe and effective evacuation.

The major challenge to evacuation is the extremely limited number of evacuation routes, which is the result of the same topography and hydrology responsible for the area's high level of hurricane risk. The presence of the Mississippi River, several lakes and bays, and associated marshes and swamps necessitates very expensive roadway construction techniques that are generally destructive to the environment, making the addition of more arteries increasingly challenging. This problem of limited evacuation routes also plagues the rest of the delta plain of southeast and south central Louisiana.



The fact that 600,000 residents evacuated means an equal number did not. Recent evacuation surveys show that two thirds of nonevacuees with the means to evacuate chose not to leave because they felt safe in their homes. Other nonevacuees with means relied on a cultural tradition of not leaving or were discouraged by negative experiences with past evacuations.

For those without means, the medically challenged, residents without personal transportation, and the home-

less, evacuation requires significant assistance. The medically challenged often rely on life support equipment and are in such fragile states of health that they can only be moved short distances to medically equipped shelters. While a large storm-resistant structure with appropriate equipment has yet to be constructed or retrofitted, the Superdome was used to shelter nonevacuees during Ivan.

Residents who did not have personal transportation were unable to evacuate even if they wanted to. Approximately 120,000 residents (51,000 housing units x 2.4 persons/unit) do not have cars. A proposal made after the evacuation for Hurricane Georges to use public transit buses to assist in their evacuation out of the city was not implemented for Ivan. If Ivan had struck New Orleans directly it is estimated that 40-60,000 residents of the area would have perished.

Unwilling to merely accept this reality, emergency managers and representatives of nongovernmental disaster organizations, local universities, and faith based organizations have formed a working group to engage additional faith-based organizations in developing ride-sharing programs between congregation members with cars and those without. In the wake of Ivan's near miss, this faith-based initiative has become a catalyst in the movement to make evacuation assistance for marginalized groups (those without means of evacuation) a top priority for all levels of government.

### **To the Rescue**

If a hurricane of a magnitude similar to Ivan does strike New Orleans, the challenges surrounding rescue efforts for those who have not evacuated will be different from other coastal areas. Rescue teams would have to don special breathing equipment to protect themselves from floodwaters contaminated with chemicals and toxins released from commercial sources within the city and the petrochemical plants that dot the river's edge. Additionally, tank cars carrying hazardous materials, which constantly pass through the city, would likely be damaged, leaking their contents into the floodwater and adding to the "brew." The floodwater could become so polluted that the Environmental Protection Agency might consider it to be hazardous waste and prohibit it from being pumped out of the leveed areas into the lake and marshes until treated.

Regional and national rescue resources would have to respond as rapidly as possible and would require augmentation by local private vessels (assuming some survived). And, even with this help, federal and state governments have estimated that it would take 10 days to rescue all those stranded within the city. No shelters within the city would be free of risk from rising water. Because of this threat, the American Red Cross will not open shelters in New Orleans during hurricanes greater than category 2; staffing them would put employees and volunteers at risk. For Ivan, only the Superdome was made available as a refuge of last resort for the medically challenged and the homeless.

### **The Aftermath**

In this hypothetical storm scenario, it is estimated that it would take nine weeks to pump the water out of the city, and only then could assessments begin to determine what buildings were habitable or salvageable. Sewer, water, and the extensive forced drainage pumping systems would be damaged. National authorities would be scrambling to build tent cities to house the hundreds of thousands of refugees unable to return to their homes and without other relocation options. In the aftermath of such a disaster, New Orleans would be dramatically different, and likely extremely diminished, from what it is today. Unlike the posthurricane development surges that have occurred in coastal beach communities, the cost of rebuilding the city of New Orleans' dramatically damaged infrastructure would reduce the likelihood of a similar economic recovery. And, the unique culture of this American original that contributed jazz and so much more to the American culture would be lost.

### **Accepting the Reality**

Should this disaster become a reality, it would undoubtedly be one of the greatest disasters, if not *the* greatest, to hit the United States, with estimated costs exceeding 100 billion dollars. According to the American Red Cross, such an event could be even more devastating than a major earthquake in California. Survivors would have to endure conditions never before experienced in a North American disaster.

Loss of the coastal marshes that dampened earlier storm surges puts the city at increasing risk to hurricanes. Eighty years of substantial river leveeing has prevented spring flood deposition of new layers of sediment into the marshes, and a similarly lengthy period of marsh excavation activities related to oil and gas exploration and transportation canals for the petrochemical industry have threatened marsh integrity. Sea level rise is expected to further accelerate the loss of these valuable coastal wetlands, the loss of which jeopardizes the fabric of Louisiana communities by threatening the harvesting of natural resources, an integral part of coastal culture. Concerted efforts by state and federal agencies are underway to develop appropriate restoration technologies and adequate funding to implement them.

### **The Future is Now**

These solutions may not be able to overtake the speed of coastal loss. Strong storms not only threaten human lives, but also the physical coast itself. National hurricane experts predict more active and powerful hurricane seasons in the Atlantic basin for the next 10-40 years. The hurricane scenario for New Orleans that these converging risks portend is almost unimaginable. Hurricane Ivan had the potential to make the unthinkable a reality. Next time New Orleans may not be so fortunate.

Shirley Laska ([slaska@uno.edu](mailto:slaska@uno.edu))  
Center for Hazards Assessment, Response and Technology  
University of New Orleans



# WASHINGTON UPDATE

## Interim Rule Allows DMA2K Extensions

The Federal Emergency Management Agency (FEMA) has issued an interim rule to provide state and tribal governments with an opportunity to request an extension for submission of their mitigation plans, which are required by the Disaster Mitigation Act of 2000 (DMA2K) (See the *Observer*, July 2004, pp. 7-8) as a condition for non-emergency Stafford Act assistance. This interim rule allows FEMA to grant justifiable extensions of up to six months beyond the current deadline of November 1, 2004 (no later than May 1, 2005), in extraordinary circumstances. It also changes the eligibility requirements of the Predisaster Mitigation Program to allow grants to continue to be available to state and tribal governments that do not have FEMA approved mitigation plans. Finally, the interim rule makes technical and conforming amendments to other sections of FEMA regulations and adjusts the general major disaster allocation for the Hazard Mitigation Grant Program from 15 percent to 7½ percent to be consistent with a recent statutory amendment.

The interim rule is available at [http://www.regulations.gov/TOPIC\\_44.cfm](http://www.regulations.gov/TOPIC_44.cfm) and in the *September 13, 2004, Federal Register* (Vol. 69, No. 176, pp. 55094-50597), which can be found in any federal repository library or online at <http://www.access.gpo.gov/>. Comments are encouraged and due by November 12, 2004. To learn more, contact Karen Helbrecht, Risk Reduction Branch, Mitigation Division, FEMA, 500 C Street SW, Washington, DC 20472; (202) 646-3104; e-mail: [karen.helbrecht@dhs.gov](mailto:karen.helbrecht@dhs.gov).

## 2004 Hurricane Season Recovery Information

The 2004 Atlantic Hurricane Season has been one of the busiest and most destructive in history. As of October 18, 13 named storms had come and gone, resulting in 21 federal disaster declarations covering 13 states and Puerto Rico. To further assist in the recovery efforts, FEMA has enhanced its Web site with a page dedicated solely to recovery information related to the hurricanes of 2004, broken down by storm and then by the affected states. The Web page also features links to general information, including disaster recovery center locations, steps to take after the disaster, slide shows, and rebuilding techniques. It also provides a link to English and Spanish versions of

FEMA's *Help After a Disaster: Applicant's Guide to the Individuals & Households Program* (2004, 20 pp., free). This Web page is available at [http://www.fema.gov/press/2004/hurricane\\_season.shtm](http://www.fema.gov/press/2004/hurricane_season.shtm).

In related news, FEMA has recently adopted new technology to make it easier to apply for disaster assistance, allowing residents of federal disaster areas to apply online, as well as over the telephone. The online registration page can be accessed through <http://www.fema.gov/register.shtm>.

## Supplemental Funding for Disaster Relief Efforts

In the wakes of Hurricanes Charley and Frances, the president signed the Emergency Supplemental Appropriations for Disaster Relief Act (Public Law 108-303) on September 8 to ensure that response efforts to these disasters would continue uninterrupted. The new law provides two billion dollars for the fiscal year ending September 30, 2004, to supplement existing resources and programs for response and recovery efforts. It also states that the



money shall remain available until expended and up to \$30 million may be transferred to the Small Business Administration for administrative expenses related to the disaster loans program. The full text of the law is available in any *federal repository library and on the Library of Congress Web site at <http://thomas.loc.gov/>.*

## FEMA Seeks Partners for Collaborative Mapping Program

One of the key objectives of FEMA's Map Modernization Plan is to increase local involvement in, and ownership of, the flood mapping process. To meet this objective, FEMA created the Cooperating Technical Partner (CTP) program to create partnerships between FEMA and state, local, and regional agencies that are interested in and capable of playing active roles in FEMA's Flood Hazard Mapping program.

As part of this ongoing project, FEMA continues to seek qualified partners to collaborate on the maintenance of up-to-date flood maps and other flood hazard information. Partners benefit from flood maps that are more accurate and current, improved hazard identification and risk management, shared best practices, and, ultimately, more efficient floodplain management.

For more information about the CTP program and how to become a partner, including the *Cooperating Technical Partners (CTP) Program Guidance Document for Fiscal Year 2004, Guidelines and Specifications for Flood Hazard Mapping Partners*, and a CTP self-

assessment tool, visit [http://www.fema.gov/fhm/ctp\\_main.shtm](http://www.fema.gov/fhm/ctp_main.shtm). General questions about the CTP program can be addressed to the *FEMA Map Assistance Center* at (877) 336-2627. To subscribe to a monthly e-newsletter featuring CTP news and announcements, training opportunities, success stories, policy and procedure changes, and map modernization initiatives and funding, contact *Daphne Thornton* at (202) 646-4019 or [daphne.thornton@dhs.gov](mailto:daphne.thornton@dhs.gov).

## NIMS Minimum Requirements Outlined

In a letter to the nation's governors dated September 8, 2004, the secretary of homeland security outlined the minimum requirements for states and territories to comply with the new National Incident Management System (NIMS) (See the *Observer*, May 2004, pp. 6-7). Mandated by Homeland Security Presidential Directive/HSPD-5, "Management of Domestic Incidents," NIMS provides a comprehensive national approach to incident management that establishes a uniform set of processes and procedures that emergency responders at all levels of government will use to conduct response operations.

The letter specifically addresses the important steps that should be taken during fiscal year 2005 (October 1, 2004–September 30, 2005) to become NIMS compliant. While fiscal year 2005 is the start up year for NIMS implementation, full compliance with NIMS is not required for states to receive fiscal year 2005 grant funds. Nevertheless, the secretary encourages full implementation and institutionalization across the entire response system during fiscal year 2005 to the maximum extent possible. In order to receive preparedness funding in fiscal year 2006, the minimum requirements described in this letter must be met. The letter is available on the *NIMS Web site* at <http://www.fema.gov/nims/>.

Additional information about NIMS compliance and resources for achieving compliance is forthcoming from the NIMS Integration Center and will also be available on the NIMS Web site. Questions and comments should be addressed to *Gil Jamieson*, *NIMS Integration Center*, 500 C Street, SW, Washington, DC 20472; (202) 646-3850; e-mail: [NIMS-Integration-Center@dhs.gov](mailto:NIMS-Integration-Center@dhs.gov).

## ADA Guide for Local Governments

The U.S. Department of Justice has released *An ADA Guide for Local Governments: Making Community Emergency Preparedness and Response Programs Accessible to People with Disabilities*. The guide breaks down preparedness and response into sections addressing the following five phases: planning, notification, evacuation, sheltering, and returning home. Each section describes the phase, the role it plays in preparedness and response, and some of the challenges that may arise. Action steps are included to help local governments meet these challenges and better serve people with disabilities as required by the Americans with Disabilities Act of 1990. The guide is available free online at <http://www.usdoj.gov/crt/ada/emergencyprep.htm>.



## Business Gets Ready

In partnership with business and the Advertising Council, the U.S. Department of Homeland Security (DHS) has launched the Ready Business campaign, an extension of the individual- and family-focused Ready campaign, to help owners and managers of small to medium-sized businesses prepare for and respond to an emergency. Recognizing that few businesses are engaged in preparedness, the program aims to raise the business community's awareness of the need for emergency planning and motivate businesses to take action. The campaign consists of a Web site, brochures, posters, and radio, print, and Web advertising. These materials are designed to make emergency planning easier and provide practical steps and easy-to-use templates that improve the likelihood of survival and recovery from an emergency (natural or otherwise). Recommendations reflect the *NFPA 1600: Standard on Disaster/Emergency Management and Business Continuity Program* (See the *Observer*, September 2004, pp. 20-21) developed by the National Fire Protection Association and endorsed by the American National Standards Institute, the 9/11 Commission, and DHS. Visit Ready Business on the Web at <http://www.ready.gov/business/index.html>.

## Grant Funds Telecommunications for the Deaf

DHS has awarded Telecommunications for the Deaf Incorporated (TDI), a membership organization that lobbies for improved telecommunications for individuals who are deaf or hearing impaired, a \$1.4 million competitive training grant to develop a network that will provide information on disaster preparedness to individuals with hearing disabilities. TDI intends to work with a consortium of local and regional disability consumer organizations to provide workshops and develop a Web site to better prepare this special needs population. Partner agencies include Developmental Evaluation and Adjustment Facilities Inc.; Northern Virginia Resource Center for Deaf and Hard of Hearing Persons Inc.; Communication Service for the Deaf; and Deaf Counseling, Advocacy, and Referral Agency. For more information, contact *TDI*, 8719 Colesville Road, Suite 300, Silver Spring, MD 20910; (301) 589-3786; TTY: (301) 589-3006; Fax: (301) 589-3797.

## DHS Launches Office of Interoperability and Compatibility

As part of its ongoing efforts to improve public safety communications interoperability (See the *Observer*, July 2004, p. 8, September 2004, p. 10), DHS' Science and Technology Directorate has launched the Office of Interoperability and Compatibility (OIC). Tasked with overseeing DHS programs related to critical interoperability issues such as communications, equipment, and training, the OIC aims to strengthen the national partnership of local, state, and federal leadership to achieve emergency response interoperability in every community in the country.

Specific responsibilities of the OIC include:

- Supporting the creation of interoperability standards;
- Establishing a comprehensive research, development, testing, and evaluation program;
- Overseeing the development and implementation of technical assistance;
- Creating an interagency interoperability coordination council; and
- Working with the National Incident Management System Integration Center.

For more information about the OIC, read the press release at [http://www.dhs.gov/dhspublic/interapp/press\\_release/press\\_release\\_0530.xml](http://www.dhs.gov/dhspublic/interapp/press_release/press_release_0530.xml). Additional information about DHS' efforts to achieve first responder communications interoperability, including a new interoperability continuum guide and a statewide communications interoperability planning methodology, is available at [http://www.dhs.gov/dhspublic/interapp/press\\_release/press\\_release\\_0529.xml](http://www.dhs.gov/dhspublic/interapp/press_release/press_release_0529.xml).

## Expanding Disaster Training for Medical Professionals

In support of the American Medical Association's (AMA) efforts to better prepare physicians for disaster response, DHS has given the association a \$1 million grant, allowing the AMA to offer more comprehensive disaster-response training and at more locations. The AMA will use the money to expand its Core Disaster Life Support course, one of three courses in the AMA National Disaster Life Support program. The goal of the course is to increase awareness of the basic skills, competencies, knowledge, and resources that are critical for a coordinated and effective local response effort. The curriculum covers natural and human-induced disasters, traumatic and explosive events, nuclear and radiological weapon attacks, and biological events. Information about the AMA Center for Disaster Preparedness and Emergency Response is available at <http://www.ama-assn.org/ama/pub/category/6206.html>.

## USFA Releases ICS Self-Study

The U.S. Fire Administration (USFA) has released its Web-based Incident Command System (ICS) Self-Study, 2<sup>nd</sup> Edition. This new program offers all first responders a basic understanding of NIMS compliant ICS as well as an overview and explanation of ICS, including organizational structure, positions and functions, responsibilities, and considerations. This self-paced program is available to all fire service officers and other first responders and emergency managers who use, implement, and function within an ICS. To participate in the program, go to <http://www.training.fema.gov/>.

## FEMA Unveils New ICS Course

FEMA's new online independent study course, Basic Incident Command System for Federal Disaster Workers, IS-200, is designed to identify incident command system (ICS) features and principles, describing in more detail elements such as establishment and transfer of command,

management by objectives, unified command, ICS management functions, organizational flexibility, unity and chain of command, span of control, incident action plans, resource management, common terminology and clear text, integrated communications, and personnel accountability. A disaster scenario threads throughout the course to describe the common responsibilities associated with incident assignments from a federal disaster response workforce perspective. IS-200 is tailored specifically for federal disaster workers and is not meant to replace Basic Incident Command System, IS-195. Introduction to the Incident Command System for Federal Disaster Workers, IS-100, is a prerequisite to IS-200. To register and complete any of FEMA's online independent study courses, go to <http://training.fema.gov/emiweb/>.

## Getting Prepped for Oil Spill Response

The National Preparedness for Response Exercise Program (PREP) was developed in 1994 to meet the intent of the pollution response exercise requirements of the Oil Pollution Act of 1990 (OPA 90). PREP plays a key role in assuring the preparedness of the National Response System to successfully respond to major oil and hazardous chemical incidents. PREP guidelines were developed by the Coast Guard, the Research and Special Programs Administration, the Environmental Protection Agency, and the Minerals Management Service in concert with representatives from various state governments, industry, environmental interest groups, and the general public, to reflect the consensus agreement of the entire oil spill response community. Using PREP guidelines and participating in PREP exercises will satisfy all OPA 90 mandated federal pollution response exercise requirements.



This notice announces the PREP triennial cycle, 2005 through 2007, requests comments from the public about the program, and calls for industry participants to volunteer for scheduled PREP area exercises. For more information about the notice and how to submit comments, see the *September 21, 2004 Federal Register* (Vol. 69, No. 182, pp. 56445-56446), which can be found in any *federal*

repository library or online at <http://www.access.gpo.gov/>. Comments are due by November 22, 2004.

More information about PREP as well as the exercise schedule, exercise design manuals, and guidelines are available at <http://www.uscg.mil/hq/nsfweb/nsfcc/prep/prepindexfinal.html>.

## FEMA Grants \$3.2 Million to Colleges, Universities for Disaster Preparedness

In the past decade, disasters have affected university and college campuses with increasing frequency. Nearly all instances have brought monetary losses and disruptions of the institutions' teaching, research, and public service functions. To help avoid such losses and disruptions, FEMA awarded more than \$3.2 million in grants as part of its Disaster Resistant University (DRU) program in fiscal year 2004. The DRU program helps universities and colleges, through state and local governments, implement sustained predisaster natural hazard mitigation programs to reduce the overall risk to students, faculty, facilities, and research assets. These grants were competitively awarded to ensure that funds would benefit a representative range of universities based on hazard type as well as size, location, and academic community served.

A list of recipients is available at <http://www.fema.gov/news/newsrelease.fema?id=14811>. For more information about the DRU program, visit <http://www.fema.gov/fima/dru.shtm>.

## Call for Presentations

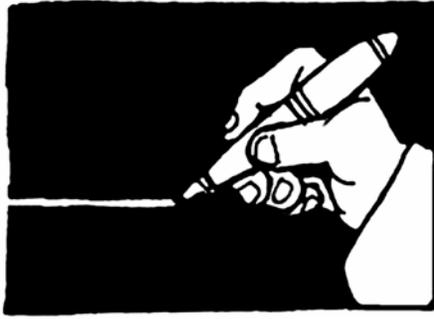
The Canadian Centre for Emergency Preparedness is calling for presentations for the 15<sup>th</sup> World Conference on Disaster Management to be held in Toronto, Canada, July 10-13, 2005. This year's theme is "The Changing Face of Disaster Management—Defining the New Normal."

Presentations should fall into one or more of the following categories:

- Real events/lessons learned;
- Emerging trends in disaster management;
- The human element in disaster management;
- Technical issues/threats;
- Disaster management principals and practices; and
- Research and development.

Abstracts must be submitted online and are due by December 4, 2004. For more information, visit <http://www.wcdm.org/> or contact Adrian Gordon, Canadian Centre for Emergency Preparedness; (905) 331-2552; e-mail: [agordon@ccep.ca](mailto:agordon@ccep.ca).





## ON THE LINE

# When Severe Weather Threatens StormReady Communities Are Prepared

On average, 10,000 thunderstorms, 2,500 floods, 1,000 tornadoes, and 10 hurricanes impact the United States each year, resulting in approximately 500 deaths and nearly \$14 billion in damage. Potentially deadly weather could impact anyone in any part of the country. And, while hurricanes and tropical storms have taken their toll on the eastern half of the United States this year, it is important to remember that no one and no place is invulnerable to the force of nature.

The National Oceanic and Atmospheric Administration (NOAA) National Weather Service (NWS) provides weather, water, and climate forecasts and warnings for the United States to better protect life and property from these inevitable events. Nevertheless, accurate weather forecasts and effective warning systems are only part of the solution. The NWS recognizes that while there are many laws and regulations to help emergency managers deal with hazardous material spills, search and rescue operations, medical crises, etc., there are few guidelines that address hazardous weather. In response, the NWS designed StormReady and, later, TsunamiReady to provide communities—towns, cities, counties, tribal nations, universities, and industrial complexes—with the safety and communication skills needed to save lives and property.

Since its 1999 debut, StormReady has been using a grassroots approach to help communities develop plans to handle all types of severe weather. The program, which is strictly voluntary, was designed to complement what communities are already doing in regard to emergency preparedness by providing clear-cut guidelines on how to improve hazardous weather operations. The objectives of the StormReady program are:

- Improve the timeliness and effectiveness of hazardous weather warnings for the public;
- Provide detailed and clear recommendations, which will help local emergency managers establish and improve effective hazardous weather operations;
- Help emergency managers justify costs and purchases to support mitigation and emergency response plans;
- Reward local hazardous weather mitigation programs that have achieved a desired performance level;
- Provide a way to get more Community Rating System points from the National Flood Insurance Program;

- Provide an image incentive to communities, which once recognized can identify themselves as StormReady; and
- Help ensure preparedness for other civil emergencies.

Evidence of its success can be seen as the number of StormReady sites continues to grow. As of October 18, 2004, there were 802 StormReady sites in 47 states: 421 counties, 368 communities, 9 universities, 1 tribal nation, 2 industrial sites, and 1 military site.

### Achieving StormReadiness

To be recognized as StormReady, a community must meet guidelines established by the NWS in partnership with federal, state, and local emergency management professionals. General requirements include:

- Incorporate severe weather threats into hazards mitigation and emergency response plans;
- Establish a 24-hour warning point and emergency operations center (EOC);
- Have multiple channels for receiving severe weather forecasts and warnings and alerting the public;
- Create a system to monitor local weather conditions; and
- Promote public readiness via community seminars, severe weather spotter training, and emergency exercises.

Perhaps the two most critical components of the program are communication and education. During hazardous weather, NWS severe weather information comes into the emergency operations center and 24-hour warning point. As a precondition of StormReady recognition, a community must have multiple ways to receive NWS warning information as well as several ways to disseminate critical warnings to the public (e.g., the Emergency Alert System, Reverse 9-1-1, outdoor warning sirens, mobile vehicles with sirens). At a minimum, All Hazards NOAA Weather Radios with tone alert and/or Specific Area Message Encoding (SAME) capability must be located at four sites within a community: the emergency operations center, 24-hour warning point, city hall, and school superintendent's office. It is also recommended that All Hazards NOAA Weather Radios be available in homes, businesses, courthouses, libraries, schools, day care centers, movie theaters, hospitals, senior citizen homes, recreation facilities, sports arenas, and other sites where people gather.

As part of the StormReady program, warning coordination meteorologists from 122 local NWS field offices conduct community weather preparedness safety talks to educate residents about the importance of preparedness. Additionally, the NWS Skywarn storm spotter program trains emergency managers, dispatchers, first responders, and the general public to be alert to changing weather patterns and cloud features that may foretell the occurrence of severe weather and to report their observations to their local NWS offices.

National StormReady guidelines were designed to establish the minimum requirements for the program. However, many areas of the country have very specific weather-related needs, which local NWS offices consider during weather emergency planning with emergency management and community officials. As a result, StormReady allows the creation of local advisory boards that have the flexibility to create specific bylaws for their area. Local boards can also modify national StormReady guidelines to meet specific needs.

### StormReady Makes a Difference

On November 10, 2002, a devastating F4 tornado ripped through Van Wert County, Ohio, destroying many homes and businesses, including the Van Wert Cinema. Fortunately for the residents of Van Wert, the county was StormReady, recognized as such by the NWS in January 2002, just 10 months before the tornado struck.

As recommended by the program, the theater was equipped with a local warning alert system tied directly into the Van Wert County siren system and activated immediately upon sounding of the warning sirens by the county EOC. When the EOC received the NWS tornado warning on November 10 and subsequently activated the city of Van Wert's siren warning system, the theater staff was notified as well. As a result, more than 50 adults and children were successfully evacuated and moved to pre-designated safe areas within the cinema, just minutes before the tornado tore the roof off the building and tossed cars into the screen and front rows where just moments before families had been enjoying "The Santa Clause 2."

For their efforts, the NWS presented a StormReady Community Hero Award to the Van Wert County emergency manager, county commissioner, and the mayor of the city of Van Wert for the implementation of their StormReady program. Also, the cinema's assistant manager was honored with a NOAA Weather Service Public Service Award for his role in the cinema evacuation.

### StormReady Expands on its Success

In 2001, NWS launched TsunamiReady, a companion program to StormReady that promotes tsunami hazard preparedness as an active collaboration among federal, state, and local emergency management agencies, the public, and the NWS tsunami warning system. This collaboration supports better and more consistent tsunami awareness and mitigation efforts among communities at risk. The main goal of TsunamiReady, which has benefits, objectives, and preparedness guidelines similar to StormReady, is the improvement of public safety during tsu-

unami emergencies. As of October 18, 2004, there were 12 communities in 5 states that have been recognized as TsunamiReady by the NWS.

To complement its existing programs, NWS launched its "Supporter" recognition program in October 2004. Businesses, schools, and other nongovernmental entities (e.g., hospitals, malls, nuclear power plants) that establish severe weather/tsunami safety plans and actively follow and promote the programs' principles and guidelines may be eligible to become Supporters. The NWS chose Agilent Technologies Inc. in Liberty Lake, Washington, to be the prototype organization for the program based on the company's efforts to enhance its weather safety operations plans. These efforts include an employee newsletter with weather information and safety articles, an enhanced radio communications system, purchase and placing of All Hazards NOAA Weather Radios, and a well developed emergency action plan for dealing with severe weather.

As the public becomes more familiar with powerful natural events, they gain a better understanding that, while StormReady does not mean storm proof and TsunamiReady does not mean tsunami proof, commitment to these programs, and the preparedness and communication initiatives they promote, does save lives. The ultimate goal of these programs is to ensure that when a severe weather or tsunami warning is issued, the public gets the warning, knows what to do about it, and takes action.

Is your community "Ready"?

Stephan C. Kuhl  
National Weather Service

### Internet Resources

<http://www.stormready.noaa.gov/>  
NWS StormReady

<http://wcatwc.gov/tsunamiready/tready.htm>  
NWS TsunamiReady

<http://www.weather.gov/>  
NWS home page





# CONFERENCES AND TRAINING

Below are the most recent conference announcements received by the Hazards Center. A comprehensive list of hazards/disaster meetings is available at <http://www.colorado.edu/hazards/conf.html>.

**International Conference on Terrorism.** Sponsor: Thomas Jefferson University Hospital. **Philadelphia, Pennsylvania: November 16, 2004.** At this conference, health care and public service professionals will examine current threats and response initiatives related to terrorism at both the national and international level and explore issues related to prehospital and hospital preparedness, bioterrorism, and security. Participants will hear analysis of past terrorist incidents and gain expertise in developing strategies for safe, effective, and appropriate responses to potential acts of terrorism. For more information, contact *Janice Lockhart, Thomas Jefferson University Hospital, Suite 8330 Gibbon, 111 South 11th Street, Philadelphia PA 19107; (215) 955-1777; e-mail: janice.lockhart@mail.tju.edu; http://www.jeffersonhospital.org/bioterrorism/article4615.html.*

**International Joint Operations Command (IJOC) Conference.** Sponsors: *Fire Magazine, VectorCommand Foundation.* **Toronto, Canada: November 17-18, 2004.** This multiagency conference on incident command and terrorism response will help emergency services and government work more closely together to develop unified responses to terrorism and natural disasters. For more information, contact *Claire Laurentin, Vector Command; +44 (0) 2392 449 100; e-mail: claire@vectorcommand.com; http://www.ijocc.com/index.html.*

**Psychosocial Aspects of Bioterrorism and Disaster Medicine.** Sponsors: University of South Florida Center for Biological Defense, New York University School of Medicine, Florida Emergency Medicine Foundation. **Tampa Bay, Florida: November 19, 2004.** This workshop is designed for practicing health care providers and will provide useful information and tools to address patient psychosocial response to terrorist threats or attacks. For more information, contact *Darcy Ravndal; (813) 974-2394; http://www.emlrc.org/pabdm/.*

**Performance Measurement for Homeland Security Initiatives.** Sponsors: Advanced Learning Institute (ALI), The George Washington University. **Arlington, Virginia: December 1-3, 2004.** This conference will feature proven strategies and practical experience regarding how to better

manage performance in homeland security. Highlights include working with stakeholders, tracking outcomes, identifying and acquiring funding, and measuring capabilities. For more information, contact *ALI, 644 South Clark Street, Suite 201, Chicago, IL 60605; (312) 362-9100; e-mail: info@aliconferences.com; http://www.aliconferences.com/conferences/homelandsecurity/1204.htm.*

**2004 Satellite Direct Readout Conference: A Decade in Transition.** Sponsors: Department of Commerce, National Oceanic and Atmospheric Administration (NOAA), National Aeronautics and Space Administration. **Miami, Florida: December 6-10, 2004.** The purpose of this conference is to continue discussions initiated during the 2002 conference and to expand the scope to include users around the world. The goal is to meet with users who receive data directly from NOAA's environmental satellites and provide a forum to help them prepare for upcoming changes as NOAA transitions into new technologies for direct broadcasts. For more information, contact *Satellite Direct Readout Conference, NOAA NESDIS E/SP3, 5200 Auth Road, FB4, Room 3320, Suitland, MD 20746; e-mail: DRO.conference@noaa.gov; http://directreadout.noaa.gov/miami04/index.htm.*

**Emergency Communications Asia 2004.** Sponsors: Ministry of Public Security of China, Motorola, Nokia. **Shanghai, China: December 7-8, 2004.** This director level, case-study driven conference will help the first responder community of China and the Asia-Pacific region to develop and deliver reliable communication strategies and abilities. For more information, contact *Patricia Cheong, +65 6322-2766; e-mail: patricia.cheong@terrapinn.com; http://www.terrapinn.com/2004/eca\_CN/.*

**Symposium 2005: Best Practices in Risk Reduction for Colleges and Universities.** Sponsor: University of Washington. **Seattle, Washington: January 27-28, 2005.** This symposium will focus on helping colleges and universities become more disaster resistant. Topics include innovative approaches to disaster preparedness in institutions of higher learning, cutting-edge successful hazard mitigation techniques, and setting up and supporting an office of emergency management. For more information, contact

Steven J. Charvat, 22 Gerberding Hall, Box 351275, University of Washington, Seattle, WA 98195; (206) 897-8000; e-mail: charvat@u.washington.edu; <http://www.washington.edu/admin/business/oem/symposium/index.html>.

**2005 EERI Annual Meeting.** Sponsor: Earthquake Engineering Research Institute (EERI). **Ixtapa, Mexico: February 2-6, 2005.** Commemorating the twentieth anniversary of the Mexico City earthquake, this meeting will highlight the impact of the event and the resulting progress made in all fields related to earthquake risk. There will be evaluations of the effectiveness of performance-based design, postdisaster response and recovery, and prediction and warning. Speakers will present the latest information on large-scale urban rehabilitation and urban risk. Poster abstracts are due by December 1, 2004. Travel scholarships are available for student and young EERI members. For more information, contact *EERI 499, 14th Street, Suite 320, Oakland, CA 94612; (510) 451-0905; e-mail: eeri@eeri.org; http://www.eeri.org/news/meetings/05am.html*.

**26<sup>th</sup> Annual International Disaster Management Conference.** Sponsors: Emergency Medicine Learning & Resource Center, Florida Emergency Medicine Foundation, Florida College of Emergency Physicians. **Orlando, Florida: February 3-6, 2005.** This conference was designed to meet the educational needs of all persons and agencies involved with emergency preparedness, response, and disaster recovery. For more information, visit <http://www.emlrc.org/disaster2005.htm>.

**International Conference on Coastal Hazards.** Sponsors: SASTRA Deemed University, Indian Geological Congress. **Thanjavur, India: February 9-11, 2005.** This conference will address natural and human-induced coastal and marine hazards and how the international community can work together to reduce the occurrences of these events and minimize their adverse impacts. For more information, contact *H.R. Vasanthi, Coastal Hazards Conference, CARISM, SASTRA Deemed University, Thanjavur—613 402, India; e-mail: vasanthi@biotech.sastra.edu; http://www.sastra.edu/icch/*.

**8<sup>th</sup> World Congress on Stress, Trauma, and Coping.** Sponsor: International Critical Incident Stress Foundation (ICISF). **Baltimore, Maryland: February 16-20, 2005.** Presenters at this conference will explore a variety of crisis intervention topics, including emergency services and public safety; mass disasters, terrorism, and homeland security; and mental health and community crisis response. The conference is designed for anyone in the fields of crisis intervention, traumatic stress, emergency services, or disaster mental health. For more information, contact *Shelley Cohen, ICISF, 3290 Pine Orchard Lane, Suite 106, Ellicott City, MD 21042; (410) 750-9600; e-mail: scohen@icisf.org; http://www.icisf.org/8WC/*.

**2005 National Hurricane Conference.** Sponsors: Federal Emergency Management Agency, American Red Cross, Institute for Business & Home Safety, National Hurricane Center, and many more (see Web site). **New Orleans,**

**Louisiana: March 21-25, 2005.** The primary goal of this conference is to improve hurricane preparedness, response, recovery, and mitigation to save lives and property in the United States and on the tropical islands of the Caribbean and Pacific. The conference also serves as a national forum for federal, state, and local officials to exchange ideas and recommend new policies to improve emergency management. For more information, contact *Florida Shore & Beach Preservation Association, 2005 National Hurricane Conference, 2952 Wellington Circle, Tallahassee, FL 32309; (850) 906-9224; e-mail: mail@hurricanemeeting.com; http://www.hurricanemeeting.com/*.

**Association of American Geographers (AAG) Annual Meeting. Denver: Colorado. April 5-9, 2005.** This professional and scholarly meeting typically features a variety of hazards- and disaster-related sessions and provides attendees with the opportunity to network with colleagues, discover new developments in geography, and learn about cutting-edge research. For more information, contact *AAG, 1710 16th Street, NW, Washington, DC 20009; (202) 234-1450; e-mail: meeting@aag.org; http://www.aag.org/annualmeetings/index.cfm*.

**13<sup>th</sup> Annual Conference on Stress and Trauma.** Sponsor: Association of Traumatic Stress Specialists (ATSS). **Dallas, Texas: April 6-9, 2005.** Attendees at this conference are primarily individuals working to help victims and survivors heal after stressful or traumatic events. This year's theme is "Staying Balanced in a Merry-Go-Round World." For more information, contact *ATSS at (512) 868-3677; e-mail: Admin@ATSS-HQ.com; http://www.atss-hq.com/conference/index.cfm*.

**Progress in Understanding Coastal Land Loss and Restoration In Louisiana: The W. Alton Jones Foundation Report Revisited.** Sponsors: National Oceanic and Atmospheric Administration, U.S. Army Corps of Engineers, U.S. Geological Survey, Louisiana Governor's Applied Coastal Science Program. **Lafayette, Louisiana: April 12-14, 2005.** This symposium will focus on recent scientific and technological developments that provide insight into the causes of land loss, the consequences of the rapid changes during the twentieth century, and predicting the outcomes of system-scale restoration efforts. While the focus is on coastal Louisiana, discussion of important findings from other systems will be integral to the symposium program. Abstracts for posters and papers are due December 15, 2004. For more information, contact *University of Louisiana Lafayette, CREST Symposium 2005, P.O. Box 42411, Lafayette, LA 70504; (337) 482-5712; http://www.gulfcrest.org/activities.htm*.

**The 16<sup>th</sup> Global Warming International Conference.** Sponsor: Global Warming International Center. **New York, New York: April 19-21, 2005.** A variety of topics related to global warming will be addressed at this conference, including global warming science and policy, extreme events and impact assessment, and human health in a changing climate. For more information, contact *James A. Roberts, GWXVI International Program Committee, P.O.*

Box 5275, Woodridge, IL 60517; e-mail: [jroberts@globalwarming.net](mailto:jroberts@globalwarming.net); <http://www.globalwarming.net/>.

**ISCRAM2005: Second Annual Conference on Information Systems for Crisis Response and Management.** Sponsors: Tilburg University, Nuclear Research Center SCK-CEN, Royal Flemish Academy of Belgium for Science and the Arts, New Jersey Institute of Technology. **Brussels, Belgium: April 18-20, 2005.** ISCRAM2005 will bring together designers, developers, and users of information systems that support crisis-related activities, such as planning and training for crisis response, responding to a crisis, and performance evaluation. Organizers welcome academic and industry researchers, practitioners, and policy makers. Papers are due by December 30, 2004. For more information, contact *ISCRAM*; e-mail: [iscram2005@uvt.nl](mailto:iscram2005@uvt.nl); <http://www.sckcen.be/iscram/>.

**Mass Fatality Incidents for Medicolegal Professionals.** Sponsor: National Transportation Safety Board (NTSB). **Ashburn, Virginia: May 9-12, 2005.** This course examines the principles of victim recovery and identification and the associated family assistance procedures for successfully managing mass fatality incidents involving transportation related accidents. Course faculty includes NTSB responders, forensic scientists, and federal agency representatives with a variety of experience in mass fatality response. For more information, contact *NTSB Academy*, 45065 Riverside Parkway, Ashburn, VA 20147; (571) 223-3900; e-mail: [academy@ntsb.gov](mailto:academy@ntsb.gov); [http://www.nts.gov/academy/CourseInfo/TDA403\\_200505.htm](http://www.nts.gov/academy/CourseInfo/TDA403_200505.htm).

**Solutions to Coastal Disasters 2005.** Sponsors: American Society of Engineers (ASCE); Coasts, Oceans, Ports, and Rivers Institute. **Charleston, South Carolina: May 8-11, 2005.** The inaugural Solutions to Coastal Disasters Conference in 2002 created a productive exchange of ideas among professionals worldwide. This second generation conference will share lessons learned since 2002 as well as creative new solutions to coastal disasters. Conference topics will focus on the science and management of erosion, hurricanes, coastal storms, tsunamis, seismic events, climate change, sea level rise, and wind hazards. Papers must be submitted by December 15, 2004. For more information, contact *ASCE*, 1801 Alexander Bell Drive, Reston, VA 20191; (703) 295-6300; e-mail: [conferences@asce.org](mailto:conferences@asce.org); <http://www.asce.org/conferences/cd05/>.

**TIEMS 12<sup>th</sup> Annual Conference.** Sponsor: The International Emergency Management Society. **Tórshavn, Faroe Islands: May 24-27, 2005.** This international conference will highlight the latest techniques, equipment, and theories in the profession while addressing the effects new technologies and geopolitical developments have had on it. The principal theme will be "Critical Infrastructures and System Failures." Abstracts for papers and other workshop issues are due November 15, 2004. For more information, contact *Rógvi F. Johansen*, P.O. Box 347, FO-110 Tórshavn, Faroe Islands; e-mail: [rogvij@fisk.fo](mailto:rogvij@fisk.fo); <http://www.tiems.org/>.

## Gender Equality and Disaster Risk Reduction: The "Honolulu Call to Action"

In preparation for the World Conference on Disaster Reduction (WCDR) in Kobe, Japan, in January 2005, a group affiliated with the recent Gender Equality and Disaster Risk Reduction Workshop in Hawaii has established a voluntary coordinating group to collaborate on gender-related recommendations and implementation strategies to present at the WCDR. While many workshop participants have pledged to promote the concept of improving gender equality in their organizations, the coordinating group is taking the initiative a step further and is looking at the language of background documents and making recommendations about areas where gender considerations should be incorporated more directly into disaster reduction strategies. These recommendations are being made through the national delegates who will be attending the WCDR.

Along with working to improve understanding of the importance of gender to sustainable disaster mitigation and reduction strategies, the group is also collaborating on a much needed *Gender and Disaster Sourcebook* (funded by the Public Entity Risk Institute and the East-West Center Pacific Disaster Center) based on existing documents, brochures, case studies, and success stories from around the world. The initial document will be published in English on CD-ROM and on the Internet. The concept of the sourcebook sprung from the need for a publicly available resource featuring examples of the implementation of gender fair practices in disaster risk reduction. Several authors will debut the sourcebook at the WCDR to solicit comments and input from the broader disaster risk management community.

For more information about the workshop outcomes (including the sourcebook), or if you are interested in participating in the "Honolulu Call to Action," contact *Cheryl Anderson*, University of Hawaii Social Science Research Institute, 2424 Maile Way, Saunders 719, Honolulu, HI 96822; (808) 956-3908; e-mail: [canderso@hawaii.edu](mailto:canderso@hawaii.edu) or *Greg Guibert*, Natural Hazards Center, University of Colorado, 482 UCB, Boulder, CO 80309; (303) 492-2149; e-mail: [greg.guibert@colorado.edu](mailto:greg.guibert@colorado.edu).





# INTERNET PAGES

Below are new or updated Internet resources that Hazards Center staff have found to be informative and useful.  
For a more complete list, visit <http://www.colorado.edu/hazards/resources/sites.html>.

## All Hazards

<http://www.indyweek.com/durham/2004-09-22/cover.html>

A recent article from the *Independent Weekly* examines the Federal Emergency Management Agency (FEMA) in the context of both natural hazards and homeland security issues.

[http://gisdata.usgs.net/website/disaster\\_response/](http://gisdata.usgs.net/website/disaster_response/)

As part of the U.S. Geological Survey's (USGS) National Map project, this Web site on the hazards data distribution system provides a dynamic online map interface that can be used to view USGS datasets.

[http://www.destinationcinema.com/our\\_films/fon/teacher\\_study\\_guides.asp](http://www.destinationcinema.com/our_films/fon/teacher_study_guides.asp)

Designed to complement the giant-screen film *Forces of Nature*, these teacher guides offer stand-alone background information and ideas for classroom activities on natural disasters.

<http://dels.nas.edu/>

The National Academies' Division on Earth and Life Studies has released an online earth and life studies gateway, which features news, reports, projects, and upcoming events.

<http://www.prepare.org/>

This Web site, sponsored by the American Red Cross and other community-based organizations, is designed to help families prepare for natural and human-caused disasters and serve the needs of vulnerable populations (seniors, children, people with disabilities, animal owners, and non-English speakers) through targeted and tailored information (e.g., a large print section, documents in multiple languages, and a text-only option).

<http://www.riskinstitute.org/test.php?pid=pubs&tid=1129>

The National Center for Small Communities and the Public Entity Risk Institute have published a starter kit of tools and information as part of their Community Leadership in a Risky World initiative. The information provided within this kit will help a small community or local government initiate an effective risk management program by simplifying and better directing developmental efforts.

<http://www.ed.gov/admins/lead/safety/emergencyplan/index.html>

As schools and communities prepare and develop plans for responding to potential emergency situations, the U.S. Department of Education has unveiled a Web page that links school leaders with resources to plan for any emergency, including natural disasters, violent incidents, and terrorist acts.

[http://www.oecd.org/document/41/0,2340,en\\_2649\\_34527\\_8002921\\_1\\_1\\_1\\_1,00.html](http://www.oecd.org/document/41/0,2340,en_2649_34527_8002921_1_1_1_1,00.html)

The Organisation for Economic Cooperation and Development offers this resource about school safety and security.

## Hurricanes

<http://www.publichealth.hurricane.lsu.edu/>

Louisiana State University's Center for the Study of Public Health Impacts of Hurricanes has a comprehensive Web site with a variety of related resources and links.

<http://www.bt.cdc.gov/disasters/hurricanes/printindex.asp>

The U.S. Centers for Disease Control and Prevention (CDC) has updated its index page of printable materials related to hurricanes.

<http://www.cnn.com/SPECIALS/2004/hurricanes/>

CNN's 2004 hurricane Web pages can be found here.

<http://coastal.er.usgs.gov/hurricanes/>

This Web site from the USGS Coastal and Marine Geology Program features hurricane and extreme storm impact studies conducted to better predict coastal change and identify hazards to be avoided. Recent studies feature Hurricanes Charley, Frances, Ivan, and Jeanne.

## Earthquakes

[http://pasadena.wr.usgs.gov/shake/STORE/X51147892/ciim\\_display.html](http://pasadena.wr.usgs.gov/shake/STORE/X51147892/ciim_display.html)

This USGS link provides a map of the zip code based experiential reports of the Parkfield, California, earthquake.

<http://www.fema.gov/hazards/earthquakes/nehpr/>

FEMA has debuted this Web feature about the National Earthquake Hazards Reduction Program (NEHRP) that includes resources, best practices, news releases, and more.



<http://www.prudent-solutions.com/Earthquake/>

This digital library, maintained by Prudent Solutions, is a resource for emergency managers and planners working with earthquakes and contains a systematic and searchable collection of resources.

[http://www.seismic.ca.gov/pub/CSSC\\_04-03ResearchPlan.pdf](http://www.seismic.ca.gov/pub/CSSC_04-03ResearchPlan.pdf)

This 15-page report, *A Safer, More Resilient California: The State Plan for Earthquake Research*, is the result of a California state law that requires the state's Seismic Safety Commission to develop a final five-year statewide earthquake research plan as part of its five-year hazard reduction plan.

## Volcanoes

<http://www.fs.fed.us/gpnf/volcanocams/msh/>

A VolcanoCam at the Johnston Ridge Observatory, about five miles from Mount St. Helens, lets volcano watchers monitor the volcano's activity from the safety and comfort of their desks.

<http://www.volcano.si.edu/gvp/>

The Smithsonian Institution's Global Volcanism Program integrates observations of contemporary volcanic activity with historical and geological records to aid in wise preparation for the future. This Web site includes a database of volcanoes of the world, reports of ongoing eruptions, and links to other volcano Web sites.

## Climate Change

<http://climatechange.unep.net/>

This United Nations Environment Programme portal is a central source for climate change information and resources. Sections include key issues, announcements, and major initiatives.

## Public Health/Bioterrorism

[http://www.benfieldhrc.org/SiteRoot/disaster\\_studies/working\\_papers/workingpaper10.pdf](http://www.benfieldhrc.org/SiteRoot/disaster_studies/working_papers/workingpaper10.pdf)

The Benfield Hazard Research Centre has published a new working paper "Plague and Bioterrorism," that uses historical and epidemiological evidence to argue that plague has serious limitations for terrorists as a potential weapon of mass destruction.

<http://www.norcalbt.com/region3/default.htm>

The California Region III Medical/Health Agency, involving over a dozen counties, launched this new bioterrorism and public health Web site.

<http://www.ahrq.gov/research/altsites.htm>

The Agency for Healthcare Research and Quality has posted a tool to help state and local officials quickly locate alternate health care sites if hospitals are overwhelmed by patients due to a bioterrorism attack or other public health emergency. The alternate care site-selection tool is included in a new report, *Rocky Mountain Regional Care Model for Bioterrorist Events*, which is also available at this site.

<http://www.bt.cdc.gov/es/>

The CDC has expanded its Spanish language emergency preparedness and response site to mimic the structure and content of its English counterpart.

<http://www.bt.cdc.gov/training/ncphr/>

CDC presentations from the First National Congress on Public Health and Readiness (held in July to strengthen linkages between health care and public health leaders to enhance preparedness) are available on this site.



## Terrorism/Radiological Emergencies

<http://www.mediapeace.org/terrorism.htm>

The Institute for Media, Peace, and Security has created a media, conflict, and terrorism Web page to serve as a research tool for journalists and other interested individuals. The page links to analyses and commentaries on the attacks of September 11, terrorism in general, and, specifically, the role of the media in covering terrorist events.

<http://www.rand.org/publications/MR/MR1731.2/>

This pocket survival guide, *What You Should Do to Prepare for and Respond to Chemical, Radiological, Nuclear, and Biological Terrorist Attacks*, focuses on simple steps individuals can take to prepare for and respond to terrorist attacks with chemical, biological, radiological ("dirty bomb"), and nuclear weapons. A printable version and software for Palm devices are available for download.

<http://www.nrc.gov/what-we-do/emerg-preparedness.html>

This Nuclear Regulatory Commission Web page is dedicated to radiological emergency preparedness and response.

## September 11

<http://www.wtceo.org/>

The World Trade Center Environmental Organization was founded in the wake of the environmental disaster of September 11, 2001, to protest the government's response, which they feel was inadequate at best. This site provides a thumbnail history of the disaster with links to scientific articles and press and serves as a gateway to an array of other related Web sites.

<http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5335a1.htm>

<http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5335a3.htm>

CDC's September 10, 2004, issue of the *Morbidity and Mortality Weekly Report* features research findings related to the World Trade Center: "Preliminary Results from the World Trade Center Evacuation Study" and "Physical Health Status of World Trade Center Rescue and Recovery Workers and Volunteers."



# CONTRACTS AND GRANTS

Below are descriptions of recently awarded contracts and grants related to hazards and disasters. An inventory of awards from 1995 to the present is available at <http://www.colorado.edu/hazards/resources/grants/>.

**IT-Based Collaboration Framework for Preparing against, Responding to, and Recovering from Disasters Involving Critical Physical Infrastructures.** Funding: National Science Foundation. Five years. Principal Investigators: *Feniosky Peña-Mora, Gene E. Robinson, Indranil Gupta, Noshir S. Contractor, and Andrea B. Hollingshead.* University of Illinois at Urbana-Champaign, 801 South Wright Street, Champaign, IL 61820; (217) 333-2186; e-mail: [feniosky@uiuc.edu](mailto:feniosky@uiuc.edu).

The objective of this project is to develop and test a conceptual framework designed to reduce uncertainty and improve collaboration among the key actors involved in three phases of first response: preparation, response, and recovery. The interdisciplinary research team will examine the technological and social processes of collaboration from multiple viewpoints, each of which will be represented in the framework. This project aims to advance theory, research, and practice regarding efficient and effective first response by, among other things, focusing on collaboration in chaotic, volatile, and complex disaster relief environments requiring interaction among both stationary and mobile users and among users and technological devices such as sensors and communication media.

**Evaluation of Ground Rupture Effects on Critical Lifelines.** Funding: National Science Foundation. Four years. Principal Investigators: *Thomas D. O'Rourke, Harry E. Stewart, Michael Symans, Kathleen Kraft, and Michael J. O'Rourke.* Cornell University, Office of Sponsored Programs, Ithaca, NY 14853; (607) 255-5014; e-mail: [tdo1@cornell.edu](mailto:tdo1@cornell.edu).

This research addresses the effects of large differential ground deformation on buried pipeline and conduit performance as they relate to the safety and reliability of critical infrastructure. Investigators will use state-of-the-art modeling and quantification of earthquake-induced ground movement to study the effects that such movement, as well as landslides, mining, extraction of subsurface fluids, and underground construction, can have on lifelines. Research investments will be leveraged into improved practices for water, electric power, gas and liquid fuel, telecommunication, transportation, and wastewater conveyance. A substantial collaboration with industry will ensure that the results provide maximum impact in prac-

tice, continuing education of the U.S. workforce, and implementation of infrastructure projects nationwide.

**Integrating Risk Analysis and Risk Communication.** Funding: National Science Foundation. Three years. Principal Investigators: *Baruch Fischhoff, Julie S. Downs, H. Keith Florig, and Elizabeth A. Casman.* Carnegie Mellon University, 5000 Forbes Avenue, Pittsburgh, PA 15213; (412) 268-8746; e-mail: [bf0r@andrew.cmu.edu](mailto:bf0r@andrew.cmu.edu).

This project will pursue behaviorally realistic risk analysis in the context of three relatively unrelated risks: radiological emergencies, adolescents' safety and violence, and animal vectors spreading disease to humans. In addressing these issues, investigators will develop and apply the emerging methodology of integrated assessment to include the social, behavioral, and economic sciences. They will then document their methodology to facilitate its use by researchers doing similar work in other risk domains. The project will conclude with a workshop designed to enable and encourage attendees to begin their own interdisciplinary collaborations.

**Computer-Assisted Interpretation of Citizen Input in Rebuilding Lower Manhattan.** Funding: National Science Foundation. One year. Principal Investigators: *Javed Mostafa.* Indiana University, P.O. Box 1847, Bloomington, IN 47402; (812) 855-0516; e-mail: [jm@indiana.edu](mailto:jm@indiana.edu); and *David C. Stark.* Columbia University, 1210 Amsterdam Avenue, MC 2205, New York, NY 10027; (212) 854-6851; e-mail: [dcs36@columbia.edu](mailto:dcs36@columbia.edu).

This collaborative research project will use an extensive digital archive of oral statements regarding the rebuilding of Lower Manhattan to test various strategies of computer-assisted interpretation. Computer-mediated communication offers new channels for citizens to express their views to elected officials and government agencies. The often overwhelming number of comments can pose technical and political challenges. This project seeks to help overcome these challenges by addressing how officials and agencies can make sense of large-scale citizen input and how meaningful patterns can be efficiently and effectively identified. By doing so, it will contribute to advancing the understanding of the opportunities and limitations of computer-assisted interpretation.

**U.S.-China Cooperative Research in Integrated Health Monitoring with Emphasis on Earthquake and Natural Hazard Applications.** Funding: National Science Foundation. Three years. Principal Investigator: *Ming-Liang Wang, University of Illinois at Chicago, 1737 West Polk Street, Chicago, IL 60612; (312) 996-7000; e-mail: mlwang@uic.edu.*

The U.S.-China Joint Task Force funded by this grant plans to develop an integrated structural health monitoring program to improve structural reliability and longevity, enhance system performance, and strengthen safety against natural hazards, such as earthquakes, as well as human-caused events. The project will combine the sensor technology developed by the U.S. with China's methods for using the sensor technology to monitor real structures. It will also facilitate technology transfer and involve industry and governmental agencies active in integrated health monitoring.

**Medical Response to Terrorist Attacks and Other Diseases.** Funding: National Institute of Allergy and Infectious Diseases. \$100,000, six months. Principal Investigator: *Michael A. Grasso, Segue Corporation, 8265 Hammond Branch Way, Laurel, MD 20723; e-mail: mikegras@umbc.edu.*

The purpose of this project is to create a communication network for an emergency department to effectively mobilize and utilize medical personnel during a terrorist attack or other disaster. In conjunction with a disaster plan, the investigator proposes using wireless-enabled handheld computers plus several redundant wireless protocols for reliable and portable communication to alert medical personnel in the event of a large-scale emergency. The same system will be able to provide additional communications and data functions throughout the response.

**Sensor-Based Real-Time Feedback Control Evacuation Strategies for Buildings in Emergencies.** Funding: National Science Foundation. Two years. Principal Investigators: *Mahendra P. Singh, Scott Geller, and Pushkin Kachroo, Virginia Polytechnic Institute and State University, 460 Turner Street, Suite 306, Blacksburg, VA 24060; (540) 231-5281; e-mail: mpsingh@vt.edu.*

This project will develop a sensor-based, real-time feedback control scheme for time-optimal and safe evacuation of people from large complexes in an emergency. The scheme will be constructed so that sensor-collected data will be interpreted, used, and synthesized to formulate a feedback control command to be delivered through strategically located speakers, television monitors, or lighted displays so that people can be quickly and effectively guided to safety.

**Simple Indices of Climate Variability and Change.** Funding: National Science Foundation. One year. Principal Investigator: *David J. Karoly, University of Oklahoma, 731 Elm Avenue, Room 134, Norman, OK 73019; (405) 325-4757; e-mail: dkaroly@ou.edu.*

Five simple indices of large-scale surface temperature variations will be used in this study to assess the performance of climate models in simulating climate variability

and change during the twentieth century. These indices will be calculated globally and for the North American region from observational data for the period 1880-2003 and compared with data from model simulations from this same period. The purpose of the study is to provide greater confidence in the use of models for climate change detection and attribution studies and for projection of future climate change.

**The Sociocultural Dynamics of Risk Perception.** Funding: National Science Foundation. One year. Principal Investigators: *Anthony A. Leiserowitz and Paul Slovic, Decision Science Research Institute, 1201 Oak Street, Eugene, OR 97401; (541) 485-2400; e-mail: ecotone@uoregon.edu.*

As part of a broader program to understand the sociocultural dynamics of risk perception, decision making, and behavior, this exploratory project aims to identify, describe, and explain the existence of discrete "interpretive communities of risk," clusters of individuals who share mutually compatible risk perceptions, affective imagery, cultural worldviews, and sociodemographic characteristics. Results from this study will contribute to emerging theory on the role these characteristics play in risk perception and decision making.

**Physical Modeling of 3D Tsunami Evolution Using a Landslide Tsunami Generator.** Funding: National Science Foundation. Three years. Principal Investigators: *Hermann M. Fritz, Alexander M. Puzrin, and Leonid N. Germanovich, Georgia Tech Research Corporation, 505 10th Street, Atlanta, GA 30332; (404) 385-0866; e-mail: hermann.fritz@gtrep.gatech.edu.*

While some tsunamis are triggered directly by seismic impact, others are the result of massive submarine landslides. The long-term goal of this project is to develop a fundamental understanding of the mechanism of tsunami-genic landslides and subsequent tsunami generation, propagation, and run-up, allowing for improved assessment and possible mitigation of the landslide and tsunami hazard. Investigators aim to compensate for an inadequacy of existing data by the physical modeling of three-dimensional tsunami evolution using a novel landslide tsunami generator to help them achieve this goal.

**Place-Based Decision Support and Temporal Transference of Risk and Hazards.** Funding: National Science Foundation. Three years. Principal Investigator: *John P. Wilson, University of Southern California, University Park, Los Angeles, CA 90089; (213) 740-2934; e-mail: jpwilson@usc.edu.*

By examining the impacts of hazards and risk on people and the places they live and developing new methods and models for measuring vulnerability (and resilience) to extreme events and chronic risks at the local level, this principal investigator hopes to shed light on the role inequality (geographic, temporal, and social) plays in vulnerability. Project outcomes will include a protocol and tool kit for information gathering as well as knowledge and tools that can be transferred to practitioners, providing a scientific basis for hazards management decision making.

**Evaluation of Midlatitude Storm Characteristics and Variability in Intergovernmental Panel on Climate Change Coupled Models.** Funding: National Science Foundation. One year. Principal Investigator: *George Tselioudis, Columbia University, 1210 Amsterdam Avenue, MC 2205, New York, NY 10027; (212) 854-6851; e-mail: gtselioudis@giss.nasa.gov.*

This study will evaluate the ability of coupled climate model historical runs to simulate the spatial characteristics

of midlatitude storm tracks, the intensity of midlatitude storms, and the temporal variability of storm tracks at time scales that range from seasonal to decadal. It aims to uncover deficiencies in the modeled representation of midlatitude storm tracks in a changing climate environment and help overcome these deficiencies to improve the quality of future climate and water resources information available to environmental managers and policy makers.

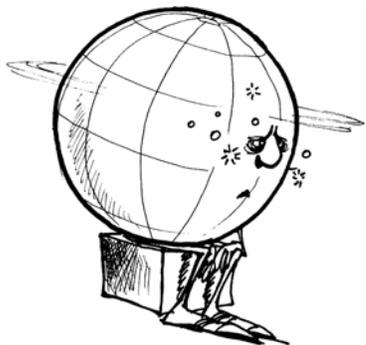
## Small Grants Program for Developing Countries

The Earthquake Engineering Research Institute (EERI) has developed a grant program to support local efforts, capacity building, and leadership development in the field of earthquake mitigation in the developing world. Earthquake risk reduction is challenging in developing countries due to complex socioeconomic and technical issues and the need to derive effective, locally sensitive solutions.

The grant program will support small projects led by in-country experts. Eligible projects include, but are not limited to, workshops or training programs, seismic code development, developing or translating resource materials, information dissemination, and curriculum development.

Interested individuals must send an initial proposal (via e-mail) that describes the project and explains why EERI should fund it. For complete eligibility requirements and proposal procedure, contact *James Godfrey, EERI, 499 14th Street, Suite 320, Oakland, CA 94611; e-mail: jgodfrey@eeri.org; http://www.eeri.org/.*

## NSF Funds Climate Change Research



Interdisciplinary research teams from Arizona State University, Carnegie Mellon University, Columbia University, University of Colorado at Boulder, and the Rand Corporation will share \$25 million from the National Science Foundation (NSF) over five years to study decision making under uncertainty

as part of the U.S. Climate Change Research Initiative. Recent research on the causes and consequences of climate change and variability has underscored the need to better understand how decision makers choose among alternative courses of action.

- **Decision Center for a Desert City: The Science and Policy of Climate Uncertainty.** Using Phoenix, Arizona, as a laboratory, researchers will study adaptation strategies related to water management in an arid climate and experiment with new methods to understand how to make decisions that reduce vulnerability to climate uncertainty. Principal Investigators: *Patricia Gober and Grady Gammage, Arizona State University, Box 3503, Tempe, AZ 85287; (480) 965-9011; e-mail: gober@asu.edu.*
- **Climate and Related Decision Making in the Face of Irreducible Uncertainties.** The Climate Decision Making Center will focus on limits to accurate predictions of climate change and its impacts in the broader context of the public policy, economic, and social environments in which decision makers work. Principal Investigator: *M. Granger Morgan, Carnegie Mellon University, 5000*

*Forbes Avenue, Pittsburgh, PA 15213; (412) 268-8746; e-mail: granger.morgan@andrew.cmu.edu.*

- **Individual and Group Decision Making Under Climate Uncertainty.** The Center for the Study of Individual and Group Decision Making Under Climate Uncertainty will study decision-making processes on multiple scales, integrating psychological insights with those of other social sciences. Researchers will design and test decision tools, institutional strategies, and educational inventions that will better inform people about the impacts of climate change and response options. Principal Investigators: *David Krantz and Kenneth Broad, Columbia University, 1210 Amsterdam Avenue, MC 2205, New York, NY 10027; (212) 854-6851; e-mail: dhk@psych.columbia.edu.*
- **Science Policy Assessment and Research on Climate (SPARC) for Decision Making Under Uncertainty.** In an effort to expand upon available policy options, SPARC will examine decision makers' expectations about what science can deliver, whether policy makers can use available information, and what information might be useful to them in the future. Principal Investigators: *Roger Pielke, Jr. and Daniel Sarewitz, University of Colorado at Boulder, 3100 Marine Street, Room 481, Boulder, CO 80309; (303) 492-6221; e-mail: pielke@cires.colorado.edu.*
- **Improving Decisions in a Complex and Changing World.** This team will conduct fundamental research on different characterizations of uncertainty and develop quantitative tools on decision making. Principal Investigators: *Robert Lempert, Anthony Michaels, David Budescu, and Klaus Keller, Rand Corporation, 1700 Main Street, Santa Monica, CA 90407; (310) 393-0411. e-mail: Robert\_Lempert@rand.org.*

## Amateur Radio Operators Vital in Disaster Response

Amateur radio operators have a history of providing supplemental communications to local, regional, and state emergency operations. The recent spate of hurricanes in the southeast United States was no exception. Three organizations that played roles in the emergency operations are Hurricane Watch Net (HWN), the Radio Amateur Civil Emergency Service (RACES), and the Amateur Radio Emergency Service (ARES).

The HWN consists of a group of licensed amateur radio operators trained and organized to provide essential communications support to the National Hurricane Center (NHC) during times of hurricane emergencies. Its primary mission is to disseminate tropical cyclone advisory information to the Caribbean, Latin America, and the United States. The HWN activates whenever a hurricane is within 300 miles of projected landfall or becomes a serious threat to a populated area, gathering ground-level weather data and damage reports and conveying that information to the hurricane forecasters in the NHC. Operators are strategically dispersed throughout the hurricane-prone regions to provide a continuous path of communications from storm-affected areas to the NHC.

Unlike the HWN, which operates in advance of a storm, RACES is not activated until an event results in a formally declared disaster, and response becomes a governmental action. RACES was originally created to support communications during civil defense emergencies, but the role of the operators now includes support to local emergency management during other types of disasters and emergencies. More formal than ARES, it is supported by the U.S. Department of Homeland Security (DHS) and its responsibilities are laid out in the Federal Emergency Management Agency's *Civil Preparedness Guide* available at <http://www.fema.gov/library/civilpg.shtm>.

Although similar to RACES, ARES has a much more informal relationship with DHS. As a result, ARES operators can self-deploy (they do not need to be officially activated) and thus play a role in a wider range of incidents and are often activated earlier than RACES operators. Many operators are involved in both organizations and can easily switch roles (from ARES to RACES) once a disaster is formally declared. Among other things, these operators supplement communication at emergency operations centers and shelters by assisting with interagency communications, providing an alternative

means of communication when traditional methods are unavailable, and freeing-up emergency personnel to focus on other things. Fully trained to work within the incident command system, they are also included in exercises and drills and often incorporated into local emergency response plans. For more information about these organizations and their contributions to community safety and security, visit them on the Web.

<http://www.hwn.org/>  
Hurricane Watch Net

<http://www.fiu.edu/orgs/w4ehw/>  
Amateur Radio Station at the National Hurricane Center

<http://www.races.net/>  
Radio Amateur Civil Emergency Service

<http://www.ares.org/>  
Amateur Radio Emergency Service



## Citizen Corps Mobilized to Assist with Hurricane Disaster Support

The recent hurricanes marked the first-ever nationwide activation of Citizen Corps members, expanding the mission of the Citizen Corps from a locally based program to a national resource and reinforcing the importance of citizen preparedness. By tapping Citizen Corps members who are trained in first aid or disaster response and who volunteer in their communities, the state and federal response system has an additional resource for large-scale disasters.

Citizen Corps Councils and national Citizen Corps affiliate organizations mobilized more than 2,600 volunteers and representatives from 48 states to provide disaster

support to communities affected by Hurricanes Charley, Frances, Ivan, and Jeanne. In addition, Citizen Corps Councils and volunteer members already established within Florida played a role in the state coordinated disaster relief efforts.

The Citizen Corps is DHS' nationwide grass-roots program created to actively involve Americans in making communities safer, stronger, and better prepared for all emergencies. Fifty percent of the U.S. population is now served by nearly 1,400 state, county, local, and tribal Citizen Corps Councils. Find out more about the Citizens Corps at <http://www.citizen corps.gov/>.



# RECENT PUBLICATIONS

Below are brief descriptions of a sampling of recent publications on hazards and disasters received by the Hazards Center. Information on how to obtain copies is included.

## All Hazards

***Communicating Environmental Risk in Multiethnic Communities.*** Michael K. Lindell and Ronald W. Perry. *Communicating Effectively in Multicultural Contexts Vol. 7.* ISBN 0-7619-0651-7. 2004. 272 pp. \$42.95. Available from Sage Publications, 2455 Teller Road, Thousand Oaks, CA 91320; (805) 499-9774, (800) 818-7243; <http://www.sagepublications.com/>.

Written primarily for professionals in emergency management, community planning, public administration, and environmental health, as well as students in those fields, this book addresses the theory and practice of disseminating disaster warnings and hazard education messages to multiethnic communities. It provides an overview of environmental hazards management and summarizes the role of ethnicity in community functioning; reviews the principal social science theories relevant to risk communication; summarizes the literature on disaster response, focusing on reactions to disaster warnings; discusses the literature on the adoption and implementation of hazard adjustments; and, finally, identifies approaches to influencing hazard adjustment adoption.

***Working Together to Support Individuals in an Emergency or Disaster.*** Moya Wood-Heath and Martin Annis. 2004. 30 pp. plus appendices. Available free online from the British Red Cross, 9 Grosvenor Crescent, London, SW1X 7EJ UK; +44 (0)20 7201 5027; e-mail: [information@redcross.org.uk](mailto:information@redcross.org.uk); <http://www.redcross.org.uk/in dex.asp?id=18804>.

This report is the result of a project and workshop conducted by the British Red Cross to enable governments and nongovernmental agencies of European Union Member States and European Economic Area countries to better understand and respond to the psychosocial needs of individuals affected by an emergency or disaster and to recognize the value of guidance in achieving more commonality in meeting those needs. The report features project methodology, findings, conclusions, recommendations, and extensive appendices (e.g., national profiles, workshop materials, and a literature search).

***Gender Dimensions in Disaster Management: A Guide for South Asia.*** Madhavi Malalgoda Ariyabandu and Maithree Wickramasinghe. ISBN 955-9417-16-9. 2003. 176 pp. \$12.00. Available from ITDG South Asia, 5 Lionel Edirisinghe Mawatha, Kirulapone, Colombo 5, Sri Lanka; +94 11 2829412; e-mail: [general@itdg.sl.lk](mailto:general@itdg.sl.lk); [http://www.itdg.org/?id=region\\_south\\_asia](http://www.itdg.org/?id=region_south_asia).

This guidebook aims to address the lack of empirical knowledge about the relationship between gender and disasters in South Asian countries. Starting with the perspective that disasters are a part of living with nature, the guide is designed to broadly introduce the topic of gender and disasters, explore the specific vulnerabilities of both men and women, and raise awareness among policy makers and development practitioners working in South Asia. The book includes agenda setting checklists for decision makers and guidelines for practitioners, along with a glossary, a section on recommended reading, and selected Internet sites.

***Risk Communication: A Handbook for Communicating Environmental, Safety, and Health Risks.*** Third Edition. Regina Lundgren and Andrea McMakin. ISBN 1-57477-142-6. 2004. 473 pp. \$34.95. Available from Battelle Press, 505 King Avenue, Columbus, Ohio 43201; (614) 424-6393, (800) 451-3543; e-mail: [press@battelle.org](mailto:press@battelle.org); <http://www.battelle.org/>.

This handbook of strategies and guidance for conveying risk information was written for anyone responsible for communicating health, safety, and environmental risks in the United States. It provides information about current laws, stakeholder participation methods, and working with the news media. New sections in this significantly expanded third edition include communicating about bioterrorism and other emergencies, developing messages, and using facilitated deliberation and alternative dispute resolution methods. Sections on using technology in communication, choosing visuals, understanding stigma and privacy issues, and evaluating communication results have been updated to include the latest methods and research-driven examples.

***Design Guide for Improving School Safety in Earthquakes, Floods, and High Winds.*** Risk Management Series. FEMA 424. 2004. 361 pp. Free. Available from the Federal Emergency Management Agency Distribution Center, P.O. Box 2013, Jessup, MD 20794; (800) 480-2520; <http://www.fema.gov/fima/rmsp424.shtm>.

The focus of this publication is on the safety of school buildings and their occupants and the economic losses and social disruption caused by building damage and destruction in the wake of a natural disaster. It concentrates specifically on new grade schools (K-12), but the repair, renovation, and extension of existing schools is also addressed. The intended audience for this manual includes design professionals and school officials involved in school construction, repair, and renovation. A companion volume, ***Primer to Design Safe School Projects in Case of Terrorist Attacks***, covers physical, chemical, biological, and radiological attacks (see the *Observer*, March 2004, pp. 6-7).

***Hazard & Risk Science Review 2004.*** 2004. 38 pp. Available free online from the Benfield Hazard Research Centre, Department of Earth Sciences, University College London, 136 Gower Street, London, WC1E 6BT UK; +44 (0)20 7679 3637; e-mail: [info@benfieldhrc.org](mailto:info@benfieldhrc.org); [http://benfieldhrc.com/SiteRoot/activities/hrsr/hrsr2004\\_web.pdf](http://benfieldhrc.com/SiteRoot/activities/hrsr/hrsr2004_web.pdf).

Every year, thousands of scientific papers are published addressing natural hazards, the processes and mechanisms that drive them, and their impacts and ramifications. Many of these papers contain information that is of direct relevance and considerable importance to the insurance market, but which may take several years to filter down from academia to the business world. This text accelerates this process by highlighting new and pertinent research from the past year, focusing on atmospheric, geological, and hydrological hazards as well as climate change.

**From the WTC Tragedy to the Development of Disaster Engineering for Landmark Buildings—An Extension of the Performance-based Earthquake Engineering Approach.** George C. Lee, Vladimir Rzhovsky, Mai Tong, and Suwen Chen. MCEER-03-SP04. 2003. 91 pp. \$25.00. Available from the Multidisciplinary Center for Earthquake Engineering Research, Publications Department, University at Buffalo, State University of New York, Red Jacket Quadrangle, Box 610025, Buffalo, NY 14261; (716) 645-3391; e-mail: mceer@acsu.buffalo.edu; <http://mceer.buffalo.edu/>.

The purpose of this fourth study in the Engineering and Organizational Issues Related to the World Trade Center Attack series was to formulate a rational and reasonable multihazard design platform. This report reviews the multihazard loadings (collision, fire, and explosion) that contributed to the collapse of the World Trade Center and defines “multihazard engineering,” a performance-based engineering approach that combines earthquake engineering design, hazard mitigation methods, structural response control approaches, and lessons learned from the collapse. With the intention of preventing or reducing the possibility of similar disasters and saving lives, the authors propose a new building performance requirement related to major disasters called “delayed building collapse” and a new performance level category called “catastrophe limitation.”

**Mediated Modeling: A System Dynamics Approach to Environmental Consensus Building.** Marjan van den Belt. ISBN 1-55963-961-X. 2004. 296 pp. \$35.00. Available from Island Press, P.O. Box 7, Covelo, CA 95428; (800) 828-1302; e-mail: [service@islandpress.org](mailto:service@islandpress.org); <http://www.islandpress.org/>.

This guide applies mediated modeling—a decision support tool that facilitates the integration of expert information and stakeholder participation in a dynamic framework to address complex problems—to environmental decision making. Written for anyone interested in making sound environmental policy and management decisions, the book features five successful case studies employing mediated modeling (e.g., watershed and coastal zone management) accompanied by chapters on the role of mediated modeling, the mediated modeling process, and lessons learned.

## Earthquakes

**Promoting Seismic Safety: Guidance for Advocates.** Daniel Alesch, Peter May, Robert Olshansky, William Petak, and Kathleen Tierney. 2004. 200 pp. \$35.00. Available from the Multidisciplinary Center for Earthquake Engineering Research, Publications Department, University at Buffalo, State University of New York, Red Jacket Quadrangle, Box 610025, Buffalo, NY 14261; (716) 645-3391; e-mail: [mceer@mceermail.buffalo.edu](mailto:mceer@mceermail.buffalo.edu); <http://mceer.buffalo.edu/>.

Funded by the Federal Emergency Management Agency and authored by researchers at the Mid-America Earthquake Center, the Multidisciplinary Center for Earthquake Engineering Research, and the Pacific Earthquake Engineering Research Center, this report distills the findings of previous social science and policy research to provide guidance to seismic safety advocates. The first part of the report, “Guidance for Advocates,” is a collection of concise tips for advocates organized under the themes of successful seismic safety advocacy, earthquake basics, ABCs of seismic building codes, policies and legislation, appearing before committees, informing and persuading, partnerships for seismic safety, working with experts, effective risk communication, and using the media. The second part features background papers developed by the authors to support and amplify the advice presented in the guidance section.

**Early Earthquakes of the Americas.** Robert L. Kovach. ISBN 0-521-82489-3. 2004. 280 pp. \$90.00. Available from Cambridge University Press, 100 Brook Hill Drive, West Nyack, NY 10994; (845) 353-7500; e-mail: [orders@cup.org](mailto:orders@cup.org); <http://us.cambridge.org/>.

This examination of the historical earthquakes of North and South America describes their effects and the interplay between archaeology, myths and legends, and past earthquake and volcanic occurrences. These relationships are central to the evolving discipline known as archaeoseismology, which studies temporal and permanent imprints produced by earthquakes, encourages further attention to past occurrences by archaeologists and historians, and

promotes the role of seismology in understanding how ancient societies and cultural centers were developed and abandoned.

**Earthquake Engineering: From Engineering Seismology to Performance-Based Engineering.** Yousef Bozorgnia and Vitelmo V. Bertero, editors. ISBN 0-8493-1439-9. 2004. 1,024 pp. \$189.95. Available from CRC Press, 2000 NW Corporate Boulevard; Boca Raton, FL 33431; (561) 994-0555, (800) 272-7737; e-mail: [orders@crcpress.com](mailto:orders@crcpress.com); <http://www.crcpress.com/>.

Published in conjunction with the International Code Council, the purpose of this publication is to present advances in scientific knowledge on various topics of earthquake engineering in a single volume. Recommended as a resource for professors, students, seismologists, architects, and engineers, this book includes a historical background of earthquake engineering, geotechnical and probabilistic aspects of seismic hazards and analysis, performance-based seismic engineering and innovative strategies, the seismic behavior of various structural materials, and techniques for the design of seismically resistant buildings and structures.

**Review of Non-Engineered Houses in Latin America with Reference to Building Practices and Self-Construction Projects.** Aikaterini Papanikolaou and Fabio Taucer. 2004. 228 pp. Available free online from the Joint Research Centre of the European Commission, Institute for the Protection and Security of the Citizen at the European Laboratory for Structural Assessment, Via Enrico Fermi 1, I-211020 Ispra (VA), Italy; +39 033278 9989; e-mail: [ipsc@jrc.it](mailto:ipsc@jrc.it); <http://elsad.jrc.it/> (request folder ID: AF-323).

A substantial amount of residential housing in Latin America is nonengineered and self-constructed, using earth-based techniques such as adobe. These types of houses are at a significantly high seismic risk as evidenced by the aftermath of past and recent earthquakes. This report uses case studies and field reports from selected areas in the region and focuses on housing, reconstruction, and postdisaster government support policies. Chapters include seismic risk associated with nonengineered buildings, housing and postdisaster reconstruction policies, earth-based construction, seismic performance on nonengineered housing units, and self-construction manuals.

## Severe Weather

**No Adverse Impact Floodplain Management and the Courts.** Jon A. Kusler. 2004. 40 pp. Available free online from the Association of State Floodplain Managers, 2809 Fish Hatchery Road, Suite 204, Madison, WI 53713; (608) 274-0123; e-mail: [asfpm@floods.org](mailto:asfpm@floods.org); [http://www.floods.org/NoAdverseImpact/NAI\\_AND\\_THE\\_COURTS.pdf](http://www.floods.org/NoAdverseImpact/NAI_AND_THE_COURTS.pdf).

This paper discusses legal issues associated with a “no adverse impact” approach to floodplain management in the United States. Based in part on a review of floodplain cases from the last 15 years as well as earlier surveys of flood, erosion, and other natural hazard cases, this paper examines the relationship of a no adverse impact approach to landowner common law rights and duties pertaining to flooding and erosion and the constitutionality of floodplain regulations that incorporate a no adverse impact standard. It is intended primarily for lawyers who advise land planners, legislators, and natural hazards managers, as well as lawyers who defend governments against natural hazards-related common law or constitutional suits. The secondary audience includes federal, state, and local government officials, regulators, academics, legislators, and others whose duties and decisions can affect or reduce flood hazards.

**Field Manual: Safety Evaluation of Buildings After Wind Storms and Floods.** ATC-45. 2004. 132 pp. \$34.25. Available from the Applied Technology Council, 201 Redwood Shores Parkway, Suite 240, Redwood City, CA 94065; (650) 595-1542; e-mail: [atc@atcouncil.org](mailto:atc@atcouncil.org); <http://www.atcouncil.org/>.

Printed in an easy-to-use, pocket-sized format, this field manual provides guidelines and procedures for conducting building safety evaluations after windstorms and floods to determine whether damaged or potentially damaged buildings are safe for use or if entry should be restricted or prohibited. Written for building offi-

cials, building inspectors, engineers, and others tasked with postdisaster inspections, it includes procedures for rapid and detailed safety evaluations; advice on evaluating structural, geotechnical, and non-structural risks; field safety tips; and guidance on how to deal with owners and occupants of damaged buildings. Featured evaluation forms and posting placards can be downloaded free online at <http://www.atcouncil.org/ATC45.shtml>.

## Wildfire

**Southern California Wildfires: October 20 to November 3, 2003. Service Assessment.** 2004. 45 pp. Free. Available from the National Weather Service, 1325 East-West Highway, W/OS52, Silver Spring, MD 20910; (301) 713-0090; e-mail: [wayne.presnell@noaa.gov](mailto:wayne.presnell@noaa.gov); <http://www.nws.noaa.gov/om/assessments/pdfs/Signed-Wildfire.pdf>.

Santa Ana Winds in southern California coupled with long-term abnormally dry conditions across the area set the stage for one of the more costly natural disasters in California history. During late October into early November 2003, 14 wind driven wildfires swept across southern California, killing 22 people, destroying 3,600 homes, charring nearly 740,000 acres of land, and causing more than \$2 billion in property damage. The assessors examined the forecast and warning services provided to land managers, fire-control personnel, emergency planners, media, and the public and found that consistent, high quality products, services, and information were provided by the National Weather Service.

**Smokechasing.** Stephen J. Pyne. ISBN 0-8165-2285-5. 2004. 260 pp. \$19.95. Available from the University of Arizona Press, 355 South Euclid Avenue, Suite 103, Tucson, AZ 85721; (520) 626-4218, (800) 426-3797; e-mail: [uapress@uapress.arizona.edu](mailto:uapress@uapress.arizona.edu); <http://www.uapress.arizona.edu/>.

This collection of 32 essays about smokechasing, the practice of sending firefighters into the wild to track down the sources of reported smoke, builds on a previous anthology, **World Fire: The Culture of Fire on Earth**, and explores the history and lore of wildland fire and its management. Issues include fire ecology, federal fire management, and fire suppression.

**Achieving Healthy Forests and Rangelands: National Fire Plan Performance Update.** 2004. 40 pp. Available free online from the U.S. Department of the Interior, 1849 C Street, NW, Washington, DC 20240; (202) 208-3100; <http://www.doi.gov/initiatives/NationalFirePlan2004.pdf>.

This report by the Wildland Fire Leadership Council details accomplishments by the U.S. Departments of Agriculture and the Interior in the treatment of hazardous fuels and protection of the wildland/urban interface from catastrophic wildfires.

**Australia Burning: Fire Ecology, Policy and Management Issues.** Geoffrey Cary, David Lindenmayer, and Stephen Dovers, editors. ISBN 0-643-06926-7. 2003. 280 pp. Au\$39.95. Published by CSIRO Publishing (Australia). Available from Antipodes Books & Beyond, 9707 Fairway Avenue, Silver Spring, MD; (301) 602-9519; e-mail: [antipode@antipodesbooks.com](mailto:antipode@antipodesbooks.com); <http://www.antipodesbooks.com/>.

In recognition of the need to integrate the natural and social sciences in the formulation of wildfire public policy, this book examines some of the key questions relating to the ecology, prediction, and management of fire; urban planning; law; insurance; and community issues. This book is based on papers and commentaries from the National Fire Forum in Canberra, Australia, in February 2003. Written for scientists, land managers, policy makers, students, and interested community members, it explores the avenues for closer integration between science, policy, and the community.

**Wildfire Mitigation in Florida: Land Use Planning Strategies and Best Development Practices.** 2004. 145 pp. Available free online from the Division of Community Planning, Publications, Florida Department of Community Affairs, 2555 Shumard Oak Boulevard, Tallahassee, FL 32399; (850) 487-4545; e-mail: [cynthia.palmer@dca.state.fl.us](mailto:cynthia.palmer@dca.state.fl.us); [http://www.floridadisaster.org/brm/Handbook/Wildfire\\_Mitigation\\_in\\_FL.pdf](http://www.floridadisaster.org/brm/Handbook/Wildfire_Mitigation_in_FL.pdf).

This guide is a manual for communities at risk from wildland fire. It identifies a number of wildfire mitigation strategies that communities have found helpful. Case studies, diagrams, and photographs are included to illustrate points made in each chapter. Major subject areas include fire ecology and wildfire mitigation in Florida, community planning to reduce wildfire risk, development guidelines and standards for wildfire mitigation, neighborhood design for reduced wildfire risk, building construction for reduced wildfire risk, and landscaping for wildfire mitigation.

**Landscape and Building Design for Bushfire Areas.** Caird Ramsay and Lisle Rudolph. ISBN 0-643-06904-6. 2003. 112 pp. \$36.00. Published by CSIRO Publishing (Australia). Available from Antipodes Books & Beyond, 9707 Fairway Avenue, Silver Spring, MD; (301) 602-9519; e-mail: [antipode@antipodesbooks.com](mailto:antipode@antipodesbooks.com); <http://www.antipodesbooks.com/>.

This design manual integrates the latest scientific knowledge about buildings and bushfires with a flexible design approach to help planning and building regulatory authorities improve and administer regulatory requirements and guidelines. After describing the environment in which bushfires occur, how a fire attacks, and how buildings are ignited and destroyed, it sets out a practical design approach for the application of established knowledge to the design of buildings and their immediate surroundings. It also encourages design for bushfire to be included as a normal part of designing in bushfire-prone areas, rather than as an undesirable add-on.

## Coastal Hazards

**A Geospatial Framework for the Coastal Zone: National Needs for Coastal Mapping and Charting.** National Research Council of the National Academies. ISBN 0-309-09176-4. 2004. 168 pp. \$30.00. A PDF version is \$20.50. This publication may be read online for free. Available from the National Academies Press, 500 Fifth Street, NW, Box 285, Washington, DC 20055; (202) 334-3313, (800) 624-6242; <http://www.nap.edu/>.

In order to understand and address the effects of natural and anthropogenic forces in the coastal zone, a holistic multidisciplinary framework is required to account for the interconnectivity of processes within the system. The foundation of this framework is accurate geospatial information—information depicted on maps and charts. This publication identifies and suggests mechanisms for addressing national needs for spatial information in the coastal zone. It identifies high priority needs (social, economic, and environmental), evaluates the potential for meeting those needs based on the current level of effort, and suggests steps to increase collaboration and ensure that the nation's need for spatial information in the coastal zone is met in an efficient and timely manner.



**Living with Coastal Erosion in Europe: Sediment and Space for Sustainability.** 2004. 644 pp. Available free online from the National Institute for Coastal and Marine Environment (RIKZ), Kortenaerkade, 1, 2500 EX The Hague, The Netherlands; + 31 70 3114 369; e-mail: S.Lombardo@rikz.rws.minvenw.nl; <http://www.euroasion.org/reports-online/reports.html>.

This report, undertaken by the Directorate General Environment of the European Commission finds that one-fifth of the coastlines of the European Union are under increasing threat of erosion and the primary causes of this erosion are intensive coastal development and the mining of sand for concrete construction. Erosion has forced the abandonment of existing houses and the decrease in market value of houses, but the greatest cost may be the risk of coastal and inland flooding due to the undermining of coastal dunes and sea defenses. This comprehensive document includes sections on management practices, hazard assessment guidance, maps, and more.

## Climate Change

**Hard Choices: Climate Change in Canada.** Harold Coward and Andrew J. Weaver, editors. ISBN 0-889020-442-X. 2004. 284 pp. \$29.95. Available from Wilfrid Laurier University Press, 75 University Avenue West, Waterloo, ON N2L 3C5 Canada; (519) 884-0710 x6124, (866) 836-5551; e-mail: [press@wlu.ca](mailto:press@wlu.ca); <http://www.wlupress.wlu.ca/>.

**Hard Choices** is a collection of essays by leading Canadian scientists, engineers, social scientists, and humanists that offers an assessment of climate change and its impacts on Canada from physical, social, technological, economic, political, and ethical/religious perspectives. Special attention is given to Canada's response to the Kyoto Protocol and an assessment of the adequacy of Kyoto as a response to the global challenge of climate change.

**Implementing Climate and Global Change Research: A Review of the Final U.S. Climate Change Science Program Strategic Plan.** National Research Council of the National Academies. ISBN 0-309-08865-8. 2004. 108 pp. \$30.00. A PDF version is \$20.50. This publication may be read online for free. Available from the National Academies Press, 500 Fifth Street, NW, Box 285, Washington, DC 20055; (202) 334-3313, (800) 624-6242; <http://www.nap.edu/>.

The U.S. Climate Change Science Program (CCSP) was established in 2002 to coordinate climate and global change research conducted in the United States. This report, written for the benefit of CCSP leadership, summarizes the assessment of the program's final 10-year strategic plan, examines it in the context of the assessment of the draft strategic plan and includes recommendations for future planning efforts. Specific areas of assessment include the scientific scope, program implementation and management, and strategic planning.

## Homeland Security/Terrorism

The U.S. Department of Homeland Security's (DHS) Homeland Security Exercise and Evaluation Program (HSEEP) features the following four manuals written to help states and local jurisdictions establish exercise programs and design, develop, conduct, and evaluate exercises to improve overall terrorism preparedness.

**Homeland Security Exercise and Evaluation Program Volume I: Overview and Doctrine.** 2004. 44 pp. Free.

**Homeland Security Exercise and Evaluation Program Volume II: Exercise Evaluation and Improvement.** 2003. 231 pp. Free.

**Homeland Security Exercise and Evaluation Program Volume III: Exercise Program Management and Exercise Planning Process.** 2004. 66 pp. Free.

**Homeland Security Exercise and Evaluation Program Volume IV: Sample Exercise Documents and Formats.** Access to this volume is restricted to authorized users.

All four HSEEP manuals are available from the DHS Office for Domestic Preparedness, 810 Seventh Street, NW, Washington, DC 20531; (800) 368-6498; e-mail: [askcsd@ojp.usdoj.gov](mailto:askcsd@ojp.usdoj.gov); <http://www.ojp.usdoj.gov/odp/docs/hseep.htm>.

**Redefining Readiness: Terrorism Planning Through the Eyes of the Public.** Roz D. Lasker. 2004. 65 pp. Available free online from the Center for the Advancement of Collaborative Strategies in Health, The New York Academy of Medicine, 1216 Fifth Avenue, Room 452, New York, NY 10029; (212) 822-7250; e-mail [cacsh@nyam.org](mailto:cacsh@nyam.org); <http://www.cacsh.org/eptpp.html>.

This study asked Americans how they would react to two different terrorist attack scenarios: a smallpox outbreak and the explosion of a dirty bomb. The intent of this research was to explore the assumptions that many officials hold to provide empirical information about how community residents are likely to react, what issues they are most concerned about, and which factors determine whether or not they will do what they are told. Preliminary work included in-depth conversations with governmental and private sector planners and an extensive literature review along with discussions with community residents in a variety of settings. The report provides an analysis of the survey findings and the appendix includes the complete survey instrument and a breakdown of responses.

**Terrorism: Reducing Vulnerabilities and Improving Responses.** U.S.-Russian Workshop Proceedings. National Research Council of the National Academies. ISBN 0-309-08971-9. 2004. 254 pp. \$44.00. A PDF version is \$30.00. This publication may be read online for free. Available from the National Academies Press, 500 Fifth Street, NW, Box 285, Washington, DC 20055; (202) 334-3313, (800) 624-6242; <http://www.nap.edu/>.

These proceedings from a March 2003 workshop focus primarily on urban terrorism and cyberterrorism. Additional topics include the potential for Russian-American scientific cooperation and the role of science and technology in combating terrorism, roots of terrorism, medical aspects of fighting bioterrorism, and the Department of Homeland Security, its background and challenges.

**Major Terrorism Events and Their U.S. Outcomes (2002 and 2003).** Claire B. Rubin, William R. Cumming, and Irmak Renda-Tanali. 2004. 78 pp. \$20.00. Available from Claire B. Rubin & Associates, P.O. Box 2208, Arlington, VA 22202; (703) 920-7176; e-mail: [crubin@comcast.net](mailto:crubin@comcast.net); <http://www.disaster-timeline.com/>. Download a free copy at [http://www.riskinstitute.org/newsite/uploads/Rubin\\_disaster\\_timeline.pdf](http://www.riskinstitute.org/newsite/uploads/Rubin_disaster_timeline.pdf).

As an update to an earlier report covering terrorism events and outcomes between 1988 and 2001 (see the *Observer*, May 2003, p. 3), this report focuses on 2002 and 2003, describing 22 new pieces of legislation, 22 new executive directives, 10 new national strategies, and other changes that have occurred since 9/11.

The following field guides were developed to provide quick and concise on-scene information in a durable, easy-to-use format to first responders and caregivers with minimal hazardous materials or special operations training:

**Bioterrorism: A Guide for First Responders. Second Edition.** ISBN 0-9740632-2-3. 2004. 101 pp. \$19.95. This guide provides information about communicability, mode of infection, personal protection, emergency actions, characteristics, and treatment for 12 potential biological agents.

**Chemical/Nuclear Terrorism: A Guide for First Responders. Second Edition.** ISBN 0-9740632-3-1. 2004. 113 pp. \$19.95. This guide features important elements of response, including personal protection, casualty management, and decontamination as well as information about specific agents.

Both guides are available from Imaginatics Publishing, 3155 Pleasant Run, Springfield, IL 62711; (217) 787-2835; e-mail: [publishing@imaginatics.com](mailto:publishing@imaginatics.com); <http://www.imaginatics.com/publishing/>. Demonstration versions of the guides are available at <http://www.imaginatics.com/publishing/pdf/WMDGuides-DemoVersion.pdf>.

*Preparedness in America's Schools: A Comprehensive Look at Terrorism Preparedness in America's Twenty Largest School Districts.* Allison Phinney. 2004. 71 pp. Available free online from the America Prepared Campaign, 45 Rockefeller Plaza, Suite 868, New York, NY 10111; (212) 332-6302; e-mail: [info@americaprepared.org](mailto:info@americaprepared.org); [http://www.americaprepared.org/pdf/09-04\\_SchoolsAssessment.pdf](http://www.americaprepared.org/pdf/09-04_SchoolsAssessment.pdf).

This report from the America Prepared Campaign profiles the country's twenty largest school districts and individually rates each district's preparedness efforts. Districts are rated from "best" through "failing." The rating standards are based on a 2003 U.S. Department of Education report on crisis planning. District profiles include information about existing emergency plans, drill and exercise schedules, and communication policies and procedures.

### GAO Reports

The Government Accountability Office (GAO) reports provide background information and insight into key issues and concerns of the U.S. Congress. The office frequently publishes studies regarding hazards and disaster policy. Some recent GAO reports and testimonies that might interest *Observer* readers are listed below. Summaries and full text are available on the Web at <http://www.gao.gov/>. Printed copies are also available. The first copy is free. Additional copies are \$2.00 each. To order, contact the GAO, 441 G Street, NW, Room LM, Washington, DC 20548; (202) 512-6000; TDD: (202) 512-2537; <http://www.gao.gov/cgi-bin/orctab.pl>.

*September 11: Health Effects in the Aftermath of the World Trade Center Attack.* GAO-04-1068T. 2004. 30 pp.

*Homeland Security: Observations on the National Strategies Related to Terrorism.* GAO-04-1075T. 2004. 15 pp.

*Homeland Security: Federal Leadership Needed to Facilitate Interoperable Communications Between First Responders.* GAO-04-1057T. 2004. 20 pp.

*Homeland Security: Effective Regional Coordination Can Enhance Emergency Preparedness.* GAO-04-1009. 2004. 40 pp.

## 2005 National Hurricane Conference Awards Nominations

The National Hurricane Conference is inviting nominations for its 2005 Awards Program. The featured awards are the Outstanding Achievement Award for a specific outstanding and innovative achievement in any hurricane-related activity (several awards will be made in different categories); the Distinguished Service Award for a sustained, significant contribution to one or more fields of hurricane-related activity or knowledge over a career; and the Neil Frank Award, the conference's top award, which will be presented to an individual who has made a major impact in hurricane preparedness, response, recovery, mitigation, or related fields. The deadline for submitting nominations is January 21, 2005. For more information, visit <http://www.hurricanemeeting.com/>, or contact Lisa Tait at (850) 906-9224 or [lisa@hurricanemeeting.com](mailto:lisa@hurricanemeeting.com).



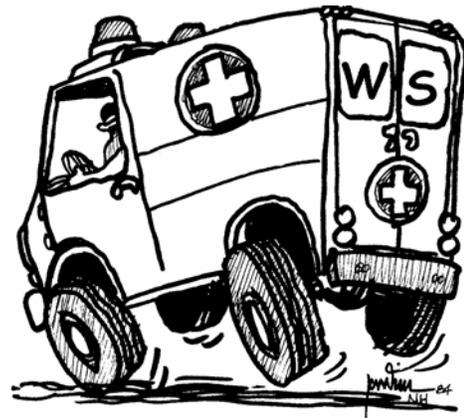
## Moving On

Wendy Steinhacker, the Natural Hazards Center's senior editor, has heard the call of first response and is headed for the frontline. A dedicated disaster services volunteer, Wendy has decided it is time to employ her emergency medical technician skills full time.

In addition to doing a tremendous amount of work on the *Observer*, Wendy reigned supreme over *Disaster Research* (our electronic newsletter) and the Center's Web site. Wendy also edited Quick Response reports, working papers, special publications, and whatever else found its way to her desk. When not wordsmithing or offering grammatical advice, she lent her talents to other Center programs, such as the annual workshop, the Student Paper Competition, the PERISHIP Dissertation Fellowships Program, and the Mary Fran Myers Award and Scholarship.

Wendy truly was a team player who always had the best interests of the Center, and the community it served, both in mind and in heart. She will be missed, along with her dog Rocky. The Center will not be the same without them.

Thank you, Wendy, for everything. Good luck!



### Author's Clarification

Stephen Sellers, author of September's On the Line Column "The Southern California Fire Siege," has asked that a clarification be made regarding the Mountain Area Safety Taskforce (MAST), identifying San Bernardino County, California, as the leader in establishing MAST and mentioning that Riverside County also has a similar organization. For more information, visit *The San Bernardino and Riverside County Mountain Area Safety Taskforce Web site* at <http://www.sbcfire.org/>. A guide for citizens, *San Bernardino's Mountain Resource Safety Guide*, is available free online at [http://www.sbcfire.org/content/resource\\_guide\\_Form.pdf](http://www.sbcfire.org/content/resource_guide_Form.pdf).

## The Hazards Center

The NATURAL HAZARDS RESEARCH AND APPLICATIONS INFORMATION CENTER was founded to strengthen communication among researchers and the individuals and organizations concerned with mitigating natural disasters. The Hazards Center is funded by the National Science Foundation, the Federal Emergency Management Agency, the National Oceanic and Atmospheric Administration, the U.S. Geological Survey, the U.S. Army Corps of Engineers, the U.S. Environmental Protection Agency, the U.S. Department of Transportation, the U.S. Bureau of Reclamation, the U.S. Forest Service, the National Aeronautics and Space Administration, the Centers for Disease Control and Prevention, the Institute for Business & Home Safety, and the Public Entity Risk Institute. Please send information of potential interest to the Hazards Center or the readers of this newsletter to the address below. The deadline for the next *Observer* is *November 17, 2004*.

Center phone number..... (303) 492-6818  
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E-mail..... hazctr@colorado.edu  
Publications Administrator..... (303) 492-6819  
E-mail..... janet.kroeckel@colorado.edu

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Copies of the *Observer* and the Hazard Center's electronic newsletter, *Disaster Research*, are also available on the Center's Web site:

<http://www.colorado.edu/hazards/>

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