

NATURAL HAZARDS

# Observer

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## The Challenges We Face Reflections on the 2003 Hazards Workshop

—an invited comment

Every July, the Natural Hazards Center hosts an invitational workshop in Boulder, Colorado, for researchers and practitioners in the broad natural hazards field to come together to share and discuss the latest challenges and ideas for dealing with disasters and emergencies. As the incoming director of the Natural Hazards Center, it was my role to attend plenary and concurrent sessions at the 2003 Hazards Workshop, listen carefully to presentations and discussions, and then synthesize and distill what I had absorbed—all in time for a wrap-up presentation at the end of the workshop. This seems like a difficult task, but this year it was not, because as I thought more about what I had heard from workshop participants, several clear themes emerged.

### The Delicate Balance

One theme that began in the initial workshop sessions and carried through many subsequent discussions was a concern that, with the enormous emphasis now being placed on homeland security and terrorism, there is a risk of undercutting the very significant progress that has been made over the last two decades toward an all-hazards approach to hazard and disaster management. Many worry that in the new Department of Homeland Security (DHS), terrorism-related issues will overshadow efforts to move forward with mitigating losses from other hazards. DHS Undersecretary for Emergency Preparedness and Response Michael Brown assured workshop attendees that

hazards other than terrorism are very important to DHS and that all-hazards mitigation is a priority for the new agency. However, others raised concerns that the large budgets targeted for local terrorism-related preparedness will continue to dwarf funds for mitigation and preparedness programs for other hazards, reversing what had been positive trends in emergency management.

Another theme that cut across many sessions at the workshop was the need to concentrate on risk communication in its many forms and to recognize the special challenges associated with communicating risk at this particular point in history. Discussions centered on a forthcoming report on emergency warnings by Dennis Mileti, John Sorensen, Barbara Vogt, and Jeannette Sutton. That report—*Warning America: Risk Communication for Emergencies*—introduces a new paradigm for conceptualizing the crisis communications process—a perspective that recognizes how technology has revolutionized the way we receive and transmit information and what those changes imply for communicating with at-risk populations during times of crisis. [Editor's Note: We will announce the report's availability in an upcoming issue of the *Observer*.] Other workshop participants discussed the special challenges associated with communicating with the public about new, unfamiliar, and dread risks—terrorist weapons such as chemical, biological, and radiological hazards.

Because so much has been learned through research, the natural hazards and emergency management communities already know a great deal about how to communicate risk and effectively warn the public during emergencies. However, this knowledge is not making its way quickly enough to officials in DHS and other agencies that are grappling with the challenge of designing risk communication and warning programs centering on emerging homeland security threats.

### The Importance of the Public

Workshop participants also stressed the importance of continuing to engage civil society institutions and the public in a collaborative and participatory fashion across the entire hazards cycle. The strength and resilience of our society lies in community-based organizations, neighborhood associations, nongovernmental organizations, schools, workplaces, faith-based organizations, and the millions who volunteer to serve their communities in dealing with extreme events. Members of the public are not a problem to be managed in disasters; they quite often are the solution. A key strategy for reducing vulnerability, therefore, is to work before disasters strike to establish collaborative relationships with community-based organizations that serve vulnerable populations during non-disaster times. One workshop participant spoke of the need for a “bottom-up, collaborative, participatory process around risk assessment and risk management.” Such an approach is crucial for the management of hazards of all types.

### Science and Technology

Discussions also focused on the tremendous advances that are being made in science and technology—and at the same time on the limitations and problematic aspects of

some of these advances. For example, progress is now being made with respect to flood map modernization, and these map improvements are clearly needed. At the same time, they may result in larger areas within communities being designated as at risk from flooding, which will create very real economic and political issues for those communities. The good news is that those involved with map modernization activities recognize the need both for good science and for community outreach.

In the same vein, workshop participants praised new technological advances that have the potential for increasing the effectiveness of hazard and disaster management—technologies ranging from geographic information systems (GIS), to remote-sensing technologies, to other information-technology solutions that enable responders to communicate across organizational boundaries, to technologies for alerting at-risk populations. Yet, these new technologies are far from problem-free. There are a host of issues related to standardization and interoperability among technologies, databases, and other tools. Research suggests that in many cases, the potential of tools like GIS is not realized because of data incompatibility, problems with information sharing, and other interoperability barriers.

Of course, new technologies are only part of the picture; the other part is the human-technology interface. Speaking of remote sensing, one workshop participant stressed that in order to contribute significantly to hazard and disaster management, technology solutions must go “the last mile” to bring information to end-users in ways that address their needs and enable them to make critical decisions. Other discussions centered on the social, economic, organizational, and political barriers that stand in the way of technology adoption and implementation. Additionally, issues of “cultural interoperability” among organizations are as important, if not more important, than those associated with technology. Enhancing coordination and cooperation among organizations is not solely a matter of encouraging them to share technology. Rather, it involves recognizing how organizations differ with respect to culture, structure, and management styles, and then working through those differences.

### Tapping the Reservoir

One overriding message that emerged from the 2003 workshop centered on the challenges associated with rapid changes in the policy and funding environment in which hazards research and implementation take place—changes brought about primarily by the war on terrorism. As a consequence of the new focus on homeland security and the large amount of funds that have become available to address emerging threats, many new organizations and institutions have become intensely interested in domestic emergency and disaster planning. These “new players,” many of whom were represented at the workshop, include the military, intelligence and law enforcement communities, major consulting companies, think tanks, and national laboratories. Their involvement in the hazards field offers great promise; yet, many in these communities are not as aware as they could be of existing research, policies, and

practices in the hazards field, including those that relate directly to homeland security. There is a huge reservoir of institutional knowledge and practical know-how within our community that has yet to be tapped. This is beginning to be recognized, and important dialogues have begun, but we all have a long way to go.

As we move forward, we must recognize that while massive amounts of funding are becoming available very quickly for any activities that can conceivably be related to terrorism and weapons of mass destruction, this deluge of funds brings with it the risk of duplication of effort, confusion over organizational missions, turf battles, spending large amounts of money to reinvent the wheel, and pressures to acquire new toys, without questioning the value of such investments. It could very well be that, as some 2003 workshop participants suggested, the major expenditures that are being made to counter terrorism will create spin-off benefits in the form of protection against a range of other perils. Well-equipped and well-trained first responders, for example, will be better able to assist the public in disasters of all types, as well as in everyday emergencies. Similarly, if carried out properly, planning for homeland security-related emergencies should improve planning for disasters of all types. Whether such spin-offs will indeed result from efforts to quell terrorism is a question for future research.

### Challenges Ahead

The challenge that comes from these changes is one for our entire community. We must continue and expand our dialogue with the new players on the hazards scene, to communicate with them about what we know, and to learn from them what they need. However, these activities

should not be carried out in an ad hoc fashion by isolated individuals. They must be undertaken in a systematic and coordinated way.

At the same time, we must not let our leaders and policymakers—or society at large—be distracted into acting as if the laws of nature were repealed on September 11, 2001. Our society must prevent, plan for, respond to, and recover from terrorist acts of all kinds, but we must also now work harder than ever to keep other types of hazards on local, state, and national agendas. We must see to it that the hazard-related knowledge that has been gained and the sound policies and practices that have been developed over decades continue to have an impact.

It is a pleasure and a privilege to join the Natural Hazards Center as director. I look forward to future collaboration in the areas of policy, practice, and research and to your view on how best to address and overcome the many challenges we face.

Kathleen Tierney  
Director  
Natural Hazards Research and  
Applications Information Center  
University of Colorado–Boulder

**Editor's Note:** On August 15, the Natural Hazards Research and Applications Information Center welcomed Kathleen Tierney as our new director. She can be reached at the *Natural Hazards Research and Applications Information Center, 482 UCB, University of Colorado–Boulder, Boulder, CO 80309-0482; (303) 492-6818; fax: (303) 492-2151; e-mail: tierneyk@colorado.edu*. Dennis Mileti, the former director, will still be affiliated with the Natural Hazards Center as the senior research scientist. He can be contacted at the same mailing address and phone number and e-mailed at *dennis.mileti@colorado.edu*.

## Workshop Redux 2003 Session Summaries Now Available

For the hazards community, 2003 brought with it the most significant national change to the institutional arrangement for managing disasters in the U.S. since the Federal Emergency Management Agency (FEMA) was established—the creation of the Department of Homeland Security (DHS). Many of the discussions at the 28th Annual Hazards Research and Applications Workshop, held in Boulder, Colorado, from July 13-16, 2003, focused on the implications of this shift for the management of natural hazards. And many of the discussions did not—workshop participants continued to debate, explore, and share information on drought, risk, warning, tornadoes, wildfires, hurricanes, public health issues, GIS technology, and of course, the myriad topics involved with all-hazards mitigation. Plenary sessions focused on communicating risk, all-hazards mitigation, the hidden victims of disaster, and mitigation strategies from around the globe.

To share the ideas and discussions presented during the workshop, the Hazards Center publishes brief summaries of each session, abstracts of the hazards research presented, and descriptions of the projects and programs dis-

cussed at the meeting. This is a valuable resource for those who were unable to attend the workshop, as well as for those who were.

A set of all workshop materials, including the agenda, participant list, and workshop notebook, is available for \$25.00, plus \$5.00 shipping.

Currently, the list of all session summaries is available on-line at <http://www.colorado.edu/hazards/ss/ss.html>. In the near future, the complete text of all session summaries and abstracts will also be available at that URL.

To order these materials, contact the *Natural Hazards Research and Applications Information Center, 482 UCB, University of Colorado, Boulder, CO 80309-0482; (303) 492-6819; fax: (303) 492-2151; e-mail: hazctr@colorado.edu; http://www.colorado.edu/hazards*. Checks should be in U.S. dollars and written on a U.S. bank (payable to the University of Colorado). Visa, Mastercard, American Express, and Diner's Club cards are also accepted.



# Natural Hazards Center Seeks Professional Research Assistant

A full-time professional research assistant is needed to provide oversight for the activities of the Natural Hazards Center, which acts as a national clearinghouse on research and applications in the hazards field. The Center's emphasis is on the social and behavioral science and policy aspects of hazards and disasters. The person in this position reports to the center director and, in cooperation with the director:

- oversees development of center programs (including grant writing and proposal preparation);
- plans and coordinates the Center's annual workshop, with advice from a national advisory committee;
- maintains ongoing contacts with funding agencies and potential funding sources;
- manages the Center's budget;
- supervises staff activities regarding, but not limited to, the Center's publications, web site, library, special projects, and day-to-day administrative operation; and
- represents the Center at advisory committee meetings and national conferences.



The professional research assistant also administers the center's Quick Response travel grant program (which supports researchers in conducting field work at disasters); takes responsibility, along with other staff, for answering information requests from practitioners, researchers, and government officials; and provides reports on Center activities to various agencies as needed.

A wide range of professional backgrounds and interests in the hazards field will be considered. The successful candidate will have a Masters degree in a related discipline and will be knowledgeable about hazard-related policies, programs, research, and knowledge-transfer activities and can work well with the broad spectrum of constituencies that are concerned with hazards and disasters.

Salary will be commensurate with experience. Review of candidates will begin on September 30, 2003, and will continue until a successful candidate has been identified.

To apply, send a letter of application for the position; resume; and names, addresses, and telephone numbers of three references to the Search Committee, Natural Hazards Research and Applications Information Center, Institute of Behavioral Science, University of Colorado at Boulder, 482 UCB, Boulder, Colorado 80309-0482. The University of Colorado at Boulder is committed to diversity and equality in education and employment.

## Shah Family Innovation Prize

The Earthquake Engineering Research Institute (EERI) is accepting nominations for recipients of the Shah Family Innovation Prize. The \$10,000 prize will reward younger professionals and academics for creativity, innovation, and entrepreneurial spirit in the field of earthquake risk mitigation and management. Nominees must be less than 35 years of age as of January 1 the year in which the award is given, should be in the developing or expanding stage of their careers, and should demonstrate the promise of important future contributions.

To be considered, nominations must be received by EERI by October 15, 2003. Complete information, including selection criteria, nomination package requirements, and selection committee details, is available from Marjorie Greene, EERI, 499 14th Street, Suite 320, Oakland, CA 94612; (510) 451-0905; e-mail: [mgreene@eeri.org](mailto:mgreene@eeri.org); <http://www.eeri.org/career/careers.html> (click on "Shah Family Innovation Prize").

## Our Readers Respond to Our Survey

Editors at the Natural Hazards Center were interested in obtaining feedback from readers regarding the *Natural Hazards Observer* (see the *Observer*, Vol. XXVII, No. 4, p. 1). With funding from the National Science Foundation's Research Experience for Undergraduates program, we hired two students to help with the process. In April 2003, we mailed 1,000 surveys to randomly selected *Observer* readers in the United States and received 238 responses (a 24% response rate).

### Observer Reputation

Overall, responses reinforced the importance of the publication. There were also some suggestions for ways to improve it. By large majorities, respondents indicated that the *Observer*: "contains relevant information," "contains timely information," is "educational," is "understandable," and is "well-written." In addition, the vast majority felt the publication:

- gives them a sense of belonging to an interdisciplinary community,
- keeps them informed and current about hazards issues,
- is among the most important sources of hazards information, and
- provides leadership for the hazards community and points it in new directions.

Two comments of note: "There is no publication (of which I am familiar) that has the information or prestige of the *Observer*." "This publication is in my opinion fulfilling its mission by strengthening and promoting communications; increasing knowledge and serving as a basic resource in the eight sections it addresses."

### On-Line or Paid Subscriptions

From time to time, the Center has considered publishing the *Observer* only on-line or charging for subscriptions to cover production costs. (Interestingly, we discovered that 51% of respondents did not know the *Observer* was available on-line.) We asked if respondents would pay \$24.00 a year to subscribe. Three out of four said they would not pay for a subscription. Likewise, half said they would read the *Observer* on-line, but not nearly as much as they currently read the printed copy. Only 37% said they would read the on-line version as much as they read the printed copy.

### Referral and Pass Along

Although we have anecdotal information that readers often keep past issues or share a single copy of the *Observer* with several people within an office, we had never quantified the extent to which this occurred. We were astonished to learn that 73% of respondents either keep past issues or refer to them on-line. In addition, 60% of our

readers pass along their copy for others to review. We asked respondents to indicate how many others see their copy, and, based on their answers, we now estimate the *Observer* has a readership of at least 37,000.

### Observer Sections

In the survey, we listed the eight sections of the *Observer*—Articles, Recent Publications, Washington Update, Internet Pages, Conferences and Training, Invited Comment, On The Line, and Contracts and Grants—and asked respondents to indicate which they found useful. Articles received a 97% endorsement, while Contracts and Grants was useful to 60% of readers. Respondents ranked their preferences for sections in the order listed at the beginning of this paragraph.

We then asked respondents about the level of detail in each section. For the most part, respondents indicated they would like to keep things the same, although many would like to see more detail in Articles and less in Contracts and Grants.

### Suggestions for Future Topics

We asked our readers what they would like to see that is not included now. Suggestions included the relationship of natural hazards to environmental and security issues, impacts on business, global and international disaster damage/trends, more local issues, more detail on future federal policy, after action reports, and successful mitigation efforts. When asked what should *not* be included, we received only a handful of responses, half of which were exhortations to keep doing things the way we are doing them.

### Demographics of Respondents

The majority of our readers are male (74%), have a post-graduate degree (58%), and are in their 40s and 50s (64%). Only 27% have been reading the *Observer* for five years or less, and 8% have been reading it for more than 20 years. In addition, the responses closely correlate with the categories in our *Observer* mailing list database: 21% work for local governments; 20% work for the federal government; 17% work for the private sector; 16% work in education/academia; and the remainder work in non-profits (8%) or state government (9%), are students (1%), or are classified as "other" (6%).

### Let Us Know

If you did not get a chance to answer the survey, but would still like to make suggestions for improving the *Observer*, please contact *Wendy Steinhacker, Natural Hazards Research and Applications Information Center, 482 UCB, University of Colorado, Boulder, CO 80309-0482; e-mail: wendy.steinhacker@colorado.edu.*

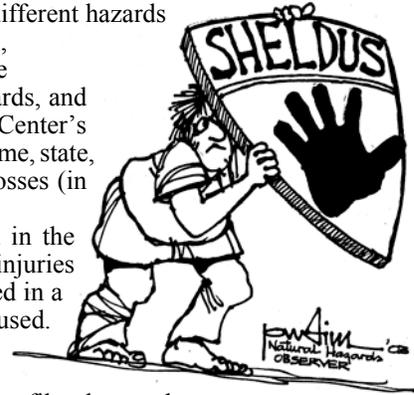
# Introducing SHELDUS

## County-Level Data on Natural Hazards

Looking for the most comprehensive database of natural hazards events and losses available? SHELDUS is a geo-referenced data set providing county-level data on natural hazard events and losses from 1960 to 2000. The geographic entities are U.S. counties. Eighteen different hazards types are covered in the data base: avalanches, coastal hazards, drought, earthquakes, flooding, fog, hail, heat, hurricane/tropical storms, landslides, lightning, severe storms/thunderstorms, tornadoes, tsunamis/seiches, volcanoes, wildfires, wind hazards, and winter weather. Data were culled from repositories such as the National Climatic Data Center's Storm Data and the Council of National Seismic Systems. Variables include county name, state, Federal Information Processing Standard (FIPS) code, date, event type, property losses (in unadjusted dollars), crop losses (in unadjusted dollars), injuries, and deaths.

Only those events that generated more than \$50,000 in losses were included in the database. For events that covered multiple counties, the dollar losses, deaths, and injuries were equally divided among the counties. Where dollar loss estimates were provided in a range (e.g., \$50,000 to \$100,000), the lowest value in the range of the category was used. This results in the most conservative estimate of losses during the time period.

SHELDUS is web accessible and contains more than 300,000 entries. Users can query by date, location, event type, and loss. Results are available as downloadable text files that can be viewed in most spreadsheet-type software packages. To access the database, go to <http://www.sheldus.org>. For more information about this project, contact Susan L. Cutter, Hazards Research Laboratory, Department of Geography, University of South Carolina, Columbia, SC 29208; (803) 777-1699; e-mail: [scutter@sc.edu](mailto:scutter@sc.edu); <http://www.ca.sc.edu/geog/hrl/home.html>.



## Risk Watch for Natural Disasters

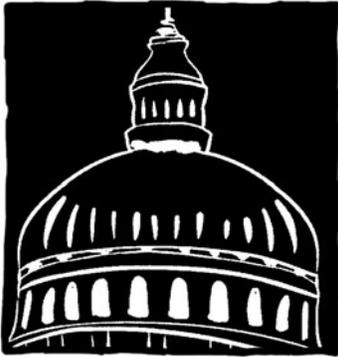
The National Fire Protection Association (NFPA) has unveiled a new community preparedness program, complete with a web site and curriculum, to help children and their families make better emergency preparations and learn safe responses when natural disasters strike. "Risk Watch: Natural Disasters" is a school-based program that helps children in preschool through eighth grade prepare for disasters. The program's emphasis is on helping children and families take actions to improve general preparedness as well as teaching appropriate disaster response by imparting needed skills and knowledge to make the right choices for personal safety and well-being.

The curriculum was designed with the goal of giving teachers, parents, and safety advocates the tools they need to teach kids to prepare for unexpected events. Lesson plans are divided into teaching modules based on grade levels, and each module addresses general preparedness, earthquakes, floods, hurricanes, tornadoes, wildfires, and severe winter storms. On the web site, icons for each type of disaster provide a link to a wide variety of disaster-specific information, tips, stories, and links to other organizations and agencies, along with frequently asked questions to prepare children and their families well in advance of an emergency.

"Risk Watch: Natural Disasters" identifies and incorporates local resources, which makes it easier for educators and others to tailor the program to meet local needs. The program is a companion to "Risk Watch: Unintentional Injuries," another NFPA program, and uses the same design features and accompanying merchandise. "Risk Watch: Natural Disasters" was developed with funding from the Home Safety Council and with technical support from the Federal Emergency Management Agency.

For more information about "Risk Watch: Natural Disasters" and "Risk Watch: Unintentional Injuries," contact NFPA, Public Education Division, One Batterymarch Park, Quincy, MA 02269-9101; (617) 984-7285; e-mail: [public\\_education@nffa.org](mailto:public_education@nffa.org); <http://www.nffa.org/riskwatch/home.html>.





# WASHINGTON UPDATE

## FEMA Announces Availability of Pre-Disaster Mitigation Competitive Grants

The Federal Emergency Management Agency (FEMA) recently announced the availability of competitive grants to assist states and communities to implement a sustained pre-disaster natural hazard mitigation program to reduce overall risk to the population and structures, while also reducing reliance on funding from presidential disaster declarations. The 2003 funds for the Pre-Disaster Mitigation (PDM) program will be awarded on a competitive basis with priority on funding mitigation projects that address National Flood Insurance Program (NFIP) repetitive loss properties.

Insurance Fund; and reduce disaster housing payments, emergency response expenses, and disaster assistance to fund the repair of infrastructure. In addition, fewer families will lose wages and fewer businesses will suffer reduced profits as a result of flooding. Also, in the case of property acquisition, there will be increased recreational opportunities and creation of open space along rivers and streams. Most importantly, communities and their residents will be safer from flood hazards.

Two hundred and fifty thousand dollars will be made available to each state, the District of Columbia, Puerto Rico, the Virgin Islands, Guam, and American Samoa to fund mitigation activities that address natural hazards. Multi-hazard projects and plans may also address hazards caused

by non-natural forces. Part of these funds, \$3.6 million, will be available as Disaster Resistant University grants to state, local, and tribal governments (through a separate notice) for pre-disaster mitigation activities that benefit campuses around the country.

Activities that are eligible include mitigation planning, which may also address hazards caused by non-natural forces in addition to focusing primarily on natural hazards; and mitigation projects. Projects are restricted to a maximum of \$3 million in federal funds per project. Activities may include property acquisition or relocation, structural and nonstructural retrofitting, minor structural

hazard control or protection projects, and localized flood control projects. FEMA will contribute up to 75% of the total amount, while recipients must provide at least 25% of the nonfederal cost share.



Focusing on the mitigation of repetitive flood loss properties through acquisition, relocation, elevation, floodproofing, and/or structural projects that save lives and protect property will significantly reduce NFIP claims payments; improve the soundness of the National Flood

Applications for PDM funds must be submitted by states and Indian tribal governments by October 6, 2003. For more information about the program, contact your regional FEMA office. Information can also be obtained from Karen Magrino, Program Planning Branch, Mitigation Division, FEMA, 500 C Street, S.W., Room 444, Washington, DC 20472; (202) 646-3807; e-mail: karen.magrino@dhs.gov.

## NOAA Issues Final Guidance for the Coastal and Estuarine Land Conservation Program

In 2002, Congress directed the secretary of the Department of Commerce to establish a Coastal and Estuarine Land Conservation Program (CELCP) “for the purpose of protecting important coastal and estuarine areas that have significant conservation, recreation, ecological, historical, or aesthetic values, or that are threatened by conversion from their natural or recreational state to other uses.” Congress directed the secretary to give priority to lands that can be effectively managed and protected and that have significant ecological value. As many *Observer* readers know, protecting natural functions in these areas from development can reduce the impacts of natural disasters, such as hurricanes.

Recently, the National Oceanic and Atmospheric Administration (NOAA) issued final guidance for this new program, delineating the planning process for states to identify conservation needs and priorities, provide the information necessary for eligible coastal states to develop land conservation plans, nominate projects to a national competitive selection process, and describe the criteria for grant awards.

Land eligible for funding under this program must be held in public ownership, be located in coastal or estuarine areas within a state’s plan, and provide for access to the general public or other public benefit as appropriate and consistent with resource protection. The title to the land must be held in perpetuity by the grant recipient or other public agency designated by the recipient. Nongovernmental organizations, corporations, or individuals may participate in the acquisition and long-term stewardship of land.

Activities considered to be consistent with the goals of the program include resource protection; restoration and enhancement, such as vegetative erosion control or restoration of natural water flow to an area; recreational activities; or research and educational activities. Agricultural production, shoreline armoring or other hard erosion control structures, and construction or expansion of roads and buildings are not considered appropriate. NOAA will work with states through its Coastal Zone Management Program.

The final guidance appeared in the June 17, 2003, *Federal Register* (Vol. 68, No. 116; pp. 35860-35869). Copies of the *Federal Register* can be found in any federal repository library or can be viewed on-line at <http://www.gpoaccess.gov/fr/index.html>. Further information about this new program can be obtained from Elaine Vaudreuil, NOAA’s Ocean Service, Office of Ocean and Coastal Resource Management, 1305 East-West Highway (N/ORM), Silver Spring, MD 20910; (301) 713-3155, ext. 103; e-mail: [elaine.vaudreuil@noaa.gov](mailto:elaine.vaudreuil@noaa.gov).

## FEMA Issues Revised Disaster Aid Policy for Private Nonprofit Organizations

FEMA recently broadened the eligibility of certain private nonprofit (PNP) groups to receive disaster assistance in line with the president’s recent executive order on faith-based and community organizations. This policy change removes a barrier for many private nonprofit organizations that provide certain essential community services but until now may not have been eligible for federal disaster aid. It ensures that these organizations will have access to federal grants to help repair their damaged facilities so that they may resume the services that will help the community recover.

To be eligible for assistance, PNP facilities must be used to provide education, utility, irrigation, emergency, medical, custodial care, and certain other essential government services. Under federal law, FEMA makes grants available to PNPs for disaster-related repairs, but not for those associated with providing community services. While the amended policy does not change the type of eligible facilities, it expands PNP eligibility by rescinding the former rule that required educational, utility, emergency, medical, and custodial care facilities to be open to the general public. The remaining types of PNP facilities will still be required to be open to the general public to qualify for federal assistance.



Federal disaster funding for eligible PNPs is made available through FEMA’s Public Assistance Program, which provides 75% of the approved cost for repairing or replacing public and PNP facilities that were damaged during presidentially declared major disasters.

The amended policy, entitled “Private Nonprofit Facility (PNP) Eligibility,” was published in the *Federal Register* on June 23, 2003 (Vol. 68, No. 120, pp. 37166-37169). Copies of the *Federal Register* can be found in any federal repository library or can be viewed on-line at <http://www.gpoaccess.gov/fr/index.html>.

## DOT Releases Document and Data on Disaster Research and Evacuation Transportation Planning

Intelligent transportation systems (ITS) represent the next step in the evolution of the nation's transportation systems. As information technologies and advances in electronics continue to revolutionize aspects of our modern-day world, they are being applied to transportation networks. These technologies include the latest in computers, electronics, communications, and safety systems.

ITS can be applied to the transportation infrastructure of highways, streets, and bridges, as well as to a growing number of vehicles, including cars, buses, trucks, and trains. These information and communications technologies can also be used to better manage and improve how transportation providers such as governments, transit agencies, and truckers offer services to the public

The surface transportation system in the U.S. plays a crucial role in responding to natural disasters, terrorist acts, and other catastrophic events. To assist ITS providers, the Department of Transportation (DOT) has a program to use advanced technology to improve the efficiency and safety of transportation systems and that addresses both information- and infrastructure-based approaches.

Recently, DOT announced the availability of a new document—the *Disaster Response and Evacuation (DRE) User Service*—that was created to assist DOT in enhancing the ability of transportation systems to respond to and recover from disasters. The document states that DOT should provide enhanced access to the scene for response personnel and resources, provide better information about the transportation system in the vicinity of a disaster, and make evacuations safer and more efficient. The primary purpose of the DRE is to identify the transportation-related needs of stakeholders; it will provide a starting point for transportation personnel and other emergency responders to use technology and data communications to improve disaster planning and response as well as extend to longer-term recovery operations that include infrastructure restoration and the return of evacuees. To view the document, go to <http://www.its.dot.gov>.

An important tool in achieving the goals of the DRE is the National ITS Architecture, an on-line data program that provides a common framework for planning, defining, and integrating intelligent transportation systems. It reflects the contributions of a broad cross-section of the ITS community (transportation practitioners, systems engineers, system developers, technology specialists, consultants, etc.) over a nine-year period. The architecture defines:

- The functions (e.g., gather traffic information or request a route) that are required for ITS,
- The physical entities or subsystems where these functions reside (e.g., the roadside or the vehicle), and
- The information flows and data flows that connect these functions and physical subsystems together into an integrated system.

A new software version of the ITS Architecture is now available on-line to assist in transportation planning and response. For information, go to <http://itsarch.iteris.com/itsarch/>. For more details on this program, contact the *Intelligent Transportation Systems Program, Joint Program Office, U.S. Department of Transportation, Washington, DC 20590; (866) 367-7487*.

## FERC Issues Final Rule on Rebuilding Interstate Pipelines Following Catastrophic Events

The Federal Energy Regulatory Commission (FERC) recently amended its regulations to rebuild pipelines that are damaged by natural disasters, deliberate acts, or other events. Specifically, interstate gas pipeline companies will be able to replace mainline facilities using a route other than the existing right-of-way (such as when a landslide buries a pipeline) without prior public notice and without project cost constraints. Companies will only be allowed to do so when a sudden, unanticipated loss of natural gas occurs that may affect protection of life or health and impact the maintenance of physical property.

The FERC final rule was prompted in part by FERC and energy industry concerns regarding the potential impacts of deliberate damage to facilities. The new rule provides greater flexibility to respond to such events, including a reduction in the amount of time required for public notice of work to convene. The agency defines emergency replacements as “any restoration of pre-existing pipeline capacity, including the reconstruction of mainline facilities either inside or outside the existing right-of-way and the modification of facilities to rearrange gas flows or increase compression for the primary purpose of restoring pre-existing service and/or capacity to protect life, prevent impairment of health, or damage to property due to the sudden unanticipated damage to mainline facilities.”

The final rule appeared in the May 28, 2003, *Federal Register* (Vol. 69, No. 102; pp. 31596-31505). To obtain more information about this regulation, contact *Robert Christin, Office of the General Counsel, Federal Energy Regulatory Commission, 888 First Street, N.E., Washington, DC 20426; (202) 502-6022*. Details can also be obtained from *FERC Online Support; (866) 208-3676; e-mail: FERCOOnlineSupport@ferc.gov; http://www.ferc.gov*.



## FEMA Announces that It Will Remain FEMA

With all the changes that have occurred with the extensive reorganization of the federal government to create the Department of Homeland Security (DHS), there was much confusion about whether or not the Federal Emergency Management Agency (FEMA) would remain as an identifiable entity. On August 4, 2003, DHS Under Secretary for Emergency Preparedness and Response Michael Brown announced that the agency will retain its name.

Brown stated that “retaining the FEMA name will assure the public that we remain ready to assist them before, during, and after any disaster they might face—natural or manmade. Its use, in conjunction with the DHS seal, allows FEMA’s past successes and future contributions to come together in a visible, tangible way.”

For more information about the reorganization or other efforts, contact *FEMA, 500 C Street, N.W., Washington, DC 20472; (202) 566-1600; e-mail: opa@fema.gov; http://www.fema.gov.*

## DHS Takes First Step to Select Homeland Security Centers of Excellence

The Department of Homeland Security (DHS) recently solicited academic white papers that focus on specific areas related to social science issues. This is the first step in the review process for colleges and universities that would like to be selected as a Homeland Security Center of Excellence (HS-Center). DHS anticipates selecting at least one HS-Center by the end of November 2003 and up to nine other HS-Centers by the end of 2004.

The university-based Homeland Security Centers of Excellence initiative was developed in response to language contained in the Homeland Security Act requesting the establishment of a coordinated, university-based system to enhance the nation’s homeland security (see the *Observer*, Vol. XXVII, No. 3, p. 5). The HS-Centers will provide a dedicated capability that will enhance the United States’ ability to anticipate, prevent, respond to, and recover from terrorist attacks.

The President’s budget called for \$10 million in funding for the university programs for fiscal year 2004. Universities will be expected to coordinate their efforts with relevant federal agencies and private institutions to minimize duplication of research and development, enhance communications between programs, and leverage financial support.

Earlier this year, DHS requested that the Association of American Universities and National Association of State Universities and Land Grant Colleges help identify existing homeland security research efforts on university campuses. In that effort, a joint survey was conducted that resulted in a significant number of responses from the country’s top research universities indicating that the competition to be selected as a HS-Center may be intense.

For more information, contact the *U.S. Department of Homeland Security, Washington, D.C. 20528; http://www.*

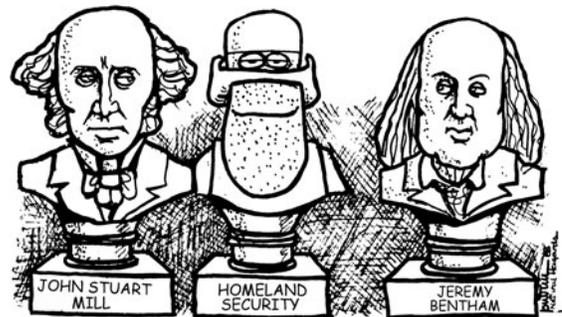
*dhs.gov* or the *Oak Ridge Associated Universities web site: http://www.orau.gov/dhsuce.*

## DHS Announces Recipients of the Homeland Security Scholars and Fellows Program

The U.S. Department of Homeland Security (DHS) recently announced approximately 100 recipients of competitive awards under the new Homeland Security Scholars and Fellows Program. Beginning in the fall of 2003, DHS will award the recipients with stipends and tuition for either two-year undergraduate scholarships or three-year graduate student fellowships. In addition, recipients will be offered eight-to-10 week internships.

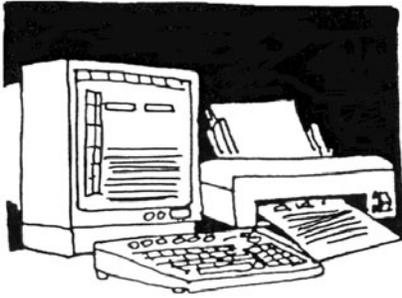
Through this education program, DHS will support the growth and mentoring of the next generation of scientists and policy makers as they study ways to prevent terrorist attacks within the U.S., reduce America’s vulnerability to terrorism, and minimize the damage and recovery efforts from attacks that occur. The Homeland Security Scholars and Fellows Program is open to all students interested in pursuing scientific and technological innovations that can be applied to the DHS mission.

Funding for this program will be up to \$2 million dollars for FY 2003. In addition, DHS has proposed doubling its funding for FY 2004, with a commitment to increasing the number of scholarship and fellowship awards for next year. The Homeland Security Scholars and Fellows Program will be expanded to provide internships and specialized fellowships for students and faculty to further their knowledge of homeland security through short- and long-term exchanges at laboratories, facilities, and organizations throughout the homeland security complex.



In coordination with the Oak Ridge Institute for Science and Education, the DHS Scholars and Fellows Program will ensure the future supply of individuals skilled in critical areas such as the life and social sciences. After graduation, students are encouraged to consider employment offers from DHS, state and local operational offices, DHS-affiliated laboratories and facilities, and/or DHS-related university positions.

For more information about the Homeland Security Scholars and Fellows Program, *e-mail: dhsed@orau.gov* or visit *http://www.orau.gov/dhsed/.*



# INTERNET PAGES

Below are new or updated Internet resources that Natural Hazards Center staff have found informative and useful. For a more complete list of some of the better sites dealing with hazards and disasters, see <http://www.colorado.edu/hazards/sites/sites.html>.

## All Hazards

<http://www.indianenvironmentonline.net>

This web site is maintained by the Society for Environmental and Sustainable Development in New Delhi, and is updated daily. It unites hundreds of organizations throughout India and provides extensive environmental information and news. The site is currently seeking to update its information as well as improve its user-friendliness, and all comments and suggestions are therefore welcome.

<http://www.ngdc.noaa.gov/customdatacd/>

The National Oceanic and Atmospheric Administration's National Geophysical Data Center (NGDC) announces a new service that allows on-line users to make custom selections from four of its most popular data sets and then have the data saved by the NGDC to a customized CD-ROM which is then slated for immediate shipment. This new feature is an easy and affordable way to retrieve customized specific data. The following data sets are currently available: global land one-kilometer base elevation, GEODAS marine geophysical data, nighttime lights of the world, and ecosystems and global change.

<http://www.csc.noaa.gov/text/grant.html>

This web site provides coastal managers with information on grant opportunities, including those of interest to hazards and emergency managers, offered by the National Oceanic and Atmospheric Administration (NOAA) Coastal Services Center and other relevant organizations. The site also provides links to grant-writing resources, including articles, tutorials, and tips to help navigate through the grant-writing process.

[http://www.proventionconsortium.org/projects/appliedres\\_press.htm](http://www.proventionconsortium.org/projects/appliedres_press.htm)

Sixty-five young professionals from 27 countries were selected to receive grants from the Provention Consortium, based on their potential for making a significant contribution to the field of disaster management. This site profiles the grant recipient proposals as well as providing an overview of the program. Grantee proposals cover unique topics, including the spread of forest fires due to honey-hunters in South Africa, coastal erosion vulnerability mapping in the Philippines, training youths in emergency preparedness and first aid techniques in Bulgaria, and a study of the awareness of earthquake risk among the population of Mendoza, Argentina.

<http://www.nfpa.org/riskwatch/RWND/index.htm>

The National Fire Protection Association (NFPA) announces a new community safety and preparedness web site, titled "Risk Watch: Natural Disasters." The web-based program is designed to teach effective emergency response to natural disasters such as hurricanes, wildfires, and tornados, as well as reinforce the importance of preparedness for natural and other disasters such as hazardous materials spills and acts of terrorism. Please see page 6 of this *Observer* for more details about the program, and its companion "Risk Watch: Unintentional Injuries."

<http://www.trauma-pages.com/>

This web site focuses primarily on emotional trauma and traumatic stress, including post-traumatic stress disorder (PTSD), whether following individual traumatic experiences or a large-scale disaster, with the goal of providing information for clinicians and researchers in the traumatic-stress field. The site includes extensive information that is tailored to disaster response, including a variety of handouts for adults, children, and families who undergo disaster-related traumatic experiences. There are also a number of general disaster resource links.

<http://www.scu.edu.au/schools/hum/emonline/index.html>

New South Wales' Southern Cross University offers an on-line post-graduate program that combines community development and emergency management. The program is aimed toward those involved in emergency management or humanitarian fields with an interest in developing their community development knowledge and practice base. The focus of the program is to reduce the effects of disasters or emergencies by working with communities.

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

**Crisis Manager**, a free, printed newsletter, announces a complementary web site and listserv on the topic of crisis management. To subscribe, go to the URL above and then click on "register" in the upper right corner. Registration for the on-line listserv is free.

<http://www.safety.vic.gov.au>

The SAFETYvictoria web site is an information portal in Australia that draws together information from a wide range of government departments and other organizations to provide quick access to safety and emergency information. The site has been designed to provide information for individuals and families, and is organized around topics and life events with a primary focus on safety tips in a variety of situations and preparing for and responding to emergencies. Resources are also organized by the following categories: emergency contacts, first aid, poisons information, and seasonal weather alerts.

<http://www.envectra.com/env/erg/erg.htm>

This on-line tool was recently created to provide easy and web-based access to the entire 2000 Emergency Response Guidebook. It includes a web-guide of hazardous materials identification, safety plans, and other valuable resources on a variety of topics including general safety information, protective clothing, hazardous materials classification information, planning for safe shipment of materials, and more.

<http://www.all-hands.net/pn/>

The "All Hands Community," a virtual, growing, and user-supported community of emergency and continuity professionals, has launched an electronic newsletter that will contain links to web resources, relevant articles, and news. To sign up to receive the newsletter, register as a member of the community. Registration is free.

## Climate Change

<http://nauticalcharts.noaa.gov/csdl/op/nowcoast.htm>

The National Oceanic and Atmospheric Administration's (NOAA) National Ocean Service has recently launched a web portal that should be of interest to **Observer** subscribers. The portal provides information for coastal areas in an easy to use "one stop" web-based database called "nowCOAST." The site allows users to obtain real-time coastal observations and NOAA forecasts for major U.S. estuaries and seaports, the Great Lakes, and the coastal ocean.

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

CLIVAR is an international research program that explores many issues involved with climate variability and anthropogenic climate change. A member of the World Climate Research Program (WCRP), this organization provides insight into global climate systems. CLIVAR's goals are to describe and understand climate variability and predictability on seasonal to centennial time-scales; identify the physical processes responsible, including anthropogenic effects; and develop modeling and predictive capabilities where practicable. The site includes a broad array of useful global links, articles, and research resources.

## Floods and Drought

<http://www.angelfire.com/nh/cpkumar/hydrology.html>

This web site, created by a student at India's National Institute of Hydrology, contains a comprehensive list of hydrology-related web resources. Links to web sites around the world highlight risk, environment, policy, geographic information systems, publishers, and much more.

<http://www.earthsat.com/wx/flooding/index.html>

The Earth Satellite Corporation web site includes a complete section on "Flood Weather Services" that contains a suite of on-line flood forecast maps including tools for flood forecasting, floodplain management strategies, watershed modeling, satellite imaging, remote sensing, and geographic information systems applications for flood impact assessment and mitigation.

## Volcanoes

<http://mail.bris.ac.uk/~glcjh/ivhhn/>

The International Volcanic Health Hazard Network (IVHHN) began in February 2003 to determine the health effects of volcanic emissions. IVHHN members work in diverse disciplines such as volcanology, epidemiology, toxicology, public health, and chemistry. The network goals are to promote the expansion of the field of volcanic health hazard research, continue to develop collaborations between organizational and individual members, produce and disseminate protocols and health hazard information, and encourage the collection of a variety of scientific data to evaluate volcanic health hazards.

## Fire

<http://southwestcoloradofires.org/>

The purpose of this web site is to inform citizens, government agencies, and any interested people about current efforts to prevent unwanted damage from wildfire on private and public lands. The web site is also an information clearinghouse that profiles ongoing efforts to rehabilitate the land in the aftermath of the Missionary Ridge and Valley fires in southwest Colorado.

<http://rockymountainwildlandfire.info>

The web site of the Rocky Mountain Region Interagency Wildland Fire Communications Group provides wildfire prevention and mitigation information for homeowners, wildland fire professionals, the media, and educators.

<http://www.firstresponder.org>

Established in January 2003, the First Responder Institute is a nonprofit organization whose mission is to provide assistance to emergency personnel to help them make their communities safer. They are currently accepting grant applications from fire departments for the purchase of life-saving equipment.

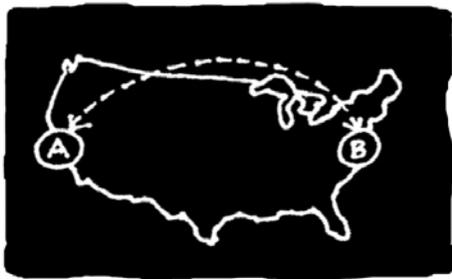
## Apply Now for Quick Response Research Grants

If you are a researcher interested in studying a disaster within hours or days of the event, here is an opportunity for you. The Natural Hazards Center is now soliciting proposals for its FY 2004 Quick Response (QR) Research Program, which provides small travel grants to enable social scientists from the U.S. to conduct short-term studies immediately after a disaster in order to collect data that would otherwise be lost.

Applicants with approved proposals are eligible to receive funding to carry out their investigation, should an appropriate disaster occur in the coming 12 months. Grants average between \$1,000 and \$3,000 and essentially cover food, lodging, and travel expenses. In return, grantees must submit a report of their findings, which is published by the Natural Hazards Center both on the World Wide Web and in hard copy.

Details about proposal submission can be obtained from the Center's web site: <http://www.colorado.edu/hazards/qr2004.html>, or by requesting a "2004 QR Program Announcement" from *Diane Smith, Natural Hazards Center, 482 UCB, University of Colorado, Boulder, CO 80309-0482; (303) 492-6818; fax: (303) 492-2151; e-mail: diane.smith@colorado.edu*. The deadline for proposal submission is October 15, 2003.





# CONFERENCES AND TRAINING

Below are the most recent conference announcements received by the Natural Hazards Center. A more comprehensive and regularly updated list of hazard/disaster meetings is posted on our web site: <http://www.colorado.edu/hazards/conf.html>.

*Critical Incident Stress Management. Sponsor: International Critical Incident Stress Foundation (ICISF). Cedar Rapids, Iowa: September 18-21, 2003; Anaheim, California: September 25-28, 2003; and Overland Park, Kansas: October 23-26, 2003.* Sessions will cover linking emergency management with stress management, basic crisis intervention, responding to school crises, pastoral crisis intervention, domestic terrorism, and weapons of mass destruction. Information is available from ICISF, 3290 Pine Orchard Lane, Suite 106, Ellicott City, MD 21042; (410) 750-9600; <http://www.icisf.org/training/>.

*Toward Earthquake Loss Reduction: Developing Effective Communication, Realistic Strategies, and Successful Mitigation Actions for Your Community. Sponsor: Western States Seismic Policy Council (WSSPC). Portland, Oregon: September 20-24, 2003.* This conference will focus on the efforts of those who have effectively reduced earthquake risk through the successful use of laws, local ordinances, construction projects, homes, and schools. Understanding how these successes were accomplished will help attendees better affect risk reduction in their areas of responsibility. Information is available from WSSPC, AC2003, 125 California Avenue, Suite D201, #1, Palo Alto, CA 94306; e-mail: [wsspc@wsspc.org](mailto:wsspc@wsspc.org); <http://www.wsspc.org/events/ac2003>.

*2003 Virginia Hazardous Materials Conference. Sponsors: Virginia Association of Hazardous Materials Response Specialists and the Virginia Department of Emergency Management. Virginia Beach, Virginia: September 25-27, 2003.* This conference embodies a proactive approach to emergency planning, preparedness, teamwork, and training activities regarding hazardous substances. Sessions will focus on integrating emergency preparedness activities into local communities, inter-agency communication frameworks, interoperability, and community outreach and education strategies. Complete information is available from *Conventions Plus*, 6107 Windsor Boulevard, Zuni, VA 23898; (757) 242-3674; e-mail: [conventionsplus@charter.net](mailto:conventionsplus@charter.net).

*Tsunamis in the South Pacific: Research Toward Preparedness and Mitigation. Sponsors: Natural Hazards Centre of the Institute of Geological and Nuclear Sciences, the International Tsunami Commission, and the International Coordination Group for the Tsunami Warning System in the Pacific. Wellington, New Zealand: September 25-27, 2003.* This multi-disciplinary workshop will discuss a wide spectrum of tsunami research related to understanding tsunami hazards and developing warning and mitigation measures. It is aimed at a wide community of researchers, emergency managers, decision makers, and other practitioners dealing with the assessment and mitigation of tsunami hazards around the world. Complete information may be obtained from *Tsunamis in the South Pacific*, C/-Absolutely Organised, P.O. Box 41-016, Eastbourne, Wellington, New Zealand; e-mail: [organiser@conferences.co.nz](mailto:organiser@conferences.co.nz); <http://www.naturalhazards.net.nz/tsunami/>.

*Sand Key EMS Summit 2003. Sponsors: Florida Emergency Medicine Foundation and Sunstar Emergency Medical Services. Clearwater Beach, Florida: October 2-4, 2003.* General sessions will focus on prehospital care, public safety network linking, lessons learned from program successes, professionalization of emergency medical services, data management, and more. Summit details may be found by contacting the *Florida Emergency Medicine Foundation*, 3717 South Conway Road, Orlando, FL 32812; (407) 281-7396; <http://www.femf.org>.

*Louisville Metro Community Based Emergency Response Program. Sponsors: Louisville Metro Health Department, Louisville Metro Crisis Group, and the Centers for Disease Control and Prevention (CDC). Louisville, Kentucky: October 14-17, 2003.* This program, offered monthly, provides an opportunity for participants to gain insight into how community emergency responders and personnel coordinate, interact, and work with public health professionals to plan, prepare for, and respond to emergencies and disasters within their community and state. Participants learn the roles,

responsibilities, and missions of public health departments in all-hazards emergency preparedness and response. For more information, including the program schedule for future months, contact *Linda Hawkins, Centers for Disease Control and Prevention, Public Health Emergency Preparedness Branch, 4770 Buford Highway, Mailstop F-38, Atlanta, GA 30341; (502) 574-3646; <http://www.health.co.jefferson.ky.us/2lhrt.htm>*.

*Second International Conference on Early Warning (EWC-II). Sponsors: International Strategy for Disaster Reduction (ISDR) and the German Federal Foreign Office. Bonn, Germany: October 16-18, 2003.* The 2002 World Summit on Sustainable Development called for a greater commitment to include disaster and risk reduction, along with strengthening early warning systems and networks, within the framework of sustainable development policies and action plans. This conference will address these issues through an interdisciplinary discussion that focuses on the following three themes: emerging issues, early warning and sustainable development, and sustaining the early warning dialog. Conference details are available from the *United Nations Inter-Agency Secretariat of ISDR, Palais de Nations, CH-1211, Geneva 10, Switzerland; tel: 41 22 917 27 62; e-mail: [isdr@un.org](mailto:isdr@un.org); <http://www.unisdr.org>*.

*Conference on Flood Warning Systems, Technologies, and Preparedness. Sponsor: Southwest Association of ALERT Systems. Dallas, Texas: October 21-24, 2003.* This conference is devoted to the issue of flood warning systems and focuses on helping to prepare communities for flood events. Topics include systems operations and maintenance, storm forecasting tools, flood warning system design, maintaining preparedness, research and development, and more. Details are available from the *National Hydrological Warning Council, c/o Dan Miller, City of Overland Park, 8500 Santa Fe Drive, Overland Park, KS 66213; (913) 895-6032; e-mail: [dmiller@opkansas.org](mailto:dmiller@opkansas.org)*.

*ATC-29-2 Seminar on Seismic Design, Performance, and Retrofit. Sponsors: Applied Technology Council (ATC) and the Multidisciplinary Center for Earthquake Engineering Research (MCEER). Los Angeles, California: October 23-24, 2003.* This seminar will present current research, practice, and informed thinking pertinent to seismic design, retrofit, and performance of nonstructural components in buildings. Complete information is available from *ATC, 201 Redwood Shores Parkway, Suite 240, Redwood City, CA 94065; (703) 351-5052; <http://www.atccouncil.org>*.

*Emergency Preparedness: Improving the Odds. Sponsor: Pacific Northwest Preparedness Society. Vancouver, British Columbia: October 27-29, 2003.* Conference goals are to raise the global level of emergency preparedness through promoting awareness, providing information and solutions to problems, sharing experiences, showcasing technologies, and creating networking opportunities. For more information, contact the *Center for Policy Research on Science and Technology, Simon Fraser University, Burnaby, BC, Canada, V5A 1S6; (604) 665-6097; e-mail: [info@epconference.ca](mailto:info@epconference.ca); <http://www.epconference.ca/>*.

*Critical Infrastructure and Continuity of Services in an Increasingly Interdependent World. Sponsor: Geneva Center for Security Policy (GCSP). Geneva, Switzerland: October 28-29, 2003.* Concerned about threats to essential services, governments and multilateral organizations are proposing new standards, laws, and regulations intended to improve infrastructure survivability. The protection of critical services should be coordinated across national boundaries and should take into consideration the potential impacts on private industry and the competitive economy. This forum will focus on the coordination of planning and security measures between or among governments, and between governments and private businesses. Registration information and forum details are available from *Nelson Matute, GCSP, 7bis, avenue de la Paix, CH-1211 Geneva 1, Switzerland; tel: +41 22 906 16 40; e-mail: [n.matute@gcsp.ch](mailto:n.matute@gcsp.ch); <http://www.gcsp.ch/e/news/CIPHomePage.htm>*.

*World Conference on Disaster Management, Infrastructure, and Control Systems (DMIC). Sponsors: Jawaharlal Nehru Technological University and the Society for Communal Harmony, National Integration, and Social Justice. Hyderabad, India: October 29-31, 2003.* This conference will focus on the mitigation of disasters through control systems and infrastructure development. It is aimed at a wide, interdisciplinary audience with the goal of providing a common platform to discuss and plan disaster preventive measures, compare strategies and experiences from around the world, and broadly disseminate information. Conference themes include disasters that are geologic, medical, terrorist, and water and climate related. Information may be obtained from *Professor Anjaneyulu, DMIC 2003, Center for Environment Institute of Post Graduate Studies, Jawaharlal Nehru Technological University, Mahaveer Marg, Hyderabad 500 028, Andhra Pradesh, India; tel: +91-040-55589706; e-mail: [dmic2003@schanisj.com](mailto:dmic2003@schanisj.com) or [jntuenviron@satyam.net.in](mailto:jntuenviron@satyam.net.in); <http://www.schanisj.com/>*.

*Campus Fire Forum 5. Sponsors: Campus Firewatch, University of Colorado at Boulder, and Boulder Fire-Rescue. Boulder, Colorado: November 3-6, 2003.* This fire safety forum will focus on developing effective university-municipality working relationships, working with the media, anticipating riots, evaluating the effectiveness of fire safety programs, preparing for the unthinkable, and more. Complete details are available from *Campus Firewatch, P.O. Box 1046, Belchertown, MA 01007; (413) 323-6002; e-mail: [forum5@campus-firewatch.com](mailto:forum5@campus-firewatch.com); <http://www.campus-firewatch.com/forum/>*.

*Thirtieth Disaster Management Course (DMC-30). Sponsor: Asian Disaster Preparedness Center (ADPC). Bangkok, Thailand: November 3-21, 2003.* This course aims to provide comprehensive disaster management knowledge and skills to managers who have key disaster management responsibilities. It is designed to enable professionals working in disaster management, development, and donor agencies to effectively integrate disaster management into their development programs and policies. Participants will be encouraged to develop skills and adopt proactive attitudes through participation in interactive lectures and reflection on a range of issues raised during discussions and practical activities. For more

information, contact ADPC, Training and Education Division, Asian Institute of Technology P.O. Box 4 Klong Luang, Pathumthani 12120, Thailand; tel: (66 2) 516-5900-10 ext. 333; e-mail: gauravray@adpc.net; <http://www.adpc.net/Training/DMC%2030%20BROCHURE.doc>.

*Building Alliances Through Resonant Leadership.* Sponsor: Women Chief Fire Officers Association. Sunrise, Florida: November 6-9, 2003. This conference will focus on leadership skills and other issues with the goal of providing a proactive network that supports, mentors, and educates current and future women fire chief officers. For more information, contact Terri Wallace; e-mail: [terri.wallace@ci.greensboro.nc.us](mailto:terri.wallace@ci.greensboro.nc.us); <http://www.womenfireofficers.org/events.htm>.

*2003 IBHS Annual Congress—“Taking the Lead in Property Loss Reduction.”* Sponsor: Institute for Business and Home Safety (IBHS). Orlando, Florida: November 12-13, 2003. This congress on natural hazard loss reduction brings together professionals in the insurance industry, emergency management, government agencies, and academic institutions, for the purpose of discussing the latest developments in natural hazard mitigation. For conference details, contact IBHS, 4775 East Fowler Avenue, Tampa, FL 33617; (813) 286-3400; <http://www.ibhs.org/congress/>.

*Second Conference on Disaster Management—Case Histories of Disasters.* Sponsor: Birla Institute of Technology and Science (BITS). Pilani, India: November 14-16, 2003. The focus of the conference will be on earthquakes, floods, cyclones, and drought. Conference organizers have solicited a wide variety of case histories of disaster management from around the world. Case studies and histories will be presented with the goal of learning from others' experiences and building a multi-disciplinary common network of best practices and policies. To obtain more information, contact Satyendra P. Gupta, Civil Engineering Group, BITS, Vidhya Vihar Campus, Pilani, Rajasthan, India; e-mail: [spgupta@bits-pilani.ac.in](mailto:spgupta@bits-pilani.ac.in) or [spguptaus@yahoo.com](mailto:spguptaus@yahoo.com); <http://www.bits-pilani.ac.in/>.

*HazMat Explo 7.* Sponsor: Clark County, Nevada. Las Vegas, Nevada: November 17-21, 2003. This conference approaches the broad scope of issues involved with hazardous materials from a variety of perspectives, such as first responders, emergency and industrial planners, medical practitioners, and many others. The Explo will also focus on networking, education, and sharing state-of-the-art hazardous materials equipment. Details are available from Brent R. DeCracker, Destination Media and Marketing, 10056 Gold Thorn Street, Las Vegas, NV 89123; (702) 768-0887; e-mail: [brent@hazmatexplo.org](mailto:brent@hazmatexplo.org); <http://www.hazmatexplo.org/>.

*East Asia-Pacific Conference on Structural Engineering and Construction (EASEC-9).* Sponsor: Department of Civil Engineering, Bandung. Bali, Indonesia: December 16-18, 2003. The conference theme is “embracing the challenges of the 21st century,” with a focus on the use of information technology, training and education, distance partnerships, digital communication, and more. Conference details are available from Muhamad Abduh, Department of Civil

Engineering, Institut Teknologi Bandung, Jl. Ganesa 10, Bandung 40132, West Java-Indonesia; tel: (62)-(22)-251 0715; e-mail: [easec9@si.itb.ac.id](mailto:easec9@si.itb.ac.id); <http://www.si.itb.ac.id/easec9/home.php>.

*World Congress on Natural Disaster Mitigation.* Sponsor: India Institution of Engineers, World Federation of Engineering Organizations (WFEO). New Delhi, India: February 19-21, 2004. Plenary sessions for this multidisciplinary congress include the global and regional dimensions of natural disasters; their implications for national development, capacity building, public education, and awareness of natural disasters; the role of government; mapping; vulnerability; and much more. For more information or to register, contact the Organizing Secretary General, Bhawan Bahadurshah Zafar Marg, New Delhi-110002, India; tel: 91-11-2270168; e-mail: [tmcwec@del3.net.in](mailto:tmcwec@del3.net.in); <http://www.wfeo-cee.org/ndm.htm>.

*GDIN2004.* Sponsor: Global Disaster Information Network (GDIN). Washington, DC: March 26-29, 2004. GDIN is an organization dedicated to improving the flow of information before and during natural disasters. Conference themes include: emergency telecommunications, disaster manager needs, the United Nations International Strategy on Disaster Reduction (ISDR), information management (including homeland security), urban search and rescue, and many more. Information is available from GDIN, 26128 Talamore Drive, South Riding, VA 20152; (202) 647-5070; e-mail: [gdin2003@hotmail.com](mailto:gdin2003@hotmail.com); <http://www.gdin.org>.

## Dubai International Award

The Dubai International Award for Best Practices aims to recognize and enhance awareness of outstanding and sustainable achievements in improving the living environment according to the basic criteria established by the second United Nations Conference on Human Settlements (Habitat II) and the Dubai Declaration. Best practices are defined as successful initiatives that have a demonstrable and tangible impact on improving people's quality of life; are the result of effective partnerships between the public, private, and civic sectors of society; and are socially, culturally, economically, and environmentally sustainable. Best practice categories certainly include improved disaster preparedness, mitigation, and reconstruction, among other disaster-related programs and practices.

The original call for Best Practices was launched in 1995, and four successive award cycles have occurred through 2002. As a result, over 1600 good and best practices from 140 countries have been identified. The complete on-line list of best practices is available at <http://www.bestpractices.org>. For each cycle of the award process, an independent committee of technical experts identifies good and best practices and creates a short list from which the award winners are selected. Winning initiatives receive \$30,000, a certificate, and travel funds for staff to attend the award ceremony in Dubai.

The complete English guide to project criteria and submission is found at [http://www.blpnet.org/awards/2004/guide\\_en.pdf](http://www.blpnet.org/awards/2004/guide_en.pdf), and an overview of the entire award process (along with general information) is available from the Dubai Municipality, P.O. Box 67, Dubai, U.A.E.; tel: (971 4) 2215555; e-mail: [info@dm.gov.ae](mailto:info@dm.gov.ae); <http://dubai-award.dm.gov.ae/>. The deadline for submission of potential best practices is March 31, 2004, and the award will be showcased in Dubai on World Habitat Day in October 2004.



# CONTRACTS AND GRANTS

Below are descriptions of recently awarded contracts and grants for the study of hazards and disasters. An inventory of contracts and grants awarded from 1995 to the present (primarily those funded by the National Science Foundation) is available from the Natural Hazards Center's web site: <http://www.colorado.edu/hazards/grants.html>.

**Designing Educational Opportunities for the Hazard Manager of the 21st Century.** Funding: National Science Foundation, \$59,988, 12 months. Principal Investigators: *Deborah S. Thomas and Dennis S. Mileti, Department of Geography, 172 UCD, University of Colorado-Denver, Denver, CO 80217-3364; (303) 556-6370; e-mail: deborah.thomas@cudenver.edu.*

Recognizing that traditional approaches to emergency and hazard management do not minimize disaster loss, the process of redefining the role and skills of this profession began in the late 1980s and early 1990s. The terrorist events of September 11, 2001, and the response efforts since have further emphasized the need to rethink the types of skills that hazards managers of the 21st century should possess. The Natural Hazards Center at the University of Colorado-Boulder and the University of Colorado-Denver, in partnership with the Federal Emergency Management Agency's Higher Education Project, will conduct a workshop to formulate a consensus on the skills needed to identify educational requirements, and to create a sample curriculum. Representatives from a wide variety of academic disciplines, government agencies involved with hazard management, and the private sector will attend. The results will provide guidance for creation of educational programs across the U.S. in support of disaster education.

**Development of Remote Sensing Assisted Natural and Technological Hazards Decision Support Systems.** Funding: National Aeronautic and Space Administration, \$2.09 million, 48 months. Principal Investigators: *J.R. Jensen, D.J. Cowen, S.L. Cutter, M.E. Hodgson, Y. Cheng, B. Davis, J. Gladden, and T.E. Slonecker.* For information about this project, contact *Susan L. Cutter, Hazards Research Laboratory, Department of Geography, University of South Carolina, Columbia, SC 29208; (803) 777-5236; fax: (803) 777-4972; e-mail: scutter@sc.edu.*

This research will improve the quality and usefulness of remote sensing-derived and other geospatial information in several aspects of the emergency response cycle. Three projects will involve the development of new spatial decision

support systems related to natural and technological hazards. The fourth project will conduct education and technology transfer of products derived during the other projects.

**Prevalence and Preparedness for Conjoint Natural and Technological Disasters.** Funding: National Science Foundation, \$210,008, 36 months. Principal Investigator: *Laura J. Steinberg, Department of Civil and Environmental Engineering, 206 Blessey Hall, Tulane University, New Orleans, LA, 70118; (504) 862-3254; e-mail: lauras@tulane.edu.*

There is growing evidence that technological disasters can be triggered by natural disasters and that these conjoint events ("na-techs") can pose tremendous risks to unprepared regions. This project will document and analyze the record of conjoint disasters in the U.S. over the last 22 years. It will evaluate the types of natural hazards that triggered the events, the failure modes of the hazardous materials vessels/equipment, the industries that have been vulnerable to these releases, and the on- and off-site consequences of the releases. From these data, researchers will construct conditional probabilities of a technological disaster occurring if a natural hazard occurs. From a selected subset of U.S. counties, they will use these probabilities to build a map showing na-tech probabilities in those counties. In addition, case studies of na-techs in the U.S. will be included to examine vulnerability, mitigation measures needed to prevent or minimize impacts, and appropriate response measures.

**Disaster Prevention and Mitigation: Protecting the Nation's Critical Infrastructure from Natural, Technological, and Deliberate Disaster.** Funding: National Science Foundation, \$79,404, 12 months. Principal Investigator: *Charles B. Perrow, Department of Sociology, 140 Pros, Yale University, New Haven, CT 06520; (203) 432-3231; e-mail: charles.perrow@yale.edu.*

In the U.S., the concentration of cities and people in areas vulnerable to hurricanes and floods and near production and storage sites of toxic and explosive substances puts

many at risk due to natural, industrial, and deliberate disasters. In addition, our response and recovery systems are poorly funded at the first responder level. This research explores the possibilities of deconcentrating targets and decentralizing response efforts. Perrow will examine four examples of highly decentralized systems that are efficient, flexible, adaptive, and reliable—the national power grids, the Internet, networks of small firms in several nations, and terrorist networks. Based on these cases, recommendations will be made for reducing the vulnerability of systems with catastrophic potential and for improving homeland security and disaster response agencies.

**U.S.-Czech Research on Environmental Policy Learning and Capacity Development.** Funding: National Science Foundation, \$64,773, 24 months. Principal Investigators: *JoAnn Carmin, Stacy VanDeveer, and Douglas J. Crawford-Brown, Urban Affairs and Planning, 105 Architecture Annex, Virginia Polytechnic Institute and State University, Blacksburg, VA 24061; (540) 231-5426; e-mail: jcarmin@vt.edu.*

The goal of this project is to educate junior researchers and strengthen the theoretical foundation for assessments of environmental policy learning and capacity development in situations related to natural disasters such as floods. The Czech Republic faces the challenge of creating resilient policies and practices that comply with European Union directives. A team of U.S. and Czech social scientists and graduate students will examine disaster processes that are based on enhancement of regulatory mechanisms, technical capabilities, and resource availability, as well as a mix of public, private, and other institutions that contributed to governmental capacity to implement and sustain environmental policy.

**Decision Technologies for Managing Critical Infrastructure Interdependencies.** Funding: National Science Foundation, \$399,742, 36 months. Principal Investigators: *William A. Wallace and John E. Mitchell, 5117 Low Center for Industrial Innovation, Rensselaer Polytechnic Institute, Troy, NY 12180; (518) 276-6854; e-mail: wallaw@rpi.edu.*

Critical infrastructure systems provide services that are essential to the economy and well-being of nations and their citizens. It is vital that services not be degraded, whether by willful acts such as terrorism or by natural or random events such as earthquakes, design flaws, or human error. The objective of this research is to improve understanding of and support for the management of interdependent critical infrastructure systems. Infrastructure interdependence occurs when, due to either geographical proximity or shared operations, an impact on one system impacts one or more other systems, such as the recent power outage in August. This project will develop techniques that can be used either to mitigate or respond to events that have the capability of impacting interdependent critical infrastructure systems and provide decision makers with the means of manipulating these models for purposes of mitigation or response. Managers of critical infrastructure systems and emergency response officials will be able to model different scenarios and assess their impact on the services provided by infrastructure.

**Toward Improved Understanding of Warnings for Short-Fuse Weather Events.** Funding: National Science Foundation, \$422,951, 36 months. Principal Investigators: *Eve Grunfest and Charles Benight, Department of Geography, University of Colorado, P.O. Box 7150, Colorado Springs, Colorado Springs, CO 80933-7150; (719) 262-4058; e-mail: ecg@uccs.edu.*

The meteorological and hydrological sciences have shown dramatic improvements in offering increased lead-times, better long-term models, and integrated real-time monitoring for short fuse weather events. At the same time, the social science research necessary to translate the new knowledge into improved responses to short-fuse weather events is missing.

This project challenges the current state of public perceptions of warnings for flash floods and tornadoes. A team of geographers and psychologists will work closely with forecasters and emergency managers in two case study cities—Austin, Texas, and Denver, Colorado—cities with high growth rates, great diversity, and significant disaster potential. The researchers have several objectives, including development of an enhanced understanding of warnings and an evaluation of the use and potential of new technologies for warning perceptions and responses.

**Preliminary Damage Assessment of Bingol Earthquake.** Funding: National Science Foundation, \$28,202, six months. Principal Investigators: *Julio A. Ramirez and Mete A. Sozen, Purdue University, 610 Purdue Mall, West Lafayette, IN 47907; (765) 494-2716; ramirez@ecn.purdue.edu.*

A magnitude 6.4 earthquake occurred near Ankara, Turkey, on May 1, 2003. This funding will support research to document damage to reinforced concrete frame buildings and monuments, the damage to bridge structures, and the geotechnical and geological aspects of the event.

## Earthquakes from a Public Health Perspective

The Center for Public Health and Disasters, at the University of California at Los Angeles (UCLA) Department of Health Sciences, announces a new ecological study that proposes to determine the group-level predictors of injury from earthquakes. This global study, which will examine worldwide earthquakes from the past decade, will be a first step in helping to determine what associations exist between variables such as morbidity, population density, and earthquake magnitude. It is hoped that looking at these group characteristics will reveal grounded strategies for determining causal relationships among the variables listed above.

For more information about this project, contact *Marizen Ramirez or Kimberly Shoaf, UCLA Center for Public Health and Disasters, 1145 Gayley Avenue, Suite 304, Los Angeles, CA 90024; (310) 794-0864; e-mail: cphdr@ucla.edu; http://www.ph.ucla.edu/cphd/.*



# RECENT PUBLICATIONS

Below are summaries of some of the recent, most useful publications on hazards and disasters received by the Natural Hazards Center. Due to space limitations, we have not provided descriptions of all the publications. However, all items contain information on how to obtain a copy. A complete bibliography of publications received from 1995 to the present can be found on our web site: <http://www.colorado.edu/hazards/bib/bib.html>.

## All Hazards

**2003 World Disaster Report: Focus on Ethics in Aid.** 2003. 240 pp. \$25.00. Copies are available from Kumarian Press, Inc., 1294 Blue Hills Avenue, Bloomfield, CT 06002; (860) 243-2098; fax: (860) 243-2867, e-mail: [kpbooks@aol.com](mailto:kpbooks@aol.com); <http://www.kpbooks.com>.

The **2003 World Disasters Report**, prepared by the International Federation of Red Cross and Red Crescent Societies, examines the ethical dilemmas raised by complex emergencies such as post-conflict situations, natural disasters, and forgotten crises. It analyzes how the political agendas of donors—especially post-September 11, 2001—affect the aid industry, humanitarian principles, and vulnerable people. The report also explores why it took so long for donors to respond to the southern Africa famine, probes the dilemmas facing recovery efforts in Afghanistan, examines why internationally displaced persons are on the international agenda, and discusses why the issues regarding economic (and environmental) migrants remain poorly understood.

**Introduction to Emergency Management.** George D. Haddow and Jane A. Bullock. 2003. 272 pp. \$49.95. To purchase a copy, contact Butterworth-Heinemann/Elsevier Science, Order Fulfillment, 11830 Westline Industrial Drive, St. Louis, MO 63146; (800) 545-2522; fax: (800) 568-5136; e-mail: [custserv.bh@elsevier.com](mailto:custserv.bh@elsevier.com); <http://www.bhusa.com>.

**Introduction to Emergency Management** is a practical reference for professionals and students who need to understand the process of disaster response planning and mitigation. The book describes the world's leading emergency management agency, the Federal Emergency Management Agency (FEMA), covering its history, organization, programs, and operations as well as the Federal Response Plan (FRP). The authors examine the roles, responsibilities, and interrelationship among FEMA, state and local emergency management systems, and other critical partners. They also explain the government emergency resources available before, during, and after crises. The text includes a chapter on terrorism and the events of September 11, 2001, and reviews their impacts on disaster management and emergency planning in the future. The volume includes information on the Department of Homeland Security and several detailed appendices that

provide a list of organizations involved in disaster management, a directory of disaster management and terrorism web sites, a glossary of disaster management terms and acronyms, and a compendium of domestic and international disaster statistics.

**State Liability Laws for Charitable Organizations and Volunteers.** 2001. 117 pp. Free. Copies can be downloaded from the Nonprofit Risk Management Center web site: <http://www.nonprofitrisk.org>. For more information, contact the Nonprofit Risk Management Center, 1001 Connecticut Avenue, N. W., Suite 410, Washington, DC 20036; (202) 785-3891; fax: (202) 785-3891.

**Disaster and Emergency Preparedness in Foodservice Operations.** Ruby P. Puckett and L. Charnette Norton. 2003. 100 pp. Nonmember price \$33.00; member price \$25.00. Available from the American Diabetic Association, 120 South Riverside Plaza, Chicago, IL 60606-6995; (312) 899-0040; [http://www.eatright.org/Public/ProductCatalog/SearchableProducts/104\\_8862.cfm](http://www.eatright.org/Public/ProductCatalog/SearchableProducts/104_8862.cfm).

This volume explores the role of foodservice professionals in both the creation and execution of emergency preparedness plans. It includes a step-by-step overview of food-related emergency procedures that focuses on employee, institution, and food safety practices and plans, including spoilage, contamination, and food transportation issues. Planning suggestions are broken down by type and extent of hazard or disaster.

**Trouble in Paradise: Globalization and Environmental Crises in Latin America.** J. Timmons Robers and Nikki Demetria Thanos. 2003. 285 pp. \$18.95. Available from Routledge Taylor and Francis Group, 29 West 35th Street, New York, NY 10001; (212) 216-7800; <http://www.routledge-ny.com/books.cfm?isbn=0415929806>.

Environmental degradation in Latin America is increasingly on the international agenda. This book addresses many of the generalizations and misunderstandings about globalization throughout Latin America through an in-depth discussion of how the legacy of colonialism, unsustainable exploitation of resources over time, and racism have formed the background for many of Latin America's current environmental, social, and political crises.

**Understanding Wireless Communications in Public Safety.** Kathy J. Imel and James W. Hart. 2003. 174 pp. Free. Available from Justice Technology Information Network (JUSTNET), 2277 Research Boulevard, M/S 8J, Rockville, MD 20850; (800) 248-2742; <http://www.justnet.org/pdf/wireless2003.pdf>.

This guidebook to technology, communication issues, planning, and management was conceived to help public safety personnel understand and use new wireless technology. Its goal is to demystify the complexities of planning for new systems, raising funds to purchase equipment, and sifting through purchasing options in the realm of wireless communications, with a special focus on commercially available systems. Chapters cover federal and local regulations, wireless communication technologies, radio frequencies, and other useful topics.

**Characteristics of Effective Emergency Management Organizational Structures.** Public Entity Risk Institute (PERI). 2003. 143 pp. Free. Available from PERI, 11350 Random Hills Road, #210, Fairfax, VA 22030; (703) 352-1846; <http://www.riskinstitute.org/ptrdocs/CharacteristicsofEffectiveEmergency.pdf>.

This on-line publication was written as a self-assessment tool for local government officials. A number of interviews undertaken in the late 1970s revealed common organizational characteristics of successful emergency management programs and this updated guide revisits the data and provides 20 characteristics of "good" government and strong emergency management organizations. Checklists help define effective planning, response, alerts, operations, and recovery activities, with the goal of helping to foster an ongoing, all-hazards approach toward integrating mitigation and preparedness more directly into local government structures and practice.

**Principles of Emergency Planning and Management.** David Alexander. 2002. 340 pp. \$30.00. Available from Oxford University Press, 198 Madison Avenue, New York, NY 10016; (212) 726-6000; <http://www.oup-usa.org>.

This book provides a general introduction to the methods, procedures, protocols, and strategies of emergency planning, with emphasis on situations in industrialized countries. Local levels of organization (i.e. cities, municipalities, metropolitan areas, and small regions) are examined, with ample reference to national and international levels. Rather than concentrating on the practices of any one country or state, the author focuses on the general principles of emergency management and planning, with the intent of creating a reference source and manual from which emergency managers can extract ideas, suggestions, and methods to help them design and implement emergency plans. The book adopts a comprehensive all-hazards approach, and 12 examples of emergency planning and management problems are analyzed in detail.

**The Vulnerability of Cities: Natural Disasters and Social Science.** Mark Pelling. 2003. 212 pp. \$27.95. Available from Stylus Publishing, LLC, P.O. Box 605, Herndon, VA 20172-0605; (703) 661-1581; <http://www.styluspub.com/frm-feature6.cfm>.

When disasters strike in cities, their effects can be more catastrophic and longer-lasting than many other environments. What are the factors that contribute to that determination? This book looks at cities and environmental risk; presents case studies on cities and disasters in Guyana, the Dominican Republic, and Barbados; and closes with a section on creating safer cities. Risk is explored as a function of vulnerability, disaster, economic and social vulnerability, income generation, and governance.

**Facing up to the Storm—How Local Communities Can Cope with Disaster: Lessons from Orissa and Gujarat.** Tom Palakudiyil and Mary Todd. 2003. 122 pp. Free. Available from Christian Aid, P.O. Box 100, London, SE1 7RT, U.K.; tel: 44 (0)20 7620 444; <http://www.christianaid.org.uk/indepth/0307stor/facinguptothestorm.pdf>.

Disasters wipe out years of development work and consume much-needed resources. Taking steps to reduce the risk of disasters and lessen their impacts must therefore become a vital part of development work. This book examines the role that even the poorest people play in surviving and recovering from natural disasters. Focusing on a bottom-

up participatory and community-based process, it uses case studies throughout India to explore the idea that resiliency, preparedness, and response effectiveness are strengthened by local participation. Top-down and bottom-up emergency responses are compared. Using the framework of the United Nations' call for the incorporation of disaster issues into sustainable development, the authors explore ways in which governments, national agencies, and multilateral funding organizations can take these lessons to heart. Appendices profile the disaster cycle, models of vulnerability analysis, and the roles and responsibilities of disaster management in India.

## Century Foundation Posts Papers on Homeland Security

In order to better understand whether the nation's capacity to protect itself has improved since September 11, 2001, the Century Foundation commissioned reports focusing on the ways four different states—Pennsylvania, Texas, Washington, and Wisconsin—have responded to these new threats. The foundation asked the authors to look for concrete ways in which agencies have changed their programs and procedures. In particular, they asked whether agencies are communicating with one another differently, whether they are increasing their workforces, and whether they have created new contingency plans for responding to terrorist attacks.

The five papers that resulted from this effort are now available from the Century Foundation web site. They include:

- **The States and Homeland Security: Building the Missing Link**, by Donald F. Kettl;
- **Assessment of Homeland Security Initiatives: Commonwealth of Pennsylvania**, by Louise K. Comfort;
- **Texas Homeland Defense Preparedness**, by Robie Robinson, David A. McEntire, and Richard T. Weber;
- **Homeland Security in the State of Washington: A Baseline Report on the Activities of State and Local Governments**, by Steven D. Stehr; and
- **Strengthening Federal-State Relationships to Prevent and Respond to Terrorism: Wisconsin**, by Dennis L. Dressang.

To view the papers, go to <http://www.tcf.org/Publications/HomelandSecurity/KettlPapers/kettlpapers.htm>. Further information about this project can be obtained from the Century Foundation, 41 East 70th Street, New York, NY 10021; (212) 535-4441; (212) 535-7534; e-mail: [info@tcf.org](mailto:info@tcf.org); <http://www.tcf.org>.

## Climate Change

*Learning to Manage Global Environmental Risks, Volume 1: A Comparative History of Social Responses to Climate Change, Ozone Depletion, and Acid Rain.* 2001. 376 pp. \$30.00.

*Learning to Manage Global Environmental Risks, Volume 2: A Functional Analysis of Social Responses to Climate Change, Ozone Depletion, and Acid Rain.* 2001. 226 pp. \$24.00.

Both volumes are available in bookstores or can be obtained from Massachusetts Institute of Technology (MIT), MIT Press, 5 Cambridge Center, Cambridge, MA 02142-1493; (800) 356-0343; <http://mitpress.mit.edu>.

These publications contain the results of a study by the Social Learning Group at MIT that examined how ideas and actions applied to environmental problems formed the foundation for global environmental management. Volume 1 provides an overview of the project, of global environmental management in general, and of the three central environmental issues studied. It also contains individual country studies. Volume 2 contains management function studies, examining such topics as risk assessment, monitoring, goal and strategy formulation, evaluation of the management of risk, and conclusions.

*"Possible Responses to Global Climate Change: Integrating Mitigation and Adaptation,"* by Thomas J. Wilbanks, Sally M. Kane, Paul N. Leiby, Robert D. Perlack, Chad Settle, Jason F. Shogren, and Joel B. Smith. *Environment: Where Science and Policy Meet*, Vol. 45, No. 5 (June 2002). Annual subscription: \$96.00, institution; \$47.00, individual. To subscribe, contact Heldref Publications, 1319 Eighteenth Street, N.W., Washington, DC 20036; (202) 296-6267; [http://www.heldref.org/html/body\\_env.html](http://www.heldref.org/html/body_env.html).

This article explores how the world will act in the face of global climate change, and whether the impacts will be so substantial that the global community will be forced to collectively take action. The most sensible response to the wide range of possibilities embodied by climate change is a combination of interventions, including damage avoidance, mitigation, and adaptation. The authors believe that mitigation and adaptation must be combined in national and global strategies, risk reduction activities, and policy changes. The two strategies are compared in their timing, their geographical extent, and the foci of their responses.

*Climate Affairs: A Primer.* Michael H. Glantz. 2003. 292 pp. \$40.00. Available from Island Press, 1718 Connecticut Avenue, N.W., Suite 300, Washington, DC 20009-1328; (202) 232-7933; <http://www.islandpress.org/books/detail.html?cart=1059517043181590&SKU=1-55963-919-9>.

Climate and climate change are popular topics. A variety of aspects of climate, such as global warming and extreme events like tornadoes, hurricanes, and typhoons, are increasingly in the public eye. Governments are attempting to cope with climate variability while the number of laws and regulations relating to the atmosphere has been growing. This book looks at climate, policy, and society from three broad perspectives: climate as constraint, climate as resource, and climate as hazard, and discusses climate affairs.

## Floods

*The 1993 Great Midwest Flood: Voices 10 Years Later.* 2003. 100 pp. Free. Copies can be requested from the Federal Emergency Management Agency, Publications Center, P.O. Box 2013, Jessup, MD 20794-2012; (800) 480-2520; fax (301) 362-5335.

The Great Midwest Flood of 1993 was among the most devastating natural disasters in U.S. history. Flooding started in May and lasted until September. More than a thousand levees failed or were overtopped, and nine states were affected. Fifty-four thousand people were left homeless, and 50,000 homes were destroyed or damaged. This volume contains stories contributed by the survivors of the flood, particularly what they have learned about the value of mitigation and the benefits of flood insurance protection.

*Coastal Erosion and Solutions: A Primer.* Timothy W. Kana. 2003. 24 pp. Free. Copies can be requested from Coastal Services and

Engineering, LLC, P.O. Box 8056, Columbia, SC 29202; e-mail: [dsangster@coastalscience.com](mailto:dsangster@coastalscience.com).

This primer profiles beach erosion and restoration projects completed over the past two decades by the author's firm. It discusses the problem of coastal erosion in a "mesoscale" timeframe, which is appropriate for community planning. Sections discuss sea levels and frames of reference, coastal processes, measurement of erosion rates, "signature" of erosion, and coastal erosion defenses. The booklet includes over 30 color illustrations and dozens of references and is designed as a bridge between comprehensive textbooks and articles about erosion.

## Homeland Security

*Progress Report on the Federal Building and Fire Safety Investigation of the World Trade Center Disaster.* NIST Special Publication 1000-3. 2003. 128 pp. Free. For availability of printed copies, contact the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20402-9325; (202) 512-1800, fax: (202) 512-2250. The complete document can be downloaded from the National Institute of Standards and Technology (NIST) web site: [http://www.nist.gov/public\\_affairs/releases/wtc05-07-03.htm](http://www.nist.gov/public_affairs/releases/wtc05-07-03.htm).

This report contains an update on the on-going federal investigation into fire safety at the World Trade Center (WTC). Although there are no major conclusions, the document presents information on the floor system fireproofing; an assessment of the most probable structural collapse sequence; data on occupant behavior, evacuation, and emergency response; and the implementation of the National Construction Safety Team Act. Persons interested in learning more about this effort can contact the WTC Investigation Team, NIST, 100 Bureau Drive, Stop 8610, Gaithersburg, MD 20899-8610; e-mail: [wtc@nist.gov](mailto:wtc@nist.gov); fax: (301) 975-6122.

*Evacuation Planning Matrix.* 2003. 4 pp. Free. This guide can be downloaded from the U.S. Department of Labor, Occupational Safety and Health Administration web site: <http://www.osha.gov/dep/evacmatrix/index.html>. A checklist of resources can be found at [http://www.osha.gov/dep/evacmatrix/evacplan\\_appb.html](http://www.osha.gov/dep/evacmatrix/evacplan_appb.html).

Recent terrorist events in the U.S. underscore the importance of workplace evacuation planning. Consequently, OSHA developed this Evacuation Planning Matrix to provide employers with planning considerations and on-line resources that may help them reduce their vulnerability to a terrorist act.

*Homeland Protection Professional, May/June 2003.* Annual subscription: \$46.95 for 10 issues. To subscribe, contact *Homeland Protection Professional*, 4057 Forest Avenue, Western Springs, IL 60558; (708) 246-2525; <http://www.hppmag.com>.

This publication addresses topics of interest to responders and those who must deal with homeland security issues. Articles in this issue address the National Urban Search and Rescue Response System, the use of quarantines, local family preparedness programs, continuity of government at the local level, and a cooperative effort between civilian emergency responders and a local Marine Corps base.

*Drastically Underfunded, Dangerously Unprepared.* Warren B. Rudman, Richard A. Clarke, and Jamie F. Metz. Council on Foreign Relations Independent Task Force Report. 2003. 66 pp. Free. Copies are available from the Council on Foreign Relations, 58 East 68th Street, New York, NY 10021; (212) 434-9400; <http://www.cfr.org/publication.php?id 6085>.

The U.S. is still dangerously unprepared and underfunded for a catastrophic terrorist attack, according to an independent task force of the Council on Foreign Relations. The authors of this report conclude that the United States must assume that terrorists will strike again, possibly using chemical, biological, radiological, or even nuclear materials. However, on average across the country, fire departments only have enough radios to equip half of the firefighters on a shift and only have breathing apparatuses for a third. Police departments do not have the protective gear to safely secure a site following an attack with weapons of mass destruction. Public health labs in most states still lack basic equipment and expertise to respond to an attack, and most cities

do not have the necessary equipment to determine what kind of hazardous materials emergency responders may be facing. The authors offer recommendations regarding federal funding and programs, the establishment of clearly defined standards and guidelines for emergency preparedness, and a system for allocating scarce resources based on addressing identified threats and vulnerabilities.

*"Terrorism and Disaster: New Threats, New Ideas." Research on Social Problems and Public Policy, Vol. 11 (2003). 160 pp. \$90.00. To purchase a copy, contact Elsevier, Customer Service Department, 11830 Westline Industrial Drive, St. Louis, MO 63146; (800) 545-2522; fax: (800) 535-9935; e-mail: [usbkinfo@elsevier.com](mailto:usbkinfo@elsevier.com); <http://www.socscinet.com/isbn/076231043x/index.html>.*

The terrorist attacks of September 11, 2001, signaled that people are increasingly put at risk of not only natural and technological disasters, but terrorism as well. Since that day, scholars have been asking new questions about catastrophe and made important and interesting innovations in methods, concepts, and theories regarding disaster and terror. This volume brings together a set of papers about the attacks and their implications. *Terrorism and Disaster* draws from several disciplines to address key questions: what lessons does the response to the collapse of the World Trade Center have for disaster planning? What has September 11 meant for civil liberties in the U.S.? How will survivors react over the long run? How do we conceptualize panic and mass response?

*Physician Preparedness for Acts of Water Terrorism. 2003. Free. Copies can be downloaded from the Water Health Connection web site: <http://www.waterhealthconnection.org>. Users must register before accessing the document.*

Until recently in the United States, contamination of water reserves and public drinking water systems with biological, chemical, or radiologic agents generally resulted from natural, industrial, or unintentional human-caused accidents. Unfortunately, recent terrorist activity in the U.S. has forced the medical community, public health agencies, and water utilities to consider the possibility of intentional contamination of U.S. water supplies. This guide was created to help physicians and others understand the threat as well as the role they play in dealing with an attack. Topics include the threat of water terrorism; dispersal and exposure pathways; detection and diagnosis; evaluation and management of disease outbreak; clinical approach and management of biological, chemical, and radiological contamination; risk communication and community readiness; and on-line resources.

*Terrorist Threats to Food: Guidance for Establishing and Strengthening Prevention and Response Systems. World Health Organization (WHO). 2002. 45 pp. \$16.20. Available from WHO Food Safety Department, c/o WHO, CH-1211 Geneva, Switzerland; tel: 41 22 791 4807; e-mail [foodsafety@who.int](mailto:foodsafety@who.int); <http://www.who.int/mediacentre/statements/nfp1/en/>.*

This book examines the possibility and threat of contaminating food or food sources for malicious or terrorist purposes. WHO states that the three major strategies for countering the threat of food sabotage are prevention, preparedness, and response.

*Guidelines for Preparing the University for SARS. 2003. 7 pp. Free. Copies are available from the American College Health Association (ACHA) web site: [http://www.acha.org/healthalert\\_03.cfm](http://www.acha.org/healthalert_03.cfm). For further information, contact the ACHA, P.O. Box 28937, Baltimore, MD 21240-8937; (410) 859-1500; fax: (410) 859-1510; <http://www.acha.org>.*

Most of the U.S. cases of Severe Acute Respiratory Syndrome (SARS) have occurred among travelers returning to the U.S. from other parts of the world. SARS is of concern, therefore, to college and university officials because of the high volume of faculty, students, and visitors traveling to and from affected regions and because of the potential for rapid transmission in the highly congregated campus setting. ACHA drafted these guidelines to help college health officials prepare for SARS-related issues. They cover pre-event planning, planning for hosting arrivals to campus from SARS-affected areas, and planning for university students, faculty, and staff who will be traveling to SARS-affected countries.

*Strategies for Incident Preparedness: A National Model. William Michael Dunaway. 105 pp. 2003. Free. Available from the National Bioterrorism Civilian Medical Response Center (NBCMRC) at Drexel University, c/o Noesis, Inc., 4100 North Fairfax Drive, Suite 800, Arlington, VA 22203; (703) 741-0300; <http://www.cimerc.org/projects/Strategies%20for%20Incident%20Preparedness/SIP.pdf>.*

In 2001, a project to prepare the medical and healthcare community of southeastern Pennsylvania for the possibility of a medical emergency resulting from an act of terrorism concluded that there was minimal awareness and preparedness on the part of the regional medical and healthcare community. In addition, there was no available model for hospitals, clinics, or healthcare organizations to turn to identify response requirements, provide training scenarios, or coordinate partners. The Delaware Valley Disaster Preparedness Task Force, formed as a result of the study, has created this guidebook to aid community hospitals, medical clinics, and other organizations to plan, coordinate, and train for large-scale medical emergencies arising from mass casualty events across the U.S. The guide is comprised of a variety of exercise scenarios, along with information about national-level agencies, suggestions for evaluation strategies, and a section on lessons learned.

*"Anthrax 2001: Observations on the Medical and Public Health Response." Biosecurity and Bioterrorism: Biodefense Strategy, Practice, and Science. Vol. 1, No. 2 (2003). 14 pp. Copies of this article can be downloaded for free from the Ingenta Select web site: <http://pippo.ingentaselect.com/vl=1528914/cl=97/nw=1/rpsv/6187/vln2/s4/p97>.*

## Earthquakes

*The Plan to Coordinate NEHRP Post-Earthquake Investigations. USGS Circular 1242. 27 pp. Free. Copies can be downloaded from the Applied Technology Council web site: <http://www.ATCouncil.org>. Printed copies can be obtained from the U.S. Geological Survey, Information Services, Box 25286, Denver, CO 80225.*

This plan addresses coordination of the National Earthquake Hazard Reduction Program (NEHRP) agencies, which include the Federal Emergency Management Agency (FEMA), the National Institute of Standards and Technology (NIST), the National Science Foundation (NSF), the U. S. Geological Survey (USGS), and others. The plan is a framework for both coordinating and identifying responsibilities for post-earthquake investigations. Coordination is addressed in various timeframes ranging from hours to years after an earthquake. The plan includes measures for gaining rapid and general agreement on high-priority research opportunities and conducting the data gathering and field studies in a coordinated manner. It deals with identification, collection, processing, documentation, archiving, and dissemination of the results of post-earthquake work in a timely manner and easily accessible format.

*Seismic Protection of Laboratory Contents: The UC Science Building Case Study. Mary Comerio. 2003. 159 pp. Free. Available from the Institute of Urban and Regional Development, University of California at Berkeley, 316 Wurster Hall #1870, Berkeley, CA 94720; <http://repositories.cdlib.org/iurd/wps/WP-2003-02/>.*

Despite an extraordinary emphasis on building retrofit, the campus at the University of California at Berkeley remains vulnerable to non-structural failures in concentrated research environments during earthquakes. The focus of this report is on strategies for improving seismic performance for laboratory furnishings and equipment. It describes a case study of a biology laboratory building and its contents that is used as a basis for developing damage mitigation strategies and cost estimates that can be generalized to other buildings and situations. The data developed here were also used by the Pacific Earthquake Engineering Research (PEER) Center for the development of loss estimates and models for performance-based engineering, as well as for a technical manual on retrofitting laboratory contents.



**Texas Earthquakes.** Cliff Frohlich and Scott D. Davis. 293 pp. \$60.00, hardbound; \$24.95, paperback. Copies can be purchased from the University of Texas Press, P.O. Box 7819, Austin, TX 78713-7819; (512) 471-4032; fax: (800) 687-6046.

Nearly every year, earthquakes large enough to be felt by the public occur somewhere in Texas. The authors in this book explain how earthquakes are caused, how they are measured, how they can be predicted, and how citizens and governments should prepare for them. They also discuss earthquakes in Texas, looking at temblor occurrences and assessing the risks by region and comparing the risks in Texas to other parts of the country. The book concludes with a compendium of over 100 recorded earthquakes in Texas from 1811 to 2000; information includes location, time, and effects of the specific event.

**The 1999 Turkey Earthquakes: Bridge Performance and Remedial Actions.** Learning from Earthquakes Series Volume IV. 2003. 82 pp. To obtain information about availability, contact the Earthquake Engineering Research Institute (EERI), 499 14th Street, Suite 320, Oakland, CA 94612-1934; (510) 451-0905; fax: (510) 451-5411; e-mail: eeri@eeri.org; <http://www.eeri.org>.

This publication is part of EERI's "Lessons Learned Over Time" series, created to capture and disseminate lessons that may not become apparent until some years after an earthquake or that bear re-evaluation in light of what we know today. This report examines the earthquake performance of several bridges and other structures and the remedial actions that were performed. It also classifies the damage to bridges and describes their performance levels.

**Submarine Mass Movements and Their Consequences.** Jacques Locat and Jurgen Mienert, editors. 2003. 540 pp. \$132.00. Available from Kluwer Academic Publishers, P.O. Box 989, 3300 AZ Dordrecht, The Netherlands; tel: 31 0 78-6576266; <http://www.wkap.nl/>.

Earthquakes trigger submarine mass movements of various sizes and shapes. These movements shape the sea floor and are of concern for human activities both on- and offshore. With a focus on the scientific and engineering aspects of this type of marine and coastal geohazard, this book provides a technical overview of the topic along with site-specific studies from the world's oceans. Sections include fundamental aspects of submarine mass movements, the Atlantic Ocean, the Pacific Ocean, Inner Seas, and Fjords.

## Volcanoes

**Krakatoa: The Day the World Exploded, August 27, 1883.** Simon Winchester. 2003. 432 pp. \$25.95. Copies can be purchased from any bookseller. For information on how to obtain a copy, go to the HarperCollins Publishers web site: <http://www.harpercollins.com>.

In this volume, the author offers accounts of the events surrounding the eruption of the Krakatoa volcano, which had world-wide repercussions and marked the first time in history that a major catastrophic event on one side of the world could be communicated to the other side within just a few hours, thanks to the recent completion of the global telegraph cable system and the Reuters news agency. The author includes various eyewitness accounts to describe a blast so immense that it literally destroyed the island on which the volcano was located and whose effects were felt thousands of miles away. The impact of the explosion continued for years in unforeseen ways—in impressionist art, in forecasting the weather, and in the fate of the Muslim community in the region.

## Electronic Fare

**Business Survival Kit for Earthquakes and Other Disasters.** 2003. VHS and CD-ROM. \$99.95, plus \$6.95 shipping. Copies can be purchased from the Global Network Productions web site: <http://www.globalnetproductions.com/products.html#BusinessSurvival>.

The *Business Survival Kit* was created by the Cascadia Region Earthquake Workgroup (CREW)—a nonprofit organization working to broaden understanding of disasters and encourage the reduction of risk in the Pacific Northwest—to showcase how real businesses coped with the impacts of disasters, particularly what worked and what did not.

Useful tips on how to survive natural and human-caused disasters are provided by the Boeing Company, the Starbucks Corporation, the University of Washington, and the Snohomish County Department of Emergency Management. It also includes a story of how a local independent flowershop dealt with a destructive fire.

**Staffing Model, Software and Program for Emergency Medicine Distribution Programs.** 2003. On-line interactive program can be downloaded from <http://www.ahrq.gov/research/biomodel.asp>. A version in Excel format can be downloaded from <http://www.ahrq.gov/research/biomodel.htm>. For information about this program, contact Nathaniel Hupert, Department of Public Health, Weill Medical College of Cornell University, 411 East 69th Street, KB-313, New York, NY 10021; (212) 746-3049; fax: (212) 746-8544; e-mail: [BTresponse@med.cornell.edu](mailto:BTresponse@med.cornell.edu).

A new computer model is available to help hospitals and health systems plan antibiotic dispensing and vaccination campaigns to respond to bioterrorism or large-scale natural disease outbreaks. The model was funded by the Agency for Healthcare Research and Quality (AHRQ) and developed by researchers at Weill Medical College of Cornell University after testing a variety of patient triage and drug dispensing plans. This project is part of a larger initiative of the U.S. Department of Health and Human Services to develop public health programs to address bioterrorism concerns.

**Weapons of Mass Destruction Basic Awareness Training.** CD-ROM, two-disk set. 2003. Free. Copies can be requested from the U.S. Department of Homeland Security, Office for Domestic Preparedness, 810 7th Street, N.W., Washington, DC 20531; (800) 368-6498.

This training course was created to provide law enforcement, fire, medical, and other emergency responders with a basic understanding of weapons of mass destruction and the attendant threat of terrorism. It is specifically intended for emergency personnel who work in cities and counties with small and medium-sized populations, many of which have not yet received direct federal training. An interactive web site provides on-line support: <http://www.wmd-training.org>.

## GAO Issues More Reports

Since our last issue, the U.S. General Accounting Office (GAO) has released reports on anthrax, plume modeling, and hospital preparedness for bioterrorism. Titles include:

- **Capitol Hill Anthrax Incident: EPA's Cleanup Was Successful: Opportunities Exist to Enhance Contract Oversight.** GAO-03-686. 41 pp.
- **Gulf War Illnesses: Preliminary Assessment of DOD Plume Modeling for U.S. Troops' Exposure to Chemical Agents.** GAO-03-833-T. 37 pp.
- **Hospital Preparedness: Most Urban Hospitals Have Emergency Plans but Lack Certain Capacities for Bioterrorism Response.** GAO-03-924.

Single copies of printed GAO reports are free. Additional copies are \$2.00 each. To order, contact the U.S. General Accounting Office, 441 G Street, N.W., Room LM, Washington, DC 20548; (202) 512-6000; fax: (202) 512-6061; TDD (202) 512-2537. Copies are also free on-line at <http://www.gao.gov>.

## THE HAZARDS CENTER

The NATURAL HAZARDS RESEARCH AND APPLICATIONS INFORMATION CENTER was founded to strengthen communication among researchers and the individuals and organizations concerned with mitigating natural disasters. The 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 and Home Safety, and the Public Entity Risk Institute. Please send information of potential interest to the center or the readers of this newsletter to the address below. The deadline for the next *Observer* is September 19, 2003.

Center phone number ..... (303) 492-6818  
Fax ..... (303) 492-2151  
E-mail ..... hazctr@colorado.edu  
Publications Administrator ..... (303) 492-6819  
E-mail ..... janet.kroeckel@colorado.edu

## STAFF

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Copies of the *Observer* and the Hazards Center's electronic newsletter, *Disaster Research*, are also available from the Natural Hazards Center's web site:

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

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