

# Toward a National Disaster Recovery Act of 2009



—Invited Comment

**N**OVEMBER 23, 2008 WAS THE TWENTIETH ANNIVERSARY OF the signing into law of the Robert T. Stafford Disaster Relief and Emergency Assistance Act of 1988. The Stafford Act is the nation's fundamental emergency management and disaster assistance law. Its birthday offers an opportunity to examine its successes, and consider improvements.

This article raises questions about the Stafford Act, and argues for amendments to strengthen critical provisions. Nearly 1,000 federal disasters have been declared since 1988. From this experience we must ask what lessons have been learned and what changes are needed, especially from large-scale events like the Northridge Earthquake, Midwest flood, World Trade Center, and Hurricane Katrina disasters.

A national discussion is now needed on amending the Stafford Act to: 1) add clear catastrophic event provisions; 2) require adding pre-event recovery plans to mandated state and local hazard mitigation plans; 3) substitute block grants for the cumbersome reimbursement-based infrastructure restoration funding system; 4) expand mitigation funding; and 5) amplify individual-household and local government post-disaster operations assistance.

### The Stafford Act in a Nutshell

IN MID-SEPTEMBER 1988, HURRICANE GILBERT, the most powerful Category 5 hurricane recorded in the Atlantic basin until then, cut a wide swath of destruction through

(Continued on page six)

## 2008 Tornado Count and Fatalities Well Above Average

**T**HOUGH THE FINAL TALLY IS NOT YET CONFIRMED, 2008 could be a record-setting year for the number of tornado touchdowns in the United States—and a year with tornado fatalities also well above average. Through the end of August, the latest data available, the National Weather Service confirmed 1,489 tornadoes. Preliminary reports suggest at least 200 more twisters have hit the ground from September 1 through the end of the year.

IN COMPARISON, 2007 SAW 1,093 TORNADOES; the average number of U.S. tornadoes in recent years is 1,200. And 2004 set the all-time annual record for tornadoes with 1,817.

But scientists are careful not to read too much into the numbers. Because tornadoes must be reported by humans, great variation has existed throughout the years. Decades ago, weaker isolated events didn't make it into the Weather Service's tornado database simply because no one saw them. An larger population means more tornadoes are seen and reported.

"We're getting more reports because there are more people, but we're not necessarily getting more reports because there are more storms," says Greg Carbin, a warning coordination meteorologist at the National Weather Service's Storm Prediction Center.

A National Climatic Data Center report notes that in addition to the increased reporting, national Doppler radar coverage and population sprawl into rural areas have also

contributed to the rising number of recorded tornadoes.

"Numbers have to be looked at with a critical eye," Carbin says. "The increase is most likely due to human factors rather than meteorological factors."

Regardless, the early start to the 2008 tornado season—more than 300 tornadoes were reported before the end of March—did contribute to the near record-setting year. The unusually turbulent weather during 2008's winter and early spring is also to blame. Carbin says the increased storminess may have been linked to strong La Niña conditions in the tropical Pacific.

Indicative of the early start to the tornado season, a total of 87 tornadoes hit the Tennessee Valley and Midwest over a 24-hour period starting on February 5, causing 57 deaths, Carbin says. Fatalities from this one outbreak made up almost half of the total fatalities seen in 2008—125 through mid-November—and contributed to a record February for tornadoes.

Scientists say certain factors led to this year's high fatality count, including the presence of night-time tornadoes and cool season outbreaks that move faster. The random nature of the events also contributed to more deaths, as numerous storms tore through highly populated towns and mobile home parks in 2008. Quite a few vehicle deaths were reported.

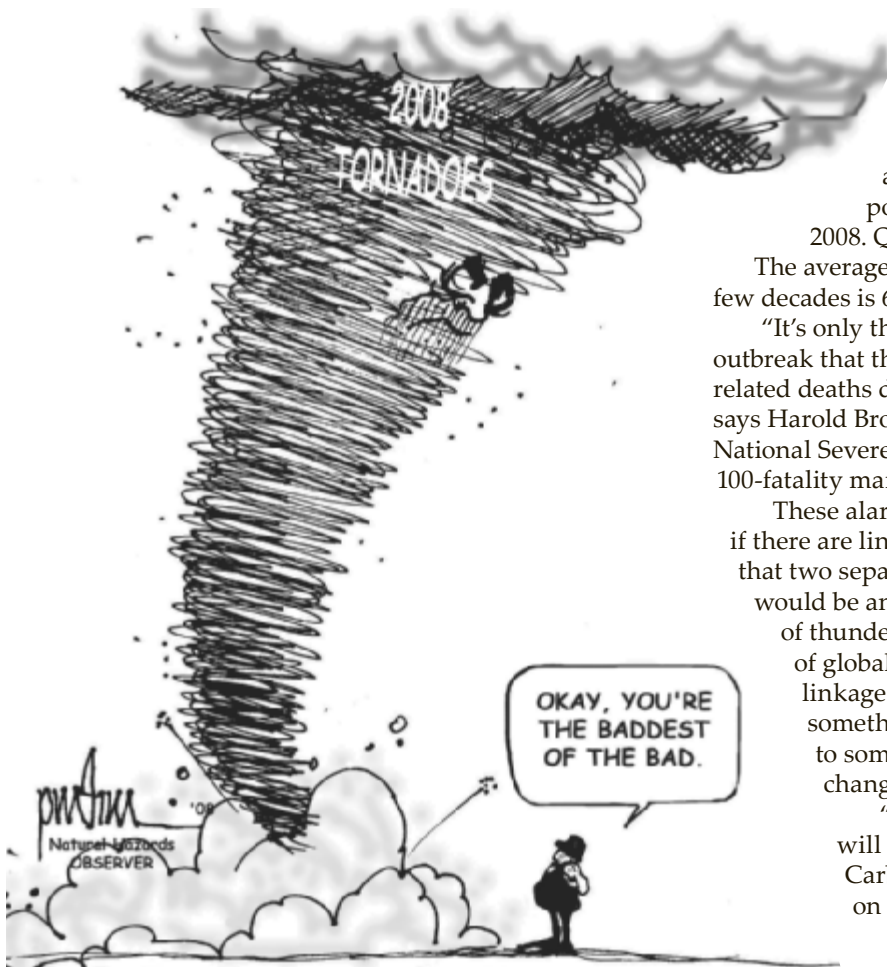
The average number of fatalities annually over the last few decades is 60, about half of what was seen in 2008.

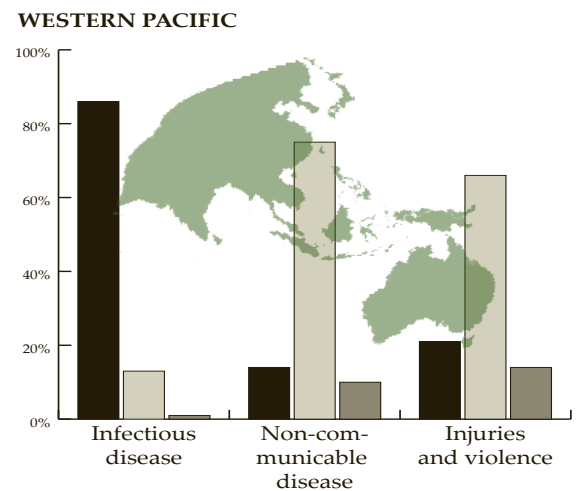
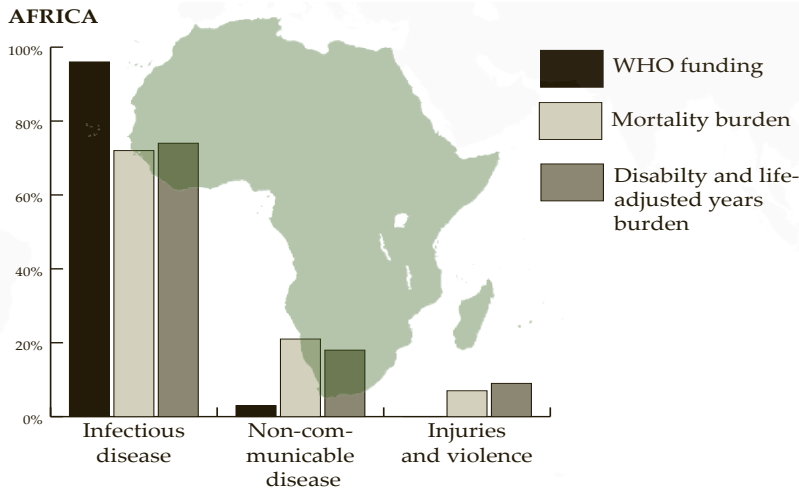
"It's only the third time since the 1974 super tornado outbreak that there have been more than 100 tornado-related deaths during a tornado season in the U.S.," says Harold Brooks, a research meteorologist at NOAA's National Severe Storms Laboratory, in a press release. The 100-fatality mark was surpassed in May, 2008.

These alarming numbers have led many to wonder if there are links to climate change. *USA Today* reported that two separate 2007 studies predicted that there would be an increase in both frequency and intensity of thunderstorms and tornadoes by 2100 because of global warming. Carbin warns, however, that a linkage to climate change is tenuous. Attributing something on such a small scale, like a tornado, to something much larger, like global climate change, is very difficult scientifically, he says.

"We'll probably see more thunderstorms but will we necessarily see more tornado events?" Carbin says. "The research is still not complete on that and there are big questions."

—Corey Reynolds





## WHO Funding Priorities Examined

The World Health Organization's budget is going to the wrong priorities in Africa and the Western Pacific region, according to research published in *The Lancet* in November.

Oxford University sociologist David Stuckler and colleagues found that while 96 percent of WHO's funding in Africa is directed toward infectious diseases, infectious diseases there cause only 72 percent of the deaths and 74 percent of the long-term disability. Non-communicable disease in Africa causes 21 percent of deaths, and 18 percent of disability, but receives only three percent of WHO's funding. Injuries and violence on the continent cause seven percent of the deaths, but get less than one percent of the agency's money.

The figures are even starker in the Western Pacific region, where infectious disease claims 86 percent of the funds, but causes only 14 percent of the deaths. Non-communicable disease cause 75 percent of the deaths there, but gets only 13 percent of the organization's funds.

The research was prepared in anticipation of the global health priorities meeting in Bamako, Mali, in November 2008. The authors conclude, "Decision makers at Bamako should consider the implications of the present misalignment of global health priorities and disease burden for health research worldwide."

Stuckler says, "Our dim view, as expressed in the paper, was that Bamako's outcome would be 'business-as-usual.' While at times the rhetoric may change about priorities, until this translates into an actual change in financial allocations, it is hard to believe. Further, changes in priorities based on what is fashionable in global health rather than what is optimal from a public health standpoint can do more harm than good.

"In the paper, we tried to stress the point that the issue is not so much about achieving specific changes in priority, or as one colleague of mine likes to say, 'shifting deck chairs on a sinking Titanic,' but rather about finding ways to empower recipients of the global health funds to have a voice in determining how the global health priorities are set," he says.

"We need democracy and accountability in global health, as we do in many other social problems. It would be presumptuous to think that I could choose who lives and who dies, and from what they are dying, around the world from a comfy spot in Oxford. Yet that is precisely what the global health financing system is accomplishing."

## Tsunami Timelines

The last time a tsunami the size of the 2004 Indian Ocean wave hit the Asian coast was at least 600 years ago, according to new research. Kent State University's Katrin Monecke and colleagues found that the most recent 35 meter (114 feet) tsunami in the region prior to 2004 occurred sometime between AD 1290 and AD 1400.

Monecke's team studied sand deposition on land near Aceh in northern Sumatra. The largest tsunami prior to 2004 that residents collectively remember was in 1904, devastating the west coast of Simeulue Island. The authors said the "paleotsunami record for northern Sumatra suggests that damage-causing tsunamis in Aceh recur infrequently enough for entire human lifetimes to typically elapse between them."

This poses a dilemma for balancing the risks of a tsunami against the advantages of living along the coast. Recollections of the 1904 Simeulue Island event led the island's residents to flee to higher ground and escape the 2004 event. But because of the infrequency of the events

on the mainland, this information wasn't available. The U.S. Geological Survey says these issues are relevant in the United States, especially on the Pacific Coast: "In North America these findings are most relevant in the Cascadia region, which extends along the 700 miles of Pacific coast from southern British Columbia to northern California.

"Like Thailand and Aceh, this coast has a geologic history of catastrophic tsunamis hundreds of years apart. The 2004 tsunami offers lessons on how to save lives from these Cascadia tsunamis—in particular, knowing a tsunami's natural warning signs and how to reach safety in time."

## A Hazard We Hadn't Worried About Before

About 20,000 people die and 421,000 are poisoned from snakebites each year around the world, especially in South and Southeast Asia and in sub-Saharan Africa.

Anuradhani Kasturiratne of the University of Kelaniya in Sri Lanka and colleagues examined the literature and country mortality data maintained by the United Nations.

Their best estimate from the data is the 20,000 deaths, but they say it could be as high as 94,000 deaths a year and 1.8 million envenomings. India had the highest incidence, with 11,000 deaths and 81,000 poisonings from snakebites.

The study was published in the online open-access journal *PLOS Medicine* ([medicine.plosjournals.org/](http://medicine.plosjournals.org/)).

Jean-Philippe Chippaux, also writing in *PLOS Medicine*, says the only specific treatment for snakebite is antivenom, but it's frequently unavailable. In the 1980s in Africa, he says, 150,000 to 200,000 doses of antivenom were sold annually. Current sales have fallen to 20,000 doses a year. The price of antivenom has risen by a factor of ten over the last 20 years, Chippaux says.

## What We Have Here Is a Failure to Communicate

Twenty-two states were unable to provide a state-level emergency plan when asked for one by a George Mason University researcher.

GMU Communications Professor Carl Botan says that despite federal laws requiring an emergency operations plan (EOP), 22 states couldn't provide one, withheld it on security grounds or made it difficult even for trained researchers to gain access.

Botan says that two-way communication between the public and government is essential, since residents must know what to do in emergency situations. Only 13 states—out of the 51, including the District of Columbia, surveyed—had specific strategies for communicating with vulnerable citizens in their plans. Only two EOPs—New Mexico and D.C.—received perfect scores.

The Web site *Emergency* noted, "Professor Botan hits the nail on the head—emergency planning and communication services frequently do not embrace two-way communications with the public, nor do they ultimately empower the public with the actionable intelligence that allows our citizens to make smart decisions."

## Disasters May Lead to Civil War

Natural disasters occurring in low- and middle-income countries significantly increased the risk of violent civil conflict between 1950 and 2000, according to researchers at the University of Otago in New Zealand.

Political scientists Philip Nel and Marjolein Righarts looked at 187 political units covering most of the years after World War II. They found that a political unit that experiences one natural disaster is "30 percent more likely to experience violent civil conflict compared to a unit that experiences no natural disaster."

In his 2008 book *Apocalypse: Earthquakes, Archaeology and the Wrath of God* (*Observer*, September 2008), Amos Nur argues that several ancient civilizations may have had their demise hastened by natural disasters rather than invaders. He cites likely quakes at Mycenae, Troy, Jericho, Teotihuacán and others as possible triggers for decline.

Nel and Righarts begin their paper with a 465/464 BCE quake that struck Sparta, becoming the proximate cause of the revolt of Sparta's Messenian slaves.

The Otago researchers found a country that experiences rapid-onset disasters is 50 percent more prone to violent conflict, while more slowly developing hazards

present only about an 18 percent risk factor. However, experiencing several climate-related disasters in a year raises the risk of violent conflict substantially.

The work appeared in *International Studies Quarterly*.

## Malaria Rates Decrease in Some African Nations

Malaria incidence and mortality have fallen over the past decade in Kenya and The Gambia. In the past five years in coastal Kenya, deaths from malaria have fallen 75 percent, from 10.8 deaths per 10,000 residents to 1.2 per 10,000. And in The Gambia researchers found that the incidence of malaria at four health facilities fell between 50 percent and 85 percent between 2003 and 2007.

In The Gambia—mainland Africa's smallest nation, located on the continent's west coast—the decline is the result of "huge increases in malaria funding and interventions to pregnant women and young children since 2003," says Dr. David Conway, writing in *The Lancet*.

According to the Wellcome Trust, much progress against the disease results from increased use of insecticide-treated bed nets. In Africa, use of nets has increased from three percent among Africa's children in 2000 to 18.5 percent by 2007. "In 2007, 90 million children have not yet received this simple protective tool, and remain at risk from life-threatening malaria. Most of these children live in only seven African countries; one country in particular stands out—a quarter of all African children living without nets are Nigerian," the trust reports.

For more than 15 years it's been known sleeping under a net treated with an insecticide can reduce the chances of an African child dying from malaria. When people must pay for the bed nets, they are used only four percent of the time. But if they are given away, usage rises to 25 percent.

Writing in *The Lancet* about the experience in Kenya, Wendy O'Meara and colleagues say, "Emphasis on use of insecticide-treated bednets, early treatment, and other control measures must be increased to maintain reductions in disease burden and prevent a potential resurgence of malaria in a population with far less immunity than before."

Dr. Jerry Killeen of the School of Biological and Biomedical Sciences at Britain's Durham University says, "Fully subsidizing enough nets to achieve 50 percent coverage would cost at least \$1 billion, with ongoing recurrent costs of a similar magnitude."

## Wahlström Named to UN Post

Margareta Wahlström has been named to serve as United Nations assistant secretary general for Disaster Risk Reduction, a new appointment meant to increase international disaster action and cooperation. She'll also be the special representative for Secretary General Ban Ki-moon in implementing the Hyogo Framework.

Sweden's Wahlström has 25 years of experience in disaster management preparedness. She has held leadership positions in the U.N. Office for the Coordination of Humanitarian Affairs and the International Federation of the Red Cross and Red Crescent Societies and is a member of the Swedish Commission on Climate Change and Development.

# Misuse of Cash Donations after Disaster Is Overstated

After disaster strikes, there's often an influx of food, blankets, and bottled water for distribution to those in need. This "in-kind" assistance has been the norm for relief organizations responding to disaster. But new research from the 2004 Indian Ocean tsunami suggests that delivering cold hard cash to affected individuals may be an efficient mechanism for stimulating recovery—even in less-developed, conflict-ridden, or collapsed states.

Cash-based responses have been on the rise in recent years, seen especially after the 2004 tsunami, the Kashmir earthquake of 2005, and Hurricanes Katrina and Rita. Though it is often assumed that cash provision is only possible in well-developed areas with strong banking systems and peaceful environments, recent experience has shown that cash or vouchers are a viable alternative to in-kind aid even in developing states.

"Cash grants and other types of cash transfer programs are becoming progressively more frequent in less-developed settings, but are by no means widespread and represent a relatively new form of assistance for many NGOs (nongovernmental organizations) and donors," said Shannon Doocy, an assistant professor at the Johns Hopkins Bloomberg School of Public Health. Doocy and her colleagues studied a cash grant program by Mercy Corps in Aceh, Indonesia, during the year following the tsunami. Their report was published in the June 2008 edition of the American Medical Association's *Disaster Medicine and Public Health Preparedness*.

Concerns that money will end up in the hands of corrupt government officials or that the allocation of cash will be inequitable often discourage NGOs and donors from distributing cash grants post-disaster, especially in less developed nations. But a January 2007 briefing paper from the Overseas Development Institute suggests that there are numerous ways to deliver and distribute cash safely and fairly to those who need it, regardless of where they live. And according to Doocy, overarching findings on cash interventions in emergencies suggest that insecurity and corruption are minimal, and that the strategies implemented to reduce these risks have been successful.

"A growing body of evidence indicates that cash programs are safe, cost-effective, and acceptable to beneficiary populations, suggesting that greater consideration should be given to cash interventions in humanitarian response," Doocy said.

Still, the decision to disperse cash should not be taken lightly by officials and NGOs. Research shows that cash assistance should only be given when the market can function. People must be able to buy what they need in local markets, and prices must be stable. Governments and NGOs providing these grants must have strict needs assessments, effective monitoring, and safe and efficient delivery mechanisms. But these criteria apply to all areas of the world affected by disaster.

"I personally see no reason whereby giving cash out in any other country is different," said Diane Johnson, who was the director of Mercy Corps' tsunami response in Aceh. "It is a potentially patronizing moral judgment made by western entities to feel that cash is not an appropriate response to a large disaster in developing countries."

Mercy Corps is a global non-profit organization that



aims to alleviate suffering and poverty through relief and development programs, Johnson said. The organization dispersed over \$3.3 million to more than 53,000 individuals affected by the tsunami. The grants were intended to be a short-term intervention that provided an opportunity to recompense a proportion of structural and financial asset losses. Doocy's research found that the cash intervention programs were a success; 95 percent of beneficiaries reported that allocation processes were fair and transparent and that grant funds were received.

Once individual cash grants are dispersed, antisocial use of the assistance, such as buying alcohol, cigarettes, or televisions, is an oft-cited concern. After Hurricane Katrina, the Federal Emergency Management Agency (FEMA) gave out \$2,000 debit cards to individual citizens to aid in recovery. The cash program in Aceh was similar, with Mercy Corps distributing group grants that averaged \$6,390, shared by an average of 108 people. Though some misuse of FEMA funds after Hurricane Katrina was cited—a 2006 Government Accountability Office audit found that \$400 massages, a \$450 tattoo, a \$1,100 diamond engagement ring, and \$150 worth of products at Condoms to Go were among the uses of the aid—similar abuse was rarely seen in Aceh.

"We found overwhelmingly in Aceh that people used their cash to replace assets," Johnson said. "And it would never be asked of a FEMA recipient if they used any of their \$2,000 for beer."

—Corey Reynolds

# Stafford Act ...

(Continued from page one)



the Caribbean and Mexico. Though missing the United States, it convincingly underscored the necessity for domestic preparedness for natural disasters. By mid-October, Congress had passed the Stafford Act.

At the time of its passage, the Stafford Act was landmark legislation, offering a comprehensive approach to disaster management, replacing the piecemeal approach of previous laws. Preceded by the Federal Disaster Relief Acts of 1950 and 1974, it for the first time encompassed in a single law all four basic disaster management functions—mitigation, preparedness, response, and recovery.

Like many other federal programs, the Stafford Act combines bottom-up and top-down approaches. Requests for emergency assistance arise from localities to the state, then to the federal government—from lower to upper levels of government. When local aid resources are insufficient, requests for help proceed to the state, which can proclaim an emergency. If state resources are insufficient, it may request assistance from the president, who may then issue a federal disaster declaration enabling deployment of federal resources and financial assistance to disaster-stricken areas.

After a disaster, though, assistance programs flow in the other direction, with detailed federal oversight. Three major Stafford Act programs are jointly administered by the Federal Emergency Management Agency and the states. Most visible is Individual and Household Assistance, the basic disaster relief program for the nation. It provides limited post-disaster grants to homeowners and renters for mortgage and rent payments and for minor repairs. Individual and Household Assistance grants function mainly as a stopgap supplement to insurance. They are not intended to cover major individual and household losses. In 2008, the maximum allowance was \$28,000. This is a serious drawback when insurance is insufficient or when individual and household losses are associated with catastrophic events, like Hurricane Katrina.

The second major program is Public Assistance, a critically important source of federal financing for infrastructure and public facilities restoration. State, local and other government entities and eligible nonprofits receiving Public Assistance grants must submit detailed information about infrastructure restoration project costs

and incur such costs before being reimbursed. The Public Assistance program has been hampered by agonizingly slow administration of the reimbursement system.

For example, there is still a federal office in Pasadena, California, administering Public Assistance payments for restoration of facilities damaged in the 1994 Northridge Earthquake. This contrasts sharply with block grants for facilities restoration under provisions of other laws (*see sidebar, page seven*). Also, state and local governments must pay up to 25 percent of restoration costs, and jurisdictions wishing to fully replace a facility must bear up to 40 percent.

The third major program, under Section 404 of the Stafford Act, is the Hazard Mitigation Grant Program, which provides grants to state and local governments to mitigate hazards threatening future disaster losses. Section 406 additionally authorizes grants for incidental costs for hazard mitigation associated with infrastructure restoration funded by Public Assistance grants. The primary drawback of both section 404 and 406 hazard mitigation grants is that they are only available after disasters, at best enabling avoidance of future losses.

Other Stafford Act preparedness and response measures include Fire Management Assistance grants, unemployment assistance, legal aid, relocation, crisis counseling, and community disaster loans. The law also acts in complex concert with other legislation (*see sidebar, page seven*.)

## Disaster Mitigation Act of 2000

THE DISASTER MITIGATION ACT OF 2000 amended the Stafford Act to require states and localities to prepare multihazard mitigation plans as a precondition for receipt of mitigation grants, hopefully leading to reduced losses through better hazard mitigation projects. DMA 2000 requires risk identification, determination of the potential extent and severity of hazards, and inclusion of mitigation measures in plans tailored to specific local hazards.

Using its financial incentives and a requirement that mitigation plans to be updated every five years, DMA 2000 has triggered an unprecedented local hazard mitigation capacity building initiative. By July 2008, over 17,000 jurisdictions had such plans.

DMA 2000 also introduced the competitive Pre-Disaster Mitigation Program, which provides grants for hazard mitigation plans and projects to minimize losses and recovery costs prior to disasters. This new program offers the “carrot” of financial incentives to encourage local governments to undertake hazard mitigation before disasters happen. With this carrot comes the stick of potentially withholding Public Assistance and Hazard Mitigation Grant funds in communities without FEMA-approved hazard mitigation plans.

Although the Hazard Mitigation Grant Program and Pre-Disaster Mitigation Program represented important steps toward reducing disaster losses, their effectiveness has been minimized by very low funding levels. Funds authorized for the Hazard Mitigation Grant Program range between 7.5 percent and 15 percent of post-disaster Stafford Act authorizations. Eight states with FEMA-approved “enhanced” mitigation plans, reflecting higher levels of proficiency, are entitled to 20 percent. A more effective set of incentives might be to raise the mitigation grant range

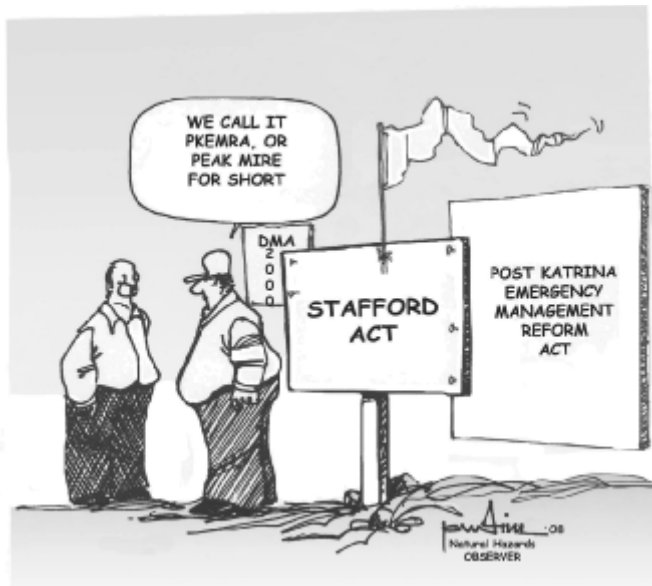
to between 15 to 25 percent, and offer 40 percent for states with enhanced mitigation plans.

Likewise, annual funding of the Pre-Disaster Mitigation Program has been capped at \$100 million. Divided among the 50 states, that's only \$2 million each, perhaps enough to fund a single mitigation project per state. Adding insult to injury, the program has recently become the target of congressional earmarks raids. Even without earmarks, this is clearly insufficient to address hazard mitigation nationally, especially when considering the nation's failing and hazardous bridges, dams, and levees. The American Society of Civil Engineers in 2005 gave an overall GPA of "D" to the nation's infrastructure, estimating that \$1.6 trillion was needed to bring it to a good condition. Recognizing this need, a more realistic level of Pre-Disaster Mitigation Program funding might be in the billions of dollars.

### Post-Katrina Changes

THE SEPTEMBER 11, 2001 WORLD TRADE CENTER disaster in New York City stimulated changes in federal emergency management reorganization to emphasize counterterrorism, including passage of the Homeland Security Act and Patriot Act and formation of the Department of Homeland Security (DHS). FEMA was folded into DHS, losing its cabinet-level status.

Severe response problems following Hurricane Katrina led to vigorous public and congressional criticism, partially addressed by the Post-Katrina Emergency Management Reform Act (PKEMRA) of 2006. This law made a series of "fix-it" adjustments to the Stafford Act, Patriot Act, and Homeland Security Act. PKEMRA amended the Stafford Act to allow the president to move more quickly to deploy



federal resources before a major disaster without a state request, and recognized FEMA as a distinct entity in DHS, with direct access to the president in disasters.

The Post-Katrina law also included references to the National Incident Management System (NIMS) and the National Response Framework (NRF) (*see sidebar, this page*). NRF includes the first federal guidance on long-term recovery. However, NIMS and NRF are administrative systems that do not carry the weight of law. Post-

## Related Assistance Laws and Systems

Recovery assistance measures in the Stafford Act are supplemented by provisions of other federal laws enacted for separate purposes. Disaster assistance provisions are triggered under laws such as:

- Flood Insurance Act, administered by the Federal Emergency Management Agency;
- Housing and Community Development Act, Department of Housing and Urban Development;
- Small Business Administration Act, Small Business Administration;
- Public Works Act, Economic Development Administration;
- Federal-Aid Highways Act, Department of Transportation.

These laws reinforce post-disaster assistance in the Stafford Act. However, ad hoc administration of their complex provisions presents a major coordination challenge for joint federal and state recovery actions.

Supplementing these laws are two administrative directives partially addressing this problem. One is the National Incident Management System (NIMS), a response protocol issued by the Department of Homeland Security in March 2004. It embodies five standard Incident Command System functions—command, operations, planning, logistics, and finance/administration—for use by all levels of government. NIMS has become mandatory guidance for state and local agencies wishing to receive federal reimbursements for certain response costs.

The other directive is the National Response Framework (NRF), released by DHS in 2008. The NRF describes responsibilities of federal agencies responding to federally declared disasters, replacing the National Response Plan issued by DHS in 2004.

Katrina federal recovery operations evidenced minimal coordination between long-term recovery activities and local hazard mitigation planning. This suggests the need for mandatory integration of recovery and mitigation functions.

PKEMRA also required FEMA and several federal departments to jointly prepare a National Disaster Recovery Strategy and Housing Recovery Strategy by mid-2007. A draft of the National Disaster Housing Strategy, which emphasizes plans for meeting the short- and long-term housing needs of those affected by a major disaster, was released for public comment in July 2008. The National Disaster Recovery Strategy, which would outline cost-effective programs meeting state and local recovery needs, define federal responsibilities for providing recovery assistance, and promote use of appropriate materials for disaster-resistant building, has not yet been released.

### Needed Reforms

A RECENT RESEARCH STATEMENT ON THE STATUS OF RECOVERY

knowledge argues the need for development of a theory of disaster recovery and for passage of a disaster recovery act (Smith and Wenger 2007). Congress has moved haltingly to amend the Stafford Act. With the new administration, the time is ripe for a National Disaster Recovery Act of 2009 which should include these reforms:

1. **Catastrophic Provisions.** The Stafford Act should be amended to include clear language distinguishing catastrophic from other events, describing related protocols for federal-state assistance, and anticipating longer recovery time frames. There are few provisions in the Stafford Act distinguishing truly catastrophic events, such as Hurricane Katrina, from other disasters. Katrina showed the need for rethinking federal assistance to states and localities in catastrophic events, which severely strain national, state, and local financial resources and greatly extend recovery time frames.
2. **Pre-Event Planning.** The Stafford Act should require state and local governments to prepare pre-event recovery plans as part of mandated state and local multihazard mitigation plan updates. The case for pre-event recovery planning is effectively argued in *Planning for Post-Disaster Recovery and Reconstruction*, published by FEMA and the American Planning Association (Schwab et al. 1999). The Stafford Act should require pre-event recovery planning like that successfully used in California, where Los Angeles benefited after the Northridge Earthquake from a recovery plan prepared before the event, or Florida, which encourages localities to prepare pre-event recovery plans and integrate mitigation into local land use plans. Specifically, the Stafford Act should be amended to:
  - Require immediate completion of the National Disaster Recovery Strategy;
  - Require all states to form recovery authorities in advance of disasters as a precondition for receiving Hazard Mitigation Grant and Public Assistance Program funds; and,
  - Require inclusion of pre-event recovery plans as part of state and local hazard mitigation plan updates.
3. **Block Grants.** The Stafford Act should be amended to mandate use of block grants for infrastructure and public facility restoration under the Public Assistance Program. Timely physical recovery assistance is important for restoring economic and social life after a disaster. It is crucial to create recovery systems to accelerate prompt restoration of infrastructure. Yet project completion under the Public Assistance Program reflects an unnecessarily prolonged process, often taking more than a decade for individual projects. This is attributable to the reimbursement payment method, which is not part of the Stafford Act itself, but required by implementing rules (*Code of Federal Regulations* Section 44.201). A more expeditious block grant approach should be undertaken, possibly modeled along the lines of the Community Development Block Grant Program administered by the Department of Housing and Urban Development.
4. **Long-Term Mitigation Funding.** The Stafford Act

should provide adequate funding for the Hazard Mitigation Grant Program and Pre-Disaster Mitigation Program. Hurricane Katrina underscored the policy direction reflected in DMA 2000 that mitigation should be undertaken before disasters to minimize losses and recovery costs. Mitigation is an effective investment in disaster loss reduction. FEMA mitigation projects from 1993-2003 reflected a four-to-one benefit-to-cost ratio in disaster loss avoidance (Rose et al). Notwithstanding the recession, higher mitigation funding levels are warranted, both as part of a national infrastructure restoration economic stimulus program, and to supplement successful land acquisition programs under the National Flood Insurance Act. To minimize future disaster losses from other hazards, such flood mitigation buyouts should be supplemented by expanded Stafford Act investments in acquisition of lands subject to wildfires, seismic hazards, and landslides.

5. **Individual-Household and Local Operations Assistance Payments.** The Stafford Act should be amended to allow sufficient Individual and Household Assistance and local government post-disaster operations payments. An important lesson from Hurricane Katrina was the insufficiency of Stafford Act provisions for disaster victim assistance, including financial relief and housing. One unfortunate consequence of the Disaster Mitigation Act of 2000 was the folding together of the prior Mortgage and Rental Assistance Program with Individual and Housing Assistance under an unrealistically low financial cap, punishing persons without insurance or other sources of financial recovery support. Also needing fixing is the level of federal support for local government post-disaster operations. Restarting crucially needed public services in the face of greatly reduced staffing is a daunting post-disaster dilemma for many localities. After severe New Orleans city staff cuts following Hurricane Katrina, for example, only eight positions remained in the planning department to confront a myriad of complex rebuilding challenges. Though the staffing deficiency was partially offset by the infusion of \$5 million of Rockefeller and other foundation grants supporting preparation of a Unified New Orleans Plan, precious time was lost, and the plan was not adopted by the city council until almost two years after the disaster.

## Conclusion

THE OPPORTUNITY EXISTS NOW for expediting Stafford Act reforms to move the nation forward toward a more comprehensive and effective disaster management policy. The Stafford Act should be amended with a new National Disaster Recovery Act of 2009.

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## References

42 U.S.C. § 5121 *et seq.* The Robert P. Stafford Disaster Relief and Emergency Assistance Act (Public Law 93-288).



American Society of Civil Engineers, *Report Card for America's Infrastructure*, [www.asce.org/reportcard/2005/index.cfm](http://www.asce.org/reportcard/2005/index.cfm)

Emergency Operations Organization, City of Los Angeles. *Recovery and Reconstruction Plan*. September, 1994.

Florida Department of Community Affairs (DCA), *Post-Disaster Redevelopment Planning and Hazard Mitigation Planning*, [www.dca.state.fl.us/fdcp/dcp/PDRP/index.cfm](http://www.dca.state.fl.us/fdcp/dcp/PDRP/index.cfm), [www.dca.state.fl.us/fdcp/dcp/hazardmitigation/index.cfm](http://www.dca.state.fl.us/fdcp/dcp/hazardmitigation/index.cfm)

Johnson, Laurie. 2007. New Orleans' Recovery Following Hurricane Katrina: Observations on Local Catastrophe Recovery Management. *Journal of Disaster Research*, 2:6.

Olshansky, Robert B., Laurie Johnson, and Kenneth Topping. 2006. Rebuilding Communities Following Disaster: Lessons from Kobe and Los Angeles. *Built Environment*, 32.

Rose, Adam et al. 2007. Benefit-Cost Analysis of FEMA Hazard Mitigation Grants. *Natural Hazards Review*, ASCE.

Schwab, James, Kenneth C. Topping, Charles C. Eadie, Robert E. Deyle, Richard A. Smith. 1999. *Planning for Post-Disaster Recovery and Reconstruction*. FEMA—American Planning Association. Chicago, Illinois: Planners Advisory Service Report Number 483/484.

Smith, Gavin, and Dennis Wenger. 2007. Sustainable Disaster Recovery: Operationalizing An Existing Agenda. In *Handbook of Disaster Research*, 234-257. Handbooks of Sociology and Social Research. New York, NY: Springer.

Topping, Kenneth C. 2006. Towards Design of a Comprehensive Catastrophic U.S. Disaster Management System. *Proceedings, 2006 Frankel Symposium: Preventing and Responding to Catastrophes*.

UCLA Environmental Law Center. 2006. *The Role of Environmental Law and Policy*.

## Washington Update

### With Transition Comes Change ... Maybe

RUMORS HAVE BEEN CIRCULATING as President-elect Barack Obama and his new administration carefully consider their future approach to national security and disaster preparedness and response. Many suggestions have surfaced, but one of the most prominent is the proposal to restore cabinet-level autonomy to the Federal Emergency Management Agency. Following the attacks of September 11, 2001, FEMA was subsumed under the newly created Department of Homeland Security. These changes were an attempt to facilitate coordination among agencies, fixing challenges reported during the response to 9/11. FEMA's previous role as a cabinet-level agency granted the director access to the president during disasters and

“ In a disaster, FEMA is primarily an agency that coordinates the efforts of the relevant departments and agencies. The only way FEMA can carry out a coordination responsibility of all federal assets is if it is a strong and independent agency with direct access to the president. ”

—U.S. Sen. Dianne Feinstein

catastrophes, a privilege some feel should be returned under the new administration.

U.S. Sen. Dianne Feinstein (D-Calif.) scrutinized the federal response structure under the Bush administration. In a speech on April 18, 2006—the centennial anniversary of the San Francisco earthquake and fire—to 2,000 of the most prominent earthquake professionals in the world, she said, “In a disaster, FEMA is primarily an agency that coordinates the efforts of the relevant departments and agencies. The only way FEMA can carry out a coordination responsibility of all federal assets is if it is a strong and independent agency with direct access to the president and thereby to the military and all assets of the federal government.”

Others, such as policy research analysts at The Heritage Foundation, worry that removing FEMA from DHS supervision may reintroduce the agency's questionable management styles, labeled “stovepipe” structures, which purportedly led to decision



making, hindering integration and communication during disaster response. Michael Chertoff, current homeland security secretary, advised against reorganization, citing better response through multi-agency coordination within the present structure.

In addition to FEMA, six other major U.S. agencies fall under the DHS's purview, including the Transportation Security Administration, U.S. Customs and Border Protection, the U.S. Secret Service, and the U.S. Coast Guard. The department has been criticized recently for its failure to protect and monitor federal computer networks, let alone "encourage research on new technologies that can detect [cyberterrorist] threats in time to prevent an attack" as President George W. Bush proposed in the 2002 signing of the almost 500-page bill, which legally established DHS as an executive department.

### Witt to Return?

IN ADDITION TO RUMORS OF FEMA'S excision from DHS, speculation in late November centered on the possibility that former FEMA director James Lee Witt may return to assist the new administration. Witt built a reputation during the Clinton years when he took over the troubled agency and guided it during what many describe as the "golden years" of the organization. Some question Obama's supposed proposal to return Witt to FEMA in order to temporarily help, not only the transition of the new administration, but what may become a major internal restructuring of FEMA out from under the mega-agency DHS. They argue that other qualified candidates are available for the transition. Although Witt denied rumors in December speculating that he will head the agency, he did admit to advising Obama's transition team on matters "from time to time."

The nominations of several repeat players from past administrations leave allies and enemies alike questioning Obama's campaign slogan for "change we can believe in." Paul Volcker, Chairman of the Federal Reserve under presidents Carter and Reagan, was recently designated chairman of the Economic Recovery Advisory Board. Lawrence Summers, secretary of the treasury in the Clinton administration, is a member of Obama's Transition Economic Advisory Board. Defense Secretary Robert M. Gates is expected to keep his old job under the next administration and Senator Hillary Clinton was officially nominated for Secretary of State on December 1, 2008. Is this a lack of experience by Obama or a savvy move to implement the nation's most experienced cabinet members and advisors?

### Moderate and Diverse

IF "MODERATE" AND "DIVERSE" are descriptors in his message of change, Obama has succeeded in promoting that image through some of his selections, especially that of Arizona Democratic Gov. Janet Napolitano as secretary at DHS. Napolitano is a former federal prosecutor and state attorney general. She also worked on initial homeland security issues within the National Governors' Association and has extensive experience with U.S.-Mexico border security. Although she has been a sharp critic of many initiatives from the federal government in past years, she maintains a reputation as a moderate on immigration policy. The selection may reveal something about the troubled agency's future path and its plans to deal with problems that surfaced under the Bush administration.

—Alexandra Jordan

## Bringing the Transition into Daylight

The Obama transition team has announced that it will provide unlimited Internet access to information and documents submitted by outside groups and individuals on transition recommendations. ([change.gov/newsroom/entry/seat\\_at\\_the\\_table/](http://change.gov/newsroom/entry/seat_at_the_table/)). "One might think that the disclosure of advice and recommendations contributed by outside parties is a small, easy step to take," writes Stephen Aftergood of *Secrecy News*, a publication of the Federation of American Scientists. "But remarkably, such outside advice has often been kept secret. Most famously, Vice President Cheney fought to preserve the secrecy of his 2001 Energy Task Force."

Opinions about the transitional challenges facing the incoming administration and how to address them are rampant. The U.S. Government Accountability Office—a traditional transition resource—has weighed in with a Web site devoted to the switch, including urgent needs, long-term fiscal considerations, upcoming reports, and agency-by-agency issues ([www.gao.gov/transition2009/](http://www.gao.gov/transition2009/)).

# Searching for 100 New Ideas

**T**HE SWISS ALPINE TOWN OF DAVOS has entered the language as a synonym for the highest levels of international dialogue—in economics, in sport, and in assessment of global risks and management of hazards. True to this international standard, in August the Swiss-based foundation Global Risk Forum hosted the International Disaster and Risk Conference 2008, with 1,200 experts attending from more than 100 countries. They met to exchange ideas and promote good practice in global disaster risk management.

The biennial IDRC conferences began in 2006. Their emphasis is on practical implementation to complement the global political motivation associated with the UN International Strategy for Disaster Reduction's (UNISDR) global political motivation and to realize the global objectives of the Hyogo Framework for Action. Regional conferences are held in intervening years. IDRC 2007 was held in Harbin, China in September, 2007. The 2009 conference will be held in Nairobi and focus on Africa.

The Global Risk Forum's vision is "From Thoughts to Action," linking practice, science, policy, and decision making to the application of contemporary risk management strategies to find sustainable solutions. The IDRC Davos 2008 conference sought to address this practical involvement through four daily themes: Climate Change Adaptation and Disaster Risk Reduction; Critical Infrastructure Protection and Resilience; Pandemics and Diseases; and Integral Risk Management. The final day was devoted to an extended presentation about the May 2008 Wenchuan earthquake in Sichuan, China.

Unlike many international meetings, the organizers didn't want the participants to simply issue rhetorical resolutions. The emphasis was on demonstrated practice and evidence of inter-disciplinary relationships to identify, manage, or transfer disaster risks. A key approach was integrating knowledge and research into practice. The plenary sessions, more than a hundred panel presentations, daily poster sessions, and displays of exhibitors provided exposure to projects from around the world.

An anticipated outcome of the conference was to be "100 Ideas for Action" generated by the panels or from the experience of the assembled participants. ([http://www.grforum.org/pages\\_new.php/100-Ideas-for-Action/552/1/388/](http://www.grforum.org/pages_new.php/100-Ideas-for-Action/552/1/388/)) The organizers did seek innovative ideas, but in this ambitious goal the meeting was not entirely successful. As acknowledged at the final session, many of the resulting videoed comments and even more of the solicited "new ideas" were conventional statements of positive intent.

The statements were meaningful within a particular



professional context, but reflected a newcomer's discovery of practices outside their own geographic or professional exposure. They displayed a wide range of interest and experience but at the same time disclosed inadequate access to or application of already existing knowledge and experience from other disciplines. One often heard variations of the comment, "That was an interesting approach but why isn't it being used more?" Or "I didn't know that they were doing that in Vietnam. With some adjustments it could be a useful technique to explore for us in Guatemala."

## Making the Connections

LARGE INTERNATIONAL PROFESSIONAL MEETINGS have obvious attractions: extended professional networking; renewal of shared goals; and exposure to new initiatives for disaster and risk management. But they invite further questions about the value they can deliver. Whether their interests are commercial, developmental, institutional, or governmental, organizations use the opportunity to enhance their visibility and to market their professional interests. As with any marketplace, the motivations for the people who gather are many.

Many participants in IDRC 2008 believed the cost of attending prevented the presence of "many people who should have been there." They noted the absence of several international organizations who ordinarily attend such an international conference. On the other hand, representatives of smaller projects, distant academic programs, or local organizations did attend. This provided

“When asked to identify networks to which they belonged, the 207 respondents identified 288 online networks and communities of practice in addition to the ones UNISDR had already found ... The surveyors expected to find much more interconnectivity.”

”governmental, organizations

broad organizational interests and an eclectic buzz representative of the chaotic diversity of the field.

IDRC 2008 erected a large tent under which experts from virtually every discipline in disaster and risk management could gather. With so many varied interests, along with efforts to incorporate hazard policies with “sustainable development,” it could be difficult to appreciate the densely packed program. Trying to taste every offering—along with the meeting, greeting, listening, noting, and milling—ultimately left me feeling overly full but still uncertain of what one has actually consumed.

In keeping with Davos’ reputation as a major international meeting location, the rich experience forces me to reflect on the growing international importance of the disaster and risk management communities involved. As advocacy for greater risk awareness proceeds, and more young professionals consider careers in aspects of disaster risk management, there is a growing urgency for current practitioners to become more articulate in expressing the opportunities, roles, and relationships involved in the profession.

As the actors multiply, and disaster and risk-related areas diversify, what means can provide effective exchange of experience? Is satisfaction of current needs more dependent on how professionals communicate across their borders, rather than striving for new solutions? In the era of instant information and universal access, what are the most useful connections through which knowledge can travel?

Conferences such as IDRC Davos 2008 underline the need for practitioners to consider wide, interdisciplinary associations and more distributed linkages to determine the future of the profession. However, many organizations have not yet found the institutional means to sustain the networking skills required for future effectiveness.

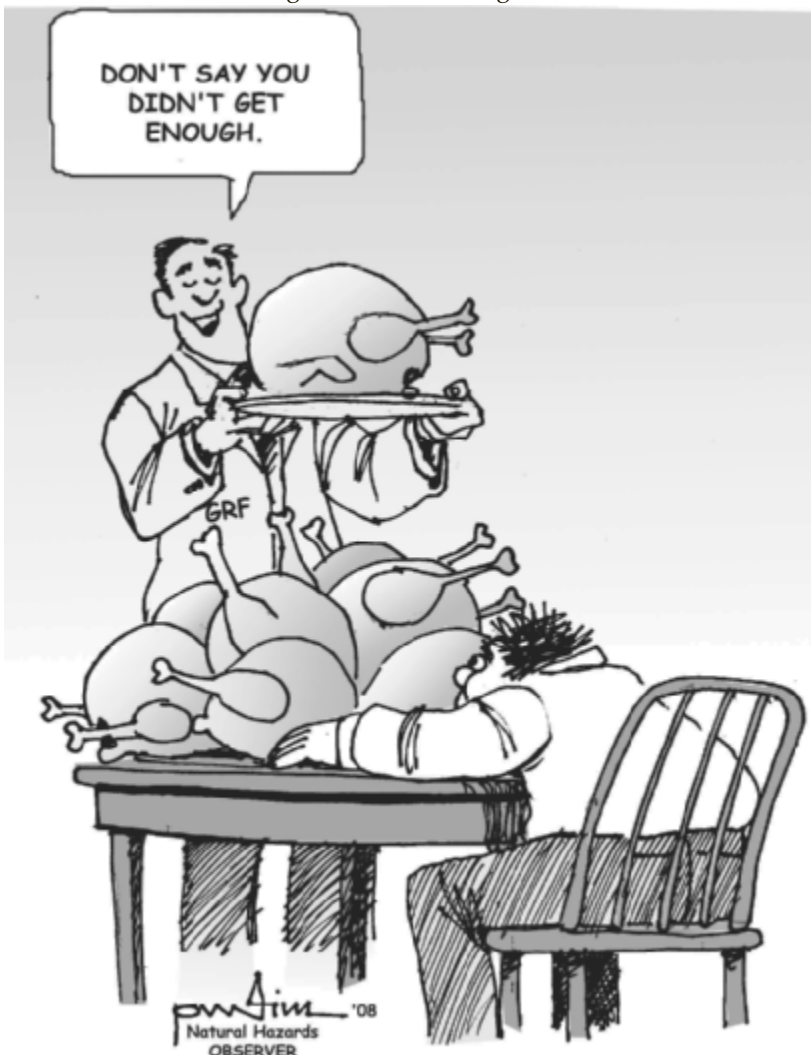
Professional networks and “communities of practice” are routinely considered critical for successful disaster and risk management, as well as to expand professional identities. Yet, in practice, they remain elusive. Following a prior listing of 46 such networks identified by the UNISDR Information and Management Unit, the staff concerned conducted a survey of about 20 percent of the participants at Davos as a representative sample.

When asked to identify networks to which they belonged, the 207 respondents identified 288 online networks and communities of practice in addition to the ones UNISDR had already found. Even more surprising, only a few respondents referred to any of the networks that the other people mentioned. The surveyors expected to find much more interconnectivity among people and the networks they belonged to. Even though most people interviewed in Davos expressed their interest in “joining groups to facilitate their work,” such a spread of professional contacts suggests a very broad, but also possibly isolated or singularly perceived, set of linkages related to disaster risk management responsibilities. Further surveys will follow.

Conferences like IDRC Davos 2008 are important initiatives leading toward what may be termed “strategic distributed professional archiving”—of existing knowledge, past experience and current practice for disaster risk management. Internationally, PreventionWeb at <http://www.preventionweb.net/english/> also is seeking to contribute to the process. So too will more specialized knowledge sets, such as traditional knowledge found within Pacific Island states, as it becomes more widely accessible to others.

These exchanges are partly networking, with its exuberant disregard for imposed order and external coherence. But they also require forms of structured access to and ordered archiving of experience that tap into the many skills and professional responsibilities inherent in public risk awareness and education. Libraries have fulfilled these functions for centuries. They can still contribute to the process, but new institutional mechanisms are required to address the various disaster risks we face today. Our challenge is to make the connections tangible to a rapidly growing number of professionals.

—Terry Jeggle, [tjeggle@yahoo.com](mailto:tjeggle@yahoo.com)  
Senior Advisor to UNISDR  
Geneva, Switzerland



## The un-Merry Winds of Windsor

*On May 22, 2008, a series of storms ripped through Weld County, Colorado, producing tornados with winds up to 150 mph. One large tornado, classified by National Weather Service (NWS) as an EF3—that is, with wind speeds between 136 and 165 miles per hour—traveled approximately 34 miles through Weld County. It affected the towns of Gilcrest, Platteville, Milliken, Johnstown, Windsor, and Greeley, the largest city in Weld County and the county seat. Windsor was severely damaged. Steve Blois is the emergency manager for the City of Greeley. He was directly involved in the official response to the tornado. He spoke with the Natural Hazards Observer about the challenges of the event, community recovery, and the value of volunteer organizations.*

### **Explain the City of Greeley's emergency management program. What is your role?**

I am the emergency management coordinator working within the local fire jurisdiction, the Union Colony Fire Rescue Authority. My primary role is to develop a comprehensive emergency management program for the City of Greeley. I fill a civilian position within the authority and answer to the Division Chief of Training, EMS, and Emergency Preparedness. I am considered fire authority staff and work closely with operations and fire prevention.

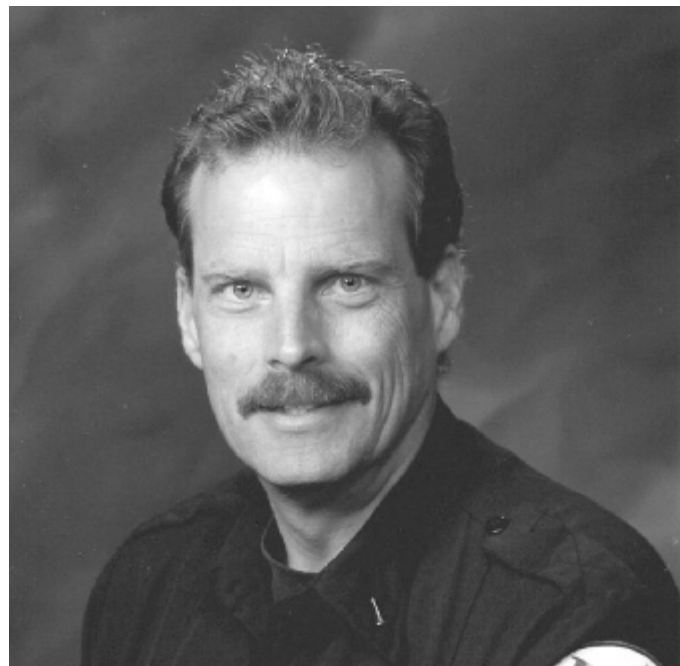
### **What hazards do you prepare for?**

We share similar hazards with other Colorado Front Range communities but our communities' top five hazards are considered tornados and severe wind, snowstorms or blizzards, flooding, hazardous material incidents, and potential terrorism events. All of the previous hazards but the last have a track record here and we prepare with an all-hazards approach.

### **How do you collaborate with other agencies and jurisdictions, including the State of Colorado and the federal government?**

We follow the current emergency management proverb, "the time to exchange business cards is not in a parking lot during a disaster." At a local level, we formed relationships with United Way/211 and our VOAD group (voluntary organizations active in disasters) to deal with volunteer issues and donations management. Our city departments are all active in preparedness issues and participate in an emergency operations center (EOC) functional exercise every year. My office is co-located with Weld County's Office of Emergency Management and we both share a common EOC. The City of Greeley is the Weld County seat and our OEMs have missions with a designed commonality.

Greeley and Weld County have very strong connections with the other 10 counties that are members of the Northeast Colorado All Hazards Region. This regional group works in concert in planning, exercising,



Steve Blois, emergency manager, Greeley, Colorado

and prioritizing needs. This Northeast region has a field coordinator from the state Division of Emergency Management and he is our direct conduit to the state EOC as well as an EOC asset when needed.

In the day-to-day role our relations with the federal side is mostly through the state. Federal agencies such as FEMA (Federal Emergency Management Agency) and the EPA (Environmental Protection Agency) are easy to reach out to when needed. In our recent event they were a pervasive component of our recovery.

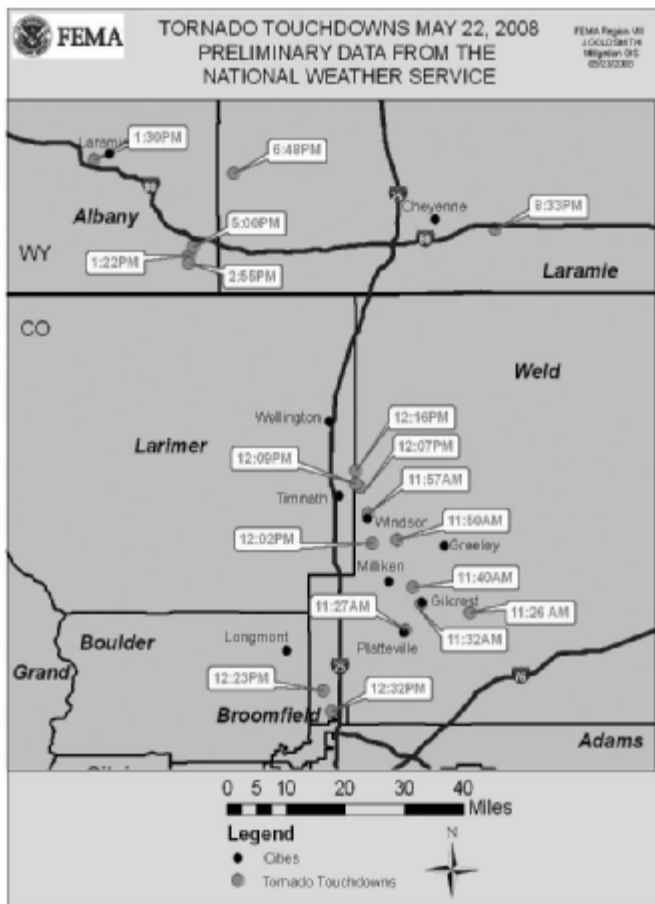
“Monitoring the radio channels, I heard of a heavy tanker being blown over on the road, indicating notable winds. The tornado warning was broadcast shortly after that and I immediately started setting up the EOC and called for a full staffing.”

### **Can you further explain this structure of the City of Greeley/Weld County EOC and the relationship between city and county?**

The emergency operations center for the City of Greeley and Weld County are co-located at the Weld County Training Center. An intergovernmental agreement co-located my office alongside the county's OEM and down the hall from the EOC. Both of our emergency operations plans are driven by the Emergency Support Function (ESF) model, so if the EOC is activated for any reason for any event in the county the set up is identical. The EOC on a day-to-day basis serves as several training classrooms.

### **What is the responsibility of the EOC?**

Our EOC is a coordination center for whatever is transpiring in the field. Resources are identified and located to fill needs of the incident command posts. It is also a crossroads of information both inbound and outbound.



you cannot make them use the principles; nevertheless be prepared to work around the limitations presented you.

### What action does the city normally take when a major storm is approaching?

Our need for situational awareness is heightened during our monsoon season (July-August) so afternoon weather is monitored closely. NWS weather radar out of Boulder is monitored, as well as e-mail updates from private-sector weather sites. Our public safety answering point protocol is to call both emergency managers if a watch or warning is posted. Rapidly afternoon developing thunderstorms can move through the area either fast or slowly, complicating response activities.

### How would you rate the recovery since the May tornado?

The transition from the response phase of the event into the recovery phase was almost immediate. Our previous relationships with our volunteer and community groups really paid off in this initial time frame.

Since then, they have led the recovery effort as well as designed the recovery mechanism. Needs were assessed and addressed as fairly as possible and the longer term unmet needs are being handled on a case-by-case basis, with a very caring human face and heart. The donations made during the event were managed to a high degree of professionalism and today are still being utilized on a very efficient basis.

For Weld County, this is the first time FEMA's National Response Framework ESF 14 (which deals with long-term community recovery) has been used for recovery assistance.

### Explain the response to the May Weld County tornado.

We have learned to become very cautious when weather travels east to west. This upslope condition can lead to substantial rainfall accumulations and does not leave the area rapidly as most weather events do here in the Front Range. The humidity was high and a slightly overcast condition lent credibility to a potential event.

Much like the 1997 flood in Fort Collins, the weather did not seem particularly stable. A NWS (National Weather Service) Watch for severe thunderstorms was broadcast and the sky seemed to grow darker. Localized severe thunderstorms and high winds were reported in Southern Weld County. Monitoring the 800 MHz radio channels, I heard of a heavy tanker being blown over on the road, indicating notable winds.

The tornado warning was broadcast shortly after that and I immediately started setting up the EOC and called for a full staffing. Tornadoes on the ground seemed to be moving from the south to the north, which was very unusual.

When the NWS broadcasted the tornado track I realized it was going to touch the western portion of Greeley. While it did enter Greeley proper it continued north to severely damage the small town of Windsor.

### What lessons were learned in the response to the May tornado?

We learned to push resources into the damaged area to stage for probable use. Notify the state as soon as possible. Call on mutual aid as the need arises. Communicate, communicate, and communicate. You can host ICS (incident command system) classes and have people attend them but

### What does this mean?

As mentioned before, this effort was primarily led by well-managed volunteer groups. And while I do not want to minimize what the state and federal agencies have done, I have to hand it to the communities of the region who jumped into the effort with both hands and heart to mitigate the fear of the unknown owned by the victims.

### What are some challenges of small-town emergency management?

While the constraints of budgets are common to all municipal and local emergency managers, you can count on the good will you have previously banked with the stakeholders of the community and region. When you reach out and show that these stakeholders have an important place in preparedness and then help them fine tune their activities with realistic recommendations, training, or exercises, it is a good use of your time.

### What federal or state EM policy changes could help you do your job?

The continued support of the Emergency Management Performance Grants is essential, as well as using the feedback model to make corrective changes when needed. Also, continued support of training programs both in the federal level (Emergency Management Institute, National Fire Academy) and state programs (Division of Emergency Management and Division of Fire Safety).

—Corey Reynolds



## Resources

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

All of the material listed here is available at the Natural Hazards Center Library. For more information contact Librarian Wanda Headley at [wanda.headley@colorado.edu](mailto:wanda.headley@colorado.edu)

## The Media Machine Making Disaster Mythology

**Response to Disaster: Fact Versus Fiction and Its Perpetuation.** By Henry W. Fischer, III. 2008. ISBN: 978-0-7618-4117-3. 240 pp. \$34.95 (paper). University Press of America. [www.univpress.com](http://www.univpress.com).

IT IS THE ICONIC NETWORK NEWS HURRICANE FOOTAGE: The intrepid reporter leans ten degrees into the wind and water, long-tailed raincoat streaming behind, the loosened debris of other people's lives spinning past in the background. He shouts into his microphone, even then barely audible above the furious blast of the storm.

Who among us hasn't wished our intrepid reporter would get clocked by a haphazard hunk of billboard?

This method of gathering the news is symptomatic of the ways mythology about people's behavior in disasters is propagated. Henry Fischer writes that national—as opposed to local—news organizations “are more engaged in a ratings battle, hence the quest for a good, picturesque story. A good *story* and good *news* is not the same product.” (Emphasis in original.)

The prevailing media environment, Fischer says, helps to perpetuate disaster myths—the things that many people believe happen in crises, but seldom do. These include panic, price gouging, looting, irrational behavior, and other popular legends. These behaviors rarely occur in disasters, Fischer says, amply documenting his claims from his own research and that of others.

Even in the most hazardous conditions, he says, people usually behave in normative ways. In the September 11, 2001, attacks on the World Trade Center, those evacuating the buildings “helped one another down the steps and they proceeded as according to previous evacuation plans. They were calm and followed directions.”

These same conclusions are reached, though more anecdotally, and with more literary flair, by Amanda Ripley in her book, **The Unthinkable: Who Survives When Disaster Strikes and Why** (Crown Publishers, 2008, \$24.95 hardcover). She writes of one 9/11 survivor, Elia Zedeño, who now conducts tours at Ground Zero. “The number one question Zedeño gets asked is, How did people behave in the stairwell?” Ripley writes. “No one expects the answer they get. ‘Everybody was very calm, very calm.’” Only one woman got hysterical, she said.

“In sharp contrast to the image usually perceived,” Fischer writes, “survivors are not apathetic; they begin search and rescue activities themselves; they are very calm and do not panic. Looting behavior is extremely rare following a disaster.”

But the dogged persistence of these myths can be laid at the door—at least partially—of the news media, he says, especially the national television networks. Local electronic media and newspapers do a better job of producing accurate chronicles, he says.

—Dan Whipple

## Hurricanes

**Hurricanes: Causes, Effects, and the Future.** By Stephen P. Leatherman and Jack Williams. 2008. ISBN: 978-0-7603-2992-4. 72 pp. \$17.99 (softcover). Voyageur Press. [www.voyageurpress.com](http://www.voyageurpress.com)

This book is a well illustrated guide to all things hurricane for the weather wary. The book explains the science of hurricane formation, along with practical advice on how to through live them. The U.S. Census Bureau says that 11 million Americans live in places a storm surge might flood. “If you are among the thousands of people who have recently moved to a coastal area or among the thousands more who vacation in places hurricanes can hit,” the authors offer, “the best quick summary of what to do when a hurricane is heading your way is: Run from the water; Hide from the wind.”

**City Adrift: New Orleans Before and After Katrina.** Seven authors from the Center for Public Integrity Investigation,

foreword by Dan Rather. 2007. ISBN: 978-0-8071-3284-5. 168 pp. \$22.95 (hardcover). Louisiana State University Press.

*City Adrift* is a journalistic telling of the circumstances leading to the flooding and its aftermath in New Orleans from Hurricane Katrina in 2005. The authors related each chapter in a narrative style, often wrapping the larger contexts—planning failures, engineering shortcomings, municipal corruption—around the story of an individual who was directly affected by it. In the first chapter, Jenni Bergal tells the story of Pearl Ellis, a resident of the city's Lower Ninth Ward, whose house was flooded by two hurricanes, in Betsy in 1965 and in Katrina 40 years later. In his chapter on emergency preparedness, Jim Morris looks through the eyes of several people who were on the ground during the 2005 storm: police commander Timothy Bayard and Federal Emergency Management Agency watch officer Leo Bosner.

A number of agencies come in for harsh criticism in the book, especially the Army Corps of Engineers and

FEMA. In the epilogue, the authors say, “Many of the original problems that led to the inundation of New Orleans remain,” including outdated standards for levee repairs and a bureaucratically weakened FEMA.

### **Natural Disaster Analysis After Hurricane Katrina: Risk Assessment, Economic Impacts, and Social Implications.**

Harry W. Richardson, Peter Gordon, and James E. Moore II, editors. 2008. ISBN: 978-1-84720-357-1. 320 pp. \$160. Edward Elgar Publishing. [www.e-elgar.co.uk](http://www.e-elgar.co.uk)

Hurricane Katrina in 2005 raised a lot of questions. This book tackles a variety of them in decision analysis, risk management economics, transportation, and engineering. The essays here discuss the use of all-hazard insurance to address economic risks, the present and future of tourism in the area, and the economic value of flood and hurricane mitigation measures, along with much else.

In “The Options to Rebuild the New Orleans Flood Control System,” authors Carl Southwell and Detlof von Winterfeldt conclude that substantial investments in the levee and floodwall system in New Orleans would offer the considerable savings. Under the “status quo” of flood and hurricane protection, they estimate a loss of about \$8.3 billion. The U.S. Army Corps of Engineers believed that it had in place resources to protect the city against a 100-year event. As Katrina showed, this was optimistic.

Southwell and von Winterfeldt’s analysis, based on their economic model, shows that investment in raising protections by ten feet along Lake Pontchartrain and along the Mississippi River and including cut-offs as a control method would reduce those losses to about \$3.1 billion—probably enough to make the investment worthwhile.

### **The New Orleans Index: Third Anniversary Edition—Three Years After Katrina.**

Brookings Institution Metropolitan Policy Program and Greater New Orleans Community Data Center. August 2008. 84 pp. free download. [www.gnocdc.org](http://www.gnocdc.org)

The Brookings Institution Metropolitan Policy Program began monitoring the social and economic recovery of New Orleans after Hurricane Katrina. Three years down that road their key findings are:

- Greater New Orleans has recovered 72 percent of its pre-Katrina households and 90 percent of tax revenues.
- In the third year, population, housing, and economic recovery continues, but the pace has slowed. The region added 8,000 jobs from May 2007 to May 2008, which was fewer than one-quarter of the number added in the prior 12 months.
- Families and jobs are shifting to the least flood-damaged neighborhoods and parishes.
- Major challenges remain. The city has 65,000 blighted properties or empty lots, while rents are 46 percent higher than pre-Katrina. The U.S. Army Corps of Engineers says many neighborhoods in the city remain at risk of six to eight feet of flooding from a “one percent storm.”

The Index will be updated in February 2009.

### **Building a Safe Port in a Storm: Private vs. Public Choices in Hurricane Mitigation.**

By Daniel Sutter. July 2008. 22 pp. Free download. [www.mercatus.org](http://www.mercatus.org)

From George Mason University’s Mercatus Center, *Building a Safe Port in a Storm* focuses on recent hurricanes—

including the 2004-2005 season which boasted seven of the nine costliest hurricanes ever—have brought the impacts of hurricane damage to the public eye.

Part of the center’s policy comment series, it examines the relationship between insurance and hurricane mitigation and how government subsidies could be undermining mitigation efforts. Suggestions for a more effective hurricane mitigation policy are also discussed.

## **All Hazards**

### **The Role of Transit in Emergency Evacuation.**

Transportation Research Board of the National Academies Special Report 294. 2008. ISBN: 978-0-309-11333-5. 214 pp. Free download. [www.trb.org](http://www.trb.org). [TRBSales@nas.edu](mailto:TRBSales@nas.edu).

Transit can play a major role in emergency evacuations, this report finds: “In 2005, transit could have played an important role in New Orleans in advance of Hurricane Katrina but failed to do so when few drivers reported to work, transit equipment proved inadequate and was left unprotected, and communication and incident command were nonexistent.”

Few localities have considered disasters that involve multiple jurisdictions or multiple states in a region—even those that have emergency plans in place. The report urges the Department of Homeland Security, the Federal Emergency Management Agency and the U.S. Department of Transportation to provide guidance on including public transit providers in emergency plans.

People who don’t own cars, the disabled, elderly and medically homebound may especially benefit from the careful integration of transit facilities in planning.

## **Air Quality**

**Estimating Mortality Risk Reduction and Economic Benefits From Controlling Ozone Air Pollution.** Board on Environmental Studies and Toxicology of the National Research Council of the National Academies. 2008. ISBN: 978-0-309-11994-8. 212 pp. free download. National Academies Press. 800-624-6242. [www.nap.edu](http://www.nap.edu).

In studies published since 1990, there have been mixed conclusions about the relationship of ozone pollution—primarily from the combustion of fossil fuels—and premature death. The NAS toxicology board reviewed the research at the request of the Environmental Protection Agency, finding that “short-term exposure to ambient ozone is likely to contribute to premature deaths.”

In one meta-analysis of 43 single-city studies, researchers found a 1.6 percent excess mortality per 20 parts per billion increase in 24-hour average ozone. In another meta-analysis of 48 city-specific results from 28 studies, researchers found an overall increase of .41 percent increase in daily mortality per 1-ppb increase in one-hour ozone concentrations.

Older people appear to be at higher risk of health problems from ozone, especially people with pre-existing heart and lung problems. But “the list of factors that plausibly modify effects is rather long and still insufficiently investigated.”

On March 12, 2008, EPA provided a final ozone rule which “lowered the level of the eight-hour standard to .075 parts per million.”



# Contracts and Grants

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

## Early Flu Warnings Via Google

The number of hits on 45 Google search terms related to influenza is highly correlated to physician visits for flu symptoms—and the results come in hours, not the one to two weeks required for an alert to show up in the official databases of the Centers for Disease Control and Prevention.

A November paper in the journal *Nature* by researchers from Google and CDC found, “Harnessing the collective intelligence of millions of users, Google web search logs can provide one of the most timely, broad-reaching influenza monitoring systems available today. Whereas traditional systems require one to two weeks to gather and process surveillance data, our estimates are current each day.”

They add, “The early detection provided by this approach may become an important line of defense against future influenza epidemics in the United States, and perhaps eventually in international settings.”

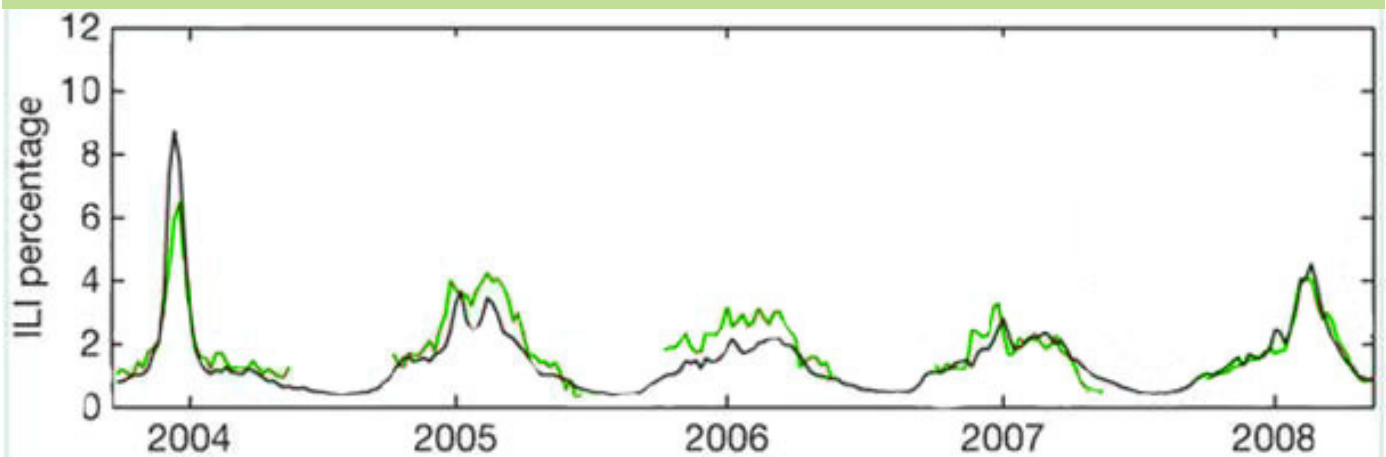
With the threat of a pandemic of bird flu (virus H5N1), the immediate identification of flu “hotspots” could be critical in isolating the outbreak before it becomes a pandemic. Hitoshi Oshitani of the Tohoku University Graduate School of Medicine wrote in the September 2008 *Natural Hazards Observer*, “Epidemiological models have shown the theoretical possibility that, if addressed rapidly, a potential epidemic could be contained and the epidemic averted. According to these models, however, the window of opportunity is narrow.”

However, if the H5N1 strain erupts into a full-blown pandemic, it is expected to happen in Asia or in the developing world where there are fewer web searchers. The Google research results are relevant for the United States and for areas with large populations of web search users. It is unclear whether search logs from the developing world would yield accurate results. Queries to the Google researchers about the threshold of users necessary to make that determination, and whether the method shows promise for the developing world, went unanswered.

But for the United States, the Google search queries showed an average .9 correlation coefficient with actual cases of influenza-like illnesses. The method was able identify regional flu hotspots with great accuracy in only a day.

The authors caution that their web search system is not designed to replace traditional monitoring, but only provides early warning. It could also be susceptible to false alarms. For instance, a flu-related drug recall could inspire a lot of hits on the search terms.

Google.org and the Skoll Foundation have combined to grant \$11 million to the Global Viral Forecasting Initiative to try to prevent future pandemics before they become fully established. Google.org’s \$5.5 million portion of this grant is the charity’s largest donation since its establishment in 2004.



Correlation of Google flu search term trends (black line) with actual CDC reported cases (green lines), Mid-Atlantic region (ILI=influenza-like illness)

Graph courtesy Google.org.flutrends. Used by permission.

**Resilient and Sustainable Interdependent Electric Power and Communications Systems.** Funding Organization: National Science Foundation. \$2 million. Four years. Principal investigator: Lamine Mili, Virginia Polytechnic Institute and State University. [lmili@vt.edu](mailto:lmili@vt.edu).

This award is under the Emerging Frontiers in Research and Innovation (NSF 07-579) program solicitation under the subtopic Resilient and Sustainable Infrastructures (RESIN). The goal of this project is to

develop complex systems theories and methods aimed at modeling, assessing, and reengineering the resiliency of sustainable interdependent electric power and communications infrastructures to catastrophic failures and natural hazards.

Currently, the monitoring, protection, and control of electric power systems rely heavily on computer-based communications networks. The failure of one infrastructure can affect the functioning of the other.

This research will investigate the impact that these interdependencies have on the vulnerabilities of both infrastructures. It will suggest ways to make them more agile and resilient to anticipated and unanticipated failures and natural hazards while making the energy supply sustainable and less harmful to the environment.

One facet of the research is to extend the scope and applicability of the Highly Optimized Tolerance (HOT) approach to modeling cascading failures across interdependent electric power and communications infrastructures. Another part of the research of this project will be to investigate financial impacts and required incentives to address resiliency and sustainability from the resource, environment, and socioeconomic points of view.

The project will use existing data from failures in the Southern Brazilian power and communications systems and from the North American Electric Reliability Council.

**Conceptual Model Testing of Organization and Employee Factors in Workplace-Home Preparedness.** Funding Organization: National Science Foundation. \$13,999. One year. Principal Investigator: Deborah Glik, UCLA. dglik@ucla.edu.

Critical infrastructure industries have received increased attention for their susceptibility to domestic hazards, including natural, technological, and terrorism events. In a crisis or disaster, a failure in one industry can have cascading effects on others, hindering emergency response and community recovery.

Effective workplace preparedness factors in the perceived hazard susceptibility, efficacy of risk-reduction measures, social network influences, and characteristics of management and employees. This study explores these factors within an occupational health and safety model to understand how social influences, threat appraisal, and decision making interact.

Data collection will include key informant interviews, and management and employee questionnaires with private, critical infrastructure industries in Southern California. The private sector employs 76 percent of the U.S. workforce. In a disaster, employee availability is critical to providing communities with the necessary goods, services, and revenue for recovery. This makes the private sector an optimal environment to assess whether workplace protective measures influence employees' home-readiness plans.

**Glacier Science and Technology in the Central Andes: The Quest to Control Natural Disasters and Climate Change, 1941-2008.** Funding Organization: National Science Foundation. \$150,867. One year. Principal investigator: Mark Carey, Washington and Lee University. careym@wlu.edu

The project focuses on the Peruvian Andes, where nearly 30,000 people have died since 1941 from glacier disasters. Hundreds of scientists and engineers in several state agencies have been working since the 1940s to closely monitor over 600 glaciers and to drain and dam dozens of dangerous Andean glacial lakes. The proposed research will study the historical relationships among science, engineering, technology, and society in this context of global climate change and persistent environmental hazards. Proposed research focuses on three areas: 1)

the capacity for the increasingly-technical scientific images used in glaciology since the 1940s to reduce local vulnerability to natural disasters; 2) the conflicts and negotiations involved in the historical maintenance of indigenous science and disaster mitigation strategies; and 3) a comparative and collaborative historical study of Peruvian and Swiss glacier control tactics.

This study promises to give historical depth to our understanding of human responses to climate change and natural disasters.

**Geo-engineering Extreme Events Reconnaissance (GEER) Association: Turning Disaster Into Knowledge.** Funding Organization: National Science Foundation. Three grants: \$7,134, \$47,862 and \$10,874. One year. Principal investigators: Ellen Rathje, University of Texas; Jonathan Bray, University of California-Berkeley; and J. David Frost, Georgia Institute of Technology. e.rathje@mail.utexas.edu, bray@ce.berkeley.edu, and dfrost@ce.gatech.edu.

The Geo-engineering Earthquake Reconnaissance Association performs post-earthquake reconnaissance. The association is broadening its scope to include other natural and human-made disasters. This broadening of its mission is reflected in its new name: Geo-engineering Extreme Events Reconnaissance (GEER).

While post-earthquake reconnaissance continues to be a central mission, we recognize that GEER members have already participated effectively in reconnaissance efforts that document geotechnical effects of other extreme events. This award provides funds for continuation of GEER management and reconnaissance activities under the new expanded scope of providing quick response investigations of major geo-engineering-related disasters. An average of one or two investigations of moderate sized events would likely be conducted per year. In the event of a major disaster, a small quick response team would be dispatched to determine the magnitude of the needed response so that a request for additional funds could be quickly submitted.

**MCEER Hurricane Gustav Reconnaissance: Lessons Learned by New Orleans Hospitals from Katrina to Gustav and Beyond.** Funding Organization: National Science Foundation. \$15,000. One year. Principal investigator: Daniel Hess, State University of New York at Buffalo. dbhess@buffalo.edu.

This project investigates decision making under uncertain conditions by examining the response of acute care hospitals in the New Orleans area before, during, and immediately after Hurricane Gustav including the evacuation and return of hospital patients and staff. "Quick response" methodology will be used to gather information via observation of behaviors and facilities, document acquisition and evaluation, and semi-structured, face-to-face interviews of up to 30 hospital executives representing all 10 of the acute care hospitals in the New Orleans area.

Hospitals are vital components of a community's lifelines. Emergency planning and leadership decision making should ensure that hospitals are able to respond to a disaster and not become victims of it. Lessons learned from emergency planning and operations for hospitals from Hurricane Gustav will be useful not only for hurricanes but for other extreme events.

## Web Sites of Interest

### Communicating On Climate Change

[metcalfinstitute.org/Communicating\\_ClimateChange.htm](http://metcalfinstitute.org/Communicating_ClimateChange.htm)

Communicating on Climate Change: An Essential Resource for Journalists, Scientists, and Educators was based on a series of workshops designed to start a dialogue—in understandable terms—between journalists and climate scientists. The resulting book, which is available for free download, contains essays on how both groups, as well as educational institutions, can bridge the climate change communication gap.

### FEMA Learning Resource Center Emergency Management RSS and E-mail Updates

[www.lrc.fema.gov/rss\\_em.html](http://www.lrc.fema.gov/rss_em.html)

The Federal Emergency Management Agency is compiling a library of links to RSS feeds, e-mail lists, and other electronic notification that promises to keep users in the know about emergency management, natural hazards, and homeland security.

### Observing Weather and Climate from the Ground Up

[nationalacademies.org/morenews/20081120.html](http://nationalacademies.org/morenews/20081120.html)

This report from the National Academies proposes joining local, business, agricultural, and other independent weather observation systems to form a “network of networks” that can be used not only to monitor weather, but also to gauge biological and nuclear contaminants, smoke from wildfires, and monitor regional climate.

### Monitter.Com

[monitter.com/](http://monitter.com/)

Those familiar with Twitter know that the brief chirps of information during an emergency can paint a sonar-like picture of what’s happening on the ground. Monitter.com allows you to enter keywords for instant and personalized monitoring of the Twitter stream.

### FEMArecovery.gov

[www.femarecovery.gov/](http://www.femarecovery.gov/)

This recently-completed second phase of the Federal Emergency Management Agency’s Recovery Transparency Initiative allows residents to monitor the status of rebuilding in their neighborhoods. Detailed maps, reports, and expected completion dates are included.

### The Political Economy of “Natural” Disasters

[jcr.sagepub.com/cgi/content/abstract/52/6/795?etoc](http://jcr.sagepub.com/cgi/content/abstract/52/6/795?etoc)

This *Journal of Conflict Resolution* article uses case studies and empirical evidence to examine differences in government disaster preparation and why international aid availability could lead to a lack of investment in preparedness measures. The full text is available online.

### Copenhagen Climate Council’s Climate Community

[www.copenhagenclimatcouncil.com/](http://www.copenhagenclimatcouncil.com/)

When it comes to communicating about a changing climate, the Copenhagen Climate Council is changing it up with the launch of a new community where business leaders, academics, and government officials can brainstorm answers to the current crisis. Online forums, interviews, and a virtual summit will be features of the community, which is slated to go online in December.

### DHS 2009 Grant Guide

[www.dhs.gov/xnews/releases/pr\\_1225900531284.shtm](http://www.dhs.gov/xnews/releases/pr_1225900531284.shtm)

The Department of Homeland Security this month announced \$3 billion in federal grants would be available for state and local government preparedness efforts. The money will be awarded through 14 programs such as the Urban Areas Security Initiative and the Transit Security Grant program.

### NOAA’s Arctic Report Card 2008

[www.arctic.noaa.gov/reportcard/index.html](http://www.arctic.noaa.gov/reportcard/index.html)

The National Oceanic and Atmospheric Administration’s yearly report card continues to provide information on the effects of climate change in the Arctic. This year’s report shows evidence of warming in three areas—atmosphere, sea ice, and Greenland’s surface melt—and mixed evidence in the areas of biology, ocean, and land.

### Climate and Disaster Governance

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

The Climate and Disaster Governance program was created to allow collaboration and information sharing that will help communities be more resilient to climate change and disasters. The site has areas for downloading research, news, and events.

### Emergency Management Network

[emergencymanagementnetwork.ning.com/](http://emergencymanagementnetwork.ning.com/)

Emergency preparedness junkies might soon be able to leave MySpace and LinkedIn behind, now that there’s a social networking site devoted to them. The Emergency Management Network community is just getting off the ground, but the site has areas for news, discussion forums, sharing photos and videos, blogging, and live chat.

### StormStruck: The Tale of Two Homes

[www.stormstruck.com](http://www.stormstruck.com)

Visitors to Disney World’s Epcot Center now have a chance to play Mother Nature, creating storms and learning about their impact on lives and property at the StormStruck exhibit. While the exhibit, which opened in late August, is a groundbreaking educational opportunity, kids at home also have a chance to mouse around via the StormStruck Web site. Games like Storm Hero and information about how to survive weather dangers in each state turn children into preparedness advocates.



# Conferences and Training

**January 25-28, 2009**

## **10th Annual Windstorm Insurance Conference**

**Windstorm Insurance Network**

**Orlando, Florida**

*Cost and Registration: \$495 until January 12*

This conference provides an opportunity for practitioners from several disciplines to examine lessons learned from past hurricane seasons and speculate on future trends. Topics will include windstorm damage, insurance claims, mitigation efforts, disaster response, and alternative dispute resolution.

[www.windconference.com/index.asp](http://www.windconference.com/index.asp)

**January 26-29, 2009**

## **Responding to Flooding: Improving the Preparation and Response**

**U.N. Office for Coordination of Humanitarian Affairs and Wilton Park Conferences**

**West Sussex, United Kingdom**

*Cost and Registration: \$2,161, see Web site for details*

This conference assembles experts in disaster relief, response, and risk reduction to examine how countries, especially developing ones, will respond to the predicted wind, storm, and flood increases resulting from climate change. Best practices and national, regional, and international preparedness will also be assessed.

[www.wiltonpark.org.uk/themes/environment/conference.aspx?confref=WP940](http://www.wiltonpark.org.uk/themes/environment/conference.aspx?confref=WP940)

**February 3-5, 2009**

## **Fires, Floods, and Earthquakes: Turning Strategy into Action**

**Disaster Management Integration**

**Sacramento, California**

*Cost and Registration: \$495 before January 4, open until filled*

This training uses comprehensive "real world" principles, practices, and lessons learned to give emergency managers the latest disaster management strategies. The importance of fundamentally integrating the four emergency management phases will be discussed.

[guest.cvent.com/EVENTS/Info/Summary.aspx?e=c7d4086f-0d71-4ae0-9375-13bb623c2a23](http://guest.cvent.com/EVENTS/Info/Summary.aspx?e=c7d4086f-0d71-4ae0-9375-13bb623c2a23)

**February 4-7, 2009**

## **The World Conference of Humanitarian Studies**

**University of Groningen/Wageningen University**

**Groningen, Netherlands**

*Cost and Registration: See Web site*

This conference provides a venue for understanding humanitarian crises through dialogue with policymakers and humanitarian agencies. It offers a meeting ground for academics and practitioners to take stock of the current theory, debates, and humanitarian studies, reflecting on existing practice and opportunities for improvement.

[www.humanitarianstudies2009.org/](http://www.humanitarianstudies2009.org/)

**February 6, 2009**

## **15th Annual Earthquakes Mean Business Seminar**

**Gateway Citizens Coalition**

**St. Louis, Missouri**

*Cost and Registration: Free, open until filled*

Geoscience, engineering, and emergency planning communities will gather to provide better understanding of earthquake risk in the central United States. The seminar also includes exhibits and resources about disaster preparation and business continuity planning.

[www.gatewayccc.us/earthquake.htm](http://www.gatewayccc.us/earthquake.htm)

**February 6-7, 2009**

## **Landslide Processes: From Geomorphologic Mapping to Dynamic Modeling**

**European Centre for Geo-morphological Hazards**

**Strasbourg, France**

*Cost and Registration: Not posted*

Understanding and quantifying landslides and other types of mass wasting, as well as the risks they pose, is the focus of this meeting. Hydrological systems and shifts in climate and land use will be examined from geomorphological and engineering viewpoints.

[eost.u-strasbg.fr/landslidestrasbg2009/](http://eost.u-strasbg.fr/landslidestrasbg2009/)

**February 9-13, 2009**

## **Hydrological Risks and Climate Change**

**Newcastle University**

**Newcastle, England**

*Cost and Registration: \$221 to \$812, open until filled*

Information on developments in flood risk estimation and flood plain mapping, drought risk and low-flow estimation, climate change, and future hydrological scenarios will be featured. Attendees will learn fundamental methods and theories underlying frequency analysis of rainfall and floods and about climate change impact and the limitations of future climate scenarios.

[www.ncl.ac.uk/cegs.cpd/cpd/civ959.php](http://www.ncl.ac.uk/cegs.cpd/cpd/civ959.php)

**February 10-13, 2009**

## **Australia Disasters Conference 2009: Surviving Future Risks**

**Emergency Management Australia**

**Canberra, Australia**

*Cost and Registration: \$895, closes February 1*

This conference explores future Australian disaster risk and recommends mitigation and preparedness enhancements to improve community resilience. Themes include the changing face of crisis management, potential impacts of global warming, identifying risk and mitigation strategies, and disaster recovery.

[www.ema.gov.au/disastersconference](http://www.ema.gov.au/disastersconference)

**February 18-20, 2009**

## **Public Health Preparedness Summit 2009**

**National Association of City and County Health Officials**

*(Continued on page twenty-three)*

# National PERISHIP Award Dissertation Fellowships in Hazards, Risk, and Disasters

The Public Entity Risk Institute (PERI) and Natural Hazards Center at the University of Colorado at Boulder with support from the National Science Foundation (NSF) and Swiss Re has established a program that awards dissertation fellowships for work in all aspects of natural and human-made hazards, risk, and disasters in all disciplines.

## Eligibility:

The award is open to individuals in any discipline, including the natural and physical sciences, social and behavioral sciences, specialties in engineering specialties, or interdisciplinary programs such as environmental studies, who are conducting research in hazards, risk, or disasters. Fellowship candidates must be ABD (all but dissertation) at a U.S. institution by the application deadline with an approved dissertation proposal. Non-U.S. citizens may apply as long as the doctoral degree will be granted by a U.S. institution.

## Fellowship Description:

Up to four grants of as much as \$10,000 each will be awarded in 2009 to doctoral students to support their dissertation work. The grants are flexible and can be used for data collection, travel for field work, presentation of findings at meetings, purchase of software, data entry assistance, statistical analysis services, or a combination of these and other similar purposes (but, *not* for stipends or tuition).

## Application Materials:

Graduate students interested in applying should submit the following:

A curriculum vitae including current contact information, primary discipline of dissertation work, educational background, professional experience, publications (completed and in progress), and honors and awards received. You must also indicate whether you are a U.S. citizen, resident alien, or a international student with only a student visa.

- Dissertation Summary. A three-page summary (limit: three pages, single-spaced, one inch margins, including graphics, but not including references) of the dissertation research covering: 1) the problem and purpose; 2) the theoretical significance and hypotheses; 3) the methods, including research design and data collection plan; 4) data analysis plan; and 5) anticipated findings, including theoretical and applied significance. The summary will be read by people in multiple disciplines, so discipline-specific jargon should be minimized.
- A narrative proposal for the fellowship award, including how funds will be used, relevance to the dissertation research (especially links to hazards research), and importance of the work (limit: three



pages, single-spaced, one inch margins, including graphics, but not including references).

- Budget for expenditure of funds requested (not to exceed \$10,000), including a summary page and a budget justification for the following categories: equipment, travel, participant support (for qualitative research), and materials and supplies.
- Schedule for conduct and completion of work.
- Agreement of dissertation advisor. The letter should affirm the advisor's commitment to oversee the student and his or her completion of the proposed dissertation research, and testify that the student is prepared, according to the requirements of that particular academic department, to conduct the dissertation research. This should be submitted with the entire packet, not separately.
- Advisor's brief curriculum vitae (limited to two pages), including current contact information.
- Dissertation prospectus approval form signed by the entire committee. The entire prospectus should not be submitted, simply the approval form.
- Names and e-mail address of two potential referees. These should be people who are leaders in your field. In addition, they should meet the following criteria: 1) you do not have a personal connection; 2) you have not published or obtained funding with them; and 3) they are not a primary advisor or mentor.



## Application Deadline:

Application materials for the 2009 fellowships must be received in digital form (as a single Adobe Acrobat .pdf file) by 5:00 p.m. EST on **February 1, 2009**, to [periship@riskinstitute.org](mailto:periship@riskinstitute.org). Hard copy applications will not be accepted. Awards will be announced in May, 2009.



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For complete information go to  
[www.cudenver.edu/periship/](http://www.cudenver.edu/periship/)

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# Letters

To the Editor,

"Exxon Valdez Oil Spill Litigation and Community Resilience" (*Observer*, November 2008) answered many questions I wondered about but had not taken the time to research. In particular is the lag time between injury and redress (recovery).

I thought it very interesting that one person's conservative judge is another's activist.

Personally and professionally, I agree with those quoted about limited and predictable punitive damage awards. Predictable awards allow businesses to build risk models. This in turn will allow behavior about which risks the community finds to be economically acceptable. I often read the complaint that "punitive awards are putting businesses out of business." They should!

**Thor Nelson  
Captain  
Kansas City Fire Department**

To the Editor,

Thanks for the excellent article "Exxon Valdez Oil Spill Litigation and Community Resilience" (*Observer*, November 2008). You might be interested in learning why no presidential "declaration of disaster" under the Stafford Act occurred after the accident.

The Department of Justice opposed a declaration of disaster by then-President George H. W. Bush on the basis that it might impact adversely the case of the United States against Exxon. When asked at a Senate Appropriations Committee hearing by Senator Ted Stevens (R-Alaska) why no declaration of disaster had occurred, the then-Acting General Counsel of FEMA, George Watson said on the record that he had issued a legal opinion stating that no declaration of an oil spill could be made under the Stafford Act. When Sen. Stevens asked for a copy of the opinion, Mr. Watson said he would furnish one.

Instead of an opinion, a somewhat garbled statement was given by FEMA's congressional liaison for insertion in the record. The statement basically concluded that where a parallel statutory scheme offered both compensation and better litigation rights to the United States than the Stafford Act, then the president would not declare a disaster or emergency.

While this policy was followed in the EVOS situation, it was never followed again to my knowledge and was essentially abrogated within a week of the hearing in the context of emergency housing. In my opinion, this matter was the most important "opinion" issued by the Office of the General Counsel for the interpretation of the Stafford Act during my time participating in the legal milieu of disaster relief, first at HUD and then until 1999 at FEMA.

It is also my opinion that either special legislation or a retroactive declaration under the Stafford Act should be made by the president now that the full outcome of



litigation and its failure for the impacted citizens of Alaska is known.

This would help to correct an egregious policy error by the executive branch, particularly because the Stafford Act allowed recovery against the perpetrators

when they committed gross negligence. Thus, Stafford Act financial and other assistance could have also been added to the damages for which recovery was sought against Exxon.

The accident did result in several reforms, principally of the Oil Spill Pollution Act of 1990, which required tankers to have double hulls and mandated the update of the Hazardous Materials Release and Oil Spills Response Plan in 1994.

My hope is that the *Observer* article is preliminary to a longer version of the article—or even a book—because your article contains important history and policy issues that are not anywhere close to being resolved. Perhaps your article can assist in the resolution of some issues so that others will not suffer the fate of the fisherman, Alaska Natives, and villagers from the EVOS!

I also hope that copies of your article will be furnished to public information sources in Alaska and the governor's office.

Again thank you for the excellent contribution.

**William R. Cumming, president  
The Vacation Lane Group  
Reedville, Virginia**

*(The writer was with the FEMA office of general counsel from 1979-1999).*



# Conferences...

(Continued from page twenty)

## San Diego, California

Cost and Registration: \$400 before January 15, open until filled

Public health and emergency preparedness professionals will work to improve disaster and public health emergency planning, response, and recovery. Sessions will identify keys for public health preparedness, strategies for preparedness measurement, and preparedness resources.

[www.phprep.org/2009/](http://www.phprep.org/2009/)

## February 19-22, 2009

### 2009 International Disaster Management Conference Emergency Medicine Learning and Resource Center Orlando, Florida

Cost and Registration: \$390 before January 23

This conference highlights the role first responders and response agencies play in disaster planning, response, and mitigation. Emergency management challenges and lessons from the past year will provide the basis for many of the conference sessions.

[www.emlrc.org/disaster2009.htm](http://www.emlrc.org/disaster2009.htm)

## February 23-24, 2009

### Eighth Annual Emergency Management Conference International Association of Emergency Managers, Continuity Forum Wellington, New Zealand

Cost and Registration: \$2095 before January 19, open until filled

Emergency management professionals will address issues faced by the community while learning how leadership skills and styles affect emergency professionals. Integrating organizational resilience, increasing emergency response using GIS tools, and developing interagency cooperation will also be discussed.

[www.conferenz.co.nz/the-8th-annual-emergency-management-conference-3.html](http://www.conferenz.co.nz/the-8th-annual-emergency-management-conference-3.html)

## February 25-27, 2009

### ICESE 2009—International Conference on Earthquake and Structural Engineering World Academy of Science Engineering and Technology Panang, Malaysia

Cost and Registration: \$256 before December 31, open until filled

Researchers, scientists, engineers, and students will share experiences, new ideas, and research results on earthquakes and structural engineering and discuss practical challenges and possible solutions.

[www.waset.org/wcset09/penang/icese/index.html](http://www.waset.org/wcset09/penang/icese/index.html)

## March 4-6, 2009

### Third National Emergency Management Summit International Association of Emergency Managers Washington, D.C.

Cost and Registration: \$995 before December 19, open until filled

The Summit will assess risk and awareness of natural disasters, epidemics, and terrorism in the United States and set out practical approaches to planning, response, and recovery. The goal is to increase disaster preparedness knowledge, learn to use scarce resources, and implement responses.

[www.emergencymanagementsummit.com/](http://www.emergencymanagementsummit.com/)

## March 10-12, 2009

### International Scientific Congress on Climate Change University of Copenhagen Copenhagen, Denmark

Cost and Registration: \$720 before January 10

The findings of this congress will supplement the work of the Intergovernmental Panel on Climate Change. The congress aims to synthesize the existing and emerging scientific knowledge to help make decisions about mitigation and adaptation in response to climate change.

[climatecongress.ku.dk](http://climatecongress.ku.dk)

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

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

Please:

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## Support the Natural Hazards Center

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

**Support Center Operations**—Provide support for core Center activities such as the *Disaster Research* e-newsletter, annual workshop, library, and the *Natural Hazards Observer*.

**Build the Center Endowment**—Leave a charitable legacy for future generations.

**Help the Gilbert F. White Endowed Graduate Research Fellowship in Hazards Mitigation**—Ensure that mitigation remains a central concern of academic scholarship.

**Boost the Mary Fran Myers Scholarship Fund**—Enable representatives from all sectors of the hazards community to attend the Center’s annual workshop.

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

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

Or contact Ezekiel Peters at [ezekiel.peters@colorado.edu](mailto:ezekiel.peters@colorado.edu) or (303) 492-2149 to discuss making a gift.

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

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

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*Observer* cartoons are drawn by Rob Pudim.

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