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Worst-Case Thinking An Idea Whose Time Has Come

— an invited comment

*Editor's Note: This past year the **Observer** examined six great catastrophes threatening the United States and the world. We thought it appropriate to wrap up the "Disasters Waiting to Happen" series with a general discussion of worst-case thinking and the value it lends to disaster policy.*

Some people say that 9-11 changed everything. That's wrong. It changed some things. But, aside from increasing feelings of vulnerability to disaster, too much remains unchanged. Too much disaster policy continues to take a command-and-control stance. Too many officials still believe the panic myth. And there's been precious little preparation where disasters really happen—at the local level: in offices, schools, trains, and the like. Recognizing our local needs and adopting a strategy of preemptive resili-

ence to foster response abilities before catastrophe strikes would mark a significant change in how we approach disaster, a much needed change. So, what might get us closer to preemptive resilience? An increase in the frequency and intensity of disasters could prompt a reorientation in thinking. So could efforts by academics to further establish the practical applications and general relevance of what we study, and so could an emphasis on worst cases. It's tough to make a case for the latter; I need to build up to it.

Disaster Is Normal

Start with the claim that disaster is normal, not special. Disasters, and even worst cases, are part of and not separate from the normal ebb and flow of social life. That's how Pitirim A. Sorokin, W. I. Thomas, E. L. Quarantelli, Russell Dynes, and others approached disaster, and that's what we need to get back to. Sadly, "disaster studies" is often viewed narrowly. That's unfortunate because studying disasters is an excellent way to learn important things about how and why people think and behave as they do. Seeing disaster as special also fosters bad policy by pushing policy makers to operate on incorrect assumptions about human behavior.

I think that we are at greater risk for worst-case disasters today than in the past, even in wealthy societies. This is because of hubris, interdependence, and population concentration. An example of hubris is the attempts by the U.S. Army Corps of Engineers to control the Mississippi River, actions that in part set the conditions for the Great Flood of 1993. The dangers of interdependence are apparent in the SARS outbreak, the significance of which is not its morality rate but how quickly it spreads. Finally, the issue of concentration is well demonstrated by Airbus Industries' new A380, a four-aisle, two-story behemoth that will carry 555 people. The first time one CFITs (controlled flight into terrain) into a mountain, we'll call it a worst case.

Worst Case: A Definition

I'll spend a few words on defining worst case. Large body counts matter, but only in events where we have a lot of experience: airplane crashes, earthquakes, shipwrecks, oil spills, and so on. Some disasters, such as the Space Shuttles Challenger and Columbia (where the worst case happened twice) and the Hindenberg, the Titanic of the sky, are called worst cases even when body counts are low because they are unfamiliar and unexpected.

Three other factors are key in the social construction of the idea of the "worst." Worst cases make observers feel out of control. The Triangle Shirtwaist factory fire in 1911 is often referred to as one of the worst disasters since the beginning of the Industrial Revolution. It must have been horrible to watch people, many of them young females, jump to their deaths. Worst cases are also overwhelming (this is connected to feeling out of control). Social similarity also matters (its darker side is ethnocentrism). The more like us the victims are, the more likely we are to judge their suffering relevant to our own experience. For example, on July 17, 1998, a tsunami killed more than 2,200 people in Papua New Guinea. According to the U.S. Geological Survey, it may have been the most devastating tsunami of the twentieth century. In the week that followed, the disaster garnered a mere six stories in the *New York Times*, only one of which made the front page. Imagine the coverage if a tsunami killed 2,000 people in New Jersey.

Possibilistic Thinking

Now to the heart of the matter. Thinking about worst cases is fundamentally an exercise in thinking about the

social organization of imagination. It concerns the categories and processes people use to look forward, and to the past, to envision the worst. There's theoretical and practical payoff for focusing on worst cases. Who would argue otherwise? Well, lots of people: for worst-case thinking is *possibilistic* thinking and that is decidedly not the usual way to think about risk and disaster, or the future. From Aaron Wildavsky on the right to Barry Glassner on the left, the refrain is that probabilism is the correct way to approach possible futures. So, what's the difference? Probabilism attends to the likelihood of something happening; possibilism portends what could happen when it does.

We are constantly exhorted to be reasonable and rational in how we think about risky things. The advice is to think probabilistically. When pilots tell us at the end of a long and turbulent plane ride that we've "just completed the safest part of our trip," they mean the chances were in our favor as we flew. When officials worry about panic, they worry about people reacting unreasonably, which is to say out of proportion to the actual risk. In his book *Culture of Fear*, sociologist Barry Glassner argues that people worry about the wrong things. What he means is that people's worries don't match the probabilities of actual harm. In an August 9, 2003, *New York Times* op ed, David Ropeik, the director of risk communication at the Harvard Center for Risk Analysis said

When asked in the abstract about the term "risk," Americans correctly tend to talk in terms of statistical probability. Yet, when they are faced with specific threats, emotion overrules logic pretty quickly—we fear the unlikely and are relatively unconcerned about the truly dangerous. Probabilism is of course entirely modern, and it is unquestionably an advance that we know what probability is and how to use it. But probabilistic thinking isn't everything, and the equation of it with reason itself is not natural but a convention.

Consequences of Neglect

Neglecting worst-case possibilities can lead to serious mistakes. Two examples:

- It used to be that pilots didn't practice flying jumbo jets nearly upside down. The reason is that it wasn't likely that such skills would ever be used. Then a handful of 737s started flying upside down; things changed.
- In August 1900, a monster hurricane passed over Cuba. A few days later it was over Galveston, Texas. A Cuban forecaster sent warnings, but experts at the U.S. Weather Bureau ignored them. The experts didn't trust Cubans (in spite of the latter's considerable expertise in hurricanes), and said that in all probability the storm wouldn't take a hard right turn. But it did, and it was the worst natural disaster in American history.

Similarly, attending to worst-case possibilities can be wise. If you're 30,000 feet in the sky and your plane runs into another plane, there is no probability of survival. Indeed, in commercial plane crashes, the likelihood that you'll die is higher than for automobile crashes. So, prob-

abilistically you're more likely to experience a car crash than an airplane crash; possibilistically you're more likely to die if your plane crashes than if your car crashes. That's why it isn't irrational to fear flying.

In July 2001, a train carrying hazardous materials derailed and caught fire inside a Baltimore, Maryland, tunnel. Some reports say the fire burned out of control for three days at 1,500 degrees Fahrenheit. Consider a similar scenario in the future where spent nuclear fuel is the cargo being transported through the city. The Nuclear Regulatory Commission's regulation for spent nuclear fuel casks is 1,475 degrees Fahrenheit for 30 minutes. If not contained within that time, 24 square miles around the accident site could be "lightly contaminated" (or worse) with radio-nuclides. Cleanup costs would approximate \$14 billion.

To be clear, I do not advocate that we jettison probabilistic thinking. But ultimately, we do need to complement it with possibilistic thinking. Worst-case thinking is possibilistic thinking. We need to start seeing disasters and even worst cases as normal, ordinary. When we fail to imagine the worst that could happen we do so at our intellectual peril. When our officials disregard the value of worst-case thinking they do so at the risk of much greater consequence. Just imagine the possibilities.

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Note: This issue is further explored in Clarke's forthcoming book *Worst Cases*, which will be published by the University of Chicago Press in the fall of 2005.

FEMA/EPA Community Planning Fellowship Program

In an effort to raise awareness and ensure that hazard mitigation is effectively incorporated into future urban and rural planning, the Federal Emergency Management Agency (FEMA) has announced its 2005-2006 Community Planning Fellowship. Open to graduate planning students, the program offers fellows an opportunity to familiarize themselves with hazard mitigation as an aspect of planning. This year, the Office of Wetlands, Oceans, and Watersheds of the Environmental Protection Agency (EPA) has joined with FEMA to provide funding to support the fellows' exploration of how communities, regional organizations, and states can effectively address watershed planning and floodplain management issues.

Fellows will be provided with funding sufficient to support one year of field research focusing on local and state hazard mitigation and community planning issues. The fellowships will involve orientation work at FEMA and EPA headquarters and at other federal agencies in Washington, DC, extensive fieldwork within communities to be selected jointly by the student and FEMA, and independent study follow-up work during the 2005-2006 academic year.

The application deadline is January 31, 2005. Download the announcement and application at <http://www.nibs.org/MMC/mmactiv4.html>. For more information, contact the *Multihazard Mitigation Council of the National Institute of Building Sciences, 1090 Vermont Avenue NW, Suite 700, Washington, DC 20005*.

IBHS and ACSP Scholarship in Planning and Natural Hazards

The Institute for Business & Home Safety (IBHS) and the Association of Collegiate Schools of Planning (ACSP) are collaborating to recognize scholarship in the general area of planning and natural hazards. The organizations are seeking papers in conjunction with the ACSP conference in Charleston, South Carolina, October 27-30, 2005. One winner will be awarded a \$500 prize and will present their paper at the conference. The winner will agree to first publication rights by IBHS in its quarterly publication *Disaster Safety Review*.

Papers should address land use or other types of planning that incorporate natural hazards, including, but not limited to, flooding, coastal erosion, land subsidence, earthquakes, and other geologic or meteorological hazards whose risks can be minimized through community, regional, and state planning. Undergraduate, graduate, and joint faculty/student papers are eligible. For joint faculty/student papers, the student must be the first author and designated presenter of the paper.

Submit abstracts directly to the ACSP conference organizers between January 17 and February 28, 2005. Ab-

stract submission procedures can be found at <http://www.acsp.org/>. (Note: Put "IBHS Award Submission" in one of the key word boxes on the submission form.) At the same time, send copies of the abstracts by e-mail to Ann-Margaret Esnard, Department of City and Regional Planning, Cornell University, 219 West Sibley Hall, Ithaca, NY 14853; e-mail: ame7@cornell.edu. Include a cover memo indicating intent to submit a paper for the ACSP-IBHS award.

Only papers accepted for presentation at the conference are eligible for the award. Authors whose abstracts are accepted for presentation will be notified and expected to submit final papers electronically to Ann-Margaret Esnard by May 25, 2005, with full student author information: name, institutional affiliation, name of faculty advisor or coauthor (indicate clearly if faculty member is co-author), degree program (undergraduate, masters, PhD), degree status (in progress or awarded), mailing address, phone, fax, and e-mail. Papers are not to exceed 20 pages. Final papers will be reviewed during the summer of 2005 with notification in September.

American Red Cross and Home Depot Announce Ready Gear

The American Red Cross and The Home Depot have announced the launch of Ready Gear, an emergency kit containing essential, lifesaving items recommended by the Red Cross. The contents of the kit can aid two adults for 72 hours during or immediately following a disaster or emergency. Items in the kit, which may be used whether evacuating or sheltering-in-place, include emergency instructions, food, water, duct tape (naturally), a flashlight, batteries, an AM/FM radio, blankets, and a first aid kit. A full list of the contents of the kit is available in the press release, which can be read at http://www.redcross.org/pressrelease/0,1077,0_489_3573,00.html.

Retailing for \$79.99 (which includes a \$10.00 donation to the Red Cross), Ready Gear is available for purchase at The Home Depot in selected coastal and "high threat" markets in Alabama, Florida, Georgia, Louisiana, Mississippi, North Carolina, Oregon, South Carolina, Texas, Virginia, Washington, Puerto Rico, and St. Thomas, U.S. Virgin Islands.

Visit The Home Depot on the Web at <http://www.homedepot.com/> or call their customer service toll-free number (800) 553-3199. The Red Cross also sells a variety of its own pre-assembled kits through local chapters and online at <http://www.redcross.org/>.



Welcome to a New Graduate Research Assistant

The Natural Hazards Center has hired a new graduate research assistant. Christine Bevc moved to Colorado from Orlando, Florida, this year to pursue a PhD in sociology with a concentration in environmental sociology at the University of Colorado at Boulder. Bevc, who has a bachelor's degree in liberal studies with a triple minor in sociology, environmental studies, and health sciences, received her masters in applied sociology in May 2004 from the University of Central Florida. Her master's thesis looked at the physical and psychological impacts of chronic contamination around a Superfund site. Natural disasters, acute and chronic technological disasters, GIS applications, research methods, and environmental sociology top the list of her current research interests. Her recent research has focused on the Florida hurricanes and their impact on community solidarity along with the use of the National Guard and local law enforcement. Welcome Christine!

New Study Suggests Kids Could Use More Disaster Training

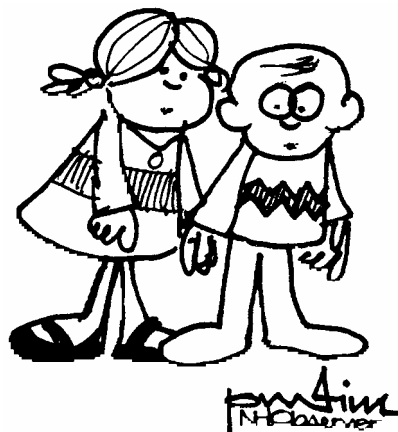
Preliminary results from an American Red Cross study suggest that students show no increase in disaster knowledge after the fifth grade. Researchers found that while kindergarteners through fifth graders showed an increase in disaster knowledge every year until the fifth grade, after the fifth grade, disaster knowledge actually appeared to decrease as did the students' overall ability to react to disaster situations.

These findings are from the School Safety Initiative (SSI), the prototype for the Together We Prepare program, which helps schools prevent, prepare for, and respond to violent incidents, natural disasters, and other emergencies. The SSI study analyzes data from elementary, middle, and high schools in eight cities. More than 10,000 students in kindergarten through twelfth grade, their teachers, and school staff participated in the first phase of the study. Their

knowledge, behavior, and attitudes in regard to first aid, safety, disaster knowledge and preparedness, and leadership were surveyed.

Phase two of the study will evaluate the effect of Red Cross resources, which are currently in schools around the country. Resources like Masters of Disaster, a kit of ready-to-go lesson plans, activities, and demonstrations of hazard-related life-saving information, are designed for flexibility to allow for integration into the core academic subjects. Supplements to Masters of Disaster include Facing Fear, developed after 9/11 to address a demand by educators and caregivers for materials to help children cope in uncertain times.

For more information on American Red Cross preparedness and safety resources for kids, visit http://www.redcross.org/services/disaster/0,1082,0_503_00.html or contact them at 2025 E Street NW, Washington, DC 20006; <http://www.redcross.org/>.



Disasters That Communicate: A Proposal for a Definition and Research Agenda

— an invited comment

Much of what is known about how journalism covers natural disasters comes from knowledge about how disasters develop as well as about how important actors—policymakers, responders, and the public—react to their occurrence. One particularly useful approach that has emerged has been a typology for categorizing a disaster throughout its phases: mitigation, preparedness, response, and recovery. This process allows for an understanding of both natural and technological hazards and simplifies comparisons across different categories of characters, interests, and actors. It has guided the field of hazards research for decades.

Because the study of how terrorism is covered can usefully draw from the well-developed body of research on accidents and disasters, a typology for categorizing terrorist events should provide similar advantages. This essay will propose a definition and a typology of terrorism in hopes of starting a theoretical conversation that can help to first isolate and then articulate research questions across a variety of disciplines. We ask for responses to our thinking at the e-mail addresses listed below.

Creating Parallels: Definitions First

Summarizing the various efforts to define terrorism is a topic for full-length articles. Regardless, most definitions of terrorism share some or all of the following elements.

- Terrorism implicates the innocent in its randomness—the fundamental mechanism of “terror” being a coercive fear meant to bring about or prevent change.
- Terrorism is generally considered a tool of the dispossessed. States and their agents are quite capable of coercive violence against the innocent, and state terrorism is a notion widely used in political science and international law. To avoid suggesting that official terrorism is somehow less repugnant than the nonstate kind (Corsi, 48), many scholars use the idea of “mediated terrorism” to distinguish violence meant for a general audience, usually initiated by actors outside of traditional governmental structures who incorporate the media into their arsenal of weapons, from violence meant to influence the next village.
- Terrorism itself is an act of communication—“violence aimed at the people watching” (Jenkins, 3).
- Although terrorist attacks appear sudden, they are rooted in political, social, and economic contexts. Terrorism is “goal-directed, hence rational, behavior” (Waugh, 51).

Thus, we add this proposed definition of terrorism to the ongoing conversation:

A goal-directed act of communication by a person or group seeking to promote or forestall political, social, economic, or cultural change. By using violence, primarily against noncombatants, to generate fear, terrorism seeks to communicate its goals

tacitly or explicitly with audiences—government or civilian—in a form of strategic bargaining.

This definition, encompassing multiple levels of analysis and multiple disciplines, places communication, both literal and symbolic, at the base of understanding terrorism. It takes as a given that however evil or nihilistic a terrorist act appears, it is, in the terrorists’ view, a rational way of addressing a rational goal (Corsi, 83). And, it suggests that access to the engines of power and communication may help promote responses that will make terrorist acts less likely. Such a view is both normative and optimistic.

A Terrorism Typology

Valuable as they are for analysis, models of how terrorist events develop have in general remained primarily descriptive. A model that adds an ordering capacity could retain that descriptive power while moving toward theory-building and predictive capability. So, borrowing from disaster research, the following is a suggested terrorism typology:

- Incubation
- Impact
- Immediate postimpact
- Recovery
- Reorientation

This typology tries to avoid suggesting that terrorism is the province of any single discipline or focusing on one area of the problem to the exclusion of others. At the same time, it allows for discipline-specific research as well as the ability to link findings in one field to those in others.

Incubation: Long-Term Warning and Problematic Signals

A central, though obvious, distinction from disaster studies emerges here: tornadoes do not plan. The distinguishing characteristic of this phase in the study of terrorism is that, even if indirect and distant, it is a warning stage within a strategic contest. Rival players are making real-time decisions in a constantly changing matrix.

The *9/11 Commission Report* outlines a lengthy period of incubation for the attacks on New York and the Pentagon—and one rife with signals, many of them appearing in media accounts. If terrorism is considered an act first of communication, its overt signals are vital. Incubation, though, is not only a long-term process. As with disasters, it can be a matter of days or hours rather than years. The ways people and institutions respond to warning messages are ripe for research—as are the links between specific grievances and the symbols for those grievances, the patterns of communication within cultures, and responses from political systems.

Impact, Postimpact and Recovery: Does Terrorism Resemble Hazards and Disasters?

Those who forecast and analyze terrorist events agree that at these stages, terrorist events will resemble disasters in their impact on people and the environment. Familiar patterns of media coverage will be ripe for reinvestigation, but since terrorism communicates in symbolic ways, the symbolic content of news accounts and how they are interpreted by multiple audiences, from victims to policy makers, and the interactive nature of those influences is significant and largely unexamined territory.

During postimpact, current hazards scholarship suggests event-oriented news stories focusing on official response will dominate the news, a pattern that should be reinvestigated when terrorism becomes the focus. Because crises push normally veiled responses into the spotlight, multiple disciplines have the chance to examine the inner workings of institutions and the ways media accounts reverberate in the policy-making process. Theoretical approaches, such as “setting the agenda for the agenda setters;” the symbolic nature of terrorist acts and responses to them; and distinguishing the communication and response pattern in political vs. civil violence also provide important research opportunities.

The activities of recovery often have a greater long-term impact on audiences than the event of the disaster itself. Any of a number of disciplines could be kept busy with spin-offs from one overarching research question: whether terrorism promotes different sorts of communication, as compared to natural and technological disasters, about the policy-making process and its various outcomes.



Reorientation: The Dance Begins Again

When building codes change after a hurricane or new regulations are put into place after a chemical spill, some form of reorientation is taking place. In the aftermath of a terrorist attack, reorientation becomes a strategic encounter: two or more sides are competing to attain their own preferences and thwart those of their enemies.

This phase is particularly important to communication study for two reasons. One is the scale of the outcomes reorientation can produce, such as the fall of a government or a restructuring on the scale of the creation of the U.S. Department of Homeland Security. The second is the particular importance of communication itself. While it is frequently a point of pride among governments to proclaim a policy of never talking with terrorists, these opposing sides can easily talk to each other while talking past each other—often in newspapers or broadcasts. The communications between parties, whether tacit or explicit, mediated or nonmediated, and of political actors to their own constituencies, are some of the most important signals available in the study of terrorist events.

The reorientation stage poses particular challenges for analysis. Like mitigation, it can start within hours of the event or wait for years, and it involves multiple institutional actors as well as individual responses. Reorientation can also produce a hardening of previous outlooks or an opening for steps toward negotiation.

Conclusion

None of this is bound by time. All of it reflects a re-consideration of one's place in the world and a need to communicate it to friends, enemies, and neutrals. And however misplaced any optimism might appear in light of any particular terrorist attack, therein lies the relevance of applying the lessons of disaster research to terrorism. A systematic model built around the roles of communication will enable us to not only talk more about what communication is doing but to look more effectively at what it might be able to do.

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WASHINGTON UPDATE

News on NIMS

In support of the ongoing efforts to develop and implement a single, comprehensive system for incident management that will encourage and enable greater cooperation among departments and agencies at all levels of government, the Federal Emergency Management Agency (FEMA) and the National Incident Management System (NIMS) Integration Center (NIC) have released several new and updated NIMS-related resources.

- A template for a basic NIMS Implementation Plan is now available. The template, which is specifically designed for federal departments and agencies, but adaptable for state, local, and tribal agencies, outlines four phases of NIMS adoption. Phase I calls for initial staff training, which includes FEMA's NIMS and Incident Command System (ICS) independent study courses. Phase II involves evaluation of existing plans, policies, and procedures to identify areas that fail to meet NIMS compliance. Phase III includes modification of plans, policies, and procedures to ensure NIMS compliance. Finally, Phase IV consists of credentialing and certifying personnel and equipment based on NIC standards. In addition to outlining the phases, the template also provides an implementation timeline, a progress checklist, and an annex that compares NIMS with the National Response Plan.
- *NIMS and the Incident Command System* is a recently released paper that reviews the development of the various versions of the ICS (e.g., versions practiced by firefighters, hazardous materials teams, rescuers, and emergency medical teams) and addresses uncertainties about NIMS ICS, the mandated ICS of the future, and the impact it will have on systems and processes currently in place. Additionally, it explains how NIMS ICS works, describes how it is different from previous systems, and discusses the future of NIMS ICS training.
- An updated *National Mutual Aid Glossary of Terms and Definitions* provides terms for equipment, teams, and personnel to help incident managers identify, obtain, and track needed resources during an incident or disaster.
- Also designed to improve the use of mutual aid in an emergency, *Resource Typing Definitions-II* adds 60 new resources to the 60 released in March 2004, for a total of 120. Resource typing establishes common resource definitions developed by emergency management

experts that improve the efficiency of ordering, dispatching, and receiving resources during an incident.

To access these resources, visit the NIC online at <http://www.fema.gov/nims/>. For questions about NIMS, contact the NIC, 500 C Street SW, Washington, DC 20472; (202) 646-3850; e-mail: NIMS-Integration-Center@dhs.gov.

Homeland Security Appropriations Bill of 2005

On October 18, the president signed the Fiscal Year 2005 Homeland Security Appropriations Act (Public Law 108-334), providing \$28.9 billion in net discretionary spending for the U.S. Department of Homeland Security (DHS). Among the appropriations, the law provides approximately \$4 billion to support state and local governments and first responders, including:

- \$1.1 billion for formula-based grants;
- \$400 million for law enforcement terrorism prevention grants;
- \$1.2 billion for discretionary spending (includes high-threat, high-density urban areas);
- \$336.3 million for training, exercises, technical assistance, and other programs;
- \$715 million for firefighter assistance grants; and
- \$180 million for Emergency Management Performance Grants.

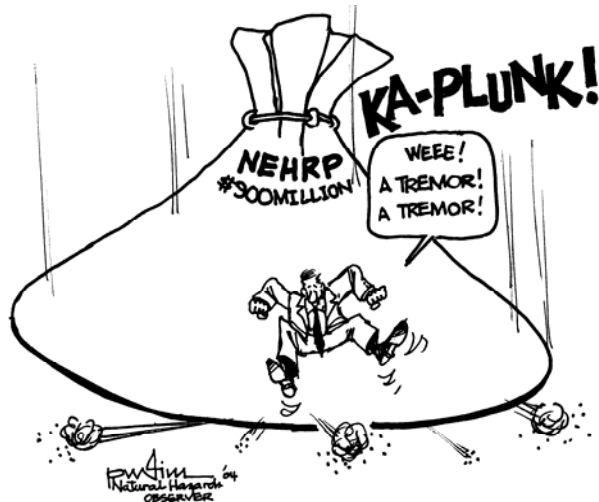
Also, recognizing that no community is immune from terrorism, the law tries to create a balance between basic formula grants (used by states and localities to achieve a minimum level of preparedness) and funds for high-risk urban areas. The complete text of the appropriations act, including specific funding levels, is available in any *federal repository library* and on the *Library of Congress Web site* at <http://thomas.loc.gov/>. A fact sheet issued by DHS is available at <http://www.dhs.gov/dhspublic/display?content=4065>.

Annual Stafford Act Updates

As prescribed by the Robert T. Stafford Disaster Relief and Emergency Assistance Act, each year the Federal Emergency Management Agency adjusts the statewide per capita impact indicator (per capita cost of a disaster that qualifies a county or state for disaster assistance) and re-

examines 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 private 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 2.7 percent. For any single disaster or major emergency declared on or after October 1, 2004, the statewide impact indicator is \$1.14, the maximum amount of IHP financial assistance provided to an individual or household is \$26,200, the maximum amount of replacement assistance is \$10,500, and the maximum amount of any Small Project Grant is \$55,000.

Details about these revisions are available in the *October 19, 2004, Federal Register, Vol. 69, No. 201, pp. 61515-61516*, which can be found in any federal repository library or online at <http://www.access.gop.gov/>. To learn more about the statewide per capita impact indicator, contact *James A. Walke* at (202) 646-3834. For information about the other adjustments, contact *Berl Jones* (202) 646-4235. Send written correspondence to *FEMA, 500 C Street SW, Washington, DC 20472*.



Update on Earthquake and Wind Hazards Legislation

On October 25, the president signed the National Earthquake Hazards Reduction Program (NEHRP) Reauthorization Act of 2004 (Public Law 108-360). The new law authorizes \$900 million to be spent over the next five years on the development and implementation of earthquake hazard reduction measures and interdisciplinary earthquake research activities and moves NEHRP from the jurisdiction of the Federal Emergency Management Agency to the National Institute of Standards and Technology. The law also authorizes \$72.5 million over three years for a new National Windstorm Impact Reduction Program to be modeled after NEHRP with the intent of studying the impact of wind on structures and developing cost-effective ways to mitigate these impacts. The complete text of the National Earthquake Hazards Reduction Program Reauthorization Act of 2004 is available in any federal repository library and on the Library of Congress Web site at <http://thomas.loc.gov/>.

Safety of Dams Act of 2004 Becomes Law

Signed into law on December 3, the Safety of Dams Act of 2004 (Public Law 108-439) amends the Reclamation Safety of Dams Act of 1978 to increase funding levels for projects to preserve the structural safety of Bureau of Reclamation dams and related facilities. Additionally, it provides the Bureau with the authority to fast-track actions to ensure the structural integrity of its dams by increasing the ceiling on the amount that can be obligated for urgent dam modifications, from \$750,000 to \$1.25 million, and provides project beneficiaries with opportunities to consult with the Bureau on the planning, design, and construction of proposed modifications. The complete text of the Safety of Dams Act of 2004 is available in any federal repository library and on the Library of Congress Web site at <http://thomas.loc.gov/>.

New Fire Corps Program Launched

In December, Fire Corps was officially launched to support and supplement fire departments with community volunteers trained to handle nonemergency activities. Through its partnerships with fire service organizations and local Citizen Corps Councils across the country, Fire Corps will actively involve citizens in public education, training, and volunteer efforts focused on fire prevention and safety. Member activities may include assisting fire department personnel with administrative duties, performing education and outreach efforts to encourage fire safety and prevention, supporting community emergency response team training in emergency preparedness and basic response techniques, and other nonsuppression activities.

Fire Corps is a partnership between the National Volunteer Fire Council, the International Association of Fire Chiefs Volunteer Combination Officers Section, the International Association of Fire Fighters, and the U.S. Fire Administration. Learn more about Fire Corps by visiting <http://www.firecorps.org/>.

NOAA Issues New Partnership Policy

The National Oceanic and Atmospheric Administration (NOAA) has announced a new policy regarding the information products and services of the National Weather Service (NWS). The intent of the new policy is to strengthen the partnership among organizations from government, academia, and the private sector that provide weather, water, climate, and related environmental information. The new policy responds to recommendations in the National Research Council's study, *Fair Weather: Effective Partnerships in Weather and Climate Services* (see the *Observer*, July 2004, p. 22). Among its chief recommendations, the council identified the need for a policy recognizing advances in technology and the enactment of relevant laws and implementing guidance.

The comments received following release of the proposed policy for public comment in January 2004, and the policy itself, are available at <http://nws.noaa.gov/fairweather/>. For more information, contact *Peter Weiss, NWS 1325 East-West Highway, Silver Spring, MD 20910; (301) 713-0258; e-mail: peter.weiss@noaa.gov*.

USFA Course Prepares EMS Responders for Multiple Casualty Events

The U.S. Fire Administration (USFA) is offering a new online course designed to help emergency medical service (EMS) personnel respond more effectively when faced with a multiple casualty incident (MCI). An MCI can occur as the result of many situations, such as a transportation accident, a building collapse, a civil disturbance, a severe weather event, or a terrorist attack, to name a few. The new independent study course, EMS Operations at Multicasualty Incidents, Q157, is a four-hour, Web-based course that addresses preparedness planning; incident management; safe and efficient triage, treatment, and transportation of patients; and the de-escalation of the response. Access the course at the USFA's Virtual Campus at <http://www.training.fema.gov/>.

More Relief for Hurricane Victims

Additional hurricane relief in the amount of \$11.6 billion was granted on October 13 as part of the Military Construction Appropriations and Emergency Hurricane Supplemental Appropriations Act of 2005 (Public Law 108-324). Combined with the \$2 billion authorized by the Emergency Supplemental Appropriations for Disaster Relief Act (see the *Observer*, November 2004, p. 7-8), supplemental relief for families, individuals, and communities affected by Hurricanes Charley, Frances, Ivan, and Jeanne now totals \$13.6 billion. For specific details and funding authorizations, visit any federal repository library or the Library of Congress Web site at <http://thomas.loc.gov/>. A White House fact sheet is available at <http://www.whitehouse.gov/news/releases/2004/10/20041014-14.html>.

FEMA Reports Record Aid for 2004 Hurricane Season Response

According to the Federal Emergency Management Agency (FEMA), a record \$4.27 billion in FEMA disaster funds had been expended through November 2004 to aid people and communities victimized by this year's intense and damaging hurricane season. These expenditures are attributable to hurricane-related damage in 27 presidentially declared disasters across 15 states, Puerto Rico, and the U.S. Virgin Islands.

Of the total FEMA funding, the agency reported that \$2.25 billion has been provided in aid for affected individuals and families, including \$1.29 billion in housing assistance; \$918 million for other needs assistance, such as medical expenses and personal property losses; \$30.98 million in unemployment benefits; and \$5.23 million for crisis counseling services. In addition, \$286 million in FEMA funds have been committed to state and local governments for the restoration of damaged facilities, \$1.11 billion has been spent in mission-assigned federal emergency work, and \$2.94 million has been obligated for hazard mitigation activities.

For additional information and a summary of FEMA assistance by state, see the press release at http://www.fema.gov/newsrelease_print.fema?id=15508.

FEMA Funds New Trucks for Disaster Response

In a continuing effort to enhance disaster response capabilities, the Federal Emergency Management Agency (FEMA) has launched a \$6.7 million program to speed the response capabilities of its Disaster Medical Assistance Teams (DMAT). In the first year of the program, 93 trucks will be delivered to 31 DMATs across the country. The trucks will haul field tents, generators, medical equipment, and supplies and will be accompanied by specialized refrigerator trucks designed to transport and store sensitive pharmaceuticals. Trucks have already been delivered to DMAT teams in California, Florida, Michigan, Missouri, New Mexico, and New York. DMATs, part of FEMA's National Disaster Medical System (NDMS), have been deployed most recently in the wake of the Florida hurricanes and the earthquake in Bam, Iran. For more information, contact the NDMS, 500 C Street SW, Suite 713, Washington, DC 20472; (800) 872-6367; <http://ndms.fema.gov/>.

Forest Service Celebrates 100 Years

The Forest Service will celebrate its 100th anniversary on July 1, 2005. On this date 100 years ago, the Forest Service was created as an agency with a unique mission: to sustain healthy, diverse, and productive forests and grasslands for present and future generations. As the agency approaches its centennial, they ask that you join them in reflecting on the organization's proud history and traditions and exploring ways to move into a new century of "caring for the land and serving people."

The commemoration will be a combination of nationally promoted signature events and locally sponsored opportunities. All planned activities are intended to recognize Forest Service past accomplishments and validate the importance of the agency's current relationship with partners and collaborators. The New Century of Service has coordinated centennial events to encourage a dialogue about challenges faced by the Forest Service in the next century. These challenges include rapid natural and social changes, changing public desires, and new technologies.

A new Web site features the latest information on all centennial events. Find out more by contacting the Forest Service, 1400 Independence Avenue SW, Washington, DC 20250; (202) 205-8333; <http://www.fs.fed.us/centennial/regional/>.



The EPA and Homeland Security

In September 2002, the Environmental Protection Agency (EPA) published a strategic plan for homeland security that outlined the agency's relevant activities and initiatives through fiscal year 2005. Roles and responsibilities of the EPA in homeland security include coordinating protection of the drinking water and wastewater sector, providing federal emergency response and recovery support in the event of an attack, providing forensic evidence collection assistance, and researching enhanced methods of detection and decontamination.

Released in October, the EPA's 2004 Homeland Security Strategy updates earlier efforts, taking into consideration the agency's available resources through fiscal year 2005, recent presidential directives and expectations, and the evolving role of the U.S. Department of Homeland Security. The strategy explains how the EPA will collaborate with public and private partners at the federal, state, and local levels to best accomplish its goals and describes how EPA's scientific and technical expertise can be used to help the nation prepare for, respond to, and recover from a chemical, biological, or radiological attack. Find out more about the strategy and download a copy at <http://www.epa.gov/ohs/hom/hom-sp.htm>. For questions, contact the *EPA Office of Homeland Security*, 1200 Pennsylvania Avenue NW, Mail Code 1109A, Washington, DC 20460; (202) 564-6972.

The EPA has also recently established a permanent National Homeland Security Research Center based in Cincinnati, Ohio. The center, initially authorized under a temporary charter in the wake of September 11, 2001, to provide technical assistance to first responders and decision makers, is made up of three divisions: threat and consequence assessment, decontamination and consequence management, and water infrastructure protection. For more information about the center, visit <http://www.epa.gov/ordnhsrcl/>.

National Fire Codes: Request for Comments

The National Fire Protection Association (NFPA) is once again seeking input on a variety of issues related to fire safety codes and standards. The notice "National Fire Codes: Request for Comments on NFPA Technical Committee Reports" (see the *November 19, 2004, Federal Register*, Vol. 69, No. 223, pp. 67705-67706) requests comments on the technical reports that will be presented at the NFPA's November 2005 meeting. Twenty-seven reports are published in the 2005 November Cycle Report on Proposals and will be available on January 7, 2005. For a copy of the report, visit <http://www.nfpa.org/> or request a copy from the *NFPA Fulfillment Center*, 11 Tracy Drive, Avon, MA 02322. Comments are due by March 25, 2005.

A second notice, "National Fire Codes: Request for Proposals for Revision of Codes and Standards" (see the *November 19, 2004, Federal Register*, Vol. 69, No. 223, pp. 67703-67705), requests proposals from the public to amend existing fire safety codes and standards or develop new ones. The purpose of this request is to increase public

participation in the system used by the NFPA to develop its codes and standards. One of the codes up for review is *NFPA 1600: Standard on Disaster/Emergency Management and Business Continuity*, which has recently been endorsed by the National Commission on Terrorist Attacks Upon the United States (the 9/11 Commission) as the proposed national preparedness standard for private sector emergency preparedness.

For more information about the codes, proposal deadlines, or how to submit comments and proposals, visit <http://www.nfpa.org/Codes/> or read the notices in the *Federal Register*, which can be found in any *federal repository library* or online at <http://www.access.gpo.gov/>.

American Red Cross Receives DHS Training Grant

The American Red Cross has received a \$6.5 million competitive training grant from the U.S. Department of Homeland Security, the largest grant of 14 that were awarded. Developed to provide funding for training initiatives that will help the nation prepare for, prevent, respond to, and recover from terrorist incidents involving weapons of mass destruction, this grant program is the first of its kind to be open to nonprofit organizations like the Red Cross. To uphold its commitment to providing essential human needs to the victims and responders involved in a terrorist attack, the Red Cross will use the funding to develop a training initiative to enhance the response capacity of nongovernmental and volunteer organizations. For more information about the American Red Cross and its programs, contact them at *American Red Cross National Headquarters*, 225 E Street NW, Washington, DC 20006; (202) 303-4498; <http://www.redcross.org/>. Details about the Competitive Training Grants Program are available from the *Office for Domestic Preparedness*, 810 Seventh Street NW, Washington, DC 20531; (800) 368-6498; e-mail: askcsid@dhs.gov; <http://www.ojp.usdoj.gov/odp/>.



FEMA's Multiyear Flood Hazard Identification Plan

The Federal Emergency Management Agency (FEMA) and its flood-mapping partners have prepared a Multiyear Flood Hazard Identification Plan (MHIP), the first-ever national look at how FEMA and its partners plan to update flood maps. Developed in cooperation with state, local, and regional entities and other partners, the MHIP outlines a five-year schedule and budget for conducting flood studies and providing reliable digital flood hazard data and maps to support the National Flood Insurance Program.

The MHIP is available on FEMA's Flood Hazard Mapping Web site at http://www.fema.gov/fhm/mh_main.shtm. The MHIP is a living document that will be formally updated twice a year. The stakeholder comment period for this version ends on January 31, 2005. Comments can be made through the Flood Hazard Mapping Web site. Call (877) 336-2627 with questions, or find and e-mail a map specialist at http://www.fema.gov/fhm/tsd_emap.shtm.

New Ready Campaign Public Service Announcements

The U.S. Department of Homeland Security (DHS) and the Ad Council have unveiled new Ready campaign public service advertisements (PSAs) featuring children questioning parents about what to do during an emergency. The television, radio, print, outdoor, and Internet PSAs are designed to encourage people to develop a family emergency plan and to, ultimately, increase the level of basic preparedness across the nation. The three key messages of the campaign are get an emergency supply kit, make a family emergency plan, and be informed about the different types of emergencies that could occur and their appropriate responses. View the PSAs on the Ad Council Web site at http://www.adcouncil.org/campaigns/homeland_security/. For more information about the Ready program, or how to become "ready," call (800) 237-3239, TTY: (800) 464-6161, or visit <http://www.ready.gov/>.

USFA Releases New Edition of *Fire in the United States*

The U.S. Fire Administration has released *Fire in the United States 1992 to 2001* (2004, 197 pp. free), a running 10-year statistical overview of fires in the United States. The primary source of data is the National Fire Incident Reporting System. Other sources include the National Fire Protection Association, the National Center for Health Statistics, state fire marshals offices, the U.S. Census Bureau, and the Consumer Price Index. The report is available through the *USFA Publications Center*, 16825 South Seton Avenue, Emmitsburg, MD 21727; (800) 561-3356; <http://www.usfa.fema.gov/applications/publications/>.

Affirmation of "Drop, Cover, and Hold On"

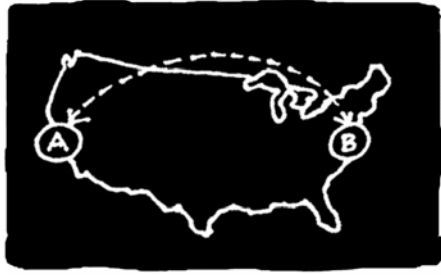
The Federal Emergency Management Agency (FEMA) has posted information on its Web site that affirms the earthquake safety advice "Drop, Cover, and Hold On" and provides accurate illustrations showing the proper procedure. This was done in response to a flurry of inquiries that asked FEMA and other agencies if the recommendation to "drop, cover, and hold on" remained accurate. This information is available at <http://www.fema.gov/hazards/earthquakes/nehrrp/hold.shtm>. The National Disaster Education Coalition also has a statement about this issue, titled "Triangle of Life," on its Web site at http://www.disastereducation.org/guide_tech_issues.html.

NSF Deadline: Human and Social Dynamics Solicitation

The deadline for the submission of multidisciplinary proposals to the Human and Social Dynamics Solicitation at the National Science Foundation is February 23, 2005. Proposals dealing with research on hazards and disasters should be submitted to the "Decision Making, Risk, and Uncertainty" emphasis area. These proposals are to be multidisciplinary in nature and must involve the participation of at least one social scientist. Research teams including participants from the engineering, natural science, geoscience, and/or social science areas are encouraged.

All proposals must be submitted by 5:00 pm in the time zone from which the proposal originates. For more information, contact *Dennis Wenger, Civil and Mechanical Systems, National Science Foundation, 4201 Wilson Boulevard, Arlington, VA 22230; (703) 292-7014; e-mail: dwenger@nsf.gov* or see the solicitation at <http://www.nsf.gov/pubs/2005/nsf05520/nsf05520.htm>.





CONFERENCES AND TRAINING

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

9th Suppression and Detection Research Application Symposium: Responding to New Century Challenges.

Sponsors: Fire Protection Research Foundation, Society of Fire Protection Engineers. **Orlando, Florida: January 26-28, 2005.** Technical papers from current research initiatives in fire suppression and detection will be presented by fire protection engineers, fire prevention officers, code writers, and researchers at this symposium. The theme is "bridging the gap" between practitioners and researchers and between detection and suppression innovations. For more information, contact *Eric Peterson, Fire Protection Research Foundation, 1 Batterymarch Park, Quincy, MA 02269; (617) 984-7281; e-mail: epeterson@nfpa.org; <http://www.nfpa.org/foundation/>.*

Firehouse World Conference and Exposition. Sponsor: Cygnus Public Safety Group. **San Diego, California: January 31-February 4, 2005.** The largest fire, rescue, and EMS event on the West Coast, this conference covers a wide variety of fire-related and emergency response topics and features hands-on training, classroom sessions, and networking opportunities. For more information, contact *Firehouse World Conference and Exposition, 801 Cliff Road East, Suite 201, Burnsville, MN 55337; (800) 827-8009; e-mail: info@firehouseworld.com; <http://firehouseworld.com/>.*

Engineering for Extreme Winds: 2005. Sponsors: The Wind Science and Engineering Research Center, Extended Studies at Texas Tech University. **Lubbock, Texas: February 2-4, 2005.** This short course is designed for engineers, building officials, architects, and other professionals who are involved in the design of buildings to resist extreme wind events, including tornadoes and hurricanes. For more information, contact *Texas Tech University, Extended Studies, Box 42191, Lubbock, TX 79409; (806) 742-7200, (800) 692-6877; <http://www.dce.ttu.edu/Outreach/extremewinds.asp>.*

Searching for Solutions: 2005 PARMA Conference. Sponsor: Public Agency Risk Managers Association (PARMA). **Anaheim, California: February 6-9, 2005.** This year's theme, "Searching for Solutions," underlines PARMA's objective to help with finding solutions to risk

management issues. The scope of sessions ranges from beginning to advanced and from benefits to benchmarking. For more information, contact *Brenda Reisinger, PARMA, PO Box 6810, San Jose, CA 95150; (888) 907-2762; e-mail: brenda.reisinger@parma.com; <http://www.parma.com/index.cfm?pageid=511>.*

Fire Rescue East 2005: Strategic Partnerships...Fire Service in Transition. Sponsors: Florida Fire and Emergency Services Foundation, Florida Society Fire Service Instructors, Florida State Fire College. **Jacksonville, Florida: February 10-13, 2005.** For more information, contact the *Florida Fire Chiefs' Association, 821 North US 1, Suite B, Ormond Beach, FL 32174; (386) 676-2744; <http://www.firerescueeast.org/>.*

Hurricane Symposium: Impact of the 2004 Hurricanes on the Built Environment; Initial Observations, Lessons Learned and Unmet Research Needs. Sponsors: International Code Council (ICC), Building Officials Association of Florida, Federal Alliance for Safe Homes, Federal Emergency Management Agency, Florida Department of Community Affairs/Florida Building Commission, Institute for Business & Home Safety, Structural Engineering Institute of the American Society of Civil Engineers. **Orlando, Florida: February 11-13, 2005.** This symposium aims to enhance base knowledge about building and structure performance in regions impacted by hurricanes. It will examine the effects of four unprecedented, consecutive hurricanes; present a forum to discuss initial lessons, observations, and unmet research needs; examine how wind, water, and other environmental loads impacted buildings and structures; and examine how the storms impacted hurricane preparedness and response. For more information, contact *David Bowman, ICC Chicago District Office; (800) 214-4321; e-mail: DBowman@iccsafe.org; <http://www.iccsafe.org/safety/hurricane/>.*

The 2005 NEMA Mid-Year Conference. Sponsor: National Emergency Managers Association (NEMA). **Washington, DC: February 12-16, 2005.** This conference provides an opportunity for emergency managers to come together to discuss the many challenges that they face today, share solutions, grow professionally, and network

with peers. During the conference, participants will hear from those involved in shaping the future of homeland security and emergency management, strengthen relationships with partner organizations, and share NEMA's views on all-hazards emergency preparedness with the leadership in Washington. For more information, contact *NEMA, PO Box 11910, Lexington, KY 40578; (859) 244-8000; <http://www.nemaweb.org/>*.

Wildland Fire 2005: Partnering to Protect Our Communities. Sponsor: International Association of Fire Chiefs (IAFC). **Albuquerque, New Mexico: February 16-18, 2005.** This conference will bring together fire service leaders at the local, state, and federal levels to address the critical problem of the wildland/urban interface to better provide firefighters with the tools and skills they need to protect themselves and the communities they serve. Attendees will include fire chiefs, company officers, firefighters, land use planners, federal and state agency employees, and military personnel. For more information, contact the *IAFC, 4025 Fair Ridge Drive, Fairfax, VA 22033; (703) 273-0911; e-mail: wildlandfire@iafc.org; <http://www.iafc.org/conferences/wildland/>*.

Medical Aspects of Consequence Management: Managing the Unthinkable in the Era of Asymmetrical Threats; Preparing Healthcare Professionals for New Challenges in the Medical Arena. Sponsor: *Homeland Defense Journal*. **Washington, DC: February 24-25, 2005.** Presented through plenary sessions and three separate tracks, this conference will bring together the leading experts in the field of medical planning and consequence management to help federal, state, local, and private stakeholders become better informed, and ultimately help shape their organizations' roles in the medical consequence management mission. For more information, contact *Pamela Greenstein, Market Access International, 4301 Wilson Boulevard, Suite 1003, Arlington, VA 22203; (703) 807-2744; e-mail: pgreenstein@marketaccess.org; http://www.marketaccess.org/event_consmgmt.asp*.

Managing the Unexpected in Prescribed Fire and Wildland Fire Use Operations: A Second Workshop on High Reliability Organizing. Sponsor: Wildland Fire Lessons Learned Center. **Jacksonville, Florida: February 28-March 3, 2005.** The purpose of this workshop is to explore "high reliability organizing" principles and immunity to change activities to help improve wildland fire use and prescribed fire programs. It is part of an organized effort to decrease prescribed fire escapes and increase replication of successes. For more information, see <http://www.wildfirelessons.net/>.

A Conference on America's Beaches: Current Issues in Beach Management, Tourism, and the Coastal Environment. Sponsor: International Hurricane Research Center (HRC). **Miami, Florida: March 2-4, 2005.** This conference will focus on overlapping contemporary social and scientific issues facing beach managers. Topics include beach management and tourism, beach management in the face of coastal disasters, and beach management and the

environment. For more information, contact the *HRC, Florida International University, University Park Campus, MARC 360, Miami, FL 33199; (305) 348-1339; e-mail: defraene@fiu.edu; <http://www.ihrc.fiu.edu/>*.

SAR—The Americas 2005. Sponsor: The Shephard Group. **Miami, Florida: March 8-10, 2005.** This search and rescue (SAR) event will present a broad range of perspectives and issues, providing critical information and insight into the business of lifesaving, both today and in the future. Leading questions in policy, vision, and development strategies will be discussed and debated by leaders in this critical humanitarian mission. For more information, contact the *Shephard Group, 111 High Street, Burnham, SL1 7JZ, UK; +44 (0) 1628 604311; e-mail: info@shephard.co.uk; <http://www.shephard.co.uk/>*.

The First International Symposium on Geoinformation for Disaster Management. Sponsors: Intergraph, Bentley Education Network, ESRI. **Delft, The Netherlands: March 21-23, 2005.** This symposium will focus on the response and relief phases of disaster management, encouraging discussion on systems and requirements for use of geoinformation under time and stress constraints and unfamiliar situations, environments, and circumstances. It will address these challenges by bringing together technology developers, disaster managers, information providers, developers of standards, and users. For more information, contact *Elfriede M. Fendel, PO Box 5030 2600 GA, Delft, The Netherlands; +31152784548; e-mail: e.fendel@otb.tudelft.nl; <http://www.gdmc.nl/gi4adm/>*.

Mass Fatalities Incident Response Planning. Sponsor: National Mass Fatalities Institute. **Kansas City, Missouri: April 4-8, 2005.** This course addresses the essential elements of planning for response to a mass fatalities event. It is designed to help planning-level officials from various governmental jurisdictions, public service, private sector business, and voluntary organizations understand the concepts of a multifaceted, integrated response plan. For more information, contact the *National Mass Fatalities Institute, 6301 Kirkwood Boulevard SW, Cedar Rapids, IA 52404; (319) 398-7122, (866) 623-6634; e-mail: nmfi@kirkwood.edu; <http://www.nmfi.org/events.htm>*.

Coastal Engineering 2005. Organizers: Wessex Institute of Technology, University of Coimbra. **Algarve, Portugal: April 13-15, 2005.** Scientists and engineers involved in the study and use of computational methods for coastal engineering problems are invited to attend this conference, which will address the study of seas and coastal regions under normal and extreme conditions, emphasizing the practical applications. Discussions will also take place on environmental problems of coastal areas, which are frequently densely populated or sites of industrial development. Abstracts are due as soon as possible. For more information, contact *Rachel Green, Wessex Institute of Technology, Ashurst Lodge, Ashurst, Southampton, SO407AA, UK; +44 (0) 238 029 3223; e-mail: rgreen@wessex.ac.uk; <http://www.wessex.ac.uk/conferences/2005/coastal2005/>*.

2005 APWA North American Snow Conference. Sponsor: American Public Works Association (APWA). **Kansas, City, Missouri: April 17-20, 2005.** More than 30 education and technical sessions and roundtables at this conference will address a variety of topics including snow plowing procedures, new salt applications, anti-icing and de-icing, AVL/GPS/GIS, fleet responsibilities in a disaster, new technologies, snow removal, winter vehicle maintenance, and more. For more information, contact the APWA, PO Box 802-296, Kansas City, MO 64180; (816) 472-6100, (800) 848-APWA; e-mail: snow@apwa.net; <http://www.apwa.net/meetings/snow/2005/>.

Postgraduate Training Course in Study and Management of Geological Risks, CERG 2005. Sponsor: Université de Genève, Centre d'Etude des Risques Géologiques. **Geneva, Switzerland: April 18-June 9, 2005.** 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. It offers a multidisciplinary approach in 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. The training is intended for geologists, geographers, geotechnicians, civil engineers, and land planners with an interest in humanitarian relief. For more information, contact *Françoise Grondahl, Université de Genève, CERG-Secretariat, Département de Minéralogie, 13 rue des Maraîchers, CH-1205 Geneva, Switzerland; 0041 22 379 66 02; e-mail: cerg@unige.ch; <http://www.unige.ch/hazards/>.*

ASDSO 2005 West Regional Conference. Sponsor: Association of State Dam Safety Officials (ASDSO). **Santa Fe, New Mexico: April 24-26, 2005.** This regional conference will be geared toward dam safety engineers and dam owners/operators in the western states. Both technical and nontechnical topics will be included on the agenda. Abstracts are due by January 20, 2005. For more information, contact *ASDSO, 450 Old Vine Street, Floor 2, Lexington, KY 40507; (859) 257-5140; e-mail: info@damsafety.org; <http://www.damsafety.org/>.*

European Geosciences Union General Assembly 2005. Sponsor: European Geosciences Union (EGU). **Vienna, Austria: April 24-29, 2005.** Open to scientists of all nations, this assembly will include union symposia, oral and poster sessions on disciplinary and interdisciplinary topics covering the full spectrum of the geosciences and space and planetary sciences, short courses and workshops, keynote and medal lectures, and town hall and splinter meetings. Abstracts are due January 21, 2005. For more information, contact the *EGU Office, Max-Planck-Strasse 13, 37191 Katlenburg-Lindau, Germany; +49-5556-1440; e-mail: egu@copernicus.org; <http://www.copernicus.org/EGU/ga/egu05/>.*

2005 NDMS Disaster Response Conference: Catastrophic Care for the Nation. Sponsors: National Disaster Medical System (NDMS), Chesapeake Health Education

Program (CHEP). **Orlando, Florida: April 30-May 4, 2005.** The purpose of this conference is to promote interaction between local, state, and federal public health practitioners and policy makers. Experts from a host of agencies and volunteer and academic entities will present on key topics such as counter-terrorism, weapons of mass destruction, clinical medicine, mental health, response teams, and international coordination. For more information, contact *CHEP, Building 82H-1st Floor, Perry Point, MD 21902; (410) 642-1857; <http://www.ndms.chepinc.org/>.*

Disaster Resistant California (DRC) 2005. Sponsors: California Governor's Office of Emergency Services, The Collaborative for Disaster Mitigation at San Jose State University. **Sacramento, California: May 15-18, 2005.** This multidisciplinary conference is designed to bring together emergency management professionals; local, state, and federal government representatives; academicians; and private business partners to share ideas, technology, and resources and to promote partnerships as a means of reducing the vulnerability of individual communities to natural and human-caused disasters. For more information, contact *Jessica Tran, Collaborative for Disaster Mitigation, One Washington Square, San Jose, CA 95192; (408) 924-3596; e-mail: jessica.tran@sjsu.edu; <http://www.sjsu.edu/cdm/drc05/>.*

ASDSO 2005 Northeast Regional Conference. Sponsors: Association of State Dam Safety Officials (ASDSO), Northeast Regional Council for Safe Dams. **Cape May, New Jersey: May 16-18, 2005.** This biennial conference will be geared toward dam safety engineers and dam owners/operators in the northeast states. Both technical and nontechnical topics will be included on the agenda. Abstracts are due by January 21, 2005. For more information, contact *ASDSO, 450 Old Vine Street, Floor 2, Lexington, KY 40507; (859) 257-5140; e-mail: info@damsafety.org; <http://www.damsafety.org/>.*

The Fifth International Conference on Earthquake Resistant Engineering Structures (ERES 2005). Organizers: Wessex Institute of Technology, University of Patras, Aristotle University of Thessaloniki, National Technical University of Athens. **Skiathos, Greece: May 30-June 1, 2005.** This meeting provides a unique forum for the discussion of basic and applied research in the various fields of earthquake engineering relevant to the design of structures. Discussion will focus on the state of the art in structures subjected to earthquakes, including the geophysical aspects, the behavior of historical buildings, seismic isolation, retrofitting, base isolation and energy absorption systems, and a range of applications and case studies. For more information, contact *Katie Banham, Wessex Institute of Technology, Ashurst Lodge, Ashurst, Southampton, SO407AA, UK; +44 (0) 238 029 3223; e-mail: kbanham@wessex.ac.uk; <http://www.wessex.ac.uk/conferences/2005/eres05/>.*

IAIA'05: Ethics and Quality in Impact Assessment. Sponsor: International Association for Impact Assessment (IAIA). **Boston, Massachusetts: May 31-June 3, 2005.**

IAIA'05 affords impact assessors an opportunity to examine and debate issues of ethical conduct and standards of quality in impact assessment and consider what the hallmarks of good assessment and ethical practice might be. Abstracts are due January 31, 2005. For more information, contact the *IAIA International Headquarters, 1330 23rd Street South, Suite C, Fargo, ND 58103; (701) 297-7908; e-mail: info@iaia.org; http://www.iaia.org/*.

Tenth Americas Conference on Wind Engineering (10ACWE). Sponsors: American Association for Wind Engineering, Louisiana State University (LSU) Hurricane Center. **Baton Rouge, Louisiana: May 31-June 4, 2005.** This conference seeks to facilitate the exchange of the latest scientific and technical information between academics, researchers, engineering and architecture practitioners, and students on the many aspects of wind engineering. In addition to traditional oral presentations of papers, the conference will include technical poster sessions, exhibitor booths, tours of the LSU Wind Tunnel Lab and other campus research facilities, and continuing professional development seminars and short courses designed for practitioners. For more information, contact *Marc Levitan, 10ACWE, c/o LSU Hurricane Center, Suite 3221 CEBA Building, Baton Rouge, LA 70803; (225) 578-4813; e-mail: 10ACWE@hurricane.lsu.edu; http://www.10acwe.lsu.edu/*.

SAFE 2005: First International Conference on Safety and Security Engineering. Organizers: Wessex Institute of Technology, University of Rome "La Sapienza," National Fire Department, Italy. **Rome, Italy: June 13-15, 2005.** This conference will provide a forum for the presentation and discussion of recent developments in the theoretical and practical aspects of safety and security engineering, covering issues such as crisis management, security engineering, natural disasters and emergencies, terrorism, IT security, human-induced hazards, and mitigation. Abstracts are due as soon as possible. For more information, contact *Rachel Green, Wessex Institute of Technology, Ashurst Lodge, Ashurst, Southampton, SO407AA, UK; +44 (0) 238 029 3223; e-mail: rgreen@wessex.ac.uk; http://www.wessex.ac.uk/conferences/2005/safe05/*.

The 9th European Conference on Traumatic Stress (ECOTS). Sponsor: The Swedish National Association for Mental Health (SFPH). **Stockholm, Sweden: June 18-21, 2005.** This interdisciplinary conference welcomes anyone with an interest in psychotraumatology. Among the many main themes are effects of disasters and terrorism, helping the helpers, media and disaster, and community programs and intervention. For more information, contact the *SFPH, Box 3445, SE-103 69 Stockholm, Sweden; +46 (0)8 34 70 65; e-mail: info@sfph.se; http://www1.stocon.se/ecots2005/9/12734.asp*.

31st International Symposium on Remote Sensing of Environment (ISRSE): Global Monitoring for Sustainability and Security. Sponsor: International Center on Remote Sensing of the Environment. **Saint Petersburg, Russia: June 20-24, 2005.** The overall theme of this sym-

posium is the use of Earth observation systems in monitoring, understanding, and managing the environment with particular emphasis on global change, security, and sustainability. For more information, contact the *Secretariat for ISRSE, 1955 East Sixth Street, Suite 208D, Tucson, AZ 85719; e-mail: isrse@email.arizona.edu; http://www.niersc.spb.ru/isrse/*.

Survey Reveals Gaps in Emergency Preparedness for People with Disabilities

A nationwide survey commissioned by the National Organization on Disability (NOD) through a grant from the U.S. Department of Homeland Security was conducted to determine the degree to which jurisdictions take into account the needs of people with disabilities in their emergency planning and included people with disabilities themselves in the planning process. The survey of 197 state and local emergency managers across the nation found that 69 percent of the respondents incorporated the needs of people with disabilities into their emergency plans. An additional 22 percent had a plan under development. In other words, planning is underway and the emergency preparedness community recognizes that America's 54 million citizens with disabilities require special planning and attention.

Nevertheless, the survey also found that among those who currently have a preparedness plan in place or under development:

- 46 percent did not have plans to deal with schools for students with disabilities,
- 50 percent did not have a special needs registry that includes people with disabilities,
- 59 percent did not have plans for pediatric populations, and
- 76 percent did not have a paid expert to deal with emergency preparedness for people with disabilities.

Among all respondents:

- 39 percent had not purchased specialized equipment,
- 36 percent had not been offered special training,
- 73 percent had not received funding to address emergency planning for people with disabilities, and
- 42 percent had a public awareness campaign directed at providing emergency information to people with disabilities.

The final report of the NOD Emergency Preparedness Survey is available at <http://www.nod.org/content.cfm?id=1586>. For more information, contact *Tim Sullivan, NOD, 910 Sixteenth Street NW, Suite 600, Washington, DC 20006; (202) 293-5960; e-mail: sullivant@nod.org; http://www.nod.org/*.



INTERNET PAGES

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

All Hazards

<http://scholar.google.com/>

This new search service from Google is aimed at scientists and academic researchers. Google Scholar is intended to be a first stop for researchers looking for scholarly literature, such as peer-reviewed papers, books, abstracts, and technical reports.

<http://www.unisdr.org/ppew/>

The United Nations/International Strategy for Disaster Reduction's Platform for the Promotion of Early Warning aims to help the development of early warning and preparedness systems by advocating for better early warning systems. Visit this new Web site, the start of a growing information resource on early warning systems, and sign up for their quarterly newsletter.

http://www.nyc.gov/html/oem/html/readynewyork/ready_guide.html

The cornerstone of the Ready New York campaign, this comprehensive household preparedness guide offers tips and information about a wide range of potentially hazardous situations New Yorkers may face.

<http://www.sip.ucar.edu/sip/>

The National Center for Atmospheric Research, with funding from the U.S. Weather Research Program, has established the Societal Impacts Program to develop a dedicated focal point for gathering, assembling, coordinating, and synthesizing information on the societal impacts and economic benefits of weather information. This new site is a work-in-progress that currently includes program information as well as the preliminary framework for a Digital Library of Societal Impacts.

<http://www.udel.edu/DRC/drc40conference/>

The Disaster Research Center has established this Web site featuring results from its spring 2004 conference Disaster Research in the Social Sciences: Lessons Learned, Challenges, and Future Trajectories.

<http://www.operationhope.org/documents/EmergencyFinancialFirstAidKit.pdf>

Operation Hope offers a free Emergency Financial First Aid Kit on its Web site. Designed to help Americans minimize the financial impact of a natural disaster or national emergency, this tool helps users identify and organize key financial records and serves as a quick reference to important financial documents. A Spanish version is under development.

<http://www.fas.org/sgp/crs/RL32631.pdf>

This new report from the Congressional Research Service addresses *Critical Infrastructure and Key Assets: Definition and Identification*.

<http://www.domesticpreparedness.com/>

Integrating the professional first responder communities of fire, law enforcement, emergency medical, National Guard, and local, state, and federal governments with industry concerned with domestic preparedness is the aim of this site, which features news about grants, government, industry, people, reports, events, and more.

<http://www.purepursuitintelnetwork.com/>

This Web site provides relevant and timely information for the military and air defense, emergency services, and remote sensing communities. Free subscriptions to e-mail updates are also available.

Hurricanes and Coastal Management

http://www.cdera.org/cunews/uploads/caribbean_rea_2004.pdf

This Rapid Environmental Impact Assessment examines the effects of Hurricanes Ivan and Jeanne in Haiti, Grenada, and the Dominican Republic.

<http://www.iii.org/media/facts/statsbyissue/hurricanes/>

Information recently released by the insurance industry ranks this year's big four hurricanes (Charley, Frances, Ivan, and Jeanne) among the top ten costliest U.S. hurricanes in the past 25 years.

<http://www.swissre.com/>

With four major events, the 2004 hurricane season inflicted tremendous losses on the United States. At the same time, Japan was hit by an unprecedented number of typhoons. In a new report, *Hurricane Season 2004: Unusual but Not Unexpected*, Swiss Re discusses the recent storms in the context of its event-based approach to risk analysis and portfolio management.

<http://www.csc.noaa.gov/noaaorgchart4czm/>

This National Oceanic and Atmospheric Administration (NOAA) Organizational Chart for Coastal Managers was developed for coastal managers and staff to facilitate their understanding of the organizational structure, role, and responsibilities of NOAA offices involved in coastal management activities, such as weather, research, and fisheries management. Hard copies can be obtained by e-mailing clearinghouse@csc.noaa.gov.

http://www.meted.ucar.edu/resources_access.htm

Hurricane Strike! an entertaining multimedia educational product, is now available in three versions (all at no charge) to meet the needs of students with hearing, motor, and visual impairments. This Web site provides access to the Web versions as well as instructions on how to order a master CD for those who want to publish and distribute free CD copies.

Earthquakes

http://www.eeri.org/lfe/usa_centralcalifornia.html

The Earthquake Engineering Research Institute has posted a preliminary report on the September 28, 2004, earthquake in Parkfield, California, along with links to other sites with related data.

<http://earthquake.usgs.gov/recenteqsww/Quakes/uspyal.htm>

A preliminary U.S. Geological Survey report on the magnitude 6.6 earthquake near the west coast of Honshu, Japan, on October 23, 2004, is available here along with links to additional related information.

<http://www.earth.northwestern.edu/people/seth/Texts/lunch.pdf>

This article from an *Observer* reader advocates the need for seismologists to view earthquake hazard mitigation issues as involving policy and economic issues as well as scientific ones and suggests some approaches.

Wildfire

<http://www.safnet.org/policyandpress/cwpphandbook.pdf>

Preparing a Community Wildfire Protection Plan: A Handbook for Wildland-Urban Interface Communities is a concise, step-by-step guide to developing a community wildfire protection plan. It addresses issues such as who to involve in developing a plan, how to involve other interested parties, what elements to consider in assessing community risks and priorities, and how to develop a mitigation or protection plan to address those risks.

<http://www.forestencyclopedia.net/>

Part of the Forest Service's Forest Encyclopedia Network, this Encyclopedia of Southern Fire Science (ESFS) synthesizes volumes of scientific knowledge about fire science in the southern United States. ESFS delivers grounded information to field practitioners and the general public with viewer-navigated text, photos, graphics, plus a large bibliography and access to several fire science databases.





<http://jfsp.nifc.gov/>

The Joint Fire Science Program is a six-agency partnership established to address wildland fuels issues. Participating agencies are the Forest Service, Bureau of Indian Affairs, Bureau of Land Management, National Park Service, U.S. Fish and Wildlife Service, and the U.S. Geological Survey. The program provides wildland fire and fuels information and tools to specialists and managers who make wildland fuels management decisions.

<http://depts.washington.edu/nwfire/>

The Northwest Fire Research Clearinghouse (FIREHouse) is a Web-based project providing data and documentation on fire science and technology relevant to Washington, Oregon, and Idaho. The goal is to provide “one-stop shopping” for resource managers, decision makers, scientists, students, and communities who want access to the results of efforts to understand and manage fire and fuels on public lands in the region.

<http://www.frames.gov/>

The Fire Research and Management Exchange System (FRAMES) is a virtual collaborative workspace for wildland fire managers and researchers that serves them and others through the exchange of information and tools that are essential for wildland fire and fuels management.

<http://nature.org/initiatives/fire/>

The Nature Conservancy launched the Global Fire Initiative to help counter threats that fire poses to global conservation. The initiative is fulfilling a leading role in restoring ecosystems where fire dynamics have changed, and recently completed a global assessment that quantifies the scale of the problem. More information about the initiative, its tactics, and its projects is available on this Web site.

Climate Change

<http://www.arctic.noaa.gov/detect/>

This new Web site from the National Oceanic and Atmospheric Administration aims to raise issue awareness, inform dialog, and support decision making regarding the Arctic climate and ecosystem. It shows the past and present state of the Arctic climate and ecosystem and presents data and information from reputable scientific sources with easy to read and understand narratives.

Bioterrorism, Water Terrorism, and Hazardous Materials

<http://www.bt.cdc.gov/planning/pdf/suspicious-package-biothreat.pdf>

This Federal Bureau of Investigation, U.S. Department of Homeland Security, and Centers for Disease Control and Prevention document provides guidance for the initial response to a suspicious letter/container, offering recommendations for local responders based on existing procedures (including recommendations from the International Association of Fire Chiefs).

<http://www.waterhealthconnection.org/bt/index.asp>

Developed to assist the medical and public health community as well as public utility and emergency response professionals, this new Web site offers a free terrorism preparedness guide that addresses the public health and security challenges resulting from intentional acts of water terrorism.

<http://www.health.ri.gov/environment/biot/responseguide.php>

The Agency for Toxic Substances and Disease Registry's Region 1 has created this Palm version of the U.S. Department of Transportation's **2004 Emergency Response Guide**.

Homeland Security and World Trade Center

<http://homelandsecurity.osu.edu/NACHS/>

The primary role of the National Academic Consortium for Homeland Security is to promote, support, and enhance academic research, technology development, education and training, and service programs dealing with all aspects of international and homeland security through collaboration and information sharing.

http://www.nist.gov/public_affairs/releases/wtc_latest_findings_1004.htm

This press release discusses the latest findings from the National Institute of Standards and Technology's World Trade Center (WTC) Investigation. Findings include the leading collapse sequence for each of the towers; details from the analysis of first-person interviews of WTC occupants, first responders, and families of victims; and new information gleaned from the analysis of emergency response and evacuation procedures/actions.



CONTRACTS AND GRANTS

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

Impact of Hurricane Charley on Residential and Commercial Construction. Funding: National Science Foundation. Six months. Principal Investigators: *Rajan Sen and Gray Mullins, University of South Florida, 4202 Fowler Avenue, Tampa, FL 33620; (813) 974-5465; e-mail: sen@eng.usf.edu.*

The aim of this study is to compile wind damage data systematically and quickly, before it is lost. Evidence from failed and damaged structures will lead to more effective design, construction, and retrofitting. The data collection will focus on roofs with missing tiles or shingles; open structures, such as gas stations and carports; and floor slabs of failed commercial buildings. The information gathered will enable future calibration of computational models and/or wind tunnel testing for determining wind pressure coefficients in irregular, low-rise buildings (e.g., newer construction).

Ad Hoc Networking to Empower First Responders. Funding: National Science Foundation. Six months. Principal Investigator: *Joseph Birli, Audiopack, 4933 Neo Parkway, Garfield Heights, OH 44128; (216) 332-7040; e-mail: birlij@audiopack.com.*

One of the key elements in firefighter safety is reliable communication between firefighters and incident command. This project seeks to develop the next generation of communication devices for firefighters based upon ad hoc communication technology. This technology, currently employed by the military, is also applicable to other law enforcement and safety groups. By providing a system that would ensure firefighters and other first responders have reliable communication, it would be possible to significantly reduce the number of casualties.

Behavioral Health Effects of September 11, 2001. Funding: National Center for Injury Prevention and Control. Three years. Principal Investigator: *Charles J. DiMaggio, Columbia University Health Sciences, PO Box 49, New York, NY 10032; e-mail: cjd11@columbia.edu.*

The goal of this project is to gain experience and expertise in health protection research and identify opportunities for prevention of terrorist- and disaster-related behavioral health disturbances by assessing the effects of the terrorist attacks of 2001 on the health of New York City's

communities. Specifically, the investigator aims to determine whether there was an increase in emergency department or outpatient medical utilization among vulnerable populations. The results will be useful for practitioners in responding to postdisaster behavioral health needs, public health agencies in establishing baselines for surveillance and planning for surge capacity demands, and emergency management policy makers in educating and mobilizing their communities.

Development of the High-Rise Evacuation Evaluation Database Based on Data Arising from the WTC Disaster. Funding: Engineering and Physical Science Research Council. £310,546, three years. Principal Investigator: *Ed Galea, University of Greenwich, School of Computing and Mathematical Sciences, Old Royal Naval College, Park Row, Greenwich, London SE10 9LS, UK; +44 (0) 20 8331 8730; e-mail: e.r.galea@gre.ac.uk.*

This project will collect human experience data regarding the World Trade Center (WTC) through interviews and questionnaires and make the results accessible for use in shaping future building regulations and evacuation models. It involves development of a data retrieval system, development of an interactive relational database structure, and preliminary analysis of collected information to identify key issues influencing building evacuation and current weaknesses in evacuation modeling technology.

Bottom-Up Modeling of Evacuation Methodologies. Funding: National Center for Injury Prevention and Control. Three years. Principal Investigator: *Judith M. Holt, Utah State University, 1415 Old Main Hill, Logan, UT 84322; e-mail: Judith@cpd2.usu.edu.*

The purpose of this research application is to improve the workforce's protection from urgent nonoccupational infectious, environmental, or terrorist threats by improving our basic understanding of effective methods of evacuating individuals, specifically those with disabilities, from buildings and other settings in response to such threats. By addressing critical and fundamental gaps in our knowledge, this project aims to improve the effectiveness of planning for emergency evacuations from the built environment as the result of a health-safety event and decrease evacuation-related injuries and deaths.



RECENT PUBLICATIONS

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

All Hazards

Preventable Losses: Saving Lives and Property Through Hazard Risk Management: A Comprehensive Risk Management Framework for Europe and Central Asia. Christoph Pusch. *Disaster Risk Management Working Paper Series No. 9.* 2004. 88 pp. Available free online from the Hazard Management Unit/The World Bank, 1818 H Street NW, Washington, DC 20433; (202) 458-4500; e-mail: hazardmanagement@worldbank.org; http://www.worldbank.org/hazards/files/ECA_strategy.pdf.

The purpose of this report is to raise awareness and understanding of the vulnerability of countries in the World Bank's Europe and Central Asia region to natural hazards and to provide a strategic, proactive framework for mitigation and prevention. Focusing on earthquakes, floods, and landslides, the report is based on an initial quantitative risk assessment of each country; develops a comprehensive hazard risk management framework; shares lessons learned from other countries; and recommends priority actions for each country in the region.

Risk Analysis for Extreme Events: Economic Incentives for Reducing Future Losses. Howard Kunreuther, Robert Meyer, and Christophe Van den Bulte. NIST GCR 04-871. 2004. 103 pp. Free. Available online from the National Institute of Standards and Technology, Office of Applied Economics, 100 Bureau Drive, Stop 8603, Gaithersburg, MD 20899; fax: (301) 975-5337; <http://www.bfrl.nist.gov/oe/publications/gcrs/04871.pdf>.

This report discusses the need for linking risk assessment, risk perception, and risk management in order to develop meaningful strategies for dealing with extreme events (i.e., low probability-high consequence events). Cases where extreme events exhibit interdependencies, either among individual stakeholders or among stakeholder groups, are given special attention. Special attention is also given to the need for cooperation between the public and private sectors with the ultimate goal of generating sound strategies for reducing the risks of extreme events and reducing the damage should such catastrophes occur.

Environmental Hazards: Assessing Risk and Reducing Disaster. Fourth Edition. Keith Smith. ISBN 0-415-31804-1. 2004. 324 pp. \$38.95. Available from Taylor & Francis Customer Service, Customer Services, 10650 Toebben Drive, Independence, KY 41051; (800) 634-7064; e-mail: cserve@routledge-ny.com; <http://www.routledge.com/>.

This completely revised edition blends physical and social science to provide a balanced, contemporary introduction to major natural events, technological accidents, and aspects of global environmental change that threaten humans and what they value. Part I broadly discusses hazard identification and common disaster-reducing strategies. Part II examines individual threats and the extent to which existing losses to life and property are preventable.

2004 NEMA Biennial Report: Organizations, Operations, and Funding for State Emergency Management and Homeland Security. ISBN 0-87292-820-9. 2004. 55 pp. \$35.00. Available from the National Emergency Management Association, PO Box 11910, Lexington, KY 40578; (859) 244-8000; <http://www.nemaweb.org/>.

As part of a continuing effort by the National Emergency Management Association (NEMA) to promote greater recognition of the states' commitment to emergency management, public safety, and homeland security, this report examines funding, spending, organizational, and operational issues for state-level emergency management during fiscal year 2003. It discusses how, in this new era of disaster management, states are adjusting to the need to balance their new homeland security responsibilities with the ongoing threat of natural disasters in a system of all-hazards preparedness.

2004 World Disasters Report: Focus on Community Resilience. International Federation of Red Cross and Red Crescent Societies. ISBN 92-9139-108-5. 2004. 240 pp. \$25.00. Available from Kumarian Press, 1294 Blue Hills Avenue, Bloomfield, CT 06002; (860) 243-2098, (800) 289-2664; e-mail: kpbooks@aol.com; <http://www.kpbooks.com/>.

Published annually since 1993, this report brings together the latest trends, facts, and analyses of contemporary crises—whether natural or human-made, quick-onset or chronic. The 2004 report highlights the importance of building capacity and resilience to bounce back from a disaster. Features include a general discussion about helping communities cope with crisis, the danger of heat waves, harnessing local capacities in rural India, lessons learned from the Bam earthquake, building community resilience to disaster in the Philippines, and surviving in the slums.

San Diego Regional Fire Prevention and Emergency Preparedness Task Force. Bill Kolender and Jeff Bowman. 2004. 73 pp. Available free online from the San Diego Fire-Rescue Department, 1010 2nd Avenue, Suite 400, San Diego, CA 92101; (619) 533-4300; e-mail: sdfd@sandiego.gov; <http://www.sandiego.gov/fireandems/>.

The San Diego Regional Emergency Preparedness Task Force was established following the 2003 wildland fires to provide a forum so that representatives of all public safety disciplines could review, discuss, and develop proposals for all-risk emergency preparedness in the San Diego region. This report examines the issues discussed by the task force, specifically as they related to preparedness, resource use, and regulatory measures, and makes recommendations designed to serve as action items that can be implemented and measured for effectiveness.

Natural Disasters. Patrick L. Abbott. Fourth Edition. ISBN 0-07-292198-6. 2004. 480 pp. \$84.06. Available from the McGraw-Hill Companies, Order Services, PO Box 182604, Columbus, OH 43272; (877) 833-5524; e-mail: pbg.ecommerce_custserv@mcgraw-hill.com; <http://books.mcgraw-hill.com/>.

As evidenced by its title, this textbook focuses on natural disasters. Particular attention is paid to the themes of energy sources

underlying disasters; plate tectonics and climate change; earth processes operating in rock, water, and atmosphere; significance of geologic time; and the complexities of multiple variables operating simultaneously. Supplemental materials are available for both students and instructors.

The following two publications are available from *Jane's Information Group*, 110 North Royal Street, Suite 200, Alexandria, VA 22314; (703) 683-3700, (800) 824-0768; e-mail: info.us@janes.com; <http://www.janes.com/>.

Jane's School Safety Handbook. Mike Dorn, Greg Thomas, Marleen Wong, Sonayia Shepherd, James Kelly, and Ronald Stephens. Second Edition. ISBN 0-7106-2658-4. 2004. 331 pp. \$35.00. This quick reference guide for those involved in school safety planning, preparedness, prevention, response, and recovery provides information in a format that facilitates training or dealing with emergencies as they occur.

Jane's Safe Schools Planning Guide for All Hazards. Mike Dorn, Greg Thomas, Marleen Wong, and Sonayia Shepherd. ISBN 0-7106-2659-2. 2004. 450 pp. \$99.00. This guide is a reference for school planners tasked with designing, implementing, and maintaining a safe school plan.

Weather

Hurricane Isabel, September 18-19, 2003. Service Assessment. 2004. 54 pp. Free. Available from the National Weather Service, 1325 East-West Highway, W/OSS2, Silver Spring, MD 20910; (301) 713-0090; e-mail: wayne.presnell@noaa.gov; <http://www.nws.noaa.gov/om/assessments/pdfs/isabel.pdf>.

Hurricane Isabel is considered one of the most significant tropical cyclones to affect northeast North Carolina, east central Virginia, and the Chesapeake and Potomac regions since Hurricane Hazel in 1954 and the Chesapeake-Potomac Hurricane of 1933. This report examines the warning and forecast services provided to emergency managers, government agencies, and the public as they related to Hurricane Isabel.

A Recommendation for an Enhanced Fujita Scale (EF-Scale). James R. McDonald and Kishor C. Mehta. 2004. 95 pp. Available free online from the Wind Science and Engineering Research Center, Texas Tech University, Lubbock, TX 79409-1023; (806) 742-3476, (888) 946-3287; e-mail: Jim.McDonald@coe.ttu.edu; http://www.wind.ttu.edu/F_Scale/images/efsr.pdf.

In an effort to address the limitations of the currently employed Fujita Scale in rating tornado intensity, the authors of this paper propose an Enhanced Fujita Scale.

Skywatch West: The Complete Weather Guide. Richard A. Keen. Revised Edition. ISBN 1-55591-297-4. 2004. 263 pp. \$24.95. Available from Fulcrum Publishing, 16100 Table Mountain Parkway, Suite 300, Golden, CO 80403; (303) 277-1623; e-mail: fulcrum@fulcrum-books.com; <http://www.fulcrum-books.com/>.

Written for the casual weather observer as well as seasoned experts, this guide explains the wide variety of weather experienced in the western United States and Canada and offers practical advice, such as how to read clouds, build a home weather station, and avoid being struck by lightning.

Weather Extremes of the West. Tye W. Parzybok. ISBN 0-87842-473-3. 2005. 288 pp. \$24.00. Available from Mountain Press Publishing, PO Box 2399, Missoula, MT 59806; (406) 728-1900, (800) 234-5308; <http://www.mountain-press.com/>.

Also written for the professional or the weather junkie, this book highlights and explains the West's most interesting, extreme, unique, and historic weather- and climate-related phenomena in easily understood prose, with photographs, figures, and satellite images. Broken down by region, it features weather events from the Great Plains to the Pacific Coast.

Northeast Snowstorms. Volume I: Overview, Volume II: The Cases. Paul J. Kocin and Louis W. Uccellini. *Meteorological Monograph Series, Vol. 30, No. 54.* ISBN 1-878220-64-0. 2004. 818 pp. \$95.00. Available from the American Meteorological Society, Order Department, 45 Beacon Street, Boston, MA 02108; (617) 227-2426 x204 or x237; e-mail: amsorder@ametsoc.org; <http://www.ametsoc.org/>.

In view of the continuing need to improve our understanding of snowstorm systems, this two-volume set provides an analysis of the horizontal and vertical structures and evolution of many of the most crippling snowstorms to affect the heavily populated Northeast region during the twentieth century. These snowstorms are examined from historical, climatological, synoptic, and dynamic perspectives. The set includes a wealth of photographs, color figures, and a DVD of additional material.

Coastal Management

GIS for Coastal Zone Management. Darius Bartlett and Jennifer Smith, editors. ISBN 0-415-31972-2. 2004. 344 pp. \$89.95. Available from CRC Press, 2000 NW Corporate Boulevard, Boca Raton, FL 33431; (561) 994-0555, (800) 272-7737; e-mail: orders@crcpress.com; <http://www.crcpress.com/>.

Supplying the guidance necessary to use Geographical Information Systems (GIS), this book explores key technical, theoretical, and applications issues. Specifically, it reviews recent developments in the use of GIS technologies in coastal environments and emphasizes the changing role of GIS/remote sensing in integrated coastal zone management. It also showcases information systems that integrate a human component, focus on sustainable development, or incorporate change and uncertainty with a holistic approach.

Earthquakes and Volcanoes

Living With Earthquakes in the Pacific Northwest: A Survivor's Guide. Robert S. Yeats. Second Edition. ISBN 0-87071-024-9. 2004. 400 pp. \$29.95. Available from the University of Arizona Press, 355 South Euclid Avenue, Suite 103, Tucson, AZ 85719; (520) 626-4218, (800) 426-3797; e-mail: orders@uapress.arizona.edu; <http://oregon.state.edu/dept/press/>.

Originally published in 1998, this expanded and revised edition describes the threat posed by the Cascadia Subduction Zone, which runs from British Columbia to northern California. In so doing, the author, who hopes this book will serve as a "call-to-action," combines research with safety information. Specifically, the book introduces new information about threats to major Northwest cities; explores a variety of earthquake topics, such as forecasting, catastrophe insurance, tsunamis, and soil liquefaction; reviews earthquake preparedness and response following the Nisqually earthquake in 2001; and suggests actions that citizens can take to protect their families and homes.

Rising Fire: Volcanoes and Our Inner Lives. John Calderazzo. ISBN 1-59228-389-6. 2004. 268 pp. \$22.95. Available from Globe Pequot Press, 246 Goose Lane, PO Box 480, Guilford, CT 06437; (203) 458-4500, (888) 249-7586; e-mail: info@globepequot.com; <http://www.globepequot.com/>.

Written by a teacher of creative writing with a passion for volcanoes, this book, which is part history and part travelogue, recounts famous eruptions and visits seven of today's greatest volcanoes, profiling the people who live in their shadows and the scientists who study them.

Wildfire

Large Fire Suppression Costs: Strategies for Cost Management. 2004. 59 pp. Available free online at <http://www.fireplan.gov/reports/2004/costmanagement.pdf>.

In response to widespread perceptions by Congress, agencies, and the public that fire suppression costs have escalated to an unreasonable level, the Wildland Fire Leadership Council chartered the Strategic Issues Panel on Fire Suppression Costs to explore specific

strategic issues associated with large fire costs. This report features the panel's findings and recommendations.

Climate Change and Drought

Impacts of a Warming Arctic: Arctic Climate Impact Assessment. Susan Joy Hassol. ISBN 0-521-61778-2. 2004. 140 pp. \$24.99. Available from Cambridge University Press, 100 Brook Hill Drive, West Nyack, NY 10994; (845) 353-7500; e-mail: orders@cup.org; <http://us.cambridge.org/>. Download a free copy at <http://www.acia.uaf.edu/>.

Written in plain language for the sake of accessibility, this report synthesizes the key findings of the Arctic Climate Impact Assessment called for by the Arctic Council (a ministerial intergovernmental forum comprised of eight nations, including the United States, and six indigenous peoples organizations) and the International Arctic Science Committee (an international scientific organization appointed by 18 national academies of science) to evaluate Arctic climate change and its impacts for the region and the world. Results indicate that the Arctic is warming much more rapidly than previously believed and increasing greenhouse gases from human activities are projected to make it warmer still. This Arctic warming, the report suggests, will have major impacts on global warming and rising sea levels.

The following two reports were prepared for and are available from the Pew Center on Global Climate Change, 2101 Wilson Boulevard, Suite 550, Arlington, VA 22201; (703) 516-4146; http://www.pewclimate.org/global-warming-in-depth/all_reports/.

Observed Impacts of Global Climate Change in the U.S. Camille Parmesan and Hector Galbraith. 2004. 55 pp. Free. This report assesses evidence that ecosystems are changing due to climate change and provides insights into what this means for the future. A broad range of ecological changes are reviewed along with their implications and actions that can be taken to better manage U.S. natural resources to minimize the effects of climate change.

Induced Technological Change and Climate Policy. Lawrence H. Goulder. 2004. 38 pp. Free. This report explores how climate policy can induce technological change and examines the implications of such change on the effective design of climate policy. It concludes that both policies that boost technological innovation as well as those that limit emissions are required to reduce greenhouse gas emissions most cost-effectively.

Up in Smoke? Threats from, and Responses to, the Impact of Global Warming on Human Development. Andrew Simms, John Magrath, and Hannah Reid. ISBN 1-899407-92-8. 2004. 37 pp. £10.00. Available free online from the New Economics Foundation, 3 Jonathan Street, London, SE11 5NH, UK; +44 (0) 7820 6300; e-mail: info@neweconomics.org; http://www.neweconomics.org/gen/z_sys_PublicationDetail.aspx?pid=196.

The result of a coming together of leading environmental and development organizations, this report expresses a common concern about the threats that global warming poses to the attainment of the Millennium Development Goals for poverty reduction and serves as a call for action to governments. It contends that global warming is already happening and that it is hitting poor communities and vulnerable ecosystems.

Beyond Drought: People, Policy, and Perspectives. Linda Courtenay Botterill and Melanie Fisher, editors. ISBN 0 643 06954 2. 2003. 248 pp. \$36.00. Published by CSIRO Publishing (Australia). Available from Antipodes Books & Beyond, 9707 Fairway Avenue, Silver Spring, MD; (301) 602-9519; e-mail: antipode@antipodesbooks.com; <http://www.antipodesbooks.com/>.

Drought in Australia is the central theme of this book that provides a multidisciplinary discussion aimed at increasing the level of understanding of drought's many facets and its impact on the environment, communities, and the economy of Australia. It introduces a range of perspectives in order to emphasize the complexity of drought policy and cuts through the often emotional debate that

occurs during a drought event, aiming to stimulate reasoned discussion about the best way that Australian farmers and the broader community can live with Australia's unpredictable climate.

Disaster Health

Disaster Mental Health Services. Diane Myers and David F. Wee. ISBN 1-58391-064-6. 2004. 288 pp. \$24.95. Available from Brunner-Routledge, 270 Madison Avenue, New York, NY 10016; (800) 634-7064; <http://www.brunner-routledge.com/>.

This book is designed to help mental health professionals and other responders apply their existing mental health knowledge and skills to the unique, complex, chaotic, and highly political circumstances that emerge in the wake of a disaster. The authors present their comprehensive model of disaster mental health service delivery, which includes consultation, outreach, debriefing and defusing, education, and crisis counseling (CODE-C) and is flexible and adaptive to any disaster situation. The three parts of this book cover the central conceptual issues and knowledge foundation of disaster mental health, basic disaster mental health services for citizens and stress management for disaster mental health workers, and some of the newest issues and challenges facing disaster mental health workers and traumatologists.

Floods, Health, and Climate Change: A Strategic Review. Roger Few, Mike Ahern, Franziska Matthies, and Sari Kovats. Working Paper 63. 2004. 138 pp. Available free online from the Tyndall Centre for Climate Change Research, Zuckerman Institute for Connective Environmental Research, School of Environmental Sciences, University of East Anglia, Norwich, NR4 7TJ, UK; +44 (0) 1603 593900; e-mail: tyndall@uea.ac.uk; http://www.tyndall.ac.uk/publications/working_papers/wp63.pdf.

Given the prospect that flood hazards may increase as a result of climate change, the objectives of this report are to present findings from a review of global literature on health impacts, adaptation processes, and policies relating to flood risk; make a critical assessment of the existing knowledge base and identify key opportunities and challenges for intervention and research; and assess the implications of climate change and future flood risk for health impacts, adaptation processes, and policies.

Medical Surge Capacity and Capability: A Management System for Integrating Medical and Health Resources During Large-Scale Emergencies. 2004. 238 pp. Available free online from the U.S. Department of Health and Human Services, Office of the Assistant Secretary for Public Health Emergency Preparedness, 200 Independence Avenue SW, Washington, DC 20201; (202) 401-5840; http://www.hhs.gov/asphelp/mscc_sept2004.pdf.

This handbook describes a management methodology, which is consistent with the National Incident Management System, based on principles of emergency management and the incident management system (IMS) to address surge capacity and capability needs that may arise in an emergency. Medical and health systems may apply these principles to coordinate effectively with one another and to integrate with response organizations that have established IMS and emergency management systems (fire service, law enforcement, etc.), promoting a common management system for all response entities.

Homeland Security

Introduction to Homeland Security. Jane A. Bullock, George, D. Haddow, Damon Coppola, Erdem Ergin, Lissa Westerman, and Sarp Yeletaysi. ISBN 0-7506-7787-2. 2004. 552 pp. \$69.95. Available from Elsevier, Order Fulfillment, 11830 Westline Industrial Drive, St. Louis, MO 63146; (800) 545-2522; e-mail: usbkinfo@elsevier.com; <http://books.elsevier.com/security/>.

In response to the government reorganization that resulted in the creation of the U.S. Department of Homeland Security, this book was written to provide educators, students, and practitioners with a comprehensive account of past and present homeland security practices, policies, and programs and prepare them to engage in actions to help make their communities safer and more secure.

Chapters include a historic overview of the terrorist threat, statutory authority, organizational actions, hazards, safety and security, mitigation and preparedness, response and recovery, communications, technology, and the future of homeland security. Case studies and appendices round out the text.

CDC Releases Public Health Emergency Response Guide

State, local, and tribal public health departments play an extremely important role in all-hazards emergency preparedness and response. Public health professionals within these departments should have immediate access to guidance and information that will assist them in rapidly establishing priorities and undertaking necessary actions during the response to an emergency or disaster. The Centers for Disease Control and Prevention's (CDC) National Center for Environmental Health, Division of Emergency and Environmental Health Services, Environmental Public Health Readiness branch has developed an all-hazards public health emergency response guide to address this need.

The *Public Health Emergency Response Guide for State, Local, and Tribal Public Health Directors* (2004, 60 pp., free) is an all-hazards reference tool for health professionals who are responsible for initiating the public health response during the first 24 hours (i.e., the acute phase) of an emergency or disaster. It provides useful information on the activation and integration of a jurisdiction's public health system into the existing overall emergency response structure during the acute phase of an incident. It also contains guidance that may be unique to specific types of incidents, such as floods, earthquakes, and acts of terrorism.

The guide is not a substitute for emergency preparedness activities and is not intended to replace existing emergency operations plans, procedures, or guidelines within a jurisdiction's health department. It is consistent with the doctrine, concepts, principles, terminology, and organizational processes in the National Response Plan and the National Incident Management System.

Download the guide at <http://www.bt.cdc.gov/>. For more information, contact *Martin A. Kalis* at (770) 488-4568 or *Gary Rhyne* at (770) 488-7104 or e-mail pherg@cdc.gov. A pocket-sized field version of the guide is scheduled to be released in January 2005.

New Center: El Centro de Investigación de Riesgos

El Centro de Investigación de Riesgos (Risk Research Center) was established in 2004 at the Universidad de Falcón in Venezuela by a group of Venezuelan professionals with experience in different aspects of disaster management, crisis management, environmental studies, and contingency planning. Center objectives include:

- Natural, technological, and human-induced disaster research;
- Preparation of environmental studies and research of environmental and ecological crises;

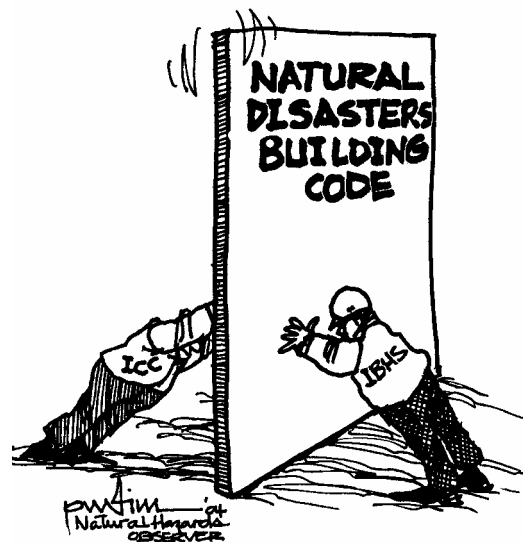
- Preparation of communities to face disasters and crises by means of adequate information and public awareness programs;
- Preparation of contingency plans for communities and industrial facilities; and
- Education and training of students in crisis management and disaster risk reduction.

For more information about the center, contact *Juan Murria* at jmurria@hotmail.com or visit the Web site (in Spanish only) at <http://www.udefa.edu.ve/>.

ICC and IBHS Join to Improve Disaster-Related Building Codes

The International Code Council (ICC) and the Institute for Business and Home Safety (IBHS) have signed a strategic alliance agreement to work together on the research, development, adoption, and enforcement of building codes that address disaster-resistant residential and commercial construction. One of the first collaborative efforts will be the analysis of construction performance in Florida following this year's active hurricane season to determine the effectiveness of the state's building codes in high wind events. The Federal Emergency Management Agency and the Florida Department of Community Affairs will also participate in this process. Upon completion of the analysis, a summit meeting of public and private sector representatives will be held to begin developing plans to strengthen existing codes and standards.

More information is available through the ICC, 5203 Leesburg Pike, Suite 600, Falls Church, VA 22041; (703) 931-4533; <http://www.iccsafe.org/> or the IBHS, 4775 East Fowler Avenue, Tampa, FL 33617; (813) 286-3400; e-mail: info@ibhs.org; <http://www.ibhs.org/>.



The Natural Hazards Center

The NATURAL HAZARDS RESEARCH AND APPLICATIONS INFORMATION CENTER was founded to strengthen communication among researchers and the individuals and organizations concerned with mitigating natural disasters. The Hazards Center is funded by the National Science Foundation, the Federal Emergency Management Agency, the National Oceanic and Atmospheric Administration, the U.S. Geological Survey, the U.S. Army Corps of Engineers, the U.S. Environmental Protection Agency, the U.S. Department of Transportation, the U.S. Bureau of Reclamation, the U.S. Forest Service, the National Aeronautics and Space Administration, the Centers for Disease Control and Prevention, the Institute for Business & Home Safety, and the Public Entity Risk Institute. Please send information of potential interest to the Hazards Center or the readers of this newsletter to the address below. The deadline for the next *Observer* is *January 19, 2005*.

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

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