TsuInfo Alert

prepared by the Washington State Department of Natural Resources on behalf of the

National Tsunami Hazard Mitigation Program

a state/federal partnership funded through the National Oceanic and Atmospheric Administration (NOAA)

Contents

Volume 5, Number 3, June 2003

TSUNAMI PROGRAM NEWS

Summary Report of the Tsunami Hazard Mitigation Steering Group, FY 03 Budget Meeting, May 28-29, 2003, Seattle, Washington

(*Editors' note: This report, with the links to the budgets and program narratives, is available at http://www.pmel.noaa.gov/tsunami-hazard/May03Budget_Meeting_Summary.htm)*

Attendees

Eddie Bernard - NOAA
Frank González - NOAA
Charles McCreery - NOAA
Landry Bernard - NOAA
Chris Jonientz-Trisler - FEMA
Craig Weaver - USGS
David Oppenheimer - USGS
Scott Simmons- State of Alaska
Roger Hansen - State of Alaska
Richard Eisner - State of California
Don Hoirup - State of California
Brian Yanagi - State of Hawaii
Laura Kong - State of Hawaii
Mark Darienzo - State of Oregon
George Priest - State of Oregon
George Crawford - State of Washington
Timothy Walsh - State of Washington

The following FY 2003 Budgets were presented and approved. Amounts in () have already been transferred.

1. AK- Mitigation and Mapping - Simmons $274,000 (88,000)
2. CA - Mitigation and Mapping - Eisner $274,000 (88,000)
3. HI - Mitigation and Mapping - Yanagi $274,000 (88,000)
4. OR - Mitigation and Mapping - Darienzo $274,000 (158,000)
5. WA -Mitigation and Mapping Objectives- Crawford $404,000 (118,000) Budget Sheet
6. USGS - Seismic - Oppenheimer $450,300 Statement
7. AK- Seismic - Hansen $269,396
8. NOAA - DART buoys - Bernard $1,200,000 ($994,244)
9. NOAA - TIME center - González $300,000 ($190,000)
10. NOAA - Administration - Bernard $72,964 ($56)

Proposals to cover unfunded goals: Warning Goals 2 & 5: Real-time tsunami forecast - González approved at $154,322

Other Proposals:

1. Tsunami Survey - Crawford Not approved for FY 03
2. Real-time Earthquake Display - Oppenheimer approved at $129,238
3. Near real time Earthquake Characteristics: Diagnostics for Tsunamigenic Potential - Hansen - Not approved for FY 03
4. VSAT Proposal - Oppenheimer -Not approved for FY 03

Preliminary discussions were held on FY 2004 budgets:

1. AK- Mitigation and Mapping - Simmons
2. CA - Mitigation and Mapping - Eisner
3. HI - Mitigation and Mapping - Yanagi
4. OR - Mitigation and Mapping - Darienzo
5. WA -Mitigation and Mapping - Crawford
6. USGS - Seismic - Oppenheimer
7. AK- Seismic - Hansen
8. NOAA - DART buoys - Bernard
9. NOAA - TIME Center - González
10. NOAA - Administration - Bernard
11. Other

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a State/Federal Partnership funded through the National Oceanic and Atmospheric Administration (NOAA).

It is assembled by
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Connie J. Manson, Senior Library Information Specialist,
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Participants in the TsuInfo program can request copies of reports listed in this issue from:
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WASHINGTON STATE DEPARTMENT OF
Natural Resources
Doug Sutherland - Commissioner of Public Lands

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NOAA
U.S. DEPARTMENT OF COMMERCE

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Action Items

1. Craig Weaver, Chip McCreery, and Dave Oppenheimer are to identify a NOAA EMWIN specialist to work on the real-time earthquake display proposal.
2. Chip McCreery is to talk to Jeff LaDouce to request that a tsunami warning coordination meeting be held before November 2003. Frank González will put together a menu of options of tsunami warning products by July 1, 2003, and send out the URL of his report.
3. Frank González will prepare a 1-pager on quality control for inundation mapping and distribute it to the states.
4. The Fall 2003 NTHMP Steering Group Meeting will be held November 6 and 7, 2003, at PMEL in Seattle. Each Steering Group Member was asked to supply names of people that we need to invite to the meeting. Invitees should be with organizations that have a vested interest in our program.
5. Brian Yanagi (with the help of the Mitigation Subcommittee) will write a draft letter that can be sent to Congressional members requesting additional funds needed for the proposed data delivery system and for increasing the scope of the program to include Guam, Puerto Rico, etc., by June 15.
6. Chip McCreery will hold a CREST coordination meeting with WC/ATWC, David Oppenheimer, and a representative from the Hawaii Volcano Observatory to review seismic system data communications efficiency improvements prior to November 2003. Chip will also hold a meeting of the water level specialists to review the present practices and recommend improvements before November 2003.
7. The Mitigation Subcommittee will decide on a mitigation budget structure and send to Eddie Bernard via e-mail by June 30. Eddie will include a Mitigation line item on his spreadsheet.
8. Frank González will draft a letter for Jeff LaDouce (NWS) to send to NOS concerning upgrades to coastal tide gauges by July 1, 2003.
9. The group wanted to know the makeup of the tsuhaz e-mail list. They also wanted to formulate a separate e-mail list for just steering group members with no additional interested parties included as has been done in the tsuhaz e-mail list. Ann Thomason will e-mail the tsuhaz e-mail list components to each person attending this meeting. Eddie Bernard will have a separate members list formulated by June 30.

The meeting adjourned at noon on May 29, 2003.

NTHMP Wins Award!

On April 23, 2003, Eddie Bernard announced that the National Tsunami Hazard Mitigation Program (NTHMP) had won the Seattle Federal Executive Board's 2003 Public Service Recognition Group Award. The award recognized NTHMP for its significant benefits to coastal communities.

As described in the nomination, the NTHMP is a State/Federal partnership created to reduce the impacts of tsunamis to U.S. coastal areas by coordinating the state efforts of Alaska, California, Hawaii, Oregon, and Washington with the Federal activities of NOAA, FEMA, and the USGS. The program has yielded a major upgrade in tsunami warning system capability and credibility by preventing false alarms, thus saving money and avoiding unnecessary evacuations. Investments in tsunami evacuation maps and state level mitigation plans have raised the awareness of coastal residents and local decision makers for tsunami hazards and appropriate responses. NOAA designated the Quinault Indian Tribe the first Native American TsunamiReady community on June 4, 2002.

The Celebration of Public Service Awards Ceremony was held on Wednesday, May 7, at the Jackson Federal Building, in Seattle. Dr. Bernard accepted the award on behalf of the Steering Group.

HAZARD MITIGATION NEWS

Homeland Security State Grants for All Hazards Emergency and Terrorism Preparedness

The Department of Homeland Security's Emergency Preparedness and Response Directorate, known as the Federal Emergency Management Agency (FEMA), has provided $165 million in grants to help state and local governments better prepare to respond to all hazards preparedness activities and emergency management. These funds are a result of a significant increase in funding for the Emergency Management Performance Grants (EMPG) program from the FY03 budget.

Local emergency managers plan, train, exercise, and coordinate all emergency services in response to major incidents. They also assume the leading role in mitigation program activities that are designed to reduce the vulnerability of communities to all hazards. The EMP program allows states the flexibility to allocate funds according to risk vulnerabilities and to address the most urgent state and local needs in all hazard mitigation, preparedness, response, and recovery.

Complete program information, along with eligibility requirements and instructions about how to apply, may be found at http://www.ojp.usdoj.gov/odp/docs/ODPApplication. pdf.

from: Disaster Research 388, May 7, 2003

Congratulations on the Grant Award, Costas!

Costas B. Synolakis, Department of Civil Engineering, University of Southern California, has received a $36,000 grant from the National Science Foundation for the project, "Reconnaissance Survey of the September 9, 2002, Papua-New Guinea Earthquake and Tsunami."

This funding will support a reconnaissance survey of the earthquake and subsequent tsunami that struck Papua-New Guinea in 2002. The tsunami reportedly killed only two people, in comparison to the 1998 tsunami that killed 2,200 people, although the 2002 quake was a stronger temblor and its epicenter was located at approximately the same distance from the impacted coastline as the 1998 event. Researchers will explore why the 2002 tsunami had a lesser impact than the 1998 event. They hope to obtain knowledge relevant to the western coast of the United States, where offshore earthquakes of similar magnitude are possible.

from: Natural Hazards Observer, v. XXVII, no. 4, p. 19

PPW Calls for All-Hazards Warning System

The United States lacks a warning system for natural and human-caused disasters that uses standard terminology and protocols. Developing such a system would help the public to better understand and respond to all types of threats, according to a report issued by the Partnership for Public Warning (PPW), a group of experts in disaster warning and disaster information (see the *Natural Hazards Observer*, Vol. XXVI, no. 4, p. 9).

The public currently receives warnings through a hodpepodge of systems controlled by various levels of government. Alerts are triggered by different levels of threat and use different, sometimes confusing names. PPW believes the public would be better served by a uniform all-hazards public warning system that would:

—take into consideration current research about human response to warnings that challenges common beliefs that warnings generate panic and that false warnings greatly diminish the tendency of people to heed future warnings;

—incorporate training for both emergency managers and the populations at risk;

—use standardized terminology such as “watch” and “warning”; and employ a standard protocol for issuing warnings.

PPW hopes to develop a strategy for a national warning system that would use technology to distribute warnings via television, radio, pagers, cell phones, the Internet, and other devices. The group also hopes the new Dept. of Homeland Security will be given the task of developing the system.

The report, *Developing a Unified All-Hazard Warning System* (PPW Report 2002-02, 2002, 47 p., free), is on the PPW web site: http://www.partnershipforpublicwarning.org/ppw/docs/11_25_2002reportpdf.

For more information about this effort, contact the Partnership for Public Warning, Mail Stop N655, 7515 Colshire Drive, McLean, VA 22102-7508; (703) 883-2745; e-mail: jkim@partnershipforpublicwarning.org.

from: Natural Hazards Observer, v. XXVII, no. 4, p. 5

EMAP to Look at Accreditation

Across the country, state and local emergency managers and emergency management programs play a crucial and vital role in preparedness. They are often the sole entities responsible for planning and coordinating disaster mitigation and recovery. State-level emergency response personnel work to create safer communities and reduce disaster-related losses to residents, businesses, and key infrastructure. However, agency titles and responsibilities vary greatly from state to state, as do their administrative structures and where they are housed. Aside from professional organizations and affiliations, there are no consistent standards or processes with which emergency management agencies can demonstrate compliance in their work.

In recognition of this and the important work occurring at the state level, a dozen national organizations joined together in 1997 to create an accreditation process for state-level emergency management programs–the Emergency Management Accreditation Program (EMAP). Organizations that collaborated on creating the EMAP standard include the National Emergency Management Association, International Association of Emergency Managers, Federal Emergency Management Agency, U.S. Department of Transportation, Association of State Floodplain Managers, Institute for Business and Home Safety, International Association of Fire Chiefs, National Association of Counties, National Association of Development Organizations, National Conference of State Legislatures, National Governors Association, National League of Cities, and the U.S. Environmental Protection Agency.

EMAP provides a voluntary accreditation process for state, territorial, and local programs that are responsible for preparing for and responding to disasters, with the goal of fostering improved and consistent emergency management program capabilities. Adopting EMAP standards will strengthen community capabilities in responding to all types of hazards, from tornadoes and earthquakes to school violence and bioterrorism. States that are applying for accreditation conduct a self-assessment that includes gathering internal documentation. An EMAP team then visits the jurisdiction to take a more in-depth look at individual protocols and practice.

EMAP has joined with the Federal Emergency Management Agency (FEMA) to conduct a baseline assessment of all state and territorial emergency management programs that will include a self assessment, on-site assessment, and feedback on the accreditation process and benefits. Training modules and information about the EMAP standard are available from Emily DeMers, EMAP, P.O. Box 11910, Lexington, KY 40578; (859) 244-8210; e-mail: edemers@csg.org; http://www.emaponline.org.

from: Natural Hazards Observer, v. XXVII, no. 5, May 2003, p. 12
also available online: http://www.colorado.edu/hazards/o/mayo03/toc.htm

USGS–Providing Science and Monitoring to Protect Communities, an invited comment [abridged], by Charles G. Groat, Director, USGS

The Earth is a life-giving yet lethally dangerous planet whose power we ignore at our peril. Science provides tools to recognize nature's forces, to understand its processes, and to reduce its hazards. The U.S. Geological Survey (USGS),

through its scientific research, monitoring, analysis, and information-sharing activities, works with partners across the nation and around the world to reduce the toll of human suffering and loss caused by natural disasters.

Each natural hazard presents a unique set of challenges. USGS hazards programs have evolved in different ways, in response to the needs to our partners and our society, as well as to scientific and technological advances.

Coastal Hazards

The USGS provides information to help understand and predict coastal erosion and other storm effects on the shoreline and to identify and evaluate offshore earthquake, tsunami, and landslide hazards. In cooperation with the National Aeronautics and Space Administration (NASA) and the National Oceanic and Atmospheric Administration (NOAA), we are compiling baseline data that will lead to a national assessment of coastal change resulting from storms, erosion, and sea-level rise. Scientists are completing a series of maps of coastal vulnerability to sea-level rise for the nation's Atlantic, Pacific, and Gulf of Mexico coasts. Coastal scientists are also mapping active submarine faults in southern California and the Caribbean. This information complements previous assessments of offshore geologic hazards and provides data for models to estimate the hazards posed by earthquakes, landslides, and tsunamis. We are also working closely with NOAA to reduce losses from tsunamis through analyses of tsunami deposits and offshore earthquake source characterizations. To learn more about our efforts in the coastal realm, visit our web page: http://marine.usgs.gov

Originally published in *Natural Hazards Observer*, v. XXVII, no. 4, p. 2-4. The full article is at http://www.colorado.edu/hazards/o/maro03/maro03b.htm)

DID COLUMBUS EXPERIENCE A ROGUE WAVE OR A TSUNAMI?

Given:

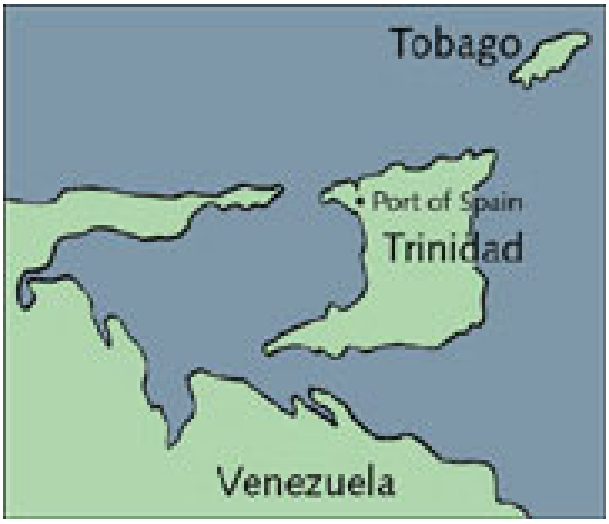
In the oceans these waves [tsunamis] cannot be detected as they are often over 100 miles in length and less than a metre in height, travelling at tremendous speed, reaching 300 to 500 knots. On entering shallow water the waves become shorter and higher. On coasts where there is a long fetch of shallow water with oceanic depths immediately to seaward, and in V-shaped harbour mouths, the waves can reach disastrous proportions. Waves having a height of 20 m from crest to trough have been reported.

from: www.navis.gr/meteo/ tsunamis.htm

August 1, 1498:

"Forty-eight hours later the fleet rounded the [south]-western tip of Trinidad and sailed into what is today the Gulf of Paría. The ships had hardly taken up a northerly bearing when Columbus heard a fearsome roaring from behind. He turned to see a rogue wave–possibly created by volcanic activity or a tectonic shift–a wall of water as high as the ships and approaching faster than they could escape. The Admiral later said he could feel the fear the thing created in him long after it reached the fleet and lifted the vessels, hoisting them higher than anything he'd ever experienced and then dropping them into its huge trough."

from: Columbus in the Americas, by William Least Heat-Moon. John Wiley & Sons, 2002, page 142



A MAP OF RECOVERY: A SURVEY OF THE STAGES MOST DISASTER SURVIVORS ENDURE

by Dr. Susanna M. Hoffman (reprinted with permission)
phone/fax (970) 728-1004; email: shoffman@rmi.net

Introductory Note:

For the purpose of the 15 minute time limit, I am only dealing with the perspective of disaster survivors here, not that of aid agencies, governments, or issues prior to disaster such as vulnerability, or after such as mitigation. In short, I am covering nowhere near the whole disaster scenario. Also in the interest of time, I have also deleted most case materials. I am simply dealing with the process disaster survivors go through.

A great deal more people survive catastrophes than are killed by them.

When the dust settles or the water recedes, the survivors are left in pieces. A world that was solid has turned to rubble. A milieu that functioned has broken down. As well, a set of meanings and explanations that offered sense has dissolved into as much debris as have the streets and buildings.

People's recovery in the aftermath of disaster constitutes the second side of a major catastrophe next to the physical side: the social domain. For those who survive it is a time of devastation, despair, fragmentation. It is, quite remarkably, also a time of cohesion, unity, and purpose. A great deal of research has taken place among people who have survived major calamities. The locales and misfortunes have been extremely diverse. Yet, among the assortment of region and catastrophe, certain regularities continue to emerge. Clearly, for those suspended between havoc and wholeness, process ensues. Its steps are many and complex, and while all disasters are different, all local, and all nuanced by the details of place and customs, many aspects of disaster response appear as predictable as crawling, standing, walking.

What follows is a model of disaster recovery in terms of the survivors. The model I draw is idealized. By drawing a model, I mean not at all to trivialize the catastrophe or sufferings of anyone involved in a disaster. Being a survivor myself, I would not do that. But for a more holistic understanding of disaster's effects on human communities, I believe a synthesis of the commonalities of recovery can prove extremely useful.

I break the mechanisms of recovery into three stages. The first, or primary stage, is the events taking place during or immediately after a catastrophic event occurs.

Primary Stage

Beginning almost immediately after a major catastrophe, be it natural, technological, or even terrorism, there follows a period, usually quite short, when victims are propelled into a circumstance of extreme individualization. Social groups and social fabric have disintegrated and survivors find themselves on their own. Given the social nature of human life, this constitutes an abnormal, disconcerting situation for the victims. One anthropologist called it "being left naked and alone in a terrifying wilderness of ruins." This primary individualization marks the beginnings of what will become for the victims a state of "marginalilty," or "liminality," a condition where they will have little socio-cultural context and accordingly little identity. They have been cast into a transition, and though uninvited, it will mark them throughout the process of recovery, and possibly forever.

Despite the initial individualization, two behaviors arise almost immediately that are highly communal in nature and that sow the seeds of a unity and emotional climate to come. Victims find themselves implementing the most basic code of behavior code, or morality, of human life. They save one another, and they save one another despite whatever their pre-disaster differences were: race, religions, class, gender, or ethnicity. (In Santorini in the 1956 earthquake, for example, they told me, "We even saved Catholics.") As well, over the next hours and days victims aid one another. They provide one another with food and clothing, and they take in the lost.

Thus in rapid succession, survivors go through a trinity of profound emotional experiences, life over death, survival over possession, and individuation turning into mutual aid. And as a result, they begin to develop a deep sense of unity with one another and they begin to merge into a group.

They also become psychologically "swept away." Some have called it "euphoria," though I object to the implication of happiness in the word. Nonetheless they begin to feel different, detached from other people, which furthers their sense of "marginality." They have also defeated danger, the shock of which imparts a peculiar, often remorseful, sense of specialness, and also guilt.

In abrupt disasters the individualization, the mutual aid and rescue quickly follow the event. In longer developing disasters, such as drought or the effects of long term pollution, these actions tend to occur upon the discovery of damage. In either case, the initial responses spark two other factors that continue to characterize the survivors. The primary and often most important help victims receive derives from among themselves despite what outside aid might come later, and the initial reactions touch off among disaster victims a sense of purpose, almost a higher purpose, which is almost always voiced with the motto "We will rebuild."

The survivors embark on what now becomes a common ship, they as a group over any single person. They foster what in due course grows into a double action, a drive for recovery coupled with a sense of merit--they deserve to regain what they had. This sentiment sometimes evolves into righteousness and sometimes martyrdom.

At first survivors feel linked to the community around them, to those persons nearby who did not suffer loss. They

are often life savers and aid givers, too. They play a part in recovery that continues in counterpoint with those who bore the actual damage, but this first goodwill with those around will later fall apart.

Meanwhile, in perception, the pieces of glass in the kaleidoscope that was the victims' world view begin a shift from the former pattern into a new one. If denial of risk was in place, it has dissolved. They now recognize their vulnerability. As a result, their perspective become permanently altered, never to recapture completely the design that they had before.

Secondary Stage

As the pitch of crisis wanes leaving the extent of devastation clear, a second, more prolonged phase of disaster recovery replaces the first. I call what happens now a "nexus" for in this stage the events are as interlinked as sequential. The stage further incorporates occurrences both internal and external to the survivor group.

The onset of the second stage of disaster recovery could be defined as starting when the individualized survivors truly merge into a union and, at least for a while, a unity. Survivors come to the realization that they are the casualties of the disaster, and on this terrible foundation they collect.

In one of the first actions, they develop a new definition of themselves. That definition is at once inclusive and exclusive. Some certain amount of loss, a dead relative, the complete destruction of their habitat, defines who is and is not a "real" victim of the calamity. (In the Oakland Firestorm I survived, it was whether a person lost their whole house, not part of a house. With the survivors of 9/11 in New York, it is those who lost a person, not those who were merely injured, though many injured are still hospitalized).

Among the first steps, all disaster victims also rapidly--and I mean rapidly--launch rites and ceremonies. Almost inevitably these take place right on the grounds of the devastation. With the ceremonies the victims acknowledge the event, give vent to grief, and deal with spiritual questions– such as "why us?" The ceremonies give ownership of the disaster to the victims and perhaps also operate as a vehicle to enable necessary change.

Victims start to gather. Gathering, in fact, becomes a theme. With or without the provision of formal shelters, survivors almost always cluster in a certain place. Unfortunately, when housing is needed, they are almost always housed collectively as well, in survivor camps, and this adds to their marginality. Many times the physical separation is reiforced permanently when later housing built for them places them en masse in "survivor ghettos." Such ghettos keep survivors marked as different, and far too commonly later turn into wretched slums. (This is how Kai Erikson described it.).

`Survivors now become engulfed in practices and immersed in a litany of concerns related to their circumstance. They blanket themselves in a coating of new alliances and initiate a sub-society within the larger order. Step by step their exclusion evolves into estrangement. What once defined stranger and friend snakes into new boundaries. Survivors not only begin to see themselves as a distinct group from the community surrounding them, they begin to see themselves as adversarial to it. It is, in fact, animosity toward the outside community that adds the final fix to disaster victims' cohesion. They are joined against the outside world. The line demarcating the unity and contention is often two-fold. On the one hand, survivors develop resentment to those who suffered no loss. On the other hand, disaster victims inevitably seize upon a particular entity or particular group they come to view as "the enemy." The perceived enemy is almost always whatever agency brings them restitution: the government or whatever group is the main aid agency.

Likewise, for whatever reason, those outside the survivor group, now become critical of the victims as well. They question whether perhaps the victims brought the disaster on themselves. If aid arrives, the outsiders start to call the survivors "greedy" and become jealous of it, despite the fact that they themselves suffered no loss. They expect the survivors "to get over it" and view them as perpetual whiners. The survivors view the outsiders as having no sensitivity to how much they lost or the tribulations they are suffering. Those who didn't suffer loss also often exploit the victims. They raise rents and prices. Agents and agencies also lose sympathy for the victims, despite the fact that the survivors' loss may yet be uncompensated, and begin to name them (as a group) as difficult, demanding, or ungrateful. In anthropology we call this process "segmentary opposition," people separating into adversarial groups along lines of a certain loyalty, and it follows disasters like mushrooms follow rain.

At this point what occurs is a series of events that neither survivor, agency, nor neighbor is prepared for. A near-to-full bag of the tricks that convey hostility arise, including name calling, denigration, social isolation, resistance--all the devious devices of segmentary opposition--drops down to divide and dehumanize the survivors and the outsiders. Survivors come to view the agents dealing with them as deprivational and duplicitous, the surrounding community as evil and vice versa. Indeed, agents and outsider now often do obstruct victims and sometimes cheat them. They find ways to deny claims. In turn, victims begin to cheat aid givers. They claim losses they didn't have. Each perceives themselves as the good against the bad. Such actions act as a method that rids one of obligation. And that is what occurs. Between outside community, aid giver, and disaster victim, any feelings of obligation disappear.

Meanwhile, yet other occurrences transpire among all disaster survivor groups. New leaders almost always rise up and new political agendas emerge. In New York, for example, the widows of the deceased, led by one particular woman, rebelled against mayor Guilliani. Almost everywhere, victim action groups form. Sometimes the leaders that arise from a catastrophe become permanent political figures, more often they fade away in time. Sometimes the

political causes that spring up disappear, such as the anarchist movement that rose after the Chicago fire. Other times they gather force and turn into national movements, such as with Peru's Shining Path.

Meanwhile disaster survivors pass from the sort of victims who were injured to the sort who are prey. Exploiters arrive in every disaster scene. They range from an out-of-town influx of carpenters and contractors to financial crooks and scam artists. And where homes are destroyed, the shops that supply people with everything from concrete to bed sheets have a hay day.

At the same time, internal to the ostensibly unified disaster group, another set of processes unfolds. For various reasons, the survivor group begins to split apart. Usually the point of fission occurs when outside aid or resettlement arise: how much money has each collected? Was it the same, and who gets what house? Aspects of inequality and allegiance in the society prior to the disaster come back in to play.

All along in contemporary disasters the external parties that arrive also enmesh the recovery process. External authorities carry everything from food to rules on their relief trays. When their precepts diverge from survivors' traditions, they depress the recovery process. Furthermore, external relief often conflicts or interferes with survivors' self help. Self help relies on the ability to mobilize resources, and outside agencies often disrupt this.

All the while, once goods start to flow, every economic principle in the textbook--true and false scarcity, formal and informal markets, employment opportunity and competition for clientele, crops up. The combination of economic potential and political control invariably produces a tremendous struggle for hegemony. No euphoria now, the recovery turns raveled, strife ridden, debilitating, and very often stalemated. Moreover, a scuffle over framing trails every aspect of disjunction. Disaster is a social construction in which not all concerned paint the event, or even what constitutes a calamity, similarly. Frequently victims, neighbor, agent, government, and media entertain different pictures of the catastrophe, whether it happened, who did it harm, and whether it has passed.

In the meantime, while reconstructing a new social world, overwrought survivors experience a backlash of old cultural themes. Codes, roles, and expectations decades, even millennia old, sweep down despite whatever modern changes may have transpired in survivors' lives. Old religious beliefs and strictures return, as do old family rules. Male elders, mothers-in-law, head scarves and moral rules pour in. And old gender codes, what men and women can and can't do, reappear--until survivors are left as confused in understanding as they are in rubble.

Third Stage

No sharp line indicates when the third stage, the passage to closure, occurs in recovery from disaster. Some view closure as coming when victims return to the physical site of the calamity once more, but in technological disaster with its spoiled earth, that sort of end does not take place. In general victims have achieved some sort of settlement in place, desirable or not. By and large aid has left, and lives have fixture.

With this, a gradual dissolution of the prior unity takes place and the unifying purpose, to rebuild, is often abandoned. Except for occasional anniversary observance, ceremonies revert to their old form. The economics that grew out of the disaster gel into permanent systems. Survivors gradually emerge from their "liminality" and become members of normal society again.

While sometimes calamity is a bridge to great change, other times it is only a "a wrinkle in time" after which little seems to have altered. If little else, the event usually spurs increased political awareness. Sometimes a calamity results in reinforced authority of a certain people over others. Occasionally in zones of chronic disaster people clearly make adjustments to better handle their environments, sometimes not. However, survivors almost always see their inner lives as different. While the animosities they developed often linger and they may have acquired a new view of hazards they risk, usually the rapture survivors they drew from a the sense of unity, community and purpose they experienced glides into a new inner sense of self. They have overcome the worst of times and the best of times, and one way or another, they have come out whole.

TSUNAMI LESSONS, PLANS, AND DEMONSTRATIONS

If you are giving a public lecture or classroom talk, you might find one of these lessons helpful.

http://school.discovery.com/lessonplans/programs/dynamicearth/
http://school.discovery.com/lessonplans/programs/tidalwave/
http://www.eduplace.com/rdg/gen_act/disaster/monster.html
http://education.ssc.nasa.gov/fad/detail.asp?offset=60&LessonID=83
http://www.teachervision.com/lesson-plans/lesson-3615.html
http://observe.arc.nasa.gov/nasa/education/teach_guide/tsunami.html
http://www.usoe.k12.ut.us/curr/science/core/plans/esys/seismic.html

ON THE LINE

ALL-HAZARDS PLANNING–WHAT DOES IT MEAN?

by Lloyd Bokman, Ohio Emergency Management Agency, Columbus, Ohio

originally published in Natural Hazards Observer, v. XXVII, no. 4, p. 10-11
http://www.colorado.edu/hazards/o/maro03/maro03f.htm

The Department of Homeland Security has incorporated the Federal Emergency Management Agency (FEMA) as one of its foundational building blocks (see the *Natural Hazards Observer,* v. XXVII, no. 3, p. 5). This shift has many people in the emergency management field concerned about the future of all-hazards planning, and worried that planning for non-terrorist related hazards and events will be neglected or overlooked by the new department. It is feared that all-hazards plans will become one-hazard plans, with a sole emphasis on terrorism.

This concern arises from past experiences with the "stovepipe" approach of creating stand-alone plans tailored for specific hazards. This classic approach consisted of areas of specialized planning that functioned without recognizing or taking into account the cross-cutting nature of emergency response and preparedness, such as communications systems, command issues, and control. Proponents of stand-alone plans, however, countered that emergency planning had to account for unique differences among types of hazards and their responses. They argued that a generic "all-hazards" approach was too broad and not able to adequately address the crucial differences between responding to an earthquake and a nuclear accident.

With time, these competing perspectives have merged to create the current all-hazards concept of emergency planning that addresses concerns expressed by both points of view. This perspective is widely in use today.

All-Hazards Approach and Terrorism

If an all-hazards approach is the answer, then why are so many concerned about its accepted use for emergency management in this age of terrorism? Many emergency managers believe that the approach's utility and generic aspects will be lost on those who are new to the field or those whose overriding concern is terrorism. Conversely, many terrorism specialists are concerned that the planning and preparedness challenges of terrorism, as a unique hazard event, will be overlooked.

Essentially, we have returned to the debate between the two paradigms of the emergency planning spectrum. This artificial rift again demonstrates misconceptions about a comprehensive and responsive all-hazards approach and its applicability to emergency planning and management.

Legislative Roots

The concept of all-hazards planning was originally put forth by FEMA in its Civil Preparedness Guides (CPG), in particular CPG 1-8, *Guide for the Development of State and Local Emergency Operations Plans* (EOP). CPG 1-8 was updated in 1996 by the *Guide for All-Hazard Emergency Operations Planning,* State and Local Guide 101. Both publications acknowledge the flexibility inherent in disaster and hazards planning, and the need to combine hazard specific activities with a core approach that encompasses responses that are appropriate to all hazards.

Chapter 5 of CPG 1-8 states, "To be logical, a planning process must address each hazard that threatens the jurisdiction. It is important, therefore, that the hazards identification process be completed at the beginning of the planning process. Generic planning, as reflected in the functional annexes, does not ignore hazards; it addresses all of them collectively. It is inevitable, however, that the unique characterisics of various hazards will not be adequately covered in the annexes." Hazard-specific appendices fulfill this role.

The SLG 101 states that the functional approach should avoid duplication of the planning effort for every hazard and every task, by dividing the emergency operating plan (EOP) into four levels of specificity (basic plan, functional annexes, hazard-specific appendices, and standard operating procedures); serve in hazardous situations by organizing the EOP around performance of generic functions; and emphasize hazards that pose the greatest risk to a jurisdiction, through the use of hazard-specific appendices.

As appropriate, the plan should quantify the risk area, geography, and demographic considerations that apply to each hazard.

Further, as planning philosophies, neither a one hazard, specialty planning approach nor a generic, one-size-fits-all approach of strict functional planning is recommended. A true all-hazards approach, therefore, contains a solid foundation that provides for the scope of functions and activities that need to be addressed in all incidents.

Hazard analyses examine unique but interrelated hazards to provide a framework for comprehensive, thorough, and all-hazards analysis, whether the incident is natural, chemical, biological, or nuclear. The FEMA document, *Understanding Your Risks, Identifying Hazards and Estimating Losses* (386-2), along with *Community Vulnerability Assessment Tool* (available on CD-ROM)**,** illustrate this point well. These documents were originally published for mitigation activities, but since all hazard analysis should consider mitigation opportunities, they are certainly applicable. If mitigation is not feasible, we must be prepared to respond. *The Guide for All-Hazard Emergency Operations Planning* underscores this when it states, "Hazard analysis is the basis for both mitigation efforts and EOPs."

Planning and Resource Allocation

To be carried out correctly, this approach takes a great deal of work over a long period of time. At the local level, if

an emergency management agency is understaffed, it is difficult for a planning team to acquire the necessary expertise to conduct a comprehensive hazard analysis and create hazard-specific plans. Larger metropolitan areas may have adequate resources to support specialized planners, but even then, most municipalities do not allocate sufficient resources.

In these cases, it is possible that state or federal planners could provide the needed expertise to assist local planners with the technicalities of hazard specific planning. This is analogous to the medical field, when a general practitioner consults with an appropriate specialist for help with a particular diagnosis or treatment that may be outside the practitioner's scope of practice.

However it is implemented, FEMA has issued additional planning guidance that incorporates terrorism planning into a hazard-specific section of an EOP. In conjunction with the guide, these documents provide a complete framework in which both response and management extremes are blended together, balanced, and incorporated into a single, working unit.

What Now?

The Department of Homeland Security, with FEMA as a major structural component, would be short-sighted to ignore existing documents developed from lessons learned in real life incidents that have been used by so many people for so many years.

This is especially true for the core all-hazards aspects of emergency planning. However, as the FEMA documents state, we must not ignore the hazard-specific aspects of the current practice of emergency planning. To truly have an all hazards plan, we must plan for all-hazards.

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CONFERENCES/TRAINING

June 18-19, 3003; July 23-24, 2003

Emergency Preparedness in a Changed World. Sponsor: ABS Consulting. Two locations: Washington, DC: June 18-19, 2003; and Long Beach, California: July 23-24, 2003. This meeting will provide participants with the strategic resources to prepare for, and recover from, any emergency or disaster through creating organization-wide emergency management plans. Complete information is available from ABS Consulting, 4 Research Place, Suite 200, Rockville, MD 20850; (301) 921-2345; http://www.govinst.com. *from:* Disaster Research 388, May 7, 2003

June 24, 2003

"How To Create A Business Continuity Plan...That Works!" is an intensive, one-day workshop to be held in Seattle on June 24 and Irvine, CA on June 26. It was developed by Judy Bell, author of the first book on business continuity for the private sector, Disaster Survival Planning: A Practical Guide for Businesses.

In addition to addressing all of the fundamental elements of disaster response and business continuity planning, the session features video interviews of Business Continuity Managers who relate their experiences in creating effective plans. The videos expose attendees to best practices in a very compact program. Those interviewed include representatives from Toyota, Macy's, CalPERS, and California State Franchise Tax Board.

DRII-certified practitioners will receive 8 continuing education credits for attending this session. Discounts are available to multiple attendees from a single organization and for members of certain professional associations. Here is the workshop schedule:

- Seattle June 24
- Irvine, CA June 26
- Atlanta July 8
- Chicago July 10
- San Francisco July 17
- Denver August 19
- Sacramento August 21

For detailed workshop information or to register online, see www.disaster-survival.com/workshop.html or call (800) 601-4899.

from: news@disaster-resource.com (e-mail on 5-20-03)

June 30-July 11, 2003

Tsunamis: Their Science, Engineering, and Hazard Mitigation. Sponsor: Sapporo, Japan: IUGG2003 Registration Office Japan Marine Science and Technology Center (JAMSTEC), 02-15, Natsushima-cho Yokosuka 237-0061 Japan; -mail: IUGG_service@jamstec.go.jp; http://www.jamstec.go.jp/jamstec-e/iugg/index.html.

from: Disaster Research 388, May 7, 2003

November 11-13, 2003

Contingency Planning and Management Conference

East. Sponsor: Contingency Planning and Management (CPM). Washington, D.C. This conference is geared toward those who work with developing, maintaining, and implementing business continuity plans. Educational sessions, disaster simulation exercises, and networking opportunities are included. Complete details are available from CPM, 84 Park Avenue, Flemington, NJ 08822; (908) 788-0343; http://www.contingencyplanningexpo.com. *from:* Disaster Research 388, May 7, 2003

EMAP Assessor Training

The Emergency Management Accreditation Program (EMAP) was designed to foster consistent emergency management program performance capabilities as well as create a meaningful, voluntary accreditation process for state, territorial, and local disaster response programs.

EMAP is currently recruiting and training state and local assessors. Experienced emergency management staff (state or local, current or former) who meet specific qualifications are eligible to participate in training.

EMAP offers assessor training throughout the year. The training prepares participants to serve as on-site assessors as part of the assessment/accreditation process. For information and a registration form, contact Nicole Morgan, EMAP, P.O. Box 11910, Lexington, KY 40578-1910; (859) 244-8242; http://www.emaponline.org.
from: Disaster Research 386, April 4, 2003

ACADEMIC PROGRAMS FOR EMERGENCY MANAGEMENT

from: Contingency Planning & Management, vol. 8, no. 3, p. 23

Associate Degrees

Delaware Technical Community College:www.dtcc.edu
Georgia State University: www.gsu.edu
University of Jacksonville: iep.jsu.edu
Red Rocks Community College: www.ccconline.org
Scott Community College: www.eicc.org/ecat
Thomas Edison State College: www.tesc.edu
University of Richmond: www.richmond.edu

Bachelors Degrees

Coventry University: www.coventry.ac.uk
Georgia State University: www.gsu.edu
University of Jacksonville: iep.jsu.edu
Thomas Edison State College: www.tesc.edu
University of North Texas: www.scs.unt.edu/depts/eadp
University of Richmond: www.richmond.edu

Post-Graduate Programs

Georgia State University: www.gsu.edu
University of Jacksonville: iep.jsu.edu
Texas A & M University: hrrc.tamu.edu
University of British Columbia: www.chs.ubc.ca
University of West Virginia: www.wvu.edu
Western Washington University:www.wce.wwu.edu/emergencymgmt

Certificate Programs

Coventry University: www.coventry.ac.uk
Georgia State University: www.gsu.edu
University of Jacksonville: iep.jsu.edu
Kwantlen University College: www.kwantlen.bc.ca/pscm
Red Rocks Community College: www.ccconline.org
Texas A & M University: hrrc.tamu.edu
University of Richmond: www.richmond.edu
University of Wisconsin: dmc.engr.wisc.edu
University of West Virginia: www.wvu.edu
Western Washington University: www.wce.wwu.edu/emergencymgmt

Professional Certification Programs

Business Continuity Institute: www.thebci.org
Disaster Recovery Institute International: www.drii.org
International Association of Emergency Managers: www.iaem.org

Professional Training Programs

Disaster Recovery Institute International: www.drii.org
Institute for Business Continuity Training: www.ibct.com
International Association of Emergency Managers: www.iaem.org
MIS Training Institute: www.misti.com
Strohl Systems: www.strohlsystems.com
Survive: www.survive.com

Research Centers

University of Delaware Disaster Resource Center: www.udel.edu/DRC/about.html
Millersville University Disaster Research Group: muweb.millersville.edu/~DRG/info.html
University of Wisconsin Disaster Management Center: dmc.engr.wisc.edu

Others:

Institute for Hazards Mitigation Planning and Research–College of Architecture and Urban Planning: http://depts.washington.edu/mitigate/courses.htm

WEBSITES

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

The National Oceanic and Atmospheric Association's National Ocean Service (NOS) recently launched a web site that provides real-time coastal observations and forecasts for major U.S. estuaries and seaports, the Great Lakes and the coast. The map-based web portal called "nowCOAST" provides spatially-referenced links to real-time information from meteorological, oceanographic, and river observing networks.

from: Disaster Research 388, May 7, 2003

http://www.pep.bc.ca/hrva/hazard.html

The province of British Columbia, Canada, has produced an on-line, dynamic hazard, risk, and vulnerability assessment tool that may be of interest to communities wishing to conduct a risk assessment.

http://www.fema.gov/library/bizindex.shtm

The Federal Emergency Management Agency (FEMA) has a section on its web site devoted to business continuity planning that is designed as a step-by-step approach to emergency planning, response, and recovery for all types of companies.

http://www.crowdingtherim.org

Human populations are expanding and economies are intertwining across international borders in ways that we do not yet fully understand. This web site promotes international, cross-sector discussions to better understand and prepare for the potential reverberating effects of hazards in the Pacific Rim region.

http://www.disasterhelp.gov

This site, part of the "disaster management initiative," is intended to serve as a one-stop information portal about disaster preparedness and response.

http://www.opm.gov/emergency/

The U.S. Office of Personnel Management (OPM) has created a variety of emergency preparedness brochures to inform government officials, media and the general public of OPM response and operations during a crisis or emergency. A select list of resources is included as well.

http://www.who.int/disasters (Click on Newsletter at the bottom of the page.)

Emergency Preparedness and Response Highlights, a periodic electronic newsletter published by WHO's Department of Emergency and Humanitarian Action is available online. To be notified by e-mail when a new issue is up on the site, write to eha@who.int.

from: Disasters Preparedness and Mitigation in the Americas, issue no. 91, April 2003, p. 3

http://www.unisdr.org/unisdr/highlights2003.htm

ISDR Highlights, a forum to share ideas and major developments in the field of disaster reduction, increase public awareness, and expand risk reduction networks is published bimonthly by the International Strategy for Disaster Reduction.

from: Disasters Preparedness and Mitigation in the Americas,issue no. 91, April 2003, p. 3

http://www.hazardmaps.gov/atlas.php

HazardMaps.gov–The Multi-Hazard Mapping Initiative, Multi-Hazard Atlas website allows you to find maps by state, county, congressional district, national grid coordinates, latitude/longitude, or zip code. The site includes maps for earthquakes, floods, hail storms, land subsidence, landslides, tornadoes, tropical cyclones, tsunami, volcanic hazards, windstorms and world events. Maps may be customized and multiple layers selected.

This ancient building has clearly sustained significant damage. While there is no conclusive evidence that the damage was caused by tsunamis, more study is needed.

The 1755 Lisbon Earthquake

This 2001 article by David K. Chester (Progress in Physical Geography, v. 25, no. 3, pages 363-383) deserves mention. It is a good follow-up to the Dyne article published in *TsuInfo Alert* (v. 2, no. 4, August 2000). Any *TsuInfo Alert* participant can request a copy (see page 2 for instructions).

"Abstract: Affecting an area of ca. 800 000 km^2 and killing up to 100 000 people, the Lisbon earthquake of 1755 is probably the greatest seismic disaster to have struck western Europe. The shock waves of the earthquake placed a temporary brake on the emerging rationalism of the European Enlightenment and attempts to explain the disaster in terms of human sinfulness coloured many contemporary accounts. Notwithstanding these difficulties, through careful archival research it has proved possible to obtain relatively value-free accounts of most aspects of the earthquake and to use these not only to model the physical characteristics of and damage caused by the earthquake, but also to consider the implications for present day hazard assessment and urban planning. This paper reviews the progress that has been made in: identifying source and faulting mechanisms; the processes involved in the generation and impact of tsunamis; damage caused to different types of building and the use being made of historical earthquakes of different sizes–of which the 1755 event is the largest–in defining future scenarios for Lisbon and other areas of Iberia."

Emergency Preparedness and Response Highlights

EPRH is a periodic electronic newsletter published by WHO's Department of Emergency and Humanitarian Action is available online at http://www.who.int/disasters (Click on Newsletter at the bottom of the page.) To be notified by e-mail when a new issue is up on the site, write to eha@who.int. *from:* Disasters Preparedness and Mitigation in the Americas, issue no. 91, April 2003, p. 3

ISDR Highlights

IH is a forum to share ideas and major developments in the field of disaster reduction, increase public awareness, and expand risk reduction networks is published bimonthly by the International Strategy for Disaster Reduction. http://www.unisdr.org/unisdr/highlights2003.htm
from: Disasters Preparedness and Mitigation in the Americas, issue no. 91, April 2003, p. 3

Are You Ready? A Guide to Citizen Preparedness

The Federal Emergency Management Agency (FEMA) recently announced the availability of a publication to help individuals prepare themselves and their families for disasters. *Are You Ready? A Guide to Citizen Preparedness* (publication no. H-34, 2003, 112 p.) brings together facts on disaster survival techniques, disaster-specific information, and how to prepare for and respond to natural and human-made disasters.

Are You Ready? provides step-by-step outlines on preparing a disaster supply kit, emergency planning for people with disabilities, locating and evacuating to a shelter, and contingency planning for family pets. Human-caused threats from hazardous materials and terrorism are discussed in detail.

The guide also describes ways citizens can become involved with efforts to safeguard their neighborhoods and communities through FEMA's Citizen Corps initiative and its Community Emergency Response Team training program.

Printed copies of *Are You Ready?* are free and available from the FEMA Publications Distribution Center, P.O. Box 2013, Jessup, MD 20794-2012; (800) 480-2520; fax (301) 362-5335. The document can also be downloaded from http://www.fema.gov/areyouready. Information about FEMA's Citizen Corps program can be found on-line at http://www.citizencorps.gov.
from: Natural Hazards Observer, v. XXVII, no. 4, p. 6

Canadian Natural Hazards Assessment

The March 2003 edition of *Natural Hazards*, the Journal of the International Society for the Prevention and Mitigation of Natural Hazards (v. 28, no. 2-3) is devoted to an assessment of natural hazards and disasters in Canada. Articles include: "Disaster Management and Community Planning, and Public Participation: How to Achieve Sustainable Hazard Mitigation," by Laurie Pearce; "The Contribution of Philosophy to Hazards Assessment and Decision Making," by I. L. Stefanovic; "A General Framework for Mitigation-Oriented Planning Assessments of Mobile Telecommunications Lifelines," by P. S. Anderson and G. A. Gow; "Seismic Hazard Mitigation for Buildings," by Simon Foo and Alan Davenport, and many more.

Information about the journal, including subscription information, is available at http://www.kluweronline.com/issn/0921-030X. *from:* Disaster Research 386, April 4, 2003

The Sphere Newsletter

The Sphere Newsletter publishes a quarterly e-mail news bulletin with information related to project activities. The Sphere Project aims to improve the quality of assistance provided to people affected by disasters and to enhance accountability of the humanitarian system in disaster response. The project has developed a Humanitarian Charter and a set of universal minimum standards in core areas of humanitarian assistance. To subscribe, write to lyris@Lyris.ifrc.org. Type "subscribe sphere-newsletter-english" in the subject field. *from:* Disasters Preparedness and Mitigation in the Americas, issue no. 91, April 2003, p. 3

Best Practices in Natural Hazards Planning and Mitigation.
2003. 57 p. Free. The report is available on-line from the Colorado Department of Local Affairs: http://www.dola.state.co.us/smartgrowth.

This state-level report features an array of land use planning practices, strategies, and resources for addressing development in areas subject to natural hazards, including wildfire, flooding, swelling or expansive soils, avalanches, and landslides. Contact information for each jurisdiction is also included. Planning practices range from overlay zoning districts and defensible space requirements for development in the wildland/urban interface to regulatory and permitting processes that limit development in floodplain areas. The report also includes a section detailing local government drought policies and programs.

from: Natural Hazards Observer, v. XXVII, no. 5, May 2003, p. 16-17.

Comprehensive Emergency Management for Local Governments: Demystifying Emergency Planning.

James A. Gordon. 2002. 212 pp. $89.00. Copies can be purchased from Rothstein Associates, (202) 740-7444 or (888) 768-4783; e-mail: info@rothstein.com; http://www.rothstein.com.This guide was written for staff in small to mid-sized local governments who are preparing for natural and human-caused emergencies. It includes an introductory chapter on the nature of local government emergency planning and a final chapter of tips on "putting it all together." Also included are detailed chapters on each of the four phases of comprehensive emergency management ! mitigation, preparedness, response, and recovery.

from: Natural Hazards Observer, v. XXVII, no. 5, May 2003, p. 16-17.

Why Can't We Talk? Working Together to Bridge the Communications Gap to Save Lives !A Guide for Public Officials

2003. 104 p. Free. Available electronically from the Department of Justice AGILE program at http://www.agileprogram.org/ntfi/ntfi_guide.pdf. This publication, written by the National Task Force on Interoperability, was developed as a result of the ongoing dialogue among state and local decision makers and public safety officials to address why many public officials working in the same jurisdiction cannot easily communicate. This inability is a threat to public safety and often results in the loss of lives and property. A task force comprised of 18 national associations representing a wide array of interests collaborated on this guide.

from: Natural Hazards Observer, v. XXVII, no. 5, May 2003, p. 17

Communicating in a Crisis: Risk Communication Guidelines for Public Officials

SMA 02-3641. 2002. 96 p. Free. Copies may be obtained from the U.S. Department of Health and Human Services Substance Abuse and Mental Health Services Administration, Mental Health Services Clearinghouse, (800) 789-2647; http://www.riskcommunication.samhsa.gov/RiskComm.pdf.

Sound and thoughtful communication can help public officials to prevent ineffective, fear-driven, and potentially damaging public responses to serious crises. This primer was written with the goal of providing a resource for public officials about the basic tenets of effective communication, with a special focus on the media. There are steps that public officials can take in advance of any incident to better prepare communities, risk managers, elected officials, public health officials, and others to respond to the management challenges of crises and disasters.

from: Natural Hazards Observer, v. XXVII, no. 5, May 2003, p. 17

Orientation Manual for First Responders on the Evacuation of People with Disabilities.

FA-235. 2002. 31 p. Free. Copies can be requested from the Publications Center, United States Fire Administration, 16825 South Seton Avenue, Emmitsburg, MD 21717; (800) 561-3356 or (301) 447-1000; fax: (301) 447-1052; http://www.usfa.fema.gov.

The first section of this manual provides guidance on dealing with the disabled in emergency situations, such as identifying those with special needs and disabilities in the community and including them in emergency preparedness planning. The remainder of the manual contains information on types of impairment and rescue techniques involving wheel chairs, evacuation devices, and carrying techniques.

from: Natural Hazards Observer, v. XXVII, no. 5, May 2003, p. 17

How the Smart Family Survived a Tsunami

This 16-page booklet was prepared by the Washington Military Department Emergency Management Division and authored by Laurie Dent-Cleveland, in 2002. It is rated Elementary Edition K-6. Apparently it is available in print from local emergency management offices. The booklet is also available online at http://emd.wa.gov/5-ppt/trng/pubed/02-campaign/smart/smart-idx.htm or for a pdf copy: http://emd.wa.gov/5-ppt/trng/pubed/02-campaign/smart/smart-book.pdf.

"This booklet will help children prepare for disasters. Knowledge is power, and knowing what to expect and what to do will increase their confidence when disasters occur." (Back cover)

NEW TSUNAMI MITIGATION MATERIALS ADDED TO THE LIBRARY
April 1 to May 30, 2003

Note: These, and all our tsunami materials, are included in our on-line catalog at **http://www.wa.gov/dnr/htdocs/ger/washbib.htm**

Alaska

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___ Tsunami Chasers. Beyond Productions for the Discovery Channel. 52 minutes.

___Earthquake…Drop, Cover & Hold; Washington Emergency Management Division. 1998. 5 min.

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___Cascadia: The Hidden Fire–An Earthquake Survival Guide; Global Net Productions, 2001. 9.5 minutes. A promo for a documentary about the Cascadia subduction zone and the preparedness its existence demands of Alaska, Oregon and Washington states. Includes mention of tsunamis. (The full documentary is scheduled for broadcasting on a PBS station in April 2002.)

___Not Business as Usual: Emergency Planning for Small Businesses, sponsored by CREW (Cascadia Regional Earth-quake Workgroup), 2001. 10 min. Discusses disaster prepar-edness and business continuity. Although it was made for Utah, the multi-hazard issues remain valid for everyone. Web-sites are included at the end of the video for further informa-tion and for the source of a manual for emergency prepared-ness for businesses.

___Adventures of Disaster Dudes (14 min.) Preparedness for pre-teens

___The Alaska Earthquake, 1964 (20 min.) Includes data on the tsunamis generated by that event

___Cannon Beach Fire District Community Warning System (COWS) (21 min.) Explains why Cannon

Beach chose their particular system

___Disasters are Preventable (22 min.)
Ways to reduce losses from various kinds of disasters through preparedness and prevention.

___Disaster Mitigation Campaign (15 min.)
American Red Cross; 2000 TV spots. Hurricanes, high winds, floods, earthquakes

___Forum: Earthquakes & Tsunamis (2 hrs.)
CVTV-23, Vancouver, WA (January 24, 2000). 2 lectures: Brian Atwater describes the detective work and sources of information about the Jan. 1700 Cascadia earthquake and tsunami; Walter C. Dudley talks about Hawaiian tsunamis and the development of warning systems.

___Killer Wave: Power of the Tsunami (60 min.)
National Geographic video.

___Mitigation: Making Families and Communities Safer (13 min.) American Red Cross

___Numerical Model Aonae Tsunami–7-12-93 (animation by Dr. Vasily Titov) and Tsunami Early Warning by Glenn Farley, KING 5 News (The Glenn Farley portion cannot be rebroadcast.)

___The Prediction Problem (58 min.)
Episode 3 of the PBS series "Fire on the Rim." Explores earthquakes and tsunamis around the Pacific Rim

___Protecting Our Kids from Disasters (15 min.)
Gives good instructions to help parents and volunteers make effective but low-cost, non-structural changes to child care facilities, in preparation for natural disasters. The Institute provides a booklet to use with the video. Does NOT address problems specifically caused by tsunamis.

___The Quake Hunters (45 min.)
A good mystery story, explaining how a 300-year old Cascadia earthquake was finally dated by finding records in Japan about a rogue tsunami in January 1700

___Raging Planet; Tidal Wave (50 min.) Produced for the Discovery Channel in 1997, this video shows a Japanese city that builds walls against tsunamis, talks with scientists about tsunami prediction, and has incredible survival stories.

___Raging Sea: KGMB-TV Tsunami Special. (23.5 min.)
Aired 4-17-99, discussing tsunami preparedness in Hawaii.

___The Restless Planet (60 min.) An episode of "Savage Earth" series. About earthquakes, with examples from Japan, Mexico, and the 1989 Loma Prieta earthquake in California.

___Tsunami and Earthquake Video (60 min.)
Includes "Tsunami: How Occur, How Protect," "Learning from Earthquakes," and "Computer modeling of alternative source scenarios."

___ Tsunami: Killer Wave, Born of Fire (10 min.)
NOAA/PMEL. Features tsunami destruction and fires on Oku-shiri Island, Japan; good graphics, explanations, and safety information. Narrated by Dr. Eddie Bernard, (with Japanese subtitles).

___Tsunami: Surviving the Killer Waves (13 min.)
Two versions, one with breaks inserted for discussion time.

___Tsunami Warning (17 min.)
San Mateo (California) Operational Area Office of Emergency Services. This is a good public service program, specifically made for San Mateo County. Citizens are told what to do in cases of tsunami watches or tsunami warnings, with specific inundation zones identified for the expected 20-foot tall tsuna-mi. An evacuation checklist is provided, as well as locations of safe evacuation sites. This video gives the impression that all tsunamis are teletsunamis (generated at a source more than 1000 km from the coastline) which therefore provide time for warnings. Locally-generated tsunamis are not discussed.

___USGS Earthquake Videotapes "Pacific Northwest" USGS Open-File Report 94-179-E

___Understanding Volcanic Hazards (25 min.)
Includes information about volcano-induced tsunamis and landslides.

___The Wave: a Japanese Folktale (9 min.) Animated film to help start discussions of tsunami preparedness for children.

___Waves of Destruction (60 min.) An episode of the "Savage Earth" series. Tsunamis around the Pacific Rim.

___Who Wants to be Disaster Smart? (9 min.)
Washington Military Department/Emergency Management Division. 2000. A game show format, along the lines of *Who Wants to be a Millionaire*?, for teens. Questions cover a range of different hazards.

___The Wild Sea: Enjoy It...Safely (7 min.)
Produced by the Ocean Shores (Washington) Interpretive Center, this video deals with beach safety, including tsunamis.

Check the title(s) you would like and indicate the date of your program. The video(s) will be mailed one week before the program date.

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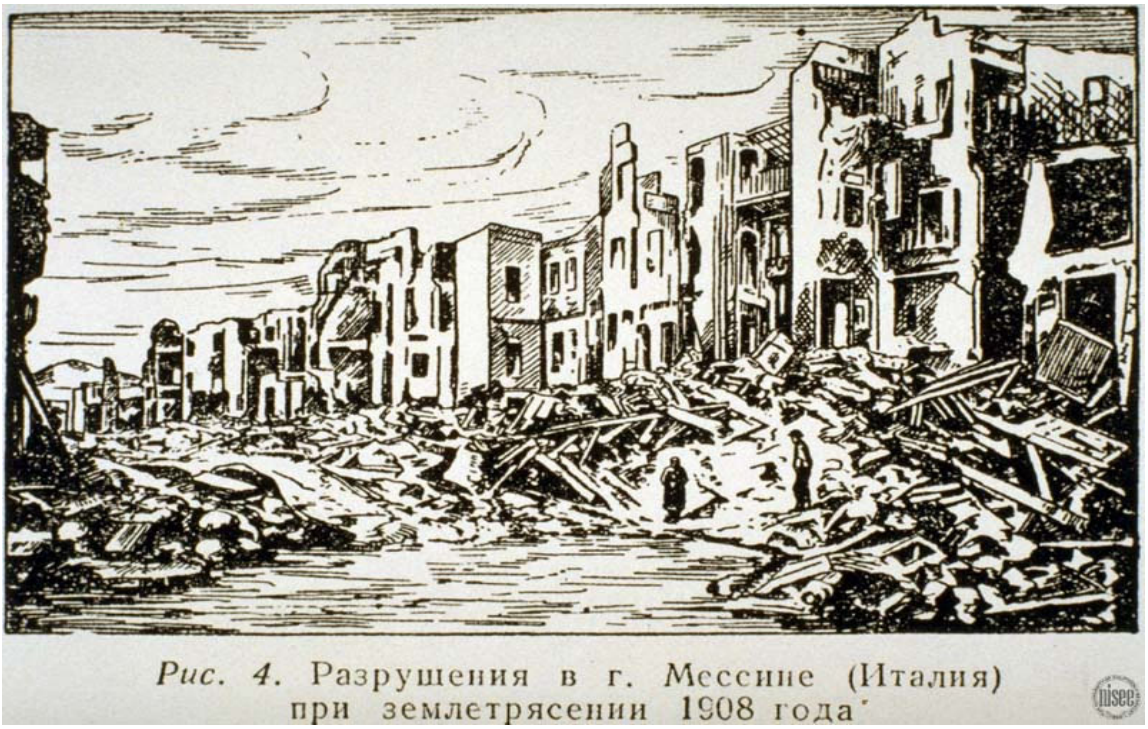
Infrequently Asked Questions
compiled by Lee Walkling

Which Italian tsunami made the MAJOR TSUNAMIS list? (http://www.pmel.noaa.gov/tsunami-hazard/major tsunamischart.pdf)

The Messina earthquake/tsunami, December 28, 1908. It damaged the east coast of Sicily and the toe of Italy. 58,000 quake and tsunami victims died. For eyewitness accounts, go to http://www.arduini.net/tales/tales15a.htm. For a news account, go to http://www.pbs.org/wgbh/amex/ rescue/peopleevents/pandeAMEX99.html



Street of ruins in Messina. The pen and ink drawing was probably a copy of an older image or photograph. Photographer/Artist unknown; December 28, 1908, Messina, Italy; Magnitude 7.5
Source Note: Gorshkov, G. P. Zemletriaseniia. Moscow: Voennoe izdatel'stvo, 1947
from: http://nisee.berkeley.edu/images/servlet/EqiisDetail?slide=KZ513
University of California; Kozak Collection: Slide Number KZ513

What Mediterranean country has the highest rate of volcanic-related tsunami events?

"Tsunamis generated by volcanic eruptions are much less frequent than tsunamis produced by submarine earthquakes. In the Mediterranean Sea only 2 percent of the observed tsunamis were caused by volcanoes according to a recent study by Soloviev (1990). In Italy the percentage of events related to volcanic activity is distinctly higher than in any other country of the Mediterranean, which is expected since most of the European active volcanoes and volcanic areas may be found in southern Italy. Of the 21 cases of which some information is available, 11 were observed in the Campania coasts and are related to Vesuvius activity, 7 are due to volcanic activity in the Aeolian Islands some 50 km northwest of the Messina Straits, while the others are related to Etna and to volcanic activity in the Sicily Channel."

from: Tinti, Stefano; Saraceno, A., 1993, Tsunamis related to volcanic activity in Italy. *In* Tinti, Stefano, editor, Tsunamis in the World–Fifteenth International Tsunami Symposium, 1991: Kluwer Academic Publishers Advances in Natural and Technological Hazards Research 1, p. 43.

What caused the 1908 Messina earthquake and tsunami?

"The focus of the earthquake was located under the bottom of the Strait of Messina; its magnitude was 7. Geodetic measurements before and after the earthquake showed that it resulted from a graben, like half a meter, subsidence of the Strait of Messina. The mechanism of the focus of the earthquake is generally in agreement with this conclusion. The earthquake damaged 2 of the 7 telephone cables that

connected continental Italy and Sicily along the bottom of the Strait of Messina. The entire Calabrian coast of the strait suffered, more or less, from large rockfalls and landslides.

Preceding shocks of the earthquake occurred as far back as in 1905 and 1907 but did not cause great destruction. The December 28 earthquake fully destroyed Messina in Sicily with a population of 150,000, Reggio di Calabria and practically all other settlements along both coasts of the strait.…Over 80,000 people, including almost 60,000 inhabitants of Messina, were killed under the debris of buildings that had stood close to each other and that crashed down; as a rule these buildings were constructed of stone with the use of poor mortar, they had heavy roofs and ornaments*, i.e.*, were constructed against all recommendations for aseismic engineering made by a special commission after the catastrophic Calabrian 1783 earthquake. There were too many victims for an earthquake of magnitude 7.

The tsunami began almost immediately after the earthquake was finished. According to other data, there was a time interval of approximately 10 min between the earthquake and the tsunami. According to eyewitnesses, the phenomenon started with a lowering of the level of the sea water, which resulted in part of the sea-bottom adjacent to the shore becoming dry; the bottom was uncovered for nearly 200m in some places. Then, suddenly, the waves began to approach, the first of three of them were the strongest. A very strong noise resembling the noise of a storm or of waves knocking against rocks preceded the tsunami."

from: Soloviev, S. L.; Solovieva, O. N.; Go, C. N.; Kim, K. S.; Schchetnikov, N. A., 2000, Tsunamis in the Mediterranean Sea 2000 B.C.-2000 A.D.: Kluwer Academic Publishers Advances in Natural and Technological Hazards Research 13, p. 125, 127.

What name has been given to the effect of shoreline water being sucked out to sea, preceding some tsunamis?

Dr. Hal Mofjeld (mofjeld@pmel.noaa.gov) answers:

There are several terms that are used to describe this phenomenon. Which one to use depends on the circumstances (e.g., whether the tsunami is in a bay) and on personal preference. The terms 'negative wave', 'drawdown' and 'withdrawal' are most often used to describe this type of initial onset. Less formal are the terms 'waterline receding' and 'bay emptying'.

The underlying reason for this effect is that both offshore landslides and subduction zone earthquakes create a negative wave on the shoreward side of the bottom deformation. This negative wave propagates to shore and produces the drawdown.

from: http://www.pmel.noaa.gov/tsunami/Faq/x009_drawdown

Which type of tsunami is the most destructive?

Dr. Hal Mofjeld responds:

For reasons that are not completely understood, tsunamis are more destructive when the initial wave is negative.

from: http://www.pmel.noaa.gov/tsunami/Faq/x009_drawdown

Why are we telling you about Italian tsunamis?

Because *TsuInfo Alert* co-editor Connie Manson will spend a month wandering around Italy and we wanted to remind her to watch out for maremotos!

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Keeping a careful watch for tsunamis in the Grand Canal, Venice...

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