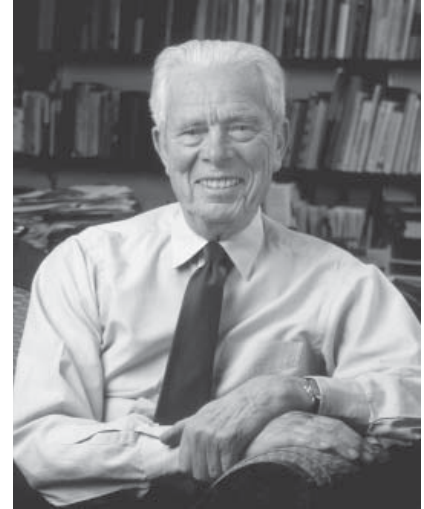


"I believe that each of us finds greatest use and greatest satisfaction in a life which respects and kindles the spark of the divine that is found in the conscience of every other member of the human brotherhood and which nourishes the harmonious growth of individual men and women. To set the welfare of any national or racial group ahead of the development of individuals, or to coerce individual expression of thought and worship is to unloose a destructive erosion of human values to gain the temporary prosperity of a state. While watching the German occupation of France, I became convinced that man can no more conquer or preserve a civilization by war than he can conquer nature solely by engineering force. I found that an occupying army or a concentration camp can repress men's basic beliefs but cannot change them. The good life, like the balance of all the complex elements of a river valley, is founded upon friendly adjustment. It changes slowly, but it leads always toward a more fruitful development of individual men in service of each other. It embraces confidence in fellowship, tolerance in outlook, humility in service, and a constant search for the truth. To seek it in our own lives means imperfection and disappointment, but never defeat. It means, I believe, putting ourselves in harmony with the divine order of love, with the great stream of forces that slowly are shaping, in spite of man's ignorance and selfishness, an enrichment of the human spirit."

— From a 1951 interview with Edward R. Murrow for the radio program "This, I Believe."



Ken Abbott/University of Colorado at Boulder

**Gilbert F. White**  
1911–2006

## Preparing for a Flu Pandemic A Northwest Perspective

— an invited comment

Influenza pandemics are naturally occurring events that impact our world on a recurring basis. Flu pandemics have occurred three times in the last century, in 1918, 1958, and 1967. The 1918 pandemic was the most severe disease outbreak in the history of the world. An estimated 20-40 million people died worldwide. With the recent renewed interest in pandemics, we should be asking not *if* there will be another pandemic, but *when*, and what its lethality will be. In King County, Washington, we do not now have the answers to these questions (nor does anyone else), but we are preparing our communities for when we do. It is this preparedness that we will discuss in this article.

King County, Washington, is the 12th largest county by population in the nation (Seattle is the largest of the county's 39 cities). With a total of 168 government agencies within its geographic boundaries, the county has a complex governance setting. Our hazards include

earthquakes, a volcano (Mt. Rainier), terrorism, flooding, avalanche, and the list goes on. Despite these significant and real threats, a flu pandemic tops the list of catastrophic events that we must be ready to mitigate, prepare for, respond to, and recover from. Flu pandemics are low frequency events, but they have the capability of being extreme impact disasters.

### Challenges to Pandemic Planning

There are considerable challenges that are either unique or accentuated during a pandemic. The following realities are only some of the challenges that need to be considered in pandemic planning:

- **No Mobilization of National Aid**—The impact of a pandemic is going to be national as well as international. Outbreaks will impact multiple jurisdictions almost simultaneously. This means that there will be no national

mobilization of resources to help impacted jurisdictions. Communities have to plan to respond with only the resources they have available locally.

- **Limited Local Mutual Aid**—Similarly, local mutual aid resources will be severely reduced or nonexistent due to the potential for outbreaks in each and every jurisdiction.
- **Reduced Workforce**—It is estimated that 35-40 percent of the workforce will be absent at any one time. This will be due to illness, at-home caring for ill family members, or perhaps a fear of going to work due to the contagious nature of the disease. Health care workers could have an even higher rate of absenteeism than that of the general populace. Fatalities, which could be between 2-3 percent overall, will also reduce the workforce.
- **Long Duration of Outbreaks**—A flu pandemic may come in successive waves, each lasting up to six weeks. These are long duration events that will be particularly difficult to manage with the limited resources and workers as noted above.
- **Susceptibility**—Since the viruses that cause pandemics are new, the entire world population is susceptible—everyone could become a victim. Typically, disasters affect those impacted by an event and the first responders who come to their aid. In the case of a pandemic, the responders will be placing not only themselves at risk, but there is the potential that they might infect their families as a result of their response activities.

### Key Preparedness Activities

King County and New York City are often cited as examples of U.S. jurisdictions that have been investing

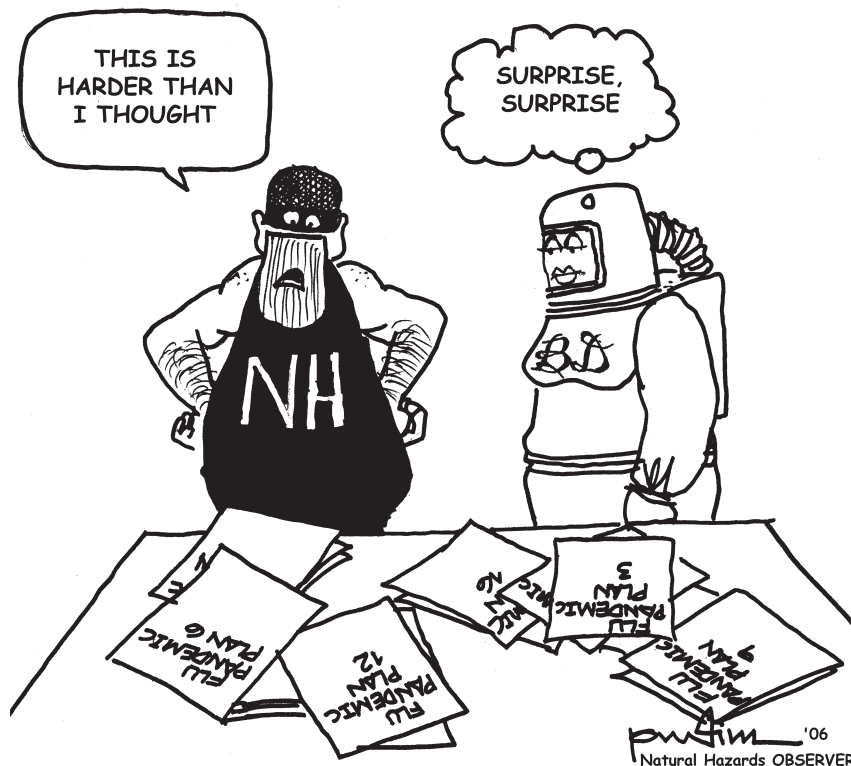
wisely in pandemic preparedness. The reason for our level of preparedness is based on several critical actions:

- Responding to early recognition by key public and private sector leaders of the hazard and the need to aggressively prepare;
- Obtaining elected-official support for preparedness measures;
- Building coalitions to enhance preparedness that include the health care and business sectors, community-based organizations, first responders, critical infrastructure agencies, and emergency managers;
- Reaching out to the general public through an ongoing education and information campaign, reminding the public of the need for personal and family preparedness for all-hazards, including a flu pandemic; and
- Recognizing that our preparedness goals, activities, and resources must include the most vulnerable of our citizens.

### Preparedness Strategies

Among the strategies that we are using to prepare for a pandemic are the following, which are applicable to all jurisdictions.

- Plan for a pandemic, but from an all-hazards perspective. For instance, business continuity planning (also known as continuity of operations planning), if done properly, will pay off in a number of hazard situations. We are not confining our thinking to a flu scenario.
- Engage community partners in the planning process. Planning for a pandemic is not just a government responsibility. It will take representatives from all sectors of a community (the general public, private business,



and nonprofit sector in addition to government) working together to face up to the challenges of a pandemic. Public Health has conducted business forums on the impacts of a flu pandemic, and large corporations like Boeing and Washington Mutual Bank have been very proactive in local planning and exercising for a pandemic.

- Look at the health care system as a system and not as individual entities such as prehospital, hospital, urgent care, and family practice.
- Initiate a planning process that is continuous and iterative. A just-in-time inventory system makes communities extremely vulnerable to any disruption to the distribution system in this country. The more planning we do, the more issues we uncover. One of the hardest aspects of planning is identifying the interdependencies that exist within our community. The more modern and advanced a society is, the more dependent we are on one another.
- Identify your emergency powers and who has the authority to use them. In Washington State and King County, public law authorizes public health officer and chief elected official emergency powers. Under what circumstances they will be used and the timing for their use is critical to determine prior to an outbreak.
- Plan to enact social distancing measures early. Such measures include closing schools and theaters and canceling large indoor sporting events. This strategy is believed to be essential in the effort to limit the rapid spread of disease.

Additionally, a coordinated public education campaign prior to a pandemic and a coordinated public information response during a pandemic are top priorities. Given the life threatening nature of the disease, rumor control will be of utmost importance. The rapid dissemination of information to the media and directly to the public is important. Our Regional Public Information Network (RPIN) is a critical tool for imparting information to these audiences. The RPIN offers an e-alert service that issues breaking news and warning messages to subscriber e-mailboxes and mobile wireless devices.

## Public Health Priorities

Previous regional disaster response planning has laid a foundation for the construction of our pandemic preparedness. From a public health perspective, we are concentrating on the following:

- Building a health care coalition comprising a wide variety of health care partners in King County, including Public Health, hospitals, ambulatory-care providers, large medical practices, medical associations, emergency medical service providers, pharmacies, and others. The coalition will promote coordinated preparedness activities among these partners and efficient information and resource management during disasters.
- Connecting with community partners to develop plans for closing facilities during a pandemic, including schools, day care centers, theaters, community centers,

stadiums, and other places where crowds may gather. Although the effectiveness of social distancing has not been proven, its implementation will be necessary in hopes of slowing the spread of disease. The societal impacts will be extreme; therefore, close coordination among Public Health and community partners during planning is essential.

- Augmenting the capabilities of the health care system by increasing local supplies of antiviral medications, enhancing our ability to conduct rapid triage of flu patients, and identifying additional bed capacity to treat the extreme numbers of sick patients that will seek care during a pandemic wave.
- Developing new strategies that will enable all components of the health care system to provide appropriate levels of care to patients, and compassionate counseling to families, during the most challenging periods of a severe pandemic.
- Developing clear public messaging for dissemination during a pandemic that will inform and educate the public on the nature of the threat and, most importantly, how each person can protect themselves.

As a local jurisdiction, we do not have all the answers when it comes to preparing for a pandemic. We are struggling to deal with an event the magnitude of which we have not experienced in our lifetimes. However, we do believe that our regional approach to preparing together with our partners is the best option for getting through this worst-case event. We also know that taking advantage of the time available to us now will serve us well when the World Health Organization does declare that a Phase 4, 5, or 6 pandemic has commenced. Failing to plan and prepare for a pandemic and only hoping for the best is not a strategy; it is a prescription for failure—for which there is no cure. 🚩

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## Resources

Public Health—Seattle and King County  
[www.metrokc.gov/health/](http://www.metrokc.gov/health/)

King County Office of Emergency Management  
[www.metrokc.gov/prepare/](http://www.metrokc.gov/prepare/)

Regional Public Information Network  
[www.rpin.org/](http://www.rpin.org/)

U.S. Government Avian and Pandemic Flu Information  
[www.pandemicflu.gov/](http://www.pandemicflu.gov/)

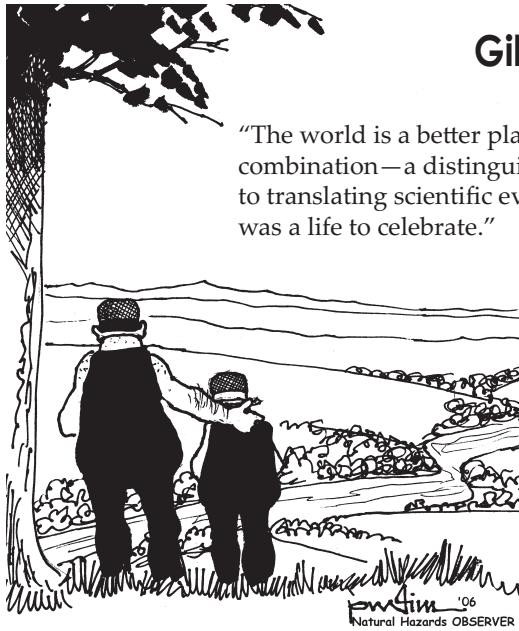
World Health Organization Global Influenza Programme  
[www.who.int/csr/disease/influenza/en/](http://www.who.int/csr/disease/influenza/en/)

# Gilbert Fowler White

1911 – 2006

"The world is a better place for having had Gilbert in its midst. Gilbert was that rare combination—a distinguished scientist and an outstanding humanitarian committed to translating scientific evidence into policy and programs to better people's lives. His was a life to celebrate."

– Jane Menken and Richard Jessor



Gilbert F. White, known to many as founder of the Natural Hazards Center, the father of floodplain management, and a leader in natural hazards research and the world environmental movement, died on October 5, 2006, at his home in Boulder, Colorado. He was 94.

A native of Hyde Park in Chicago, Illinois, White received undergraduate, graduate, and doctoral degrees in geography from the University of Chicago and eight honorary degrees, the most recent one from the University of Colorado this past spring. His landmark work, which began with his 1942 dissertation *Human Adjustment to Floods*, challenged the notion that natural hazards are best addressed by engineering solutions. Instead, he argued that the havoc wrought by floods and other natural disasters may be better avoided by modifying human behavior. He advocated, where feasible, adaptation to or accommodation of flood hazards rather than the structural solutions that dominated policy in the early twentieth century. White promoted understanding, respect, and protection of natural resources and the natural order, including inevitable extremes. In a word, he championed stewardship—preserving nature and promoting sustainable use and husbandry of the natural resources of the earth. While White's ideas were initially greeted with controversy, he was a persistent advocate. After six decades, his proposals for floodplain management and flood insurance reform have won widespread acceptance.

The underlying notion that humans should adjust to their environment, coupled with a deep commitment to improving human welfare through social policy, guided White's career. A quiet leader, his work encompassed not only floods and other natural hazards, but water management in developing countries, global environmental change, geographic education, and international cooperation on water systems, including in the Middle East and the Mekong and Nile river basins.

Most recently, White was Gustavson Distinguished Professor Emeritus of Geography at the University of Colorado (CU) at Boulder, a position he held since 1980. From 1970 to 1978, he was a professor of geography and

the director of the Institute of Behavioral Science at CU, and, in 1976, he founded the Natural Hazards Center, which he directed from 1976 to 1984 and again from 1992 to 1994. Prior to joining CU, White served in the New Deal administration of Franklin D. Roosevelt, where, among other things, he reviewed proposed natural resources legislation and presented summaries to the president; was president of Haverford College; and was professor and chair of the Geography Department at the University of Chicago.

Reflecting his commitment to national and international cooperation, White served on numerous professional and scientific committees and advisory groups for organizations such as the National Research Council, the United Nations, and the United Nations Educational, Scientific, and Cultural Organization. Among numerous awards, he won the Association of American Geographers' Lifetime Achievement Award, the National Medal of Science (the nation's highest scientific honor), the National Academy of Sciences' Public Welfare Medal, and the National Geographic Society's Hubbard Medal. Other awards and honors include the UNESCO-GARD leadership award in disaster reduction, the Volvo Environmental Prize, and the Tyler Prize for Environmental Achievement. He was a member of the National Academy of Sciences, the American Academy of Arts and Sciences, the American Philosophical Society, the Russian Academy of Sciences, and the Cosmos Club.

In 1942, as a conscientious objector to military service, White joined the American Friends Service Committee, aiding refugees in France. He was interned in Baden-Baden, Germany, until 1944 when he was allowed to return to the United States. Shortly after his return, he married Anne Elizabeth Underwood, who worked with him on many research projects, and together they raised three children. She died in 1989.

White is survived by his second wife and long-time friend, Claire Sheridan; his children William White, Mary White, and Frances Chapin; stepchildren Monika and Daniel Proffitt; and four grandchildren. He is also survived, in many respects, by thousands of friends, former students, colleagues, and others who drew inspiration from his wisdom, dedication, and remarkable kindness. We, and the planet, are all better for having known him. Additional information about White can be found at [www.colorado.edu/hazards/gfw/](http://www.colorado.edu/hazards/gfw/).

Donations in White's memory may be made to the Gilbert F. White Graduate Fellowship Endowment. Checks should be made payable to the CU Foundation and sent to the Natural Hazards Center, 482 UCB, University of Colorado, Boulder, CO 80309-0482.

## Panic and the Vision of Collective Incompetence

**A**s is the case with every myth, panic has complex origins and meanings. It is an emotional word that has been used and emphasized in different ways at different times throughout history. Widely used today, it is often associated with social response to a disaster. It is expected by officials and laypeople, and perpetuated by media and popular culture, that when disaster strikes, panic will ensue, and social norms will break down. This, however, is not the case.

In this article, I will comment briefly on the mythological origin of the term and on its frequent use as a descriptor of psychological states before moving to its common use as a predictor of collective irrationality and incompetence. (For those who wish to examine some of the research literature, a list of resources follows.) I will end by discussing how emergency management is often organized to deal with predicted vulnerabilities rather than to mobilize social capital to deal with actual threats.

### The Origin of “Panic”

The *Longman Dictionary of Psychology and Psychiatry* defines panic as “an acute reaction involving terror, confusion, and irrational behavior.”<sup>1</sup> This is the definition that is most often attributed to disaster behavior. The word itself has its origins in Greek mythology and is attributed to Pan, a pipes-playing god with the horns, legs, and ears of a goat, who was known for instilling great and unfounded fear in solitary travelers as well as herds of animals and crowds of people, which sent them fleeing, or stampeding, in panic. He was also considered to be the antithesis of Apollo, the measure of culture and sophistication. Get the picture?

### Panic as Emotional Self-Description

In modern societies that emphasize individualism and psychological states, panic is frequently used to describe our personal reaction to problematic situations, which are unexpected and possibly threatening and uncertain. A number of years ago, my wife and I were seated in the next to the last row of an airplane when, shortly after takeoff, we were informed that the plane needed to return to the airport. On landing, we were emphatically told to evacuate the plane; the tail engine was on fire. As the doors opened and the slides deployed, those in front of us moved out and so did we. The hundred or so passengers and the crew got out safely. At the time, I recalled an ancient Chinese proverb that of the 36 ways to escape danger, running away is the best. And so we ran, along with the others, until we regrouped in a field a safe distance from the burning plane. While fear was a factor, the decision to remove ourselves from danger required reasoning and was the rational choice; we did not panic.

In conversations back at the terminal, I was struck by the extensive use of the term panic. I was equally struck

by the lack of comment on our very successful evacuation. As one of the last ones out, I noted that passenger behavior during the evacuation was much more rational and courteous than it had been earlier when we loaded the plane for takeoff. I am confident that in retelling their experiences later, most passengers described the panic rather than the successful evacuation.

### Panic as Collective Irrationality

As previously mentioned, the more conventional meaning of panic centers on the notion of irrational and rapid physical flight in situations considered dangerous to the persons involved. It is also often believed that panic is contagious (if one person panics and flees, others will follow, which exacerbates the problem). While panic flight is not unheard of, it is extremely rare in disasters and similar kinds of crisis, and the notion that panic behavior spreads through contagion has been widely discredited. There is no empirical evidence that supports the broad application of this definition of panic to disaster behavior. On the contrary, decades of disaster research shows that people behave rationally in the face of danger, acting to protect themselves as well as others. Simply put, people do not regress to stampede behavior.

The assumption that in a disaster people will flee danger without any rational thought and without regard for others has disastrous policy implications. It enforces the misconception that information about potential threats should be withheld from the public to avoid having to control hoards of people fleeing in panic. When officials buy-in to the belief that people are ill-equipped to handle bad news, they fail their citizens by denying them crucial preparedness and warning messages and delaying evacuation orders, often until it is too late.

It is not clear how the mythology of Pan moved so easily into contemporary reality. Researchers have been unable to determine at what point in history the notion emerged that panic undermined society’s ability to deal with threats and danger. Certainly, such themes have been implicit in religious texts and in political histories. There was considerable discussion after World War I about reputed panic among military troops. Charles Fritz once mentioned to me, only partly in jest, that most of the reports that emphasized the occurrence of irrational panic were written by colonels to their commanding generals. These reports explained the rational actions of their troops as they withdrew from impossible situations. Situations created by their colonels’ irrational orders. So, where was the panic?

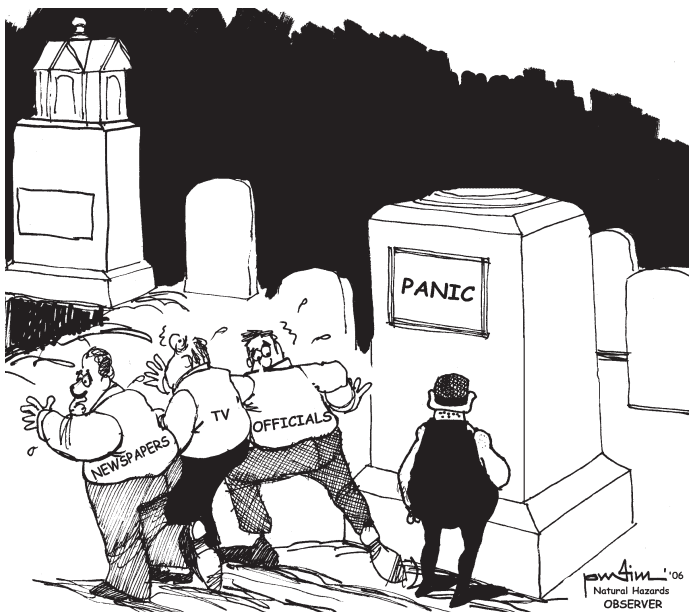
In other words, imputations of panic are made by those in charge when people behave differently and even more rationally than expected. The theme of the inability and inadequacy of civil society to deal with new emergent threats has been rather consistent. In the beginning of the Atomic Age, Val Peterson, director of the Federal

Civil Defense Administration under Dwight D. Eisenhower, published "Panic—The Ultimate Weapon" in *Collier's*, a popular U.S. weekly, suggesting that "mass panic—not the A-bomb—may be the easiest way to win a battle, the cheapest way to win a war."<sup>2</sup> And, more recently, a terrorism expert posited that panic caused by terrorism could lead to the collapse of civil society.<sup>3</sup>

Some have suggested that we have seen an increase in the market for fear in recent times. Almost every profession is now working on worst-case scenarios of biblical proportions—greater earthquakes, worldwide pandemics, global warming, more hurricanes, even asteroids. We have become more inventive in constructing possible combinations; terrorists, for example, might destroy an atomic energy plant in an urban area during an earthquake. And the media and popular culture, especially movies, regularly provide us with visual images of panicky mobs rushing toward the exit of civilization.

### Accepting the Panic Myth as Truth

Unfortunately, without the ability to predict the future, and given current attitudes about human behavior, we often build our models of emergency management with an emphasis on controlling panic rather than recognizing our social resources for problem solving and empowering our citizens. We move in the direction of government paternalism and away from developing local self-sufficiency. Instead of increasing knowledge of



threats, there is emphasis on controlling and restricting knowledge to official sources.

Emergency response has become the province of experts and therapists. The only role for citizens is as victims. While we may understand our vulnerabilities, we are not so good at recognizing our own capabilities and resilience. Local knowledge and local resources are devalued and the emphasis on external assistance undercuts the importance of local coping skills. In addition, the emphasis on external intervention discounts existing social networks and local social capital in order to create victims to help. Threats and disasters create problems for people, but they do not create problem people. In most disaster situations, people work together and help each other (at times to their own detriment). They likely feel fear, but they rarely panic. I could conclude with the usual advice—do not panic—but that would be gratuitous.

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## 2007 UN Sasakawa Award for Disaster Reduction Nomination Process

The 2007 nomination process for the United Nations (UN) Sasakawa Award for Disaster Reduction is underway. The intent of the prestigious award is to recognize individuals and institutions from around the world who contributed, through innovative practices and outstanding initiatives, to reducing the risk and vulnerabilities of communities to natural hazards. The award is worth approximately \$50,000 and will be shared among the Sasakawa laureate and recipients of the Certificates of Distinction and Merit. It will be presented at a special ceremony on the International Day for Disaster Reduction, October 10, 2007. Nominations are due June 29, 2007. To find out more, download a nomination booklet from [www.unisdr.org/eng/sasakawa/2007/Sasakawa-Award-2007-English.pdf](http://www.unisdr.org/eng/sasakawa/2007/Sasakawa-Award-2007-English.pdf).

## President Signs Homeland Security Appropriations and FEMA Reform

In early October, the president signed the Fiscal Year 2007 Homeland Security Appropriations bill (Public Law 109-295), providing \$34.8 billion in discretionary spending for the U.S. Department of Homeland Security. Title III designates \$6.5 billion for preparedness and recovery activities, including:

### Preparedness (\$4 billion):

- \$3.4 billion for the Office of Grants and Training:
  - \$1.2 billion for discretionary grants
  - \$525 million for the State Homeland Security Grant Program
  - \$375 million for law enforcement terrorism prevention grants
  - \$352 million for national programs
  - \$662 million for firefighter assistance grants
  - \$200 million for the Emergency Management Performance Grants
  - \$50 million for the Commercial Equipment Direct Assistance Program
- \$547.6 million for infrastructure protection and information security
- \$46.8 million for the U.S. Fire Administration

### Federal Emergency Management Agency (FEMA) (\$2.5 billion):

- \$1.5 billion for disaster relief
- \$244 million for readiness/mitigation/response/recovery
- \$199 million for flood map modernization
- \$151.5 million for emergency food and shelter
- \$100 million for the National Predisaster Mitigation Fund
- \$33.9 million for public health programs (The National Disaster Medical System will be transferred to the U.S. Department of Health and Human Services in January 2007.)

Also part of the new law is the Post-Katrina Emergency Management Reform Act of 2006 that calls for a comprehensive structural overhaul of FEMA that elevates the director to the level of deputy secretary and requires that the director have extensive emergency response and crisis management experience; prevents the diversion of FEMA funds to other agencies; requires clearer coordination between federal, state, and local emergency preparedness entities; and restores the nexus between emergency preparedness and response.

The law and its conference report (109-699) are available in any federal repository library and on the Library of Congress Web site at <http://thomas.loc.gov/>.

## Executive Order: Improving Assistance for Disaster Victims

In an Executive Order issued in late August, the president called for further action to improve the delivery of federal disaster assistance. Specifically, the order charges the secretary of the U.S. Department of Homeland Security (DHS) with heading up a Task Force on Disaster Assistance Coordination to develop and implement a plan to streamline and otherwise improve the delivery of federal disaster assistance. Heads of other departments and agencies are to provide assistance and information to the secretary of DHS as pertains to the implementation of the order. The secretary of DHS is required to submit the plan to the president not later than March 1, 2007. Executive Order 13411 is in the September 6, 2006, *Federal Register*, Vol. 71, No. 172, pp. 52727-52731, which can be found in any federal depository library and online at [www.gpoaccess.gov/fr/](http://www.gpoaccess.gov/fr/), and at [www.whitehouse.gov/news/releases/2006/08/20060829-9.html](http://www.whitehouse.gov/news/releases/2006/08/20060829-9.html).

## Annual Stafford Act Updates

Under the authority of the Robert T. Stafford Disaster Relief and Emergency Assistance Act, each year the Federal Emergency Management Agency (FEMA) adjusts the statewide per capita impact indicator (per capita cost of a disaster that qualifies a state for disaster assistance) and reexamines the maximum dollar amounts available for assistance under the Individuals and Households Program (IHP) and for Small Project Grants to state and local governments and eligible private nonprofit facilities. This year's adjustments are based on an increase in the Consumer Price Index for All Urban Consumers, as published by the U.S. Department of Labor, of 3.8 percent. For any single disaster or major emergency declared on or after October 1, 2006, the statewide impact indicator is \$1.22 (the countywide indicator is \$3.05), the maximum amount of IHP financial assistance provided to an individual or household is \$28,200, the maximum amount of repair assistance is \$5,600, the maximum amount of replacement assistance is \$11,300, and the maximum amount of any Small Project Grant is \$59,700. Details about these revisions are available in the October 10, 2006, *Federal Register*, Vol. 71, No. 195, pp. 59513-59514, which can be found in any federal depository library and online at [www.gpoaccess.gov/fr/](http://www.gpoaccess.gov/fr/). To learn more about the maximum amount of IHP assistance, contact Berl Jones at (202) 646-4235. For information about the other adjustments, contact James A. Walke at (202) 646-3834. Send written correspondence to FEMA, 500 C Street SW, Washington, DC 20472.

## New Mitigation How-To Guide from FEMA

The Federal Emergency Management Agency (FEMA) has released the latest guide in its mitigation planning how-to series: *Multi-Jurisdictional Mitigation Planning: State and Local Mitigation Planning How-To Guide Number Eight* (FEMA 386-8, 52 pp.). This guide provides suggestions to local governments in preparing multijurisdictional mitigation plans. A multijurisdictional hazards mitigation plan is a plan jointly prepared by more than one jurisdiction and may include any county, municipality, city, town, township, school district or other special district, council of governments or other regional organization, Indian tribe or Alaska Native village, or unincorporated area. Multijurisdictional plans pose special considerations that single jurisdictional plans may not face; but there are benefits as well, such as plan preparation cost savings, shared staff and resources, and comprehensive approaches to mitigating hazards that cross jurisdictional boundaries. Download a copy of the new guide, which is only available online, and learn more about the other guides in the series at [www.fema.gov/plan/mitplaning/planning\\_resources.shtml](http://www.fema.gov/plan/mitplaning/planning_resources.shtml).

## DOJ Publishes ADA Guide for Local Governments

The U.S. Department of Justice (DOJ) has released a newly revised and expanded version of its publication *An ADA Guide for Local Governments: Making Community Emergency Preparedness and Response Programs Accessible to People with Disabilities* (11 pp.). The guide is designed to help local government planners, first responders, and emergency staff prepare for and meet the unique needs of people with disabilities during natural and civil emergencies. The guide identifies potential problems in notifying, evacuating, transporting, sheltering, and providing information to people with disabilities during emergencies and offers solutions for preventing or minimizing those problems. The guide can be viewed or downloaded from [www.ada.gov/emergencyprep.htm](http://www.ada.gov/emergencyprep.htm) or ordered from (800) 514-0301, (800) 514-0383 (TTY).

## FCC Launches Public Safety and Homeland Security Bureau

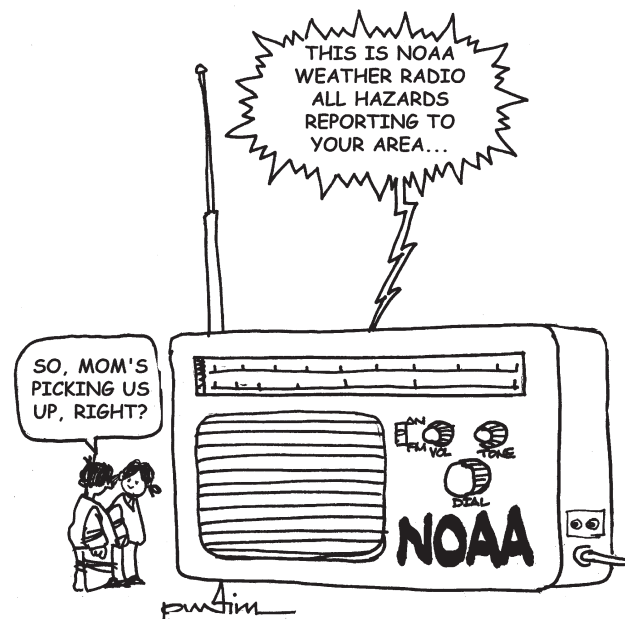
In recognition of America's dependence on an effective national telecommunications infrastructure, which was underscored by the 2005 hurricane season and the events of September 11, 2001, the Federal Communications Commission (FCC) has created a new Public Safety and Homeland Security Bureau. The new bureau will be responsible for developing, recommending, and administering the agency's policies pertaining to public safety communications issues, including 911 and E911, operability and interoperability of public safety communications, communications infrastructure protection, and network security and reliability. It will also serve as a clearinghouse for public safety communications information and take the lead on emergency response issues. A primary goal of the bureau will be to support and advance initiatives that further strengthen and enhance public safety

and emergency response capabilities to better enable the FCC to assist the public, first responders, law enforcement, hospitals, the communications industry, and all levels of government in the event of a natural disaster, pandemic, or terrorist attack. For more information, visit the bureau's Web site at [www.fcc.gov/pshs/](http://www.fcc.gov/pshs/).

## Public Alert Radios for Public Schools

Following the successful pilot program last year, the ongoing partnership of the National Oceanic and Atmospheric Administration (NOAA), the U.S. Department of Education, and the U.S. Department of Homeland Security has launched the completion of the nationwide project to distribute a NOAA Public Alert Radio, also known as NOAA Weather Radio All Hazards, to every public school in America. In late September, 80,000 radios were shipped to schools across the country to augment the 2005 pilot program.

NOAA Public Alert Radios help safeguard the children in America's schools. With 24/7 capability and battery backup, the radio is always on guard to alert school personnel to severe weather conditions, terrorist threats, and other emergencies, even when other communication lines are unavailable. Find out more about the program at <http://public-alert-radio.nws.noaa.gov/>.



## New Preparedness Initiative for Older Americans and Individuals with Disabilities

The U.S. Department of Homeland Security (DHS) has joined forces with AARP, the American Red Cross, the National Organization on Disability (NOD), and the National Fire Protection Association (NFPA) to help older Americans and individuals with disabilities prepare for emergencies. The DHS' Ready campaign, AARP, Red Cross, and NOD developed two new brochures that highlight the key preparedness steps older and disabled Americans and their families and caretakers should take before emergencies occur and the NFPA produced *Emer-*



gency *Evacuation Planning Guide for People with Disabilities* to help individuals with disabilities and businesses prepare for emergency evacuations. Additionally, NFPA is including evacuation planning for people with disabilities in its series of emergency evacuation workshops. For free copies of the brochures, call (800) 237-3239 or visit [www.ready.gov/](http://www.ready.gov/). NFPA's planning guide will be available for free download later this year at [www.nfpa.org/](http://www.nfpa.org/).

## FEMA Mitigation Team Reports on Building Performance in Katrina

In September 2005, the Federal Emergency Management Agency (FEMA) deployed a Mitigation Assessment Team (MAT) to Alabama, Louisiana, and Mississippi to evaluate building performance during Hurricane Katrina and the adequacy of current building codes, other construction requirements, and building practices and materials. This report, *Hurricane Katrina in the Gulf Coast: Mitigation Assessment Team Report, Building Performance Observations, Recommendations, and Technical Guidance* (FEMA 549, 584 pp.), presents the MAT's observations, conclusions, and recommendations to provide decision makers with information and technical guidance that can be used in the reconstruction process and to help reduce future hurricane damage. The report is available for free in CD-ROM format from the FEMA Publication Distribution Center, (800) 480-2520, and as a downloadable file at [www.fema.gov/library/viewRecord.do?id=1857](http://www.fema.gov/library/viewRecord.do?id=1857). A *Summary Report of Building Performance: Hurricane Katrina 2005* (FEMA 548, 80 pp.) is also available; [www.fema.gov/library/viewRecord.do?id=1455](http://www.fema.gov/library/viewRecord.do?id=1455).

Also new from FEMA is *Recommended Residential Construction for the Gulf Coast: Building on Strong and Safe Foundations* (FEMA 550, 261 pp.), which is a design manual that provides recommended designs and guidance for rebuilding homes destroyed by hurricanes. The manual also provides guidance in designing and building less vulnerable new homes that reduce the risk to life and property. This publication can be downloaded from [www.fema.gov/library/viewRecord.do?id=1853](http://www.fema.gov/library/viewRecord.do?id=1853).

## DOE Releases Climate Change Technology Program Strategic Plan

In September, the U.S. Department of Energy released the *U.S. Climate Change Technology Program Strategic Plan* (223 pp.), which details measures to accelerate the development and reduce the cost of new and advanced technologies that avoid, reduce, or capture and store greenhouse gas emissions. The plan has six goals: reducing emissions from energy use and infrastructure, reducing emissions from energy supply, capturing and sequestering carbon dioxide, reducing emissions of other greenhouse gases, measuring and monitoring emissions, and bolstering the contributions of basic science to climate change. Access the plan, or find out how to order a free hard copy, at [www.climatechange.gov/stratplan/final/](http://www.climatechange.gov/stratplan/final/).

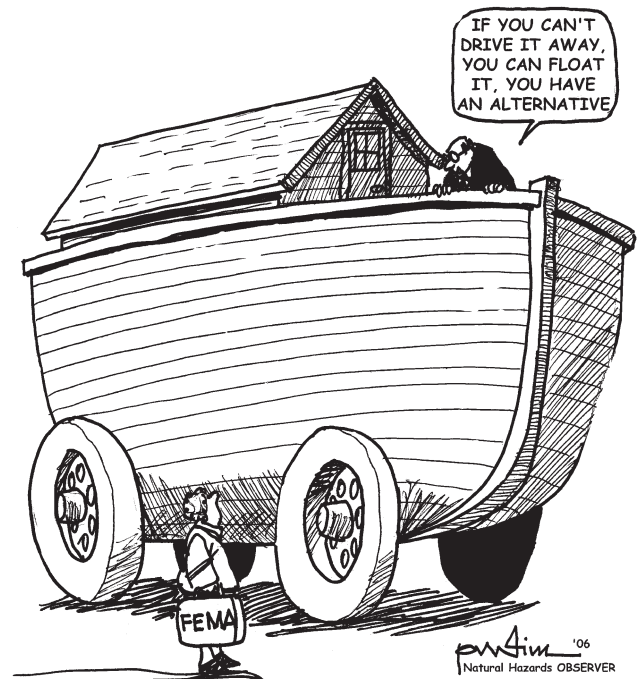
## FEMA Offers Accessible Trailers for People with Disabilities

As part of a settlement of a class-action lawsuit, *Brou v. FEMA*, the Federal Emergency Management Agency (FEMA) is reaching out to notify Hurricane Katrina and Rita evacuees with disabilities, or those living with someone who has a disability, that accessible trailers are available for temporary housing. Katrina and Rita evacuees with disabilities who do not have accessible temporary housing should contact FEMA and make their needs known, even if they have previously been in touch with FEMA about their housing needs.

To inquire about accessible trailers, call (866) 496-4297 (Louisiana evacuees) or (888) 294-2820 (TTY number for both Louisiana and Mississippi is (800) 462-7585) before May 9, 2007. FEMA will assist individuals with disabilities by either providing an accessible trailer, modifying an individual's current trailer to make it accessible, or finding them a suitable place to live. Accessible trailers may take up to 90 days to deliver, or longer if an applicant does not have a suitable site for a trailer. Changes to make a current trailer accessible may take up to 60 days to complete.

## FEMA Seeks Alternative Housing Ideas

The Federal Emergency Management Agency's (FEMA) Alternative Housing Pilot Program is intended to address ongoing housing challenges created by the 2005 hurricane season in the Gulf Coast states. The program's objectives are to evaluate the efficacy of nontraditional short- and intermediate-term housing alternatives for potential use in future catastrophic disaster environments; identify, develop, and evaluate alternatives to and alternative forms of FEMA disaster housing to assist victims of the 2005 hurricanes in the Gulf Coast region; consider the



feasibility of these options as a part of housing assistance that could be made available by federal government agencies or state agencies for other disasters of various sizes, locations, and impacts; and address the needs of a variety of populations, including people with disabilities, the elderly, and other historically underserved populations.

Congress appropriated \$400 million in emergency appropriations for the program, which is designed to encourage innovation and creativity and develop alternative housing that can be produced, transported, and installed in a timely manner; in appropriate quantities that are adaptable to a variety of site conditions; and that will facilitate sustainable and permanent housing. It is an opportunity for the states, the housing industry, and other organizations to help FEMA and Congress explore new ideas for providing postdisaster housing to people in need. To learn more, visit [www.fema.gov/plan/ehp/ahpp.shtm](http://www.fema.gov/plan/ehp/ahpp.shtm).

### FEMA: Increasing Postdisaster Rental Assistance

The Federal Emergency Management Agency (FEMA) has adopted a new interim policy under which it may raise the maximum amount it will pay for rental housing when affordable housing is in short supply after a major disaster. This means that FEMA will be able to increase the authorized amount of rental assistance when it determines that higher market rates have affected the availability of affordable rental housing. This authority applies to counties designated for Individual Assistance in the disaster declaration as well as to nondesignated counties that are hosting eligible disaster victims.

Rental assistance rates are based on the U.S. Department of Housing and Urban Development's (HUD) published Fair Market Rent rate for existing rental units. However, when a disaster impacts housing availability, prevailing market rates may rise above this rate, making it difficult for disaster victims to find affordable rental housing. The emergency exceptions to the HUD rate will remain in effect until HUD conducts a market analysis of the affected area. If HUD identifies a new rate, FEMA will rescind the emergency exception and implement the HUD rate.

### Katrina Fraud Task Force Releases Report

The Hurricane Katrina Fraud Task Force, a multi-agency national task force led by the U.S. Department of Justice to deter, detect, and prosecute cases of fraud in the aftermath of Hurricanes Katrina, Rita, and Wilma has released its first-year report. According to the report, more than 400 people have been federally charged with hurricane-related fraud and \$18.2 million has been returned by recipients of Individual Assistance benefits not due to them since the attorney general created the task force in September 2005. Now, the task force is looking at fraud related to the reconstruction efforts, including government-contract and procurement fraud, public corruption, government and private-sector benefit fraud, identity theft, and false charities.

The report also includes best practices for law enforcement to consider following future disasters. These include predisaster preparation, such as standardized training in disaster relief programs and the fraud typically associated with those programs, public outreach to prevent and deter fraud in the event of a natural disaster, the creation of district and multidistrict working groups, protocols for data sharing and data management, and the establishment of joint command centers to gather data, share information, and coordinate fraud investigations.

Access the report, *Hurricane Katrina Fraud Task Force: First Year Report to the Attorney General* (54 pp.), online at [www.usdoj.gov/katrina/Katrina\\_Fraud/docs/09-12-06AGprogressrpt.pdf](http://www.usdoj.gov/katrina/Katrina_Fraud/docs/09-12-06AGprogressrpt.pdf).

### FEMA Clarifies Policy on Mapping Areas Protected By Levees

The Federal Emergency Management Agency (FEMA) has issued new guidance that gives communities additional time to gather data needed to assess the protective capabilities of levees while still allowing new flood insurance rate maps to be released as scheduled. FEMA and the U.S. Army Corps of Engineers are working together to make sure that flood hazard maps clearly reflect the flood protection capabilities of levees and that the maps accurately represent the flood risks posed to areas situated behind them. Levee owners are responsible for assuring that the levees they own are maintained to their design.

Based on feedback from numerous communities, states, and other stakeholders, FEMA ascertained that it may be difficult for levee owners to produce the information that their levees comply with the standards for protection against the "one-percent-annual chance" flood. To address this issue, FEMA has clarified its procedures and time lines for levee documentation while keeping the map modernization effort on track. For eligible levees, levee owners now have 24 months to gather information on the extent to which a levee meets current flood protection standards. In the interim, areas behind the levee are mapped as moderate risk areas, and the levee itself is noted as provisionally accredited.

To learn more, visit [www.fema.gov/plan/prevent/fhm/lv\\_intro.shtm](http://www.fema.gov/plan/prevent/fhm/lv_intro.shtm).

### US&R System Gets Checkup

After September 11, 2001, Congress provided a substantial increase in funding to the Federal Emergency Management Agency's National Urban Search and Rescue Response System (US&R System), a rapidly deployable federal source for first response to nationwide emergencies. To determine to what extent the US&R System has achieved its preparedness goals and to identify opportunities for improvement in task force preparedness, the U.S. Department of Homeland Security Office of Inspector General audited the system. It found that, while the US&R System has made improvements, the task forces

are falling short in achieving objectives and standards in three primary areas of readiness: operations, logistics, and management. Read the audit report, *Audit of the National Urban Search and Rescue Response System* (24 pp.), at [www.dhs.gov/interweb/assetlibrary/OIG\\_06-54\\_Aug06.pdf](http://www.dhs.gov/interweb/assetlibrary/OIG_06-54_Aug06.pdf).

## Pets Get Recognition in Disasters

By signing the Pets Evacuation and Transportation Standards Act of 2006 (Public Law 109-308), the president authorized amendment of the Robert T. Stafford Disaster Relief and Emergency Assistance Act to ensure that state and local emergency preparedness operational plans address the needs of individuals with household pets and service animals following a major disaster or emergency. Read the law in any federal repository library and on the Library of Congress Web site at <http://thomas.loc.gov/>.



## New Orleans: EPA's Final Sediment Results

The U.S. Environmental Protection Agency (EPA) has released the final summary of sediment sampling conducted in response to Hurricanes Katrina and Rita. In total, the EPA and the Louisiana Department of Environmental Quality collected approximately 1,800 sediment and sediment/soil samples since Katrina flooded New Orleans and the surrounding parishes. Most of these samples were analyzed for over 200 metals and organic chemicals. The results indicate that, in general, the sediments left behind by the flooding from the hurricanes are not expected to cause adverse health impacts to individuals returning to New Orleans. These sampling results served as the basis for a series of recommendations and advisories provided by local government. The summary provides an extensive picture of the conditions in the flood-impacted areas. Read *Summary Results of Sediment Sampling Conducted by the Environmental Protection Agency in Response to Hurricanes Katrina and Rita* at [www.epa.gov/katrina/testresults/sediments/summary.html](http://www.epa.gov/katrina/testresults/sediments/summary.html). All test results are available at [www.epa.gov/katrina/testresults/](http://www.epa.gov/katrina/testresults/).

## OSHA Offers New Publication on Fire Service

The Occupational Safety and Health Administration (OSHA) is offering a new publication, *Fire Service Features of Buildings and Fire Protection Systems* (OSHA 3256-07N, 71 pp.), to help increase the safety of building occupants

and emergency responders by streamlining fire service interaction with building features and fire protection systems. The new manual explains how fire service operations can be influenced by different building features and offers considerations for design professionals that can help facilitate these operations. It includes chapters and narratives on building and site design, sprinkler systems, standpipe systems, fire department connections, fire alarm and communications systems, as well as various firefighting systems. Many of the discussions can also be applied to other emergencies, such as hazardous material releases, emergency medical care, nonfire rescues, and terrorist events. The manual is available at [www.osha.gov/Publications/fire\\_features3256.pdf](http://www.osha.gov/Publications/fire_features3256.pdf) or by calling OSHA's publications office at (202) 693-1888.

## FEMA Offers NDMS FCC Operations Course

NDMS (National Disaster Medical System) Federal Coordinating Center (FCC) Operations Course, IS-1900, is a new independent study course offered by the Federal Emergency Management Agency (FEMA). The primary audience of the course consists of FCC directors as well as FCC coordinators and staff. Secondary audiences include others who support NDMS patient movement and definitive care components. This Web-based interactive course is divided into four instructional lessons: Introduction to the NDMS, Preincident Activities, Incident Activities, Postincident Activities, and a summary. Find out more and take the class at [www.training.fema.gov/EMIWeb/IS/is1900.asp](http://www.training.fema.gov/EMIWeb/IS/is1900.asp).

## ICS Overview for Executives/Senior Officials Course Available for Download

The Federal Emergency Management Agency's new Incident Command System (ICS) Overview for Executives/Senior Officials, G402, has proven to be quite popular. As a result, although distribution of "G" courses is typically limited to regional training managers and state training officers, the course has been posted to the Emergency Management Institute (EMI) Web site for download. EMI stresses that these course materials are intended to be delivered in an instructor-led classroom training. It is not a self-paced, self-study, or computer-based training course. Access the materials at [www.training.fema.gov/EMIWeb/pub/g402.asp](http://www.training.fema.gov/EMIWeb/pub/g402.asp) (sign-in required).

## SBA Moves to Improve Disaster Response

To improve its response following a disaster, the U.S. Small Business Administration (SBA) has formed an Accelerated Disaster Response Initiative. Specifically, the initiative will identify and help implement process improvements to enable the agency to respond more rapidly in assisting small businesses and homeowners seeking financial assistance after a disaster. The initial focus will be on accelerating the disbursement process for disaster loans to victims of last year's devastating hurricanes. Find out more about the SBA's role in disaster recovery at [www.sba.gov/disaster\\_recov/](http://www.sba.gov/disaster_recov/).

## Overcoming Legal Challenges: A Perfect Storm of Opportunities

**M**ost people would consider children playing on a highway full of speeding automobiles and trucks to be acting foolishly, in a manner that would almost inevitably lead to tragedy and misery. Yet all too often, the development decisions we make as a society, in areas we know are affected by wildfires, floods, earthquakes, tornadoes, and other natural processes of our planet, are just as foolish as children playing in traffic.

While these hazards do not go unnoticed, the decision-making process for development is often complicated by legal issues and challenges pertaining to hazards-based regulations. This article will look at two major impediments to safe and proper development in the United States—one real, the other illusory—and how we can take advantage of recent events to resolve them.

These impediments are inadequate involvement in the development process by those of us who understand and can educate local officials about natural hazards that should be considered in development and the realities of the law as it pertains to protecting the public from poor development decisions. Local officials often indicate that they fear that limiting what property owners can do with their own property might be considered an interference in property rights or an unconstitutional taking of private property. This concern is essentially unfounded with respect to fairly applied, rationally established hazards-based regulation.

### No Adverse Impact

To address the impediment of involvement and education, the Association of State Floodplain Managers has been actively advocating a No Adverse Impact (NAI) approach to development in flood hazard areas. Simply stated, NAI “ensures the action of any property owner, public or private, does not adversely impact the property and rights of others.” NAI requires looking beyond local, federal, and state minimum standards and is legally acceptable, nonadversarial (neither pro- nor antidevelopment), understandable, and largely unobjectionable to all community members.

The concept of NAI is supported by numerous recent court cases, as well as by truly ancient legal and moral concepts. NAI has profoundly deep legal roots and, if understood and properly applied, should resist legal challenge as much as anything can in this uncertain world. The NAI process clearly establishes that the victim in a land use dispute is not the developer. Rather, it is the other members of the community who are adversely affected by ill-conceived development. With this understanding, the developer can work with the community to plan and engineer successful, beneficial development.

### The Takings “Nonissue” in Hazards Regulation

NAI is fully in accord with modern law. The Fifth Amendment to the Constitution of the United States says, “nor shall private property be taken for public use without just compensation.” There have been some famous court cases that clarified this, notably *Pennsylvania Coal Company v. Mahon*, which stated that a government regulation can restrict the owner’s freedom to use his property to such an extent that it can constitute a “taking” of that property without compensation. This legal concept is often referred to as the takings issue.

A careful review of takings cases discloses a common thread: the courts have modified common law to require an increased standard of care by governments as the state of the art of hazards management has improved. While the takings issue has gotten its greatest publicity as a property rights dispute between governments and developers, the reality is that state and local governments are vastly more likely to be successfully sued for permitting development that causes problems and restricts property use, such as roads, stormwater systems, and bridges, than they are for prohibiting such development. There have been almost no hazards-based regulations, such as those espoused by NAI, held to be a taking—almost none! On the other hand, there have been many, many cases where communities and landowners were held liable for harming others. In other words, the interference in legitimate property rights and the takings issue as it has been commonly understood, are nonissues in hazards regulation.

### Four Events—One Large Window of Opportunity

A confluence of four recent, major events has brought the issue of unwise development decisions into the spotlight. More importantly, it has created an opportunity to address how we as a nation can best deal with hazards created and exacerbated by government-sanctioned human occupancy of areas particularly afflicted by natural hazards. These four events are the failure of the levees in New Orleans during Hurricane Katrina, the large financial settlement resulting from the failure of levees in California (*Paterno*), the recent U.S. Supreme Court joint decision for two wetland regulations cases (*Rapanos-Carabell*), and the Federal Emergency Management Agency’s (FEMA) Map Modernization, a nationwide effort to update flood insurance rate maps.

So much has been written about the Hurricane Katrina disaster from the perspective of a hazards manager that we need say little about it. U.S. policy paints the picture of a nation committed to encouraging the provision of housing for all Americans that meets four criteria: decent, safe, sanitary, and affordable. Katrina serves as a

reminder to all involved in community development that housing that does not consider natural hazards cannot be deemed decent, safe, or sanitary and is not affordable by disaster victims or their communities, municipalities, states, or nation. In the wake of this tragedy, we as hazards managers can provide local officials with information about natural hazards and NAI and the truth about takings to help build a sustainable foundation for decent, safe, sanitary, and affordable communities.

Looking for an example to support the argument for NAI and further hazards-based regulation? You'll find one in the *Paterno* case, where the State of California was required to pay nearly one-half billion dollars to recompense a large number of property owners for the failure of levees. As a result of the 2003 ruling, California has embarked on a massive program to prevent future levee failures. What this case teaches us is that courts are willing to apply the underpinnings of the NAI philosophy to rulings about who will pay for damages caused by poor development decisions—and it is not the victims. Take this example and share it with your local development officials. Help them understand the consequences, legal and financial, of making development decisions that do not consider natural hazards.

The case of *Rapanos-Carabell*, a confusing opinion issued by the U.S. Supreme Court, has become a call-to-action for anyone concerned about water management: stormwater, floodplain, and wetland managers alike. The issue was whether wetlands adjacent to tributaries of “navigable waters” were protected by the Clean Water Act. In its decision, the court ruled that to qualify for protection, there must be a demonstrable relationship between wetlands and other waters and that this must be addressed on a case-by-case basis. Floodplain and emergency managers can help identify that relationship and offer valuable information about the effects of filling and other development-related wetland activities that could lead to increased flooding or risks to public safety.

Another opportunity to get the word out is in conjunction with FEMA's effort to digitize and update all the flood insurance rate maps in the country. As part of this effort, some state and municipal hazards managers are conducting studies that show that, in certain situations, if floodplains are fully developed, future flood heights may increase by as much as six feet above present levels. Hazards managers need to share this information with



community officials who are making uninformed development decisions and make it clear what their decisions could mean for the future. The threat of adverse court cases should encourage better and safer NAI-based state and local development decisions. This is the time for communities to consider partnering with FEMA to develop better flood maps using future conditions hydrology and other mapping improvements.

## Wrapping It Up

The concept of No Adverse Impact and the legal foundation it is built on can help develop win-win relationships between hazards managers and community development officials, developers, emergency managers, wetland managers, water quality managers, stormwater managers, and others to reduce or eliminate both impediments discussed herein: involvement and education and concerns about the takings issue. As we have discussed, hazards-based regulations are generally sustained against constitutional challenges, and the goal of protecting the public is afforded enormous deference by the courts. By providing our local officials with a better understanding of the laws that affect them, especially those that are nonissues, we as hazards managers can help them diminish or prevent the misery caused by improper development. Our ability to supply this sort of information, to get involved, in a post-Katrina world of heightened awareness of natural hazards, should give hazards managers a welcome place at the table as development decisions are made. Nevertheless, we must aggressively seek that place at the table, and we must act fast. ▣

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## Resources

No Adverse Impact (Association of State Floodplain Managers)

[www.floods.org/](http://www.floods.org/)

No Adverse Impact Floodplain Management and the Courts

[www.floods.org/NoAdverseImpact/NAI\\_Legal\\_Paper\\_102805.pdf](http://www.floods.org/NoAdverseImpact/NAI_Legal_Paper_102805.pdf)

Peter Paterno et al. v. State of California et al.

<http://caselaw.lp.findlaw.com/data2/californiastatecases/c040553.pdf>

John A. Rapanos et ux., et al. v. United States and June Carabell, et al. v. United States Army Corps of Engineers, et al.

[www.supremecourtus.gov/opinions/05pdf/04-1034.pdf](http://www.supremecourtus.gov/opinions/05pdf/04-1034.pdf)

Map Modernization

[www.fema.gov/plan/prevent/fhm/mmm\\_main.shtml](http://www.fema.gov/plan/prevent/fhm/mmm_main.shtml)

*I wish to thank my friend and mentor Jon Kusler, whose research and partnership served as the foundation for this document, and Michael Baker Jr., Inc. for providing financial support for my research.*

# Respect for Nature as Cornerstone to Community Resiliency: The View from Katrina “Ground Zero”

Less than a year after my article “What if Hurricane Ivan Had Not Missed New Orleans?” appeared in the November 2004 issue of the *Observer* (see p. 5-6) as part of the Disasters Waiting to Happen series, Hurricane Katrina struck and played out in a manner that was eerily familiar. And even though the magnitude of the storm could have been greater, it was a category 3 storm when it made landfall in Louisiana, the magnitude of its impact on the populace (which was exacerbated by Hurricane Rita when it struck the southwest Louisiana coast only a month later) far exceeded the impact of any other hurricane in American history.

My predictive article was based on warnings by a number of scientists—a core of 50 Gulf Coast scientists and another 50 collaborators from around the United States—from a variety of disciplines (physical, social, and life sciences) regarding what was likely in store for New Orleans and the Louisiana coast. My own research on hurricane evacuation challenges represented only a small portion of the data that I included.

The shock generated by the accuracy of the predictions made in the article produced a response from readers around the world. In this article, I will discuss my thoughts on two of the most commonly asked questions as well as what can be done to prevent similar questions from arising in the future.

## Question 1: How Could Katrina Have Been So Accurately Predicted and Yet Its Impact Not Prevented?

Since the hurricane, I have undertaken an exploratory research effort to understand why the scientists’ warnings went unheeded. Other scientists who issued warnings about the reality of the hurricane threat to New Orleans, including Ivor van Heerden, deputy director of the Louisiana State University Hurricane Center, are also doing research on this issue and have published their own speculations. Some of the reasons for the disregarding of the warnings are distrust of scientists, who are seen as self-serving in their catastrophe predictions (positioning for funding to study the threat); competition of the warnings with so many sensationalized media and entertainment visual representations that attention for the real event is difficult to garner; the insularity of scientists that causes them to “speak to the choir” rather than to the public; and a lack of respect by national leaders for local scientists from a marginalized part of our society (Louisiana).

All of these proposed reasons are interesting, worthy of pursuit, and are likely a part of the explanation. However, as a victim of the storm, my interest is also in knowing the answer to the larger, more fundamental question, How does a society such as ours, so bold in its confidence of capacity to manage itself with sophisticated organizations and bureaucracies, so advanced in its science, and so laden with laws, regulations, and processes suppos-

edly created to reduce risk let an event of such magnitude happen?

## Question 2: What Is the “Big Picture” of How Katrina Came to Be?

In a recent article in the *Proceedings of the National Academy of Sciences*, R.W. Kates et al. describe the “levee effect,” which was first defined by Ian Burton in 1962: each consecutive generation builds higher levees, which provide an aura of greater protection, and behind which more and more human activity occurs until the levee breaches, yet again, and the destruction is all the more devastating.<sup>1</sup> Such is the pattern of community growth throughout the 300-year history of New Orleans.

Compounding this history of false protection in New Orleans is the Mississippi River Gulf Outlet, constructed in 1965 to connect the Gulf of Mexico to the city so that ships would not have to navigate the challenging and lengthy path of the Mississippi River. Known as MR-GO, the channel is little used (about one ship one way every two and one-half days) and extremely expensive to maintain due to the dredging required (\$13 million/year or almost \$100,000 per trip for each deep draft ship). Additionally, MR-GO has acted for decades as a conduit of highly saline Gulf water that has systematically killed a large swamp forest, a natural storm barrier, on the Gulf Coast side of New Orleans. During Katrina, the channel funneled the storm surge into the Industrial Canal, which resulted in the breaching of the floodwall that inundated the city on both sides of the canal. Many people caught in this unnaturally forceful surge were killed instantly.

Despite the strong scientific concurrence regarding the massive destructive contributions of MR-GO to the Katrina catastrophe, many members of the business community are advocating that it be redredged and reopened to ship traffic. Similarly, in reference to the repair of the floodwalls and levees, a high-level Louisiana state official declared, more than once, “Man is in a battle with nature; and man will win.” Is the message not getting through or is it just not being heard?

## Resilience and Working with Nature

As an environmental/community sociologist first and a disaster specialist second, I focus on the society/environment interface, especially at regional and local levels. I believe that the uncontrollable urge to control nature that most modern cultures demonstrate plays a major role in negative disaster outcomes. As a nation, we must overcome that urge. We should not just accept this cultural flaw as a given and continue to plan nonstructural mitigation and resiliency activities as add-ons.

Two strong proponents of this issue are Kathleen Tierney, director of the Natural Hazards Center, and Margaret Davidson, director of the National Oceanic and

Atmospheric Administration Coastal Services Center. For the last two years, Tierney has ended her summary of the annual hazards workshop with such a warning. And Davidson has ended her presentations at several national events since Katrina with a similar message: the toll such disrespect for nature is taking on the flexible wealth of the nation is such that we are quickly coming to the tipping point where we have to choose between providing the broad social services that underpin our society and paying for natural disaster recovery.

Community resilience has a growing following among academics, practitioners, and community stakeholders as a way to reduce risk to natural hazards. Often times described as multidimensional—personal, social, economic, natural, and physical—the concept of resiliency directs our attention to the preexisting conditions that are necessary to prevent or reduce the severity of disaster impacts. Social scientists agree that an approach to disaster risk reduction that embraces resiliency, especially nonstructural mitigation (as opposed to large physical structures such as levees), definitely has the potential to provide comprehensive and long-lasting protection from disaster-related harm. Such an approach also calls for very close scrutiny of social vulnerability to disasters. This means focusing on the populations that would suffer the most after a disaster because of their income, race, ethnicity, and/or marginality and exploring ways in which their vulnerability may be reduced.

To avoid similar tragedies in the future, we should use the idea of social resiliency of a community to lay the foundation for environmentally sound communities. Among other things, a socially resilient community trusts in leadership, believes that the community will serve the interest of all members, has full participation of members

in decision making, and gives as much credence to local knowledge as to scientific knowledge. When setting a course for community resiliency, we must begin with a cornerstone that promotes living with the environment rather than one that continues to try, unsuccessfully, to control it. Resilience capacity should not be wasted on accommodating continued environmental resistance.

That said, New Orleans is severely challenged by shortcomings in social resiliency. Thus, areas of the city will be rebuilt that should not be because they require too much structural protection. And nonstructural mitigation of homes and businesses (e.g., elevation) will not be implemented because the community is only weakly engaged in learning about these safeguards and opportunities for assistance. There is a lot of pressure to return New Orleans to the pre-Katrina normal of control of nature. The attitude is that it can be done, and it can work, regardless of the evidence to the contrary.

### How Can You Help?

What these Gulf Coast communities need now is leadership from the disaster researcher and practitioner community. Specifically, they need leadership in the vetting of locational and infrastructure components of proposed individual, institutional, economic, and community plans as to whether their implementation will contribute to natural hazards risk. These communities also need help identifying resilient alternatives. Look at the mess that coastal Louisiana has gotten into because of the failure of the federal government, corporate private sector, state and local communities, and individuals to address the resiliency issue. The environment has been drastically compromised—thousand of miles of wetlands lost since European habitation—and the structural solution to that degradation—levees—has failed, over and over again.

Rebuilding the wetlands and finding ways for communities to function resiliently without relying on massive levees are both daunting and possible goals. Those of us at “ground-zero” for both Katrina and Rita ask for you to join our efforts to make Gulf Coast communities *truly* safer from natural hazards. Efforts that, once proven successful, can be applied to other similarly challenged regions of the United States. 🌱

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 Technology (CHART)  
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### References

1. Kates, R.W., C.E. Colten, S. Laska, and S.P. Leatherman. 2006. Reconstruction of New Orleans after Hurricane Katrina: A research perspective. *Proceedings of the National Academy of Sciences*, September 26. doi: 10.1073/pnas.0605726103.



# 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 [www.colorado.edu/hazards/resources/grants/](http://www.colorado.edu/hazards/resources/grants/).

## **Disaster, Resilience and the Built Environment on the Gulf Coast.**

Funding Organization: National Science Foundation, two years, \$749,420. Principal Investigator(s): John Logan (Phil Brown, Steven Hamburg, John Mustard, and Rachel Morello-Frosch), Brown University, Department of Sociology; (401) 863-2267; john\_logan@brown.edu.

This project will study the resilience of the built environment in coastal communities subject to chronic wind and water damage from hurricanes. A Hurricane Katrina case study will look at which communities were most affected, which will be rebuilt and how they will be different from before, and which segments of the population will be permanently displaced. The case study will be embedded within a larger project on the relationship between hurricane damage, natural environment, and the built environment.

**Improvisation in Emergency Response: Linking Cognition, Behavior and Social Interaction.** Funding Organization: National Science Foundation, three years, \$710,000. Principal Investigator(s): David Mendonça (Carter Butts and Gary Webb), New Jersey Institute of Technology, Information Systems Department; (973) 596-5212; mendonca@njit.edu.

Key goals of this project are to explain the cognitive, behavioral, and social dynamics of improvisation in emergency response; present and make publicly available the data and tools produced by the project; and develop and evaluate tools, techniques, and other materials to support training and policy making pertaining to improvised response to disaster. In accomplishing these goals, this project will develop, implement, and evaluate a multilevel, multidisciplinary model of improvisation during emergency response.

**Shared Governance of Risk.** Funding Organization: National Science Foundation, three years, \$738,578. Principal Investigators: William Wallace, Rensselaer Polytechnic Institute, Department of Decision Sciences and Engineering Systems; (518) 276-6854; wallaw@rpi.edu and Peter May (Bryan Jones), University of Washington, Department of Political Science; (206) 543-9842; pmay@u.washington.edu.

This research will systematically address federal influences on state risk priorities, state risk priorities, federal and state organizational response repertoires, and the organizational dynamics of response to discordant information. A new understanding of organizational choice will be developed that integrates the policy process attention-driven model used to study policy agenda-setting with systems modeling of organizational capabilities and responses for extreme events. The findings will help guide development of more flexible and more responsive intergovernmental approaches to risk management.

## **Contending with Materiel Convergence: Optimal Control, Coordination, and Delivery of Critical Supplies to the Site of Extreme Events.**

Funding Organization: National Science Foundation, two years, \$749,298. Principal Investigator(s): José Holguín-Veras (Havidán Rodríguez, Didier Valdes, Tricia Wachtendorf, and Satish Ukkusuri), Rensselaer Polytechnic Institute, Department of Civil and Environmental Engineering; (518) 276-6221; jhv@rpi.edu.

The goal of this project is to develop methodologies and tools to accelerate convergence between the dynamic needs and supplies of critical resources at the site of an extreme event. The researchers seek to develop ways to forecast needs; estimate what is available; estimate the dynamic pattern of unmet needs; establish an optimal strategy of priority allocation; design the most effective ways to deliver, store, and distribute supplies; identify institutional impediments and mechanisms to overcome them; and identify ways to tighten integration of the information technology systems.

**A Multidisciplinary Protocol for Assessing Climate Impacts, Vulnerability and Adaptation.** Funding Organization: National Science Foundation, 18 months, \$124,736. Principal Investigator(s): Julie Winkler (Jeffrey Andresen, Pang-Ning Tan, Suzanne Thornsby, and John Black), Michigan State University, Department of Geography; (517) 353-9186; winkler@msu.edu.

This exploratory project will use a modest-sized, international industry as a prototype to develop approaches for improving the assessment of climate impacts, vulnerability, and adaptation. Researchers hope to provide a better understanding of local and global vulnerabilities of an industry, the impact of emerging and declining production regions on regional economic development, international product and market differentiation as possible adaptation strategies, and the role of credit and insurance in managing risk. The ultimate goal is to understand the relative importance of climate as one agent of change among others such as political and economic risk.

**Evaluating the Effects of Dams on Social Dynamics.** Funding Organization: National Science Foundation, one year, \$124,792. Principal Investigator(s): Desiree Tullos (Aaron Wolf and Bryan Tilt), Oregon State University, Department of Biological and Ecological Engineering; (541) 737-2038; tullosd@engr.orst.edu.

This research project will investigate the social dynamics of dam construction, or removal. Researchers will evaluate the role of dams as agents of change on the ecological, economic, and sociocultural determinants of a community. The larger objectives of this research are to study the effect of dams in the Yunnan province of China,



where dam construction is driving rapid ecological, economic, and social change.

#### **Power System Security Assessment, Monitoring and Control in Emergency Conditions Due to Hurricanes such as Katrina.**

Funding Organization: National Science Foundation, one year, \$50,000. Principal Investigator: Hsiao-Dong Chiang, Cornell University, School of Electrical and Computer Engineering; (607) 255-5270; [chiang@ece.cornell.edu](mailto:chiang@ece.cornell.edu).

This project involves developing a framework for power system security assessment, monitoring, and control in hurricane situations. The framework will include a damage prediction subsystem, a subsystem for avoiding system collapse and cascading outages, and a subsystem for emergency control development.

#### **Family Business Response to Federal Disaster Assistance.**

Funding Organization: National Science Foundation, two years, \$272,587. Principal Investigator(s): Sharon Danes (Kathryn Stafford and George Haynes), University of Minnesota, Department of Family Social Science; (612) 625-9273; [sdanes@che.umn.edu](mailto:sdanes@che.umn.edu).

This research will examine how disasters impact family businesses and how family businesses recover from disasters. Anticipated outcomes will be useful to those seeking to promote business continuity planning for small and family businesses.

#### **The Cultural Cognition of Risk: Psychological and Social Mechanisms.**

Funding Organization: National Science Foundation, one year, \$282,975. Principal Investigator(s): Dan Kahan (Paul Slovic, John Gastil, and Geoffrey Cohen), Yale Law School; (203) 432-8832; [dan.kahan@yale.edu](mailto:dan.kahan@yale.edu).

The “cultural cognition of risk” refers to the tendency to conform beliefs about risks to culturally grounded appraisals of dangerous activities. The objective of this study is to identify why and how cultural commitments shape risk perception. Researchers hypothesize that individuals emotionally resist information that signifies interference with activities central to their cultural identities and that they give greatest credibility to risk communicators who appear to share their cultural orientations.

#### **Creating an Archive of Preparedness and Homeland Security Survey Data.**

Funding Organization: National Science Foundation/U.S. Department of Homeland Security, two years, \$177,808. Principal Investigator: Gary LaFree, University of Maryland, Department of Criminology and Criminal Justice; (301) 405-6600; [glafree@msn.com](mailto:glafree@msn.com).

A diverse history of research exists in terrorism, preparedness, and recovery, but it is not easily accessible and searchable. This project will create an archive of survey data related to homeland security and preparedness. Specifically, it will serve as a clearinghouse for academics as well as homeland security officials interested in better understanding individual beliefs about terrorism, security, and preparedness; expand the nature and types of hypotheses related to homeland security and preparedness that can be examined; and facilitate the generation of future surveys, especially rapid-response survey tools.

## Help Reestablish CHART's Library

Hurricane Katrina heavily damaged the offices of the University of New Orleans' Center for Hazards Assessment, Response and Technology (CHART). Roof damage, broken windows, and leaky window seals resulted in water damage and widespread mold. Walls, files, upholstered furniture, and books were damaged. About half of CHART's library was destroyed. The offices are still uninhabitable more than a year after the storm, but CHART has persevered and is committed to the recovery of metropolitan New Orleans, its neighborhoods, and the northern Gulf Coast.

In an effort to restore its library, CHART has registered a book wish list with online bookseller Alibris. If you would like to help the center recover their capacity, go to [www.alibris.com/wish/donate-a-book.cfm](http://www.alibris.com/wish/donate-a-book.cfm) and click on Louisiana. CHART also welcomes books from alternative sources but asks that you notify them of your intended donation at [chart@uno.edu](mailto:chart@uno.edu) so that they can remove the title from the list.

## World Bank Expands Disaster Role

The World Bank has established the Global Facility for Disaster Reduction and Recovery to help meet the global demand for increased investment in disaster prevention and mitigation. Through partnerships with the United Nations International Strategy for Disaster Reduction and others, it aims to boost national, regional, and global capacities to reduce disaster risks in low and moderate-income countries and improve the efficiency and effectiveness of national and international relief and reconstruction in postdisaster situations. For more information, visit [www.worldbank.org/hazards/gdrr/](http://www.worldbank.org/hazards/gdrr/).

## PERI/ICMA Launch Emergency Management Network

The Public Entity Risk Institute (PERI) and the International City/County Management Association (ICMA) have joined together to launch the National Emergency Management Network (NEMN)—a national network that enables local governments to work together to augment their emergency response and recovery capacity. The NEMN program includes a combination of training, information resources, and tools that prepare and link local governments and organizations.

Membership in the NEMN is available to public entities on an annual subscription basis and includes access to educational and training resources and NEMN software technologies that aid in visualizing, sharing, deploying, and managing emergency response and recovery resources. For more information and to join the NEMN, visit [www.nationalemergencymanagementnetwork.com/](http://www.nationalemergencymanagementnetwork.com/) or call (866) 460-6366.

**Aftermath of Hurricane Katrina: Tracking PSID Families in Louisiana, Mississippi, and Alabama.** Funding Organization: National Science Foundation/U.S. Department of Homeland Security, one year, \$174,999. Principal Investigator(s): Frank Stafford (Robert Schoeni and Katherine McGonagle), University of Michigan, Department of Economics; (734) 936-0323; fstaffor@isr.umich.edu.

The goal of this project is to track and locate families who are part of the longitudinal sample of the Panel Study of Income Dynamics (PSID) to enhance the likelihood of their participation in the 2007 wave of the PSID. Additionally, these families will be surveyed to assess exposures to Hurricane Katrina, its impact on a number of socioeconomic and mental health outcomes, and the role played by pre-Katrina socioeconomic circumstances in shaping post-Katrina experiences.

**Time-Sharing Experiments on Disaster Risk Communication and Preparedness.** Funding Organization: National Science Foundation/U.S. Department of Homeland Security, one year, \$186,100. Principal Investigator(s): Diana Mutz (Matthew Davis), University of Pennsylvania, Political Science Department; (215) 898-6498; mutz@sas.upenn.edu.

Time-Sharing Experiments for the Social Sciences (TESS) was organized to encourage the collective enterprise of producing policy-relevant scientific research. For this project, TESS will stimulate research on risk communication and its effects on disaster preparedness; government and individual attributions of responsibility and perceived responsiveness; and intergroup threat and cooperation.

**General Social Survey Module on Citizen Preparedness for Terrorist Acts in the United States.** Funding Organization: National Science Foundation/U.S. Department of Homeland Security, one year, \$199,999. Principal Investigator: Tom Smith, National Opinion Research Center; (773) 256-6000; smitht@norc.uchicago.edu.

This project will add a module on public terrorism preparedness to the General Social Survey, a regular, ongoing interview survey of U.S. households conducted

by the National Opinion Research Center. The module, developed by a multidisciplinary team, will provide measures of citizen terrorism preparedness and allow for validation and expansion of the fundamental social scientific theory that addresses the root causes for citizen preparedness actions/inactions. This information will enable policy makers to craft and implement the most effective public education campaigns to increase national levels of citizen readiness for future disasters or acts of terrorism.

**Ecological Approaches to Understanding Post-Disaster Distress.** Funding Organization: National Institute of Mental Health, three years, \$629,564. Principal Investigator: Sandro Galea, University of Michigan, School of Public Health; (734) 763-9784; sgalea@umich.edu.

The purpose of this study is to assess the role that contextual factors (e.g., community-level health and social resources/community socioeconomic status) play in shaping mental health and recovery after a disaster. It aims to demonstrate the utility of an ecological conceptualization of disaster recovery, focusing on individuals' health outcomes, such as the occurrence/severity of posttraumatic stress disorder, depressive symptoms, and chronic stress.

**Social and Economic Effects of a Natural Disaster.** Funding Organization: National Institute of Child Health and Human Development, two years, \$170,009. Principal Investigator: Elizabeth A. Frankenberg, University of California, Los Angeles, Department of Sociology; elizabeth\_frankenberg@rand.org.

Focusing on Indonesia and the 2004 Indian Ocean earthquake and tsunami, this project will document the immediate and intermediate consequences for mortality, family disruption and relocation, physical and mental health, and economic resources; trace the reconstruction of lives and livelihoods; and identify characteristics associated with mitigating the consequences of the disaster. It seeks to produce scientifically sound data for understanding the impact of a major natural disaster on the health and well-being of a population and for designing effective relief efforts for this crisis and for future natural disasters.

## New ICC Disaster Certifications

The need for assistance during disaster recovery prompted the International Code Council (ICC) to offer two new professional certifications to assess practical competency in using codes and standards. The Disaster Response Inspector certification illustrates an individual's ability to inspect, evaluate, and document structural damage and qualifies individuals to assist any community in its disaster assessments. The Coastal and Flood Plain Construction Inspector certification brings an added layer of protection to coastal developments and communities with designated floodplain zones and qualifies individuals to inspect coastal homes and businesses to ensure structures meet code requirements. To learn more, visit [www.iccsafe.org/certification/](http://www.iccsafe.org/certification/) or call (888) 422-7233 x33806.

## New Course to Serve People with Disabilities after Disaster

Serving People with Disabilities following Disaster is a new course from the American Red Cross to better prepare employees and volunteers to serve victims of disasters. In developing the course, the Red Cross partnered with the U.S. Department of Homeland Security Office of Civil Rights and Civil Liberties and organizations such as the National Organization on Disability and the National Spinal Cord Injury Association. The course consists of a 45-minute online self-study, an eight-hour instructor-led class, and a two-hour tabletop exercise. To learn more about this and other Red Cross courses, contact your local Red Cross chapter. To find your local chapter, visit [www.redcross.org/where/where.html](http://www.redcross.org/where/where.html).



# Resources

Below are brief descriptions of some of the resources on hazards and disasters that have recently come to the attention of the Natural Hazards Center. Direct Web links are provided for items that are available free online. Other materials can be purchased through the publisher and/or local and online booksellers.

## Publications, Reports, and More

### All Hazards

**Long-Term Community Recovery Planning Process: A Self-Help Guide.** 2005. 106 pp. Free online. Federal Emergency Management Agency; [www.fema.gov/pdf/rebuild/ltrc/self\\_help.pdf](http://www.fema.gov/pdf/rebuild/ltrc/self_help.pdf).

This guide is intended to provide state, tribal, and local governments with a framework for implementing their own long-term community recovery (LTCR) planning process after a significant disaster event. It provides step-by-step guidance for implementing an LTCR planning program, incorporates case studies for each of the steps in an LTCR program, offers guidance and suggestions for involving the public in the recovery program, and provides a method for developing an LTCR plan that is a flexible and useable blueprint for community recovery.

**Hazards, Vulnerability and Environmental Justice.** Susan L. Cutter. ISBN 1-84407-311-4. 2006. 432 pp. \$45.00. Earthscan; +44 (0)20 7387 8558 (United Kingdom); [earthinfo@earthscan.co.uk](mailto:earthinfo@earthscan.co.uk); [www.earthscan.co.uk](http://www.earthscan.co.uk).

This collection of essays examines human vulnerabilities and environmental injustices that result from the geographical distribution of risks, hazards, and disasters. It comprises the top selections from the author's 30 years of scholarship on the subject and tackles issues such as nuclear and toxic hazards, risk assessment, communication and planning, and societal responses.

The following textbooks are the first two in an emergency management series from Wiley Higher Education. They present the core concepts and principles that are essential in any position that requires emergency management and first responder training. Each book is supported by instructor manuals, test banks, PowerPoint presentations, and companion Web sites. John Wiley & Sons; (877) 762-2974; [www.wiley.com/go/pathways/](http://www.wiley.com/go/pathways/).

**Disaster Response and Recovery.** David A. McEntire. ISBN 0-471-78974-7. 2007. 504 pp. \$51.95. This text, which is based on the academic literature and practical understanding, provides an overview of disasters, the actors that are involved in emergency management, and the diverse theoretical frameworks from which postdisaster activities may be approached. After addressing the most salient functions performed when disasters strike (e.g., warning, evacuation, search and rescue, debris removal, donations management, etc.), it examines typical challenges to be expected during response efforts along with tools

and techniques to enhance the ability to protect lives, reduce property damage, and minimize disruption.

**Emergency Planning.** Ronald W. Perry and Michael K. Lindell. ISBN 0-471-92077-0. 2007. 519 pp. \$51.95. In order for a community to be truly prepared to respond to any type of emergency, it must develop effective emergency planning. This textbook guides readers through the steps of developing these plans, offering a number of strategies that will help ensure success. It delves into the patterns of human disaster behavior, social psychology, and communication as well as the basics of generic protective actions, planning concepts, implementation, and action.

**Design Guidance for Shelters and Safe Rooms.** Risk Management Series. FEMA 453. 2006. 264 pp. Free. Federal Emergency Management Agency Publication Distribution Center; (800) 480-2520; [www.fema.gov/pdf/plan/prevent/rms/453/fema453.pdf](http://www.fema.gov/pdf/plan/prevent/rms/453/fema453.pdf).

The objective of this manual is to provide guidance to engineers, architects, building officials, and property owners to design shelters and safe rooms in buildings. This manual presents information about the design and construction of shelters in the work place, home, or community building that will provide protection from manmade hazards.

**Americans at Risk: Why We Are Not Prepared for Megadisasters and What We Can Do Now.** Irwin Redlener. ISBN 0-307-26526-9. 2006. 304 pp. \$24.00. Alfred A. Knopf; [www.aaknopf.com/](http://www.aaknopf.com/).

The central topic of this book is the nation's inability to properly plan for large-scale disasters. The author begins with a discussion of Hurricane Katrina and moves into examples of where America is still vulnerable, focusing specifically on the health care system, the potential for megadisasters and terrorism, our crumbling infrastructure, and special populations. From there he turns to the barriers to readiness and why we are not prepared followed by what we need to do to make America safer.

**White Paper on the SDR Grand Challenges for Disaster Reduction.** Michel Bruneau, Andre Filiatrault, George Lee, Thomas O'Rourke, Andrei Reinhorn, Masanobu Shinozuka, and Kathleen Tierney. 2005. 43 pp. \$25.00. Free online. MCEER; [www.mceer.buffalo.edu/publications/white\\_papers/05-SP09/default.asp](http://www.mceer.buffalo.edu/publications/white_papers/05-SP09/default.asp).

MCEER's Executive Committee released this white paper to provide their perspective on factors to consider

in the formulation of a national research strategy for disaster loss reduction. It is a commentary on the *Grand Challenges for Disaster Reduction* report published by the Subcommittee on Disaster Reduction of the National Science and Technology Council Committee on Environment and Natural Resources. MCEER advocates that a critical part of this research should focus on the mitigation of and response to the impact of extreme events on critical facilities and lifelines and should seek all-hazards solutions.

**State and Regional Responses to Disasters: Solving the 72-Hour Problem.** Jill D. Rhodes and James Jay Carafano. 2006. 8 pp. Free online. Heritage Foundation; [www.heritage.org/Research/HomelandDefense/bg1962.cfm](http://www.heritage.org/Research/HomelandDefense/bg1962.cfm).

The authors of this “backgrounder” suggest that better planning at a regional level could prevent shortfalls in disaster response. Specifically, they recommend that a regional tier be added to the response process between the state and federal tiers. Regional programs, in conjunction with U.S. Department of Homeland Security regional offices, could then provide states with support during incidents that are too large for a state to manage on its own but that do not require a full federal response.

**Hazard & Risk Science Review 2006.** Bill McGuire. 2006. 44 pp. Free online. Benfield UCL Hazard Research Centre; +44 (0)20 7679 3637 (United Kingdom); [info@benfieldhrc.org](mailto:info@benfieldhrc.org); [www.benfieldhrc.org/activities/hrsr/h&rsr\\_2006/](http://www.benfieldhrc.org/activities/hrsr/h&rsr_2006/).

Sponsored by Benfield and PartnerRe, this is the third edition of the annual digest of the latest academic and technical natural hazards research. It provides a synopsis of over 75 scientific papers published during the past 12 months and focuses on the four major areas of hazards relevant to catastrophe insurance and reinsurance: atmospheric, geological, hydrological, and climate change.

**Natural Disaster Hotspots: Case Studies.** Margaret Arnold, Robert S. Chen, Uwe Deichmann, Maxx Dilley, Arthur L. Lerner-Lam, Randolph E. Pullen, and Zoe Trohanis, editors. ISBN 0-8213-6332-8. Disaster Risk Management Series No. 6. 2006. 200 pp. \$20.00. The World Bank; (703) 661-1580, (800) 645-7247; [books@worldbank.org](mailto:books@worldbank.org); <http://publications.worldbank.org/>. Free online from the ProVention Consortium; [www.proventionconsortium.org/themes/default/pdfs/hotspots2.pdf](http://www.proventionconsortium.org/themes/default/pdfs/hotspots2.pdf).

These case studies complement the earlier work of *Natural Disaster Hotspots: A Global Risk Analysis* published in 2005. Three case studies address specific hazards: landslides, storm surges, and drought. An additional three case studies address regional multihazard situations in Sri Lanka, the Tana River basin in Kenya, and the city of Caracas, Venezuela.

**Light Our Way: A Guide for Spiritual Care in Times of Disaster for Disaster Response Volunteers, First Responders and Disaster Planners.** Kevin Massey. 2006. 72 pp. Free online. National Voluntary Organizations Active in Disaster; [www.nvoad.org/articles/Light\\_Our\\_Way\\_LINKS.pdf](http://www.nvoad.org/articles/Light_Our_Way_LINKS.pdf).

The purpose of this guide is to inform, encourage, and affirm the hundreds of thousands of people who respond to disasters. It is not a training manual; its inten-

tion is to encourage standards of best practice. Topics include basic concepts of spiritual care, types of spiritual care, emotional care and its relationship to spiritual care, spiritual care in long-term recovery, emotional and spiritual care for the care giver, and mitigation, preparedness, planning, and training as spiritual care components.

**Field Guide to Emergency Response: A Vital Tool for Cultural Institutions.** 2006. 58 pp. \$29.95. Heritage Preservation; [www.heritagepreservation.org/](http://www.heritagepreservation.org/).

Every year, hundreds of U.S. museums, libraries, archives, and historic sites experience emergencies large and small. This guide is designed to help these institutions prepare to respond to a disaster. It has four main sections: what to do first, the response team, top ten problems to expect, and resources. An instructional DVD illustrates typical problems after a disaster and demonstrates basic salvage techniques.

**Disaster Prevention: A Role for Business?** Alyson Warhurst. 2006. 24 pp. Free online. ProVention Consortium; [www.proventionconsortium.org/themes/default/pdfs/business\\_case\\_DRR.pdf](http://www.proventionconsortium.org/themes/default/pdfs/business_case_DRR.pdf).

This study was commissioned by the ProVention Consortium to examine how businesses can help reduce natural disaster risks in developing countries. It explores a corporate social responsibility perspective on disaster prevention and addresses, in particular, the potential for establishing partnerships between the private sector and the humanitarian system. It is intended to stimulate dialog and help catalyze new ideas and collaborative initiatives involving the business community.

**Disaster Insurance for the Poor? A Review of Microinsurance for Natural Disaster Risks in Developing Countries.** Reinhard Mechler, Joanne Linnerooth-Bayer, and David Peppiatt. 2006. 32 pp. Free online. ProVention Consortium; [www.proventionconsortium.org/themes/default/pdfs/Microinsurance\\_study\\_July06.pdf](http://www.proventionconsortium.org/themes/default/pdfs/Microinsurance_study_July06.pdf).

This report provides a review of the benefits and limitations of microinsurance. It suggests that microinsurance can be considered as an effective risk-transfer mechanism and an integral part of an overall disaster risk management strategy. However, the long-term viability of such programs is still to be determined. The study concludes with a number of key challenges and next steps for the evolving microinsurance agenda.

**Ready New York for Pets.** 2006. 2 pp. Free online. New York City Office of Emergency Management; (718) 422-4800; [www.nyc.gov/html/oem/html/ready/pets\\_guide.shtml](http://www.nyc.gov/html/oem/html/ready/pets_guide.shtml).

This new guide outlines steps pet owners can take to ensure their pets are prepared for all types of emergencies. It is available in English, Spanish, Chinese, and Russian.

**Weathering Corruption.** Peter Leeson and Russell Sobel. 2006. 30 pp. Free online. Mercatus Center at George Mason University; (703) 993-4930; [kmesa@gmu.edu](mailto:kmesa@gmu.edu); [www.mercatus.org/Publications/pubID.2691/pub\\_detail.asp](http://www.mercatus.org/Publications/pubID.2691/pub_detail.asp).

This working paper investigates the hypothesis that bad weather is responsible for U.S. corruption (i.e., disaster relief increases corruption). To support this hypothesis, these authors researched the effect of disaster relief provided by the Federal Emergency Management Agency (FEMA) on public corruption. They found that eliminating FEMA disaster relief would reduce corruption more than 20 percent in the average state.

**A People's Guide to Building Damages and Disaster Safe Construction.** Vivek Rawal, Dinesh Prajapati, and Balaji Joshi. 2006. 11 pp. Free online. UNNATI—Organisation for Development Education; [www.unnati.org/pdfs/manuals/pgbdsc-1.PDF](http://www.unnati.org/pdfs/manuals/pgbdsc-1.PDF).

UNNATI, a nonprofit organization based in India, developed this guidebook, which offers an elementary understanding of structural damages that can occur in a disaster due to the most common vulnerabilities in houses of poor quality construction and provides basic guidelines for safer methods of construction.

## Severe Weather and Floods

**Weather Safety: Hurricanes.** 2006. 2 pp. Free online. National Weather Service (NWS); [www.weather.gov/os/hurricane/pdfs/hurricane\\_safety.pdf](http://www.weather.gov/os/hurricane/pdfs/hurricane_safety.pdf).

This new brochure details what to do before, during, and after a tropical storm or hurricane. Printed copies of a trifold version should be available at local NWS offices.

**NOAA's National Weather Service: Be A Citizen Scientist.** 2006. 2 pp. Free online. National Weather Service (NWS); [www.weather.gov/os/brochures/Citizen\\_Scientist.pdf](http://www.weather.gov/os/brochures/Citizen_Scientist.pdf).

The National Weather Service (NWS) depends on support from the general public in providing vital, real-time observational data. This flyer describes the NWS' SKYWARN and Coop programs, including what the jobs entail and how to get involved.

**The Official Coastal Bend Hurricane Survival Guide: It Only Takes One.** 2006. 24 pp. Free online. National Weather Service (NWS); [www.srh.noaa.gov/crp/tropics/2006Guide/guide.php](http://www.srh.noaa.gov/crp/tropics/2006Guide/guide.php).

This hurricane awareness guide for the Coastal Bend area of Texas was prepared and distributed by the NWS through a public-private partnership. It includes hazard information, preparedness tips, evacuation routes, insurance tips, and other tools to help individuals, families, and businesses prepare for a major storm.

**Mississippi Hurricane Evacuation Guide.** 2006. 9 pp. Free online. Mississippi Department of Transportation; (866) 521-6368; [www.gomdot.com/cefp/ms\\_coastal\\_hurricane\\_05\\_01\\_06.pdf](http://www.gomdot.com/cefp/ms_coastal_hurricane_05_01_06.pdf).

This guide features important contact information, alternate in-state hurricane evacuation routes, contraflow plans, maps, and more to help Mississippi residents prepare for an evacuation.

**Expanding the Mitigation Toolbox: The Demolish/Rebuild Option.** 2006. 8 pp. Free online. Association of State Flood-

plain Managers (ASFPM); (608) 274-0123; [asfpm@floods.org](mailto:asfpm@floods.org); [www.floods.org/PDF/ASFPM\\_White\\_Paper\\_Demo-Rebuild\\_0806.pdf](http://www.floods.org/PDF/ASFPM_White_Paper_Demo-Rebuild_0806.pdf).

The ASFPM has long been an advocate for mitigation and for an expandable mitigation "toolbox" from which states and communities can choose appropriate options to address the unique characteristics of the hazards and other issues they face. Alternatives to acquisition, elevation in place, and other more common approaches are increasingly important as hazards mitigation practices evolve. This white paper, based on comments from ASFPM members and mitigation professionals across the nation, summarizes the reasons for adding the demolish/rebuild option to the floodplain mitigation toolbox.

**Liability for Water Control Structure Failure Due to Flooding.** Edward A. Thomas. 2006. 25 pp. Free online. Association of State Floodplain Managers; (608) 274-0123; [asfpm@floods.org](mailto:asfpm@floods.org); [www.floods.org/PDF/NAI\\_Liability\\_Failure\\_Facilities\\_0906.pdf](http://www.floods.org/PDF/NAI_Liability_Failure_Facilities_0906.pdf).

This paper discusses standards used by U.S. courts to assess liability for damage due to the failure of flood control structures such as dams, levees, and other major nonnatural structures that store, divert, or transport large volumes of water.

## Hurricane Katrina

**Disaster: Hurricane Katrina and the Failure of Homeland Security.** Christopher Cooper and Robert Block. ISBN 0-8050-8130-5. 2006. 352 pp. \$24.95. Times Books; (888) 330-8477; [www.henryholt.com/](http://www.henryholt.com/).

Based on exclusive interviews, this book relates the inside story of how America's emergency response system failed in response to Hurricane Katrina and how it remains dangerously broken. Drawing on interviews with federal, state, and local officials, the authors take readers inside the Federal Emergency Management Agency and the U.S. Department of Homeland Security to reveal the mismanagement and demonstrate the need to overhaul the nation's emergency response system.

**Breach of Faith: Hurricane Katrina and the Near Death of a Great American City.** Jed Horne. ISBN 1-4000-6552-3. 2006. 432 pp. \$25.95. Random House; [www.randomhouse.com/](http://www.randomhouse.com/).

Metro editor at New Orleans' *Times-Picayune* and part of the team of reporters who covered Katrina's assault, this author tells the story of the disaster from the perspective of the private and public lives caught up in the chaos. From the storm's first churning to the attempts to repair the levees before the 2006 hurricane season, he recounts individual stories of aspiration and loss, of opportunities missed and exploited, and of rivalry among civic, state, and national leaders.

**CNN Reports: Katrina—State of Emergency.** ISBN 0-7407-5844-6. 2005. 176 pp. \$19.95. Andrews McMeel Publishing; [www.andrewsmcmeel.com/](http://www.andrewsmcmeel.com/).

This publication provides a chronological account of Hurricane Katrina through CNN transcripts and photos documenting all facets of the disaster, from past studies

predicting such a tragedy to the path of the hurricane to the consequences surrounding the flooding and delayed rescue efforts. It includes first-hand accounts from many of the more than 200 CNN anchors, correspondents, and production members dispatched to Louisiana, Mississippi, Alabama, Texas, and Tennessee to cover the aftermath. CNN will donate all royalties to the American Red Cross Hurricane Katrina Disaster Relief Fund.

**Grace Amid Tragedy: A Red Cross Volunteer on the Katrina Frontline.** Jim D. Clark. ISBN 0-595-40098-1. 2006. 186 pp. \$16.95. iUniverse; [www.iuniverse.com/](http://www.iuniverse.com/).

In this memoir, the author relates his experiences managing two American Red Cross shelters in Gulfport, Mississippi. Looking beyond the catastrophic damage and human tragedies, he finds the silver lining: the Katrina response represents the largest outpouring of donations, volunteers, and compassion in U.S. history. Along with his broad perspective reporting of the events, he chronicles the courage and spiritual growth of a handful of victims over a five-month period. Fifty percent of this book's profits will be donated to the rebuilding effort.

**Unacceptable: The Federal Response to Katrina.** Walter M. Brasch. ISBN 1-4196-1839-3. 2006. 100 pp. \$12.99. Booksurge; (866) 308-6235; [orders@booksurge.com](mailto:orders@booksurge.com); [www.booksurge.com/](http://www.booksurge.com/).

The emergency management response to Hurricane Katrina revealed the inadequacies of the Federal Emergency Management Agency as well as systemic problems in all levels of government. This book explores the facts of the disaster and why the federal response was inefficient.

**Continuing Progress: A 1-Year Update on Hurricane Recovery and Rebuilding.** 2006. 23 pp. Free online. U.S. Department of Homeland Security; [www.dhs.gov/interweb/assetlibrary/GulfCoast\\_Katrina1yearFactSheet.pdf](http://www.dhs.gov/interweb/assetlibrary/GulfCoast_Katrina1yearFactSheet.pdf).

This document contains a partial list of the work federal agencies have accomplished toward recovery of the Gulf Coast region.

**Broken Promises: The Republican Response to Katrina.** 2006. 19 pp. Free online. U.S. Senate and House of Representatives Democrats; [www.democraticleader.house.gov/pdf/Katrina1Year.pdf](http://www.democraticleader.house.gov/pdf/Katrina1Year.pdf).

Arguing that one year after Katrina every facet of life on the Gulf Coast is still marred by remnants of the storm and suffers from a failed Republican response marked by unfulfilled promises, cronyism, waste, fraud, and abuse, this report outlines some of the major problems still confronting the region.

**One Year After Katrina: Progress Report on Recovery, Rebuilding and Renewal.** 2006. 46 pp. Free online. Office of Governor Haley Barbour, Mississippi; <http://governorbarbour.com/recovery/documents/oneyearafterkatrina.pdf>.

This report describes the State of Mississippi's efforts and major accomplishments in recovery during the past year. It explains actions taken and funds used to confront recovery problems in categories such as housing, public infrastructure, economic development, human services,

public safety, and environmental restoration and natural storm defenses. A discussion of important next steps is also included.

**Hurricane Katrina: One Year Later; What Must We Do Next?** 2006. 13 pp. Free online. American Society of Civil Engineers (ASCE); (800) 548-2723; [www.asce.org/files/pdf/Ch9\\_What%20Must%20We%20Do%20Next.pdf](http://www.asce.org/files/pdf/Ch9_What%20Must%20We%20Do%20Next.pdf).

The members of the ASCE Hurricane Katrina External Review Panel conducted an in-depth review of the work of the U.S. Army Corps of Engineers' Interagency Performance Evaluation Taskforce. This statement outlines ten critical actions the panel believes are necessary to prevent a tragedy such as Katrina from happening in the future. Each action falls under one of four required shifts in thought and approach: understand risk and embrace safety, reevaluate and fix the hurricane protection system, revamp the management of the hurricane protection system, and demand engineering quality.

**A Year of Healing: A Red Cross Report on Katrina, Rita & Wilma.** 2006. 20 pp. Free online. American Red Cross; [www.redcross.org/images/pdfs/Katrina\\_OneYearReport.pdf](http://www.redcross.org/images/pdfs/Katrina_OneYearReport.pdf).

This report reviews the 2005 hurricane season and the work of the American Red Cross and its partners in four areas: people, ideas, resources, and experience. It also reports the status of relief and how the 2005 hurricane season has changed the future of emergency response.

**Special Edition of the Katrina Index: A One-Year Review of Key Indicators of Recovery in Post-Storm New Orleans.** Amy Liu, Matt Fellowes, and Mia Mabanta. 2006. 16 pp. Free online. The Brookings Institution Metropolitan Policy Program; (202) 797-6139; [www.brookings.edu/metro/pubs/200512\\_KatrinaIndex.htm](http://www.brookings.edu/metro/pubs/200512_KatrinaIndex.htm).

This paper builds on the Katrina Index, a monthly snapshot launched in December 2005 to monitor the state of recovery in Louisiana and Mississippi. This special edition of the Katrina Index focuses solely on the recovery progress in the New Orleans metro area, highlighting key trends in housing, services and infrastructure, the economy, and the federal emergency response.

**Building a Better New Orleans: A Review of and Plan for Progress One Year after Hurricane Katrina.** Amy Liu. 2006. 48 pp. Free online. The Brookings Institution Metropolitan Policy Program; (202) 797-6139; [www.brookings.edu/metro/pubs/20060822\\_Katrina.htm](http://www.brookings.edu/metro/pubs/20060822_Katrina.htm).

This paper reviews the federal, state, and local post-hurricane recovery effort, highlights areas of progress, and offers a plan for ensuring that future actions create a more inclusive, sustainable, and prosperous New Orleans region.

In the wake of Hurricane Katrina, a multidisciplinary team of investigators from MCEER conducted field reconnaissance to examine the storm's impact on physical engineered systems and the response and recovery efforts. The findings are being released as part of an "Engineering and Organizational Issues Before, During, and After Hurricane Katrina" series of publications. MCEER; (716

645-3391; mceer@acsu.buffalo.edu; [www.mceer.buffalo.edu/publications/Katrina/default.asp](http://www.mceer.buffalo.edu/publications/Katrina/default.asp).

**Hospital Decision Making in the Wake of Katrina—The Case of New Orleans.** Lucy A. Arendt and Daniel B. Hess. 2006. 90 pp. \$25.00. Free online.

**Integrating Remote Sensing and VIEWS Field Reconnaissance.** J. Arn Womble, Shubharoop Gosh, Beverley J. Adams, and Carol J. Friedland. 2006. 154 pp. \$35.00. Free online.

**Overview of Baseline Survey Results: Hurricane Katrina Community Advisory Group.** 2006. 108 pp. Free online. Harvard Medical School, Department of Health Care Policy; [hurricanekatrina@hcp.med.harvard.edu](mailto:hurricanekatrina@hcp.med.harvard.edu); [www.hurricanekatrina.med.harvard.edu/pdf/baseline\\_report%208-25-06.pdf](http://www.hurricanekatrina.med.harvard.edu/pdf/baseline_report%208-25-06.pdf).

In order for government policy makers to better understand the problems faced by Gulf Coast residents affected by Hurricane Katrina, the Harvard Medical School's Department of Health Care Policy has created a Hurricane Katrina Community Advisory Group. This report presents overview results from the baseline survey of the group. The topics covered include evacuation preparation, postevacuation stress, current practical problems of survivors, rating the helpers, residential mobility plans, negative emotional reactions, and positive reactions.

**GulfGov Reports: One Year Later.** Karen Rowley. 2006. 62 pp. Free online. The Nelson A. Rockefeller Institute of Government; (518) 443-5285; [stubbleb@rockinst.org](mailto:stubbleb@rockinst.org); <http://rockinst.org/GulfGov/>.

This report is the first of a three-year longitudinal project to examine how several communities across Louisiana, Mississippi, and Alabama are dealing with the challenges created by Hurricanes Katrina and Rita. It examines communities from the perspective of their changed economic conditions, their rebuilding process, the obstacles hampering their recovery, and the roles local and state governments and nonprofit organizations are playing in the process.

**After the Storm: Social Capital Regrouping in the Wake of Hurricane Katrina.** Emily Chamlee-Wright. 2006. 40 pp. Free online. Mercatus Center at George Mason University; (703) 993-4930; [kmesa@gmu.edu](mailto:kmesa@gmu.edu); [www.mercatus.org/repository/docLib/20060823\\_After\\_the\\_Storm.pdf](http://www.mercatus.org/repository/docLib/20060823_After_the_Storm.pdf).

This paper examines the role social capital is playing in the post-Katrina recovery process, in particular, how social capital resources are being deployed to overcome the collective-action problem associated with postdisaster recovery. It identifies four patterns by which residents and business owners are creating and leveraging social capital assets and concludes that government disaster response and redevelopment policy should not unduly inhibit civil society's ability to respond.

**Nursing Home Emergency Preparedness and Response during Recent Hurricanes.** OEI-06-06-00020. 2006. 48 pp. Free online. U.S. Department of Health and Human Services Office of Inspector General; [www.oig.hhs.gov/oei/reports/oei-06-06-00020.pdf](http://www.oig.hhs.gov/oei/reports/oei-06-06-00020.pdf).

Findings and recommendations in this report reflect the objectives of the study, which were to determine the national and Gulf state incidence of nursing home deficiencies for lack of emergency preparedness, examine the experiences of selected Gulf state nursing homes during recent hurricanes, and review the emergency preparedness plans of selected Gulf state nursing homes and their use.

Two new publications from the National Council on Disability report on how Hurricanes Katrina and Rita affected people with disabilities.

**The Impact of Hurricanes Katrina and Rita on People with Disabilities: A Look Back and Remaining Challenges.** 2006. Free online. [www.ncd.gov/newsroom/publications/2006/hurricanes\\_impact.htm](http://www.ncd.gov/newsroom/publications/2006/hurricanes_impact.htm).

**The Needs of People with Psychiatric Disabilities during and after Hurricanes Katrina and Rita: Position Paper and Recommendations.** 2006. Free online. [www.ncd.gov/newsroom/publications/2006/peopleneeds.htm](http://www.ncd.gov/newsroom/publications/2006/peopleneeds.htm).

Two briefing papers from the Institute for Women's Policy Research examine the multiple disadvantages experienced by women who lived in the areas affected by Hurricanes Katrina and Rita.

**The Women of New Orleans and the Gulf Coast: Multiple Disadvantages and Key Assets for Recovery—Part I. Poverty, Race, Gender and Class.** Barbara Gault, Heidi Hartmann, Avis Jones-DeWeever, Misha Werschkul, and Erica Williams. 2006. 12 pp. Free online. [www.iwpr.org/pdf/D464.pdf](http://www.iwpr.org/pdf/D464.pdf).

**The Women of New Orleans and the Gulf Coast: Multiple Disadvantages and Key Assets for Recovery—Part II. Gender, Race, and Class in the Labor Market.** Erica Williams, Olga Sorokina, Avis Jones-DeWeever, and Heidi Hartmann. 2006. 32 pp. Free online. [www.iwpr.org/pdf/D465.pdf](http://www.iwpr.org/pdf/D465.pdf).

**The Calm in the Storm: Women Leaders in Gulf Coast Recovery.** Sarah Vaill. 2006. 20 pp. Free online. Ms. Foundation for Women and Women's Funding Network; [www.ms.foundation.org/user-assets/PDF/WFNMFWkatrina\\_report\\_1.pdf](http://www.ms.foundation.org/user-assets/PDF/WFNMFWkatrina_report_1.pdf).

Women have become a critical force in the rebuilding of the Gulf Coast after being disproportionately affected by Katrina. This report reveals that, while the lens of race and class were applied to the natural disaster early on, the gender dimensions of poverty and recovery on the Gulf Coast have largely been overlooked. It includes stories of women survivors, outlining postdisaster challenges they face and the actions they have taken as leaders in the rebuilding process in partnership with women's organizations and women's foundations.

**Forgotten Communities, Unmet Promises: An Unfolding Tragedy on the Gulf Coast.** Tony Pipa and Steve Greene. 2006. 52 pp. Free online. Oxfam America; [www.oxfamamerica.org/newsandpublications/publications/briefing\\_papers/briefing\\_paper.2006-08-21.1978258942?unique=1993460895](http://www.oxfamamerica.org/newsandpublications/publications/briefing_papers/briefing_paper.2006-08-21.1978258942?unique=1993460895).

This briefing paper tells the story of three diverse places—two in rural Louisiana and one in urban Mississippi—and their struggle to restore all that Hurricanes Katrina and Rita destroyed. It takes a probing look at how poor policy decisions, initiated at the highest levels of government and carried out through its lowest ranks, are pushing low-income families to the sidelines.

**The Race to Rebuild: The Color of Opportunity and the Future of New Orleans.** 2006. 52 pp. Free online. Center for Social Inclusion; (212) 248-2785; [www.centerforsocialinclusion.org/PDF/racetorebuild.pdf](http://www.centerforsocialinclusion.org/PDF/racetorebuild.pdf).

This report analyzes existing data on the progress of rebuilding New Orleans' communities. It also examines existing rebuilding policies to show that current policies are insufficient to help black New Orleanians return or rebuild their lives. A recovery report card on indicators such as housing, health care, education, and utilities is included and will be updated monthly.

**Envisioning a Better Mississippi: Hurricane Katrina and Mississippi—One Year Later.** 2006. 81 pp. Free online. Mississippi State Conference of the National Association for the Advancement of Colored People; (601) 353-6906; [www.naacp.org/advocacy/gcac/ms\\_report/](http://www.naacp.org/advocacy/gcac/ms_report/).

A compilation of nine papers, this report focuses on key challenges and opportunities facing the State of Mississippi in the next eighteen months.

**Hurricane Katrina: Natural Disaster, Human Catastrophe.** Eric Lotke and Robert L. Borosage. 2006. 26 pp. Free online. Campaign for America's Future; (202) 955-5665; [http://home.ourfuture.org/reports/stl\\_confailure\\_katrina.pdf](http://home.ourfuture.org/reports/stl_confailure_katrina.pdf).

This report argues that the federal government's failure to prepare, respond, and rebuild the Gulf Coast stems from conservative policies that shrunk indispensable government services, promoted cronyism over professionalism, outsourced government responsibility to the private sector, and backed pay-to-play politics.

**Covering Katrina: Trends in Katrina Media Coverage; Initial Analysis from the Top Ten National Newspapers and Ten Gulf Coast Newspapers.** Tom Freedman, Nick Gossen, Matt Lindsey, and Ed Gerrish. 2006. 5 pp. Free online. Partnership for Public Service; [www.governmentafterkatrina.org/research/Reports/KatrinaMediaCoverage.pdf](http://www.governmentafterkatrina.org/research/Reports/KatrinaMediaCoverage.pdf).

The report examines the media coverage from the top ten U.S. newspapers (by circulation) and a sampling of ten Gulf Coast papers near areas affected by Hurricane Katrina. The analysis covers the time period between August 24, 2005, a few days before the storm made landfall, and July 21, 2006.

## Wildfire

**Forest Fires: A Reference Handbook.** Philip N. Omi. ISBN 1-85109-438-5. 2005. 347 pp. \$55.00. ABC-CLIO; (805) 968-1911, (800) 368-6868; [orders@abc-clio.com](mailto:orders@abc-clio.com); [www.abc-clio.com/](http://www.abc-clio.com/).

The purpose of this book is to explore the many dimensions of forest fires and their impacts in North Amer-

ica and elsewhere. Offering insights into current practice and historical precedents, it is aimed at those who seek an overview reference to fire science and management.

**Firewise: Community Solutions to a National Problem.** 2006. 61 pp. Shipping and handling only. National Wildland/Urban Interface Fire Program; [www.firewise.org/](http://www.firewise.org/).

This book is a complete revision of *Fire in the Wildland/Urban Interface: Everyone's Responsibility* and is a resource for residents, community officials, land managers, firefighters, insurers, and others who have a role to play and choices to make in reducing the risk from wildfire. Using examples from Firewise communities in Florida, New Mexico, Minnesota, Washington, Colorado, and Arizona, it provides insight, information, and inspiration for taking action to become safer from wildfire.

**The Still-Burning Bush.** Stephen Pyne. ISBN 1-920769-75-7. 2006. 144 pp. Au\$22.00. Scribe; [info@scribepub.com.au](mailto:info@scribepub.com.au); [www.scribepub.com.au/](http://www.scribepub.com.au/).

With bushfires, fire institutions, fire scholarship, and vigorous fire politics, Australia is one of the world's fire powers. This book traces the environmental and social significance of the use of fire to shape the environment through Australian history, focusing primarily on the last two decades (picking up where the author's previous book, *Burning Bush: A Fire History of Australia*, left off).

**NFPA Firewise ArcView Lessons Learned Research Project.** ECONorthwest. 2006. 43 pp. Free online. Fire Protection Research Foundation; [www.nfpa.org/assets/files//PDF/Research/ArcView\\_report.pdf](http://www.nfpa.org/assets/files//PDF/Research/ArcView_report.pdf).

Between 2000 and 2004, the National Firewise Communities Program worked with 27 U.S. communities to train staff in the use of geographic information systems (GIS), specifically ESRI's ArcView, to identify and reduce wildfire risk and manage wildfire emergencies. This report is designed to help the National Wildfire Coordinating Group's Wildland/Urban Interface Working Team and other stakeholders better understand participants' experiences with the program. It highlights implementation issues, lessons learned, and recommendations for other communities interested in using GIS to map wildfire risk for mitigation or to manage wildfire emergencies.

## Earthquakes and Volcanoes

**The 1976 Great Tangshan Earthquake: 30-Year Retrospective.** Patricia Grossi, Domenico del Re, and Zifa Wang. 2006. 20 pp. Free online. Risk Management Solutions; (510) 505-2500; [info@rms.com](mailto:info@rms.com); [www.rms.com/Publications/1976Tangshan.pdf](http://www.rms.com/Publications/1976Tangshan.pdf).

Published to commemorate the 30th anniversary of the Tangshan Earthquake (the deadliest earthquake in modern times with an official death count of approximately 242,400), this report reminds us of the event so that lessons from the tragedy continue to be learned and emphasizes the ongoing need for worldwide collaboration in research on earthquake engineering.



**Volcanoes and the Environment.** Joan Martí and Gerald G.J. Ernst. ISBN 0-521-59254-2. 2006. 488 pp. \$90.00. Cambridge University Press; (845) 353-7500; orders@cup.org; [www.cambridge.org/](http://www.cambridge.org/).

This book, featuring contributions from top volcanology authorities, is a guide for those interested in how volcanism affects Earth's environment. It spans a wide variety of topics, from geology to climatology and ecology, and considers the economic and social impacts of volcanic activity on humans. Topics include how volcanoes shape the environment, the health impacts of living on active volcanoes, effects of eruptions on plant and animal life, large eruptions and mass extinctions, and the impact of volcanic disasters on the economy.

## Tsunamis

**Seaside, Oregon Tsunami Pilot Study—Modernization of FEMA Flood Hazard Maps.** Open-File Report 2006-1234. 2006. 161 pp. Free online. U.S. Geological Survey; <http://pubs.usgs.gov/of/2006/1234/>.

Federal Emergency Management Agency (FEMA) flood insurance rate map guidelines do not currently exist for conducting and incorporating tsunami hazard assessments that reflect the substantial advances in tsunami research achieved in the last two decades. This report documents the results of a tsunami pilot study carried out in Oregon as part of FEMA's Map Modernization program to develop an improved probabilistic tsunami hazard assessment methodology and to provide recommendations for improved tsunami hazard assessment guidelines.

**Joint Evaluation of the International Response to the Indian Ocean Tsunami: Synthesis Report.** John Telford, John Cosgrave, and Rachel Houghton. 2006. 178 pp. Free online. Tsunami Evaluation Coalition; +44 (0)20 7922 0300 (United Kingdom); alnap@odi.org.uk; [www.tsunami-evaluation.org/](http://www.tsunami-evaluation.org/).

This report synthesizes five Tsunami Evaluation Coalition thematic evaluation reports, their substudies, and other materials related to the humanitarian response to the 2004 Indian Ocean earthquake and tsunami. It provides a brief overview of the impact of the event on the affected region and presents an account of the response, from the immediate relief phase through stabilization to the beginnings of recovery. Lessons and recommendations are based on the principle recommendation for a fundamental reorientation of the humanitarian sector to shift emphasis from delivery to support and facilitation of the relief and recovery priorities of affected populations. Also available are the thematic evaluations: *Coordination of International Humanitarian Assistance in Tsunami-Affected Countries* (91 pp.); *The Role of Needs Assessment in the Tsunami Response* (123 pp.); *Impact of the Tsunami Response on Local and National Capacities* (120 pp.); *Links between Relief, Rehabilitation and Development in the Tsunami Response* (102 pp.); and *Funding the Tsunami Response* (59 pp.).

## Climate/Environmental Change

**Avoiding Dangerous Climate Change.** Hans Joachim Schellnhuber, Wolfgang Cramer, Nebojsa Nakicenovic, Tom Wigley, and Gary Yohe, editors. ISBN 0-521-86471-2. 2006. 406 pp. \$130.00. Cambridge University Press; orders@cup.org; (845) 353-7500; [www.cambridge.org/](http://www.cambridge.org/).

In 2005, the government of the United Kingdom hosted the Avoiding Dangerous Climate Change conference to take an in-depth look at the scientific issues associated with climate change. This book presents the most recent findings from the leading international scientists that attended the conference. Topics include critical thresholds and key vulnerabilities of the climate system, impacts on human and natural systems, socioeconomic costs and benefits of emissions pathways, and technological options for meeting different stabilization levels of greenhouse gases in the atmosphere.

**The Ravaging Tide.** Mike Tidwell. ISBN 0-7432-9470-X. 2006. 208 pp. \$24.00. Free Press; [www.simonsays.com/](http://www.simonsays.com/).

In this book, the author, an advocate for the environment and an award-winning journalist, brings attention to the issue of climate change and predicts that ocean levels will rise by three feet in the coming decades, endangering coastal populations in North America and around the world. He blames the U.S. government and the energy choices it has encouraged Americans to make over the decades. Nevertheless, he does believe that such drastic change is avoidable and that if we take action now, we can change the future.

**Natural Disasters as Interactive Components of Global Ecodynamics.** Kirill Ya. Kondratyev, Vladimir F. Krapivin, and Costas A. Varotsos. ISBN 3-540-31344-3. 2006. 579 pp. \$209.00. Springer; (212) 460-1500, (800) 777-4643; service-ny@springer.com; [www.springeronline.com/](http://www.springeronline.com/).

Written for applied mathematicians, geophysicists, hydrologists, socioeconomists, and other researchers of global change, this book is a comprehensive survey of the present-day understanding of large-scale natural catastrophes and their relation to interactive global ecodynamics. It provides a new approach to the simulation modeling of natural disasters as components of global ecodynamics, demonstrates the interactivity of global climate change and the occurrence of natural disasters, highlights the value of the interactive modeling of natural disasters, gives an up-to-date summary of the statistics of natural disasters, and presents a number of case studies relating to specific natural catastrophes.

**Climate Change: Adapt or Bust.** 2006. 27 pp. Free online. Lloyd's; 360@lloyds.com; [www.lloyds.com/News\\_Centre/Features\\_from\\_Lloyds/Climate\\_change\\_adapt\\_or\\_bust.htm](http://www.lloyds.com/News_Centre/Features_from_Lloyds/Climate_change_adapt_or_bust.htm).

As part of Lloyd's new 360 Risk Project, which aims to generate debate on key industry issues, this report urges insurers to face up to the growing threat of climate change. The report also says that the industry needs to figure out how to work in partnership with governments and businesses to look for practical solutions to help society adapt to climate change.

## Health

**Emergency Management Principles and Practices for Health Care Systems.** 2006. ~850 pp. Free online. Veteran's Health Administration (VHA); [www1.va.gov/emshg/page.cfm?pg=122](http://www1.va.gov/emshg/page.cfm?pg=122).

This compendium of texts was developed by the Institute for Crisis, Disaster, and Risk Management at George Washington University under contract to the VHA. The contract requested the identification and validation of emergency response and recovery competencies for four job groups within health care organizations and the development of a curriculum that included emergency management programs, incident management systems and processes, and organizational learning strategies. While developed for the U.S. Department of Veterans Affairs, the content is generic to all health care systems.

**Preparing for a Pandemic Influenza: A Primer for Governors and Senior State Officials.** ISBN 1-55877-402-5. 2006. 32 pp. Free online. National Governor's Association Center for Best Practices; (202) 624-5300; [www.nga.org/Files/pdf/0607PANDEMICPRIMER.PDF](http://www.nga.org/Files/pdf/0607PANDEMICPRIMER.PDF).

This document offers an overview of issues governors and state officials must consider as they develop plans to respond to pandemic influenza or other disease outbreaks. It focuses on state policies and responsibilities and is intended to complement the federal guidance issued by the White House Homeland Security Council, the U.S. Department of Health and Human Services, and the U.S. Department of Homeland Security.

**Local Health Department Guide to Pandemic Influenza Planning.** 2006. 60 pp. Free online. National Association of City and County Health Officials; (202) 783-5550; [www.naccho.org/topics/infectious/influenza/LHDPanFluGuide.cfm](http://www.naccho.org/topics/infectious/influenza/LHDPanFluGuide.cfm).

This guide is intended for use by local health departments as part of a multisector effort to coordinate planning for and response to a pandemic influenza outbreak. It features an overview of key issues that should be considered for inclusion in a local jurisdiction's pandemic influenza plan, an examination of questions that should be asked, examples of ways in which other jurisdictions have addressed the topics described in the guide, and tools and resources for additional information.

**State Pandemic Influenza Summits: Building Partnerships for Pandemic Preparedness.** 2006. 14 pp. Free online. Association of State and Territorial Health Officials; (202) 371-9090; [publications@astho.org](mailto:publications@astho.org); [www.astho.org/pubs/StateSummitReport.pdf](http://www.astho.org/pubs/StateSummitReport.pdf).

All U.S. states and territories were asked to hold a pandemic influenza planning summit during the first half of 2006 as part of the national pandemic influenza planning process. This report presents an overview of the trends, experiences, and outcomes of the summits, highlighting innovative planning mechanisms that may be adapted for other health-related purposes.

**Clinical Guidelines for Physicians Treating Adults Exposed to the World Trade Center Disaster.** 2006. 13 pp. Free online.

New York City Department of Health and Hygiene; [www.nyc.gov/html/doh/downloads/pdf/chi/chi25-7.pdf](http://www.nyc.gov/html/doh/downloads/pdf/chi/chi25-7.pdf).

This issue of *City Health Information* contains guidelines to help physicians treating adults exposed to the World Trade Center disaster detect, diagnose, treat, and, if necessary, refer patients for additional evaluation and treatment.

## Hazardous Materials

**2006 Hazardous Materials Team Leaders Roundtable.** 2006. 12 pp. Free online. International Association of Fire Chiefs' (IAFC); (703) 273-0911; [www.iafc.org/associations/4685/files/HazMat\\_Roundtable\\_Final\\_Report\\_06.pdf](http://www.iafc.org/associations/4685/files/HazMat_Roundtable_Final_Report_06.pdf).

In April, the IAFC's Hazardous Materials Committee convened a Hazardous Materials Team Leaders Roundtable with 40 of the nation's leading authorities on hazardous materials response to review the current state of the hazardous materials response community and recommend future strategies. This report establishes the direction for action and discussion by the community.

## Homeland Security

**Keeping Our Neighborhoods Safe.** Stephen R. Melvin. ISBN 0-9765442-0-2. 2005. 83 pp. \$3.95. SRM Associates; [www.oursafetowns.com/](http://www.oursafetowns.com/).

This booklet was designed to make antiterrorism accessible to everyone. It puts antiterrorism concepts into everyday language and provides resources for more information on how families can prepare for, respond to, and recover from a terrorism incident. An audio version is also available.

## Updates

**Disaster Assistance: A Guide to Recovery Programs.** FEMA-229. 2005. 147 pp. Free. Federal Emergency Management Agency Publication Distribution Center; (800) 480-2520; [www.fema.gov/pdf/rebuild/ltrc/recoveryprograms229.pdf](http://www.fema.gov/pdf/rebuild/ltrc/recoveryprograms229.pdf).

## Government Accountability Office Reports

The following Government Accountability Office (GAO) reports are available free online at [www.gao.gov/](http://www.gao.gov/). Printed copies are also available (first copy is free, additional are \$2.00 each). To order, contact the GAO; (202) 512-6000, TDD (202) 512-2537; [www.gao.gov/cgi-bin/ordtab.pl](http://www.gao.gov/cgi-bin/ordtab.pl).

**Catastrophic Disasters: Enhanced Leadership, Capabilities, and Accountability Controls Will Improve the Effectiveness of the Nation's Preparedness, Response, and Recovery System.** 2006. GAO-06-618. 147 pp.

**Disaster Relief: Governmentwide Framework Needed to Collect and Consolidate Information to Report on Billions in Federal Funding for the 2005 Gulf Coast Hurricanes.** 2006. GAO-06-834. 37 pp.

**Hurricane Katrina: Strategic Planning Needed to Guide Future Enhancements Beyond Interim Levee Repairs.** 2006. GAO-06-934. 53 pp.

Hurricanes Katrina and Rita: Unprecedented Challenges Exposed the Individuals and Households Program to Fraud and Abuse; Actions Needed to Reduce Such Problems in Future. 2006. GAO-06-1013. 110 pp.

Hurricane Katrina: Status of Hospital Inpatient and Emergency Departments in the Greater New Orleans Area. 2006. GAO-06-1003. 44 pp.

Climate Change: Federal Agencies Could Do More to Make Funding Reports Clearer and Encourage Progress on Two Voluntary Programs. 2006. GAO-06-1126T. 21 pp.

Climate Change: Greater Clarity and Consistency Are Needed in Reporting Federal Climate Change Funding. 2006. GAO-06-1122T. 27 pp.

Biscuit Fire Recovery Project: Analysis of Project Development, Salvage Sales, and Other Activities. 2006. GAO-06-967. 74 pp.

## Congressional Research Service Reports

The Public Health and Medical Response to Disasters: Federal Authority and Funding. Sarah A. Lister. August 4, 2006. RL33579. 32 pp. [www.opencrs.com/document/RL33579/](http://www.opencrs.com/document/RL33579/).

Federal and State Quarantine and Isolation Authority. Kathleen S. Swendiman and Jennifer K. Elsea. August 16, 2006. RL33201. 24 pp. [www.opencrs.com/document/RL33201/](http://www.opencrs.com/document/RL33201/).

## Web Sites of Interest

### All Hazards

Disastersrus.org  
[www.disastersrus.org/](http://www.disastersrus.org/)

SustainLane.com: Natural Disaster Risk for U.S. Cities  
<http://sustainlane.com/article/840/Cities+by+Category+Ranking%3A+Natural+Disaster+Risk.html>

American Red Cross Capital Area Chapter (Florida) : Disaster Education, Preparedness, Planning, and Mitigation Library  
[www.tallytown.com/redcross/educate.html](http://www.tallytown.com/redcross/educate.html)

New Magazine: *Emergency Management*  
[www.emergencymgmt.com/](http://www.emergencymgmt.com/)

Old Journal Now Online: *Mass Emergencies*  
[www.massemergencies.org/](http://www.massemergencies.org/)

Online Database: International Projects and Concepts for Disaster Prevention  
<http://database-dkkv.dyndns.org/>

Lloyd's 360 Risk Project  
[www.lloyds.com/News\\_Centre/360\\_risk\\_project/](http://www.lloyds.com/News_Centre/360_risk_project/)

Partnership for Public Service's Improving Government Performance: Government after Katrina  
[www.governmentafterkatrina.org/](http://www.governmentafterkatrina.org/)

### Hurricanes

Hurricane Insurance Information Center  
[www.disasterinformation.org/](http://www.disasterinformation.org/)

Insurance Information Institute: Hurricane Readiness Index  
[www.iii.org/media/updates/press.757472/](http://www.iii.org/media/updates/press.757472/)

Earth Policy Institute: Hurricane Damages and Insurance  
[www.earth-policy.org/Updates/2006/Update58.htm](http://www.earth-policy.org/Updates/2006/Update58.htm)

Federal Emergency Management Agency: Hurricane Katrina—One Year Later  
[www.fema.gov/hazard/hurricane/2005katrina/anniversary.shtm](http://www.fema.gov/hazard/hurricane/2005katrina/anniversary.shtm)

White House Speeches and News Releases: Hurricane Katrina—Rebuilding the Gulf Coast Region  
[www.whitehouse.gov/infocus/katrina/](http://www.whitehouse.gov/infocus/katrina/)

National Oceanic and Atmospheric Administration: Hurricane Katrina Web Portal  
[www.katrina.noaa.gov/](http://www.katrina.noaa.gov/)

U.S. Department of Housing and Urban Development: Katrina Accomplishments—One Year Later  
[www.hud.gov/news/katrina05response.cfm](http://www.hud.gov/news/katrina05response.cfm)

U.S. Department of State Foreign Press Centers: Hurricane Katrina—Coastal Protection and Reconstruction Efforts  
<http://fpc.state.gov/fpc/71049.htm>

The *Times-Picayune*: Katrina—One Year Later  
[www.nola.com/katrina/](http://www.nola.com/katrina/)

Mercatus Center: Crisis, Preparedness, and Response in the Wake of Katrina  
[www.mercatus.org/programs/pageID.504,programID.6/default.asp](http://www.mercatus.org/programs/pageID.504,programID.6/default.asp)

U.S. Army Corps of Engineers: Louisiana Coastal Protection and Restoration Project  
<http://lacpr.usace.army.mil/>

### Earthquakes

Video Highlights: 100th Anniversary Earthquake Conference  
[www.1906eqconf.org/Video\\_Files/web-content/](http://www.1906eqconf.org/Video_Files/web-content/)

### Fire

PowerPoint: 1908 Lakeview Elementary School Fire  
[www.errata-llc.com/blog/files/Collinwood.ppt](http://www.errata-llc.com/blog/files/Collinwood.ppt)

### Health

Business Continuity Planning Workgroup for Healthcare Organizations  
[www.bcpwho.org/](http://www.bcpwho.org/)



# Conferences and Training

Below are the most recent conference announcements received by the Natural Hazards Center. A comprehensive list of hazards and disasters meetings is available at [www.colorado.edu/hazards/resources/conferences.html](http://www.colorado.edu/hazards/resources/conferences.html).

**2nd Biannual National Crisis Response Conference: Bridge to Hope, Partnerships in Preparedness—Little Rock, Arkansas: November 10-13, 2006.** Host: National Organization for Victim Assistance (NOVA). This meeting is primarily for NOVA-trained crisis response volunteers, but others with a specific interest in community crisis response/crisis intervention (emotional and spiritual care) are also welcome to attend.

NOVA  
(703) 535-6682

[www.trynova.org/events/2006CrisisRespConf/](http://www.trynova.org/events/2006CrisisRespConf/)

**Business Continuity Planning and Emergency Preparedness: Best Strategies for Emergency Planning to Optimize Response and Recovery Success—San Francisco, California: November 14-15, 2006.** Organizer: Management IQ. Discussions at this continuity event will include preparing for a pandemic, incorporating lessons learned from past disasters into revised plans, incorporating human impact into the planning process, educating and communicating with employees to increase their awareness, leveraging executive and management buy-ins, merging private and public sector standards to enhance emergency preparedness, enhancing communication techniques during disasters, and more. Speakers will represent organizations such as Microsoft, Keyspan Energy, the Federal Emergency Management Agency, and Comcast.

[www.iqpc.com/cgi-bin/templates/genevent.html?topic=235&event=11102](http://www.iqpc.com/cgi-bin/templates/genevent.html?topic=235&event=11102)

**5th International Symposium on New Technology for Urban Safety of Mega Cities in Asia—Phuket, Thailand: November 16-17, 2006.** Organizers: Asian Institute of Technology School of Engineering and Technology and University of Tokyo Institute of Industrial Science International Center for Urban Safety Engineering. This multidisciplinary symposium will include experts from design, construction, and maintenance of urban infrastructure; disaster forecasting; disaster management; disaster prevention; and urban asset management. It aims to provide a forum for decision makers, practicing professionals, and researchers to share new technologies, techniques, and innovations for keeping Asia's megacities safe.

[www.sce.ait.ac.th/rnus/usmca2006/](http://www.sce.ait.ac.th/rnus/usmca2006/)

**The Survive 17th Annual Conference—London, United Kingdom: November 20-21, 2006.** Topics at this year's annual Survive business continuity conference will include understanding the strategic impact of emerging threats, successfully applying a cross functional approach to corporate resilience, recognizing the importance of government

commitment and support, reaping the benefits of good corporate resilience in times of crisis, the power of the media, human resilience, preventing cascading failures, and practical advice for resilience.

[www.survive.com/Events/viewevent.cfm?eventsID=434](http://www.survive.com/Events/viewevent.cfm?eventsID=434)

**Leaders 2006—Kingston, Jamaica: November 20-December 1, 2006.** Organizers: Pan American Health Organization, Regional Center for Disaster Risk Reduction of the University of the West Indies, and Caribbean Disaster and Emergency Response Agency. This capacity-building course for professional development in the disaster risk reduction field offers a balance between the development process, wide-ranging mitigation issues, effective preparedness, and efficient response. It is geared toward participants who are stakeholders in risk reduction issues, including but not limited to health disaster coordinators, national disaster coordinators, public sector managers and others who deal with mitigation issues, as well as academics who work in disaster mitigation topics. Originally designed for small island developing states, it expects to attract participants primarily from the Caribbean, but professionals in the field from other parts of the world are also welcome.

[www.disaster-info.net/LIDERES/english/jamaica2006/](http://www.disaster-info.net/LIDERES/english/jamaica2006/)

**2006 Australian Earthquake Engineering Society (AEES) Conference—Canberra, Australia: November 24-26, 2006.** Anyone involved in earthquake engineering, engineering seismology, blast engineering, critical infrastructure protection, and tsunami research in Australasia is encouraged to participate in this conference. Sessions will include earthquake engineering toward code development and implementation, next generation earthquake hazard models, earthquake emergency management response, status of earthquake engineering in Australia, and status of earthquake seismology in Australia.

Kevin McCue  
+61 2 6251 1291 (Australia); [mccue.kevin@gmail.com](mailto:mccue.kevin@gmail.com)

[www.aees.org.au/](http://www.aees.org.au/)

**Women in Homeland Security: A Learning Conference—Deerfield Beach, Florida: December 5-7, 2006.** Presenters: Sheriff's Foundation of Broward County and Broward Sheriff's Office Institute for Criminal Justice Studies. This seminar, designed for women whose careers may expose them to situations affecting homeland security, offers insights into terrorist bombings and explosive devices, weapons of mass destruction, the Muslim culture, and physical, emotional, and spiritual preparation. Mock exercises and a presentation by a former Federal Bureau of Investiga-

tions special agent who witnessed the attack on the World Trade Center highlight the event.

Robin Larson  
(954) 831-8186; robin\_larson@sheriff.org  
[www.sheriff.org/seminars/whs/](http://www.sheriff.org/seminars/whs/)

**87th AMS Annual Meeting—San Antonio, Texas: January 14-18, 2007.** Organizer: American Meteorological Society (AMS). The broad theme of this year's meeting is "Bridging the Studies of Weather and Climate." The purpose of the meeting is to explore the elements that integrate weather and science and to strengthen the links between the studies of weather and climate. The Presidential Forum will be a one-day meeting with the theme of "Educating the Public on Weather and Climate Issues and Impacts." Two integrating subthemes that will be highlighted are "Climate Variations and Change Manifested by Changes in Weather" and "Climate Aspects of Hydro-meteorology."

AMS  
(617) 227-2426  
[www.ametsoc.org/meet/annual/](http://www.ametsoc.org/meet/annual/)

**American Water Resources Association (AWRA) Third National Water Resources Policy Dialogue—Arlington, Virginia: January 22-23, 2007.** The First and Second National Water Resources Policy Dialogues brought together water resources experts from around the United States to focus on the policy needs of the nation. This meeting will build on the results of the previous events to provide decision makers with guidance in the formulation and development of water resources policies attuned to societal needs and preferences and that address issues such as water supply, distribution, and disaster preparation and recovery.

Dick Engberg, AWRA  
(540) 687-8390; dick@awra.org  
<http://awra.org/meetings/DC2007/>

**Community-Based Disaster Risk Management—Bangkok, Thailand: January 22-February 2, 2007.** Organizer: Asian Disaster Preparedness Center (ADPC). This course is an opportunity for practitioners to acquire tools and learn how to design and implement programs for reducing disaster risks and vulnerability and building community capacity to promote a culture of safety. Through exercises and simulations, participants will practice risk assessment and risk management planning.

Training Resource Group, ADPC  
tedadpc@adpc.net  
[www.adpc.net/trg06/trg\\_home.htm](http://www.adpc.net/trg06/trg_home.htm)

**The World Disaster Response Summit—Atlanta, Georgia: January 23, 2007.** Organizer: Equity International. Suggested attendees at this international event include individuals active in Katrina reconstruction, disaster housing, temporary structures, emergency communications, emergency command and control, aerial surveillance, satellite imagery, emergency health, emergency food distribution, water purification, hurricane preparedness, pandemic flu preparedness, biodefense, earthquake preparedness, tsu-

nami preparedness, facility security, business continuity, risk management, disaster management, and other areas of disaster preparedness and response.

[www.rec-dev.com/conferences/conferences/current/World\\_Disaster\\_Response/index.asp](http://www.rec-dev.com/conferences/conferences/current/World_Disaster_Response/index.asp)

**Fire-Rescue East 2007—Jacksonville, Florida: January 24-27, 2007.** Sponsors: Florida Fire and Emergency Services Foundation, Florida Society of Fire Service Instructors, and Florida State Fire College. This conference will provide education and training for fire and emergency services professionals.

Florida Fire Chiefs' Association  
(386) 676-2744; info@ffca.org  
[www.firerescueeast.org/](http://www.firerescueeast.org/)

**Homeland Security: The Ripple Effect—Washington, DC: February 6-7, 2007.** Organizer: American Military University. This symposium will explore the impact of a large-scale event on small towns, counties, and states surrounding metropolitan areas. It will address the resources, planning, and training needed to prepare for such an event. Participants will mix practice with policy through lively and informed exchange among politicians, planners, emergency managers, and scholars with a goal of developing a systematic approach that will assist communities in responding to future disasters.

Jeffrey McCafferty, American Public University System  
(304) 724-3848; events@apus.edu  
[www.apus.edu/disaster/](http://www.apus.edu/disaster/)

**National Conference on Disaster Planning for the Carless Society—New Orleans, Louisiana: February 8-9, 2007.** Organizers: University of New Orleans Transportation Center, New Orleans Regional Planning Commission, and Regional Transit Authority. Hurricanes Katrina and Rita revealed how vulnerable carless residents are in emergency situations. Evacuation plans in most major cities across America fail to adequately take into account the needs of the elderly, disabled, and transit dependent populations. The goal of this conference is to bring together government officials, professionals, and experts to discuss how we can better prepare to help those who most need it.

[www.carlessevacuation.org/](http://www.carlessevacuation.org/)

**Firehouse World Conference & Exposition—San Diego, California: February 25-March 1, 2007.** Organizer: Cygnus Public Safety Group. This event offers hands-on training programs, preconference workshops, and classroom sessions to better prepare participants from the fire, rescue, and emergency medical services for the challenges they face every day.

Info@firehouseworld.com  
[www.publicsafetyevents.com/pub/fhw/index.po](http://www.publicsafetyevents.com/pub/fhw/index.po)

**2nd Space and Society Conference: Space Options for the 21st Century—Noordwijk, The Netherlands: February 27-March 1, 2007.** Organizers: European Space Agency (ESA), International Academy of Astronautics, and Canadian Aeronautics and Space Institute. This conference will ex-

plore issues such as global warming and climate change, natural disasters, energy needs and resources, water management, and security to emphasize how space systems, technologies, and applications are helping to provide viable solutions to terrestrial problems.

ESA Conference Bureau  
+31 71 565 5005 (The Netherlands); esa.conference.bureau@esa.int  
[www.congrex.nl/06a12/](http://www.congrex.nl/06a12/)

**Second Alexander von Humboldt International Conference: The Role of Geophysics in Natural Disaster Prevention—Lima, Peru: March 5-9, 2007.** Sponsors: European Geophysical Union (EGU) and Geophysical Institute of Peru. This conference will focus on volcanic eruptions, earthquakes, tsunamis, landslides, avalanches, and extreme climate and/or meteorological events. Abstracts are due November 30, 2006.

Peter Fabian, EGU  
+49 8161 714740 (Germany); fabian@met.forst.tu-muenchen.de  
<http://meetings.copernicus.org/avh2/>

**Flood Disaster Risk Management—Bangkok, Thailand: March 5-16, 2007.** Organizer: Asian Disaster Preparedness Center (ADPC). This course offers an integrated approach to the development of flood risk reduction strategies that involves engineering, settlement, development, public administration, community-based strategies, and land use planning (with environmental considerations).

Training Resource Group, ADPC  
tedadpc@adpc.net  
[www.adpc.net/trg06/trg\\_home.htm](http://www.adpc.net/trg06/trg_home.htm)

**Wildland Urban Interface 2007—Reno, Nevada: March 6-8, 2007.** Presenters: International Association of Fire Chiefs and *Wildland Firefighter* magazine. This conference, featuring general informational sessions, breakout sessions, and exhibits, will bring together leaders from the local, state, and federal levels to address the growing risk of the wildland-urban interface.

(703) 449-6418, (800) 934-1957; iafcregistration@jspargo.com  
[www.iafc.org/displaycommon.cfm?an=1&subarticlenbr=100](http://www.iafc.org/displaycommon.cfm?an=1&subarticlenbr=100)

**International Conference on Water and Flood Management—Dhaka, Bangladesh: March 12-14, 2007.** Organizer: Institute of Water and Flood Management (IWFM) of Bangladesh University of Engineering and Technology (BUET). The purpose of this conference is to bring together researchers, academics, and professionals to exchange their views and address issues related to water and flood management to promote environmentally sustainable development.

Conference Secretariat, IWFM  
+880 2 9665601 (Bangladesh); icwfm@iwfm.buet.ac.bd  
[www.buet.ac.bd/icwfm/](http://www.buet.ac.bd/icwfm/)

**2nd Fire Behavior and Fuels Conference: The Fire Environment—Innovations, Management, and Policy—Destin, Florida:**

**March 26-30, 2007.** This conference will focus on the fire environment. It will feature the latest innovations in wildland fire science, examples of successful and maybe not so successful management practices, and current and potentially future wildland fire policy. The program will include presentations, workshops, and field trips.

<http://emmps.wsu.edu/fire.behavior/>

**Postgraduate Certificate: Study and Management of Geological Risks—Geneva, Switzerland: April 16–June 15, 2007.** Organizer: Université de Genève, Centre d'Etude des Risques Géologiques. The objective of this course is for students to develop expertise in the field of natural risk mitigation by integrating it into the planning of sustainable development. The course offers a multidisciplinary approach to the search for solutions for a society confronted with natural risks and aims to develop experts who can advise the public and private sectors to take preventive measures to reduce the impact of natural disasters. Applications are due November 30, 2006.

CERG-Secrétariat  
+41 22 379 66 02 (Switzerland); cerg@unige.ch  
[www.unige.ch/hazards/](http://www.unige.ch/hazards/)

**2007 Meeting of the AAG—San Francisco, California: April 17-21, 2007.** Organizer: Association of American Geographers (AAG). This annual meeting attracts over 5,000 geographers and related professionals from the United States, Canada, and abroad and stimulates discussion about research, education, accomplishments, and developments in geography.

AAG  
(202) 234-1450; meeting@aag.org  
[www.aag.org/annualmeetings/SF2007/index.cfm](http://www.aag.org/annualmeetings/SF2007/index.cfm)

**6th UCLA Conference on Public Health and Disasters—Torrance, California: May 6-9, 2007.** Sponsor: University of California, Los Angeles (UCLA) Center for Public Health and Disasters (CPHD). This multidisciplinary conference will bring together academics, researchers, practitioners, and policy makers from public health, mental health, community disaster preparedness and response, social sciences, government, media, and nongovernmental organizations to address the public health consequences of natural and intentional disasters.

Chara Burnstein, UCLA CPHD  
(310) 794-0864; cphdevents@ucla.edu  
[www.cphd.ucla.edu/](http://www.cphd.ucla.edu/)

**GovSec, U.S. Law, and Ready! Conference and Exposition—Washington, DC: May 9-10, 2007.** This conference will bring together the three key disciplines that establish, enforce, and respond to U.S. national security interests: government security, law enforcement, and emergency management/response. Participants will connect with each other and private industry to discuss how best to protect the nation.

(703) 683-8500, (800) 687-7469; govsec@ntpsow.com  
[www.govsecinfo.com/](http://www.govsecinfo.com/)

**15th World Conference in Disasters and Emergency Management—Amsterdam: The Netherlands: May 13-16, 2007.** Organizer: World Association for Disaster and Emergency Medicine. This congress aims to catalyze thought processes and to come up with very clear products to better prepare experts, organizations, and governments for the next disaster or crisis. The central themes will be preparedness, knowledge, training, and networks. Attendees will include policy makers, researchers, clinicians, responders, planners, administrators, and other experts from around the world who have interest in the most urgent medical and humanitarian problems of the 21st century.

+31 (0)20 444 8444 (The Netherlands); paog@vumc.nl  
[www.wcdem2007.org/](http://www.wcdem2007.org/)

**Coastal Sediments 2007: Coastal Engineering and Science in Cascading Spatial and Temporal Scales—New Orleans, Louisiana: May 13-17, 2007.** Organizer: Coasts, Oceans, Ports, and Rivers Institute (COPRI) of the American Society of Civil Engineers (ASCE). This conference will provide an international forum for exchange of information among coastal engineers, geologists, marine scientists, shallow-water oceanographers, and others interested in the physical processes of coastal sediment transport and morphology change.

COPRI of ASCE  
 (703) 295-6370, (800) 548-ASCE; copri@asce.org  
[www.asce.org/conferences/cs07/index.cfm](http://www.asce.org/conferences/cs07/index.cfm)

**5th Annual Conference on Seismology and Earthquake Engineering—Tehran, Iran: May 14-16, 2007.** Organizer: International Institute of Earthquake Engineering and Seismology. In addition to covering central issues in seismology and earthquake engineering, this conference will also cover subjects related to socioeconomic and cultural issues of risk management, earthquake risk management, risk communication, public education and preparedness, and response, recovery, and reconstruction.

[www.iiees.ac.ir/SEE5/](http://www.iiees.ac.ir/SEE5/)

**Disaster Management Course—Bangkok, Thailand: May 14-June 1, 2007.** Organizer: Asian Disaster Preparedness Center (ADPC). The purpose of this course is to provide comprehensive disaster management knowledge and skills to enhance the capabilities of professionals working in disaster management, development, and donor agencies to effectively integrate disaster management into development programs and policies.

Training Resource Group, ADPC  
 tedadpc@adpc.net  
[www.adpc.net/trg06/trg\\_home.htm](http://www.adpc.net/trg06/trg_home.htm)

**GovSec China and Ready! China Conference and Expo 2007—Beijing, China: May 17-19, 2007.** The purpose of this event is to address China's homeland security issues and how senior government security officials and first responders can effectively meet obligations. The program focuses on discussing strategies, best practices, and technologies for counterterrorism, mass transit/transportation security, airport/aviation security, physical and information security, border control, securing high profile public events, and emergency management.

Infoex-World Services Ltd.  
 +86 (852) 28651118 (China); info@infoexws.com  
<http://govsecasia.com/china/>

**River Basin Management 2007—Kos, Greece: May 23-25, 2007.** Organizer: Wessex Institute of Technology. The purpose of this conference is to communicate recent advances in the overall management of riverine systems, including advances in hydraulic and hydrologic modeling, environmental protection, and flood forecasting. It is designed to bring together practicing engineers, environmental managers, and academics in the field.

Zoey Bluff, Wessex Institute of Technology  
 +44 (0)238 029 3223 (United Kingdom); zbluff@wessex.ac.uk  
[www.wessex.ac.uk/conferences/2007/rm07/](http://www.wessex.ac.uk/conferences/2007/rm07/)

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Copies of the *Observer* and the Natural Hazard Center's electronic newsletter, *Disaster Research*, can be downloaded free from the Center's Web site:

[www.colorado.edu/hazards/](http://www.colorado.edu/hazards/)

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# Support the Natural Hazards Center

The success of the Natural Hazards Center relies on the ongoing support and engagement of the entire hazards and disasters community. The Center welcomes and greatly appreciates all financial contributions. There are several ways you can help:

- 1. Support Center Operations**—Provide support for core Center activities such as the *Disaster Research* e-newsletter, annual workshop, library, and the *Natural Hazards Observer*
- 2. Build the Center Endowment**—Leave a charitable legacy for future generations
- 3. Help the Gilbert F. White Endowed Graduate Research Fellowship in Hazards Mitigation**—Ensure that mitigation remains a central concern of academic scholarship
- 4. Boost the Mary Fran Myers Scholarship Fund**—Enable representatives from all sectors of the hazards community to attend the Center’s annual workshop

To find out more about these and other opportunities for giving, visit:

[www.colorado.edu/hazards/about/contribute.html](http://www.colorado.edu/hazards/about/contribute.html)

Contact Greg Guibert at [greg.guibert@colorado.edu](mailto:greg.guibert@colorado.edu) or (303) 492-2149 to discuss making a gift.

A U.S.-based organization, the Natural Hazards Center is a nonprofit, tax-exempt corporation under Section 501(c)(3) of the Internal Revenue Code.

## The Natural Hazards Center

The mission of the Natural Hazards Center at the University of Colorado at Boulder is to advance and communicate knowledge on hazards mitigation and disaster preparedness, response, and recovery. Using an all hazards and interdisciplinary framework, the Center fosters information sharing and integration of activities among researchers, practitioners, and policy makers from around the world; supports and conducts research; and provides educational opportunities for the next generation of hazards scholars and professionals. The Natural Hazards Center is funded through a National Science Foundation grant and supplemented by contributions from a consortium of federal agencies and nonprofit organizations dedicated to reducing vulnerability to disasters.

### Staff

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*Observer* cartoons are drawn by Rob Pudim.

Send information of potential interest to the Center or the readers of this newsletter to the Natural Hazards Center, University of Colorado at Boulder, 482 UCB, Boulder, CO 80309-0482; (303) 492-6818, (303) 492-2151 (fax); [hazctr@colorado.edu](mailto:hazctr@colorado.edu). The deadline for the next *Observer* is **November 15, 2006**.



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