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REPORT FROM LOUISIANA

Louisiana Governor's Office of Homeland Security and Emergency Preparedness

<http://gohsep.la.gov/>

“ The Governor’s Office of Homeland Security and Emergency Preparedness coordinates State Disaster Declarations authorized by the Governor. The GOHSEP staff is poised and ready to serve the people of Louisiana at a moment’s notice.”

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State Offices and agencies of emergency management:

Gives mailing addresses, phone and fax numbers, websites. Does not give personnel names or job titles.

<http://www.fema.gov/about/contact/statedr.shtm>

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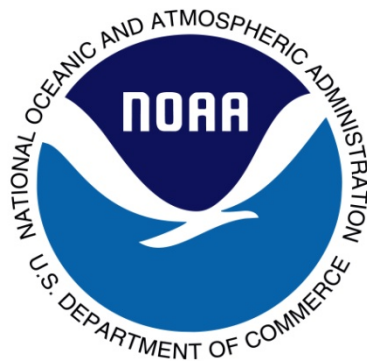
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Tsunami preparedness—Understanding our Nation’s risk and response

By Eric Villard, AGU science writing intern

From:

<http://blogs.agu.org/geospace/2012/03/23/tsunami-preparedness-briefing/>

On March 21, 2012 at the Rayburn House Office Building in Washington, DC, scientists gave a briefing, sponsored by the American Geophysical Union, American Geosciences Institute, American Society of Civil Engineers, and Scripps Institute of Oceanography, in partnership with the Ocean Studies Board of the National Academies’ National Research Council.

A year after the [tsunami that devastated the Japanese coastline](#), the United States still needs to ramp up its tsunami preparedness, experts say.

Scientists at a March 21[2012] Capitol Hill briefing in Washington, D.C., stressed the importance of detecting tsunamis before they reach coastlines and educating the public on tsunami dangers. The briefing was held for members of Congress and their staffers.

Eddie Bernard, director of NOAA’s Pacific Marine Environmental Laboratory (PMEL) in Seattle, Wash., spoke to the need for early detection in order to save lives. One way of keeping an eye out for tsunamis is a buoy system called Deep-ocean Assessment and Reporting of Tsunamis (DART), Bernard said. The buoys, deployed in regions with a history of tsunamis, detect seismic waves and send the information via satellite to researchers.

The laboratory developed and deployed the first DART buoy off the coast of Oregon in 1995. Fifty-seven buoys will be deployed in total by the end of this year. The United States owns 40 and Australia, Chile, Indonesia, Thailand, Russia, and India own a combined total of 14. Japan agreed to purchase three buoys following last year’s tsunami. The system has become an international effort, Bernard said, and the [buoys now ring most of the Pacific Ocean](#). Up-to-date information on wave heights is given for most buoys on the DART website.

“The bonus here is [the buoys] are all standard. Everybody can use other people’s data,” he explained. “That’s part of the international cooperation that I think is so important.”

The next step for the buoys might be relocation, Bernard said. Currently, the buoys sit about 20 minutes away from tsunami source areas, meaning there is about a 20-minute delay before wave height information is relayed to researchers. A shorter distance would mean shorter warning times, and potentially more lives saved. But detection is only one step in tsunami preparedness.

“Detection and forecasting alone don’t save lives and property,” said John Orcutt, professor of geo-

physics at Scripps Institution of Oceanography in La Jolla, Calif., and another speaker at the briefing, sponsored by the American Geophysical Union and several other organizations.

“It didn’t help in Japan a great deal.” What did help, Orcutt said, were proper risk assessments of potential flooding and damage and education programs about tsunami threats and evacuation procedures. It’s a lesson that should be applied in the United States, he added.

“This is one of the most crucial parts for preparedness in the United States – not necessarily the advances in technology – but actually investing in learning,” Orcutt said.

One area of high tsunami risk for the United States and Canada is the stretch of coastline in the Pacific Northwest that includes Northern California, Oregon, Washington, and British Columbia. Just offshore is a major fault called the Cascadia Subduction Zone, which scientists estimate could produce earthquakes of magnitude 9 or greater and could result in a potentially devastating tsunami.

Tsunami education leads to decreased panic and more efficient evacuation, said John Schelling, the earthquake and tsunami program manager for the Washington State Emergency Management Division and another briefing speaker. Thanks to a tsunami education program, plus warnings from DART, Washington State officials were able to evacuate only specific communities in danger after the Japanese earthquake – as opposed to calling for mass evacuations of the coast, the program manager said.

“Because our local responders had trained, and our communities had practiced, people were able to get to safety with no issues,” Schelling said.

With locally-triggered tsunamis, such as ones that could originate just off the Washington coast, there might only be a five-minute warning before the waves hit shore, he said. This renders early warning systems ineffective and makes education all the more important.

“There’s no warning system on this Earth that’s going to get people any type of warning in that amount of time,” he said. “The only thing that’s going to save lives in these events is if people understand where they are in relation to high ground, and know the appropriate action to take.”

Education of the general public is not an easy task, Schelling acknowledged, especially when a large portion of the United States’ population does not live in a tsunami-prone area. But even those people occasionally visit, he said. Lessons learned from tsunami education could also be applied to any flooding situation, even those caused by heavy rains or hurricanes, Schelling added.

“There is no one flyer, no one commercial that’s going to reach all of these audiences,” he said. “They all have to be engaged individually, and they have to be approached with something that shows what’s in it for them.”



Scientists discuss lessons learned from the March 11, 2011 tsunami in Japan at a congressional briefing sponsored by the American Geophysical Union.
(Credit: AGU)

The 42 minute session is on YouTube:
<http://www.youtube.com/watch?v=utC1U005i18> ♦

Pacific NW tsunami buoys out of service

By Tom Banse, Honolulu

May 18, 2012

<http://www.nwpr.org/post/pacific-nw-tsunami-buoys-out-of-service>

Reprinted with permission

One quarter (12 of 39) of U.S.-operated tsunami warning buoys in the Pacific and Atlantic Oceans are out of service. That includes the two tsunami detection buoys directly off the Pacific Northwest coast. But as Correspondent Tom Banse reports, the warning system has some redundancy built in.

Normally, there’s a tsunami detection buoy anchored more than 200 miles off the mouth of the Columbia River and another roughly that far offshore of Coos Bay, Oregon. But both buoys broke from their moorings this winter and spring, probably because of storms. The earliest they’ll be replaced is September. So does that leave us vulnerable in the meantime?

“The fact that those are out actually is probably not as critical to you as you think,” says Charles McCreary. He directs the Pacific Tsunami Warning Center in Honolulu.

“It may be more critical for example to the State of Hawaii because if you have a Cascadia event, those would be the instruments that would be used to measure the beam of energy coming out across the Pacific,” says McCreary.

McCreary says in the event of a local earthquake, the severe ground shaking should be your warning to

move to higher ground if you’re near the water. The West Coast tsunami warning system is more useful for big waves generated by distant earthquakes. In that case, he says there are still enough operating tsunami buoys around the Pacific Rim to confirm if trouble is coming.

Meanwhile in Congress, both Republican and Democratic budget writers are blocking spending cuts proposed by the Obama Administration to the buoy maintenance program and to state and local tsunami preparedness grants.

Earlier this year, West Coast states raised alarms about the President’s proposal to reduce the budget deficit in part by trimming spending on the National Oceanic and Atmospheric Administration’s tsunami programs. Local jurisdictions say they can’t pick up the slack in terms of funding tsunami hazard evaluation and preparing coastal communities.

Tom Banse reports for public radio's Northwest News Network. His stories can be heard on KUOW, KPLU, OPB and Northwest Public Radio ♦

REGIONAL REPORTS

CARIBBEAN

UNESCO IOC tsunami and other coastal hazards warning system for the Caribbean and adjacent regions [abstract]

by C. G. von Hillebrandt-Andrade, NWS Caribbean Tsunami Warning Program, Mayaguez, PR; L. Innis, Coastal Zone Management Unit, Bridgetown, Barbados; B. Aliaga, UNESCO IOC Tsunami Unit, Paris, France.

In 2005 the Intergovernmental Coordination Group for the Tsunami and Other Coastal Hazards Warning System for the Caribbean and Adjacent Regions (CARIBE EWS) was established as a subsidiary body of the IOC-UNESCO.

Through government and scientific collaboration, the goal is to save lives and livelihoods in the over 30 participating states in the Caribbean and Western Atlantic.

The four major areas of focus are: (1) Monitoring, detection and warning guidance, (2) Hazard assessment, (3) Warning dissemination and communication, and (4) Preparedness, readiness, and resilience.

In 2011 the VI Session of the CARIBE EWS encouraged the US to continue with the establishment of the Caribbean Tsunami Warning Center (CTWC) in Mayaguez, Puerto Rico [in 2010 the National Weather Service established the Caribbean Tsunami Warning

Program], while Nicaragua is establishing the terms of reference for a backup facility.

Until the CTWC is established, the Pacific and West Coast and Alaska Tsunami Warning Centers are providing interim service. Data from over 90 seismic stations and 35 sea level stations are available for tsunami detection and analysis. As GPS stations are installed through national and regional (COCO NET) efforts and their tsunami applications are recognized, the CARIBE EWS has also encouraged its member states to support these systems. Efforts are underway to develop an Internet Tsunami Forecast System to support the decision-making process during an event.

Advances have been made in tsunami inundation mapping, but default evacuation zones (30 m elevation or 1.6 km inland) are recommended where there is no mapping.

In 2011 the first regional tsunami exercise was conducted with a participation of over 90% of the member states. To support the preparedness in the region, the Caribbean Tsunami Information Center was started up in Barbados. In 2011, the first community outside of the U.S., Anquilla, was recognized by UNESCO and the NWS as TsunamiReady™.

From: Seismological Research Letters, v. 83, no. 2, p. 459.

HAWAII

New information channel—Android app gets evacuation information to residents

By Matthew DeMeritt

From: ArcUser, v. 15, no. 1, p. 19.

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When the 2011 Tohoku earthquake, one of the strongest ever recorded, struck the coast of Japan, it sent a tsunami Hawaii's way.

In a sense, Hawaii had dodged a bullet. The March 11, 2011 earthquake transferred most of the tsunami's energy toward Japan's coast rather than toward Hawaii. The wave that Hawaii experiences was 1 meter high (compared to Japan's 10-meter wave) but still caused millions of dollars in damage to docks and seacraft but—fortunately—no deaths.

The tsunami alert sent many Hawaiians scrambling to find out if they were in a tsunami evacuation zone or where the nearest shelter was located. Requests to Honolulu's government website created a logjam that disabled the site.

During a government meeting to assess the tsunami's toll, Honolulu technical staff raised the issue of public access to critical evacuation zone maps during times of high demand on the county server.

“One of the GIS analysts mentioned that their site [*Honolulu.gov*] went down following the alert because too many residents were trying to find information related to the tsunami at once,” said Kyle Shimabukuro, a systems analyst for City and County of Honolulu. “That spurred discussion about why the bottleneck happened and how we could avoid it in the future.”

Staff eventually concluded that the emergency maps in local phone books also were not sufficient to disseminate critical information about tsunami evacuation zones immediately following a seismic event. Because a large percentage of Hawaiians exclusively depend on cell phone service for their telephone needs, many residents simply don't have phone books.

To avert a similar crisis in the future, systems staff at Honolulu created a tsunami evacuation zone app built with Esri's ArcGIS Runtime Software Development Kit (SDK) for Android to serve as a critical information channel. “It took an event like this to point out the obvious problem,” said Shimabukuro. “Being an Android phone owner, I knew that a large majority of those seeking information from the web had smartphones and that Esri had already created a variety of mapping solutions for them.”

Theoretically, a large percentage of requests could be transferred to a simple mapping app, similar to the ones Esri had already created, so Shimabukuro went looking for a way to make a custom app for Hawaii's Android phone owners. Because City and County of Honolulu had already integrated ArcGIS throughout its departments, Shimabukuro was familiar with Esri technology and its online customer support channels. He started his research at Esri's ArcGIS Resource Center and it immediately paid off. There he saw the beta version of the ArcGIS Runtime SDK for Android available for free download.

“Seeing the beta of the API confirmed my hunch that an evacuation zone app was within reach,” said Shimabukuro. “After a simple registration, I downloaded the API as well as information on how to build apps and add functionality. It was all well documented and easy to find.”

Esri's approach to customer support involves giving users access to example apps and preconfigured templates for developers to build on. Rather than having to start from scratch, the application available with the Android SDK gives developers a starting place for adding code and testing functionality during the development process.

“It's good to know that documentation could provide the answers I needed, but having the sample apps to immediately reference saved me much time

in not having to start from the ground up,” said Shimabukuro. “The examples gave me a logical starting point to pick and choose the kind of functionality our app should have.”

Shimabukuro could easily add and remove code as needed and attach a variety of available map services using the runtime SDK. “I downloaded many libraries to see what each one did and incrementally built the app using that process, which would have been much harder without having access to the example apps and seeing how they operate,” he noted.

During development, Shimabukuro had envisioned using the smartphone’s onboard GPS to verify whether the user was in an evacuation zone and generate driving directions from there. “The idea of exploiting the GPS technology already available on Android devices and production something more than static maps was exciting,” said Shimabukuro.

“In addition to displaying the address of a given point, I was also able to pass that address to Google Navigation, and external navigation app, to give driving directions.”

The final product, which includes full integration with GPS and a handy navigator, exceeded Honolulu’s original objectives for the app. Honolulu has successfully promoted it to residents with nearly 1,000 installs. Shimabukuro plans to integrate additional services as they become available.

ArcGIS Runtime SDK for Android is scheduled for official release before the 2012 Esri International User Conference.

For more information on the Honolulu Tsunami Evacuation Zones app or to see it in action, visit the download site in Android Market. For more information, contact Kyle K. Shimabukuro at kshimabukuro@honolulu.gov.

NEW ZEALAND

Wellington raises tsunami awareness

Contributor: Voxy News Engine

April 10, 2012

From: <http://www.voxy.co.nz/national/wellington-raises-tsunami-awareness/5/120210>

More blue lines - to help communities plan a safe evacuation if a tsunami is on the way - are to be painted on roads in suburbs around Wellington's south coast and harbour over the next year.

Owhiro Bay and Houghton Bay residents will be the first, next week, to hear about the plan to extend the blue-line project along the south coast.

The first blue lines appeared on roads in Island Bay last year and have since successfully raised awareness about the need for residents to be prepared for a tsunami.

In the coming year the City Council's emergency management staff will work with communities to educate as many people as possible about their tsunami risk. Tsunamis could arrive with between a few minutes and several hours' notice.

The City Council's Emergency Preparedness Manager, Fred Mecoy, says public information presentation evenings will be held over the coming months in 11 coastal areas.

With GNS Science, the Wellington Emergency Management Office will host the first of those presentations in Owhiro Bay School on 17 April and Houghton Valley School on the 19 April, both at 7pm.

Further presentations are to be held in Seatoun, Karaka Bays/Maupua/Breaker Bay, Miramar, Lyall Bay/Kilbirnie/Rongotai, Hataitai/ Roseneath/Oriental Bay, Mt Victoria/Mt Cook, the CBD, Thorndon /Pipitea and Makara Beach.

Mr Mecoy says Wellington Emergency Management Office (WEMO) staff have been working with GNS Science and Greater Wellington Regional Council to draft the proposed locations of new blue warning lines on streets around the south coast and harbour. Generally, the lines would be marked on roads at or near 35 metres above sea level and at lesser elevations further inland.

"For most people living on the coast and the harbour, there are hills nearby. The challenge we have is to make as many people as possible in these locations fully aware about what they have to do if there's a big earthquake. If you feel a quake that makes it difficult or impossible to stand up and/or it continues for a minute or more, don't wait around - head for higher ground."

Mayor Celia Wade-Brown, who holds the Council's Emergency Preparedness portfolio, says "discussion of risk with locals and experts is essential to make our capital city as resilient as possible."

Dr Graham Leonard, a Natural Hazard Scientist at GNS Science, says because of Wellington's position on the boundary between two tectonic plates, the area has in the past experienced tsunami and is likely to again at any time. "There's a likelihood a big quake could occur under the sea in Cook Strait or nearby - and if a tsunami has been generated, it could hit our coast and harbour in only a matter of minutes."

Mr Mecoy says the presentations aim also to show people the best evacuation routes in their neighbourhoods. Residents will also be able to discuss other possible warning signage and solutions - and the presentations will provide an opportunity for communities to strengthen their local networks and emergency plans.

Wellington's first blue tsunami lines were introduced to Island Bay following a pilot program in 2010. The concept has since generated positive interest from abroad including the United States Federal Emergency Management Agency (FEMA), Pacific Tsunami Warning Centre and the Cabinet Office for Disaster Management in Japan.

In preparation for the Blue Lines project, WEMO has posted information about tsunami preparedness on its Facebook site - go to facebook.com/WemoNZ and click on the Tsunami Safe Zone icon, or go to Wellington.govt.nz - or phone 499 4444.

OREGON

Cannon Beach Emergency Preparedness Forum

By Bill Brehm, Chair, Cannon Beach Emergency Management Committee

May 8, 2012

NOTE: Much of this material, not necessarily worded exactly like this, appeared in the *Cannon Beach Gazette* on April 26, 2012, in an article by Mary Faith Bell.

The annual Cannon Beach Emergency Preparedness Forum was held at the Coaster Theater on April 18. This is a yearly event hosted by the Cannon Beach Fire District Department, in conjunction with the Cannon Beach citizen Emergency Preparedness Committee.

The fault located approximately 70 miles off shore at Cannon Beach has generated earthquakes and tsunamis equal to the March 2011 earthquake off the northeast Japanese coast, at regular intervals of several hundred years in the past. The last earthquake of such magnitude is known to have occurred in the year 1700. Such earthquakes can generate a tsunami of sufficient height and power as the one that caused so much devastation in Japan. It is estimated that no more than 20 to 30 minutes will pass between the time the earthquake ceases, and the first waves arrive on shore. The tsunami will not be one wave, but most likely a series of waves arriving over a 12 to 24 hour period. The first wave may not be the largest.

Fortunately, Cannon Beach has high ground close at hand, so people can escape to high ground—if they know the way and are ready.

This year, the theme of the emergency preparedness forum was the presentation of evacuation route maps from every part of the city, and a description of the pilot program being developed to store supplies for evacuees at a safe level, for use after people have reached a safe height and before outside help arrives. It was noted and is important

to remember that outside help may take several days to several weeks to arrive.

The evacuation route maps were a collaboration of the Emergency Preparedness Committee, with committee member Les Wierson taking the lead, the City staff, the Oregon Department of Geology and Mineral Industries, and the Oregon Department of Emergency Management.

Les Wierson and committee vice chairman Bob Mushen presented the evacuation route maps to the audience. Copies of the maps are available the city website, ci.cannon-beach.or.us, and will soon be available in print.

The maps show high water marks for a distant tsunami, such as the one resulting from the 1964 Alaska earthquake that caused damage in Cannon Beach and other West Coast communities, and the projected high water marks from the recent study, from the tsunami resulting from a near-earthquake (Cascadia event). In Cannon Beach, the heights range from 60 to 115 feet.

Wierson emphasized the need to find the appropriate escape route, not just from your house, but from other locations such as downtown, and to practice the evacuation, carrying your "go-pack" (more on this below) under a variety of conditions (in a rainstorm, at night, etc.).

The second part of the forum was a presentation on the Container program. This program, still in pilot stage, is being developed by the City staff, members of the Emergency Preparedness Committee, the City Council, and consultant Bill Vanderberg.

It is realized that a number of days up to several weeks may pass between the earthquake/ tsunami, and the arrival of significant aid. Therefore, it is essential to store materials such as food, shelter supplies, water, and other vital items in a safe location above the maximum wave height. Councilman Sam Steidel made the presentation.

The first emphasis was the "rule of threes": one can survive three minutes without oxygen, three hours without shelter, three days without water, and three weeks without food. Air and water will not be an issue, although safe drinking water must be addressed. The point made emphatically was that especially in the cold damp coastal climate, hypothermia can occur in a few hours and is much more dangerous than a food shortage in the short term.

The pilot plan described by Councilman Steidel is to procure a "shipping container" with dimensions approximately 20 x 8 x 8 feet and locate it at a location above the maximum wave height. These containers are available at relatively low cost.

The City plans to procure three types of storage vessels: 55 gallon drums, 30 gallon buckets, and 5 gallon buckets, and make them available to residents at cost. The plan is to have residents buy a vessel (perhaps more than one), load it with emergency supplies, and store it in the container. The City plans to charge one dollar per gallon per year storage fee. Once or twice a year the containers would be opened so that people with stored goods could inspect, replace, etc.

Steidel presented a detailed list of materials that should be included in containers. The emphasis was on warm, water proof clothing and shelter items such as tents and tarpaulins. A list of prohibited items, such as liquid fuels, weapons, and ammunition, was also presented.

It is planned to have the pilot program up and running by late summer or early autumn 2012, with plans to expand the number and location of containers.

Both presenters emphasized that after an earthquake and tsunami, City personnel and services are not likely to be available for up to 24 hours. The orders to City staff are to first ensure their own and their family's safety, then report for duty if possible at assigned locations.

A group of citizens has been, and others are being trained to serve in various capacities to assist the City staff.

Because of the possible wait of up to 24 hours before even local help is available, people were encouraged to have a "go-bag" readily available so that they can take the go-bags and evacuate after the earthquake. The "go-bag" should have items that will sustain the person for up to 24 hours with no outside assistance. Emphasis was placed on a supply of required medication, good shoes (don't try to evacuate in bedroom slippers), and other critical items such as a means to make drinking water safe (either in the go-bag or the stored material). It was also strongly emphasized that evacuation by automobile is not likely to be successful because of the probability of downed trees and damaged roads.

Cannon Beach Mayor Mike Morgan talked about the Safe House program. Several people, including the Mayor, live above the maximum wave height and have offered to host evacuees in their homes. Several hosts are already storing supplies in their homes.

The forum closed with a lively question and answer session with the audience. One question was: what are other towns doing? Many towns along the coast have evacuation planning underway; Cannon Beach plans to increase interchange of information. Another question was the extent

of damage in Portland from a Cascadia earthquake. The answer was that large cities such as Seattle and Portland will sustain considerable damage, which will affect the speed of response and availability of aid to the coast. Another question was: who are able to obtain storage vessels? The answer: City residents, second home owners, and City staff who live elsewhere.

The presenters also mentioned that this is a pilot program and they don't have all the answers yet; one area still being worked on is how to accommodate visitors (on summer weekends the population of Cannon Beach increases from 1700 to over 10,000.) ♦

UPDATE ON 3-11-2011 JAPAN TSUNAMI

Japan earthquake and tsunami one year later — Lingering impacts and lessons

By Jeffrey Norris, March 22, 2012

UCSF Today

<http://www.ucsf.edu/news/2012/03/11714/japan-earthquake-and-tsunami-one-year-later-lingering-impacts-and-lessons>

Reprinted with permission from UCSF

A year after disaster struck, the Japanese public continues to be concerned about radiation contamination, cleanup, public health and the struggles of those in communities affected by the catastrophic earthquake, tsunami and Fukushima Daiichi nuclear reactor meltdowns.

Like people in the rest of the country and the world, Californians — including UCSF faculty, fellows and students — have pitched in to aid in relief efforts. But Californians are probably more likely than other Americans to wonder if similar disaster scenarios are likely to play out in the near future in the shaky Golden State.

On March 19 the UCSF departments of psychiatry and pediatrics and UCSF Global Health Sciences marked the anniversary of the disaster with a multidisciplinary symposium, "The Great East Japan Earthquake and Disasters: One Year Later," featuring first-hand details from several who responded to the calamitous events.

Physicians who cared for those with medical and mental health needs in the disaster zone, experts who have studied radiation exposure and its health effects, an earthquake engineer and professionals who study disaster preparation and recovery worldwide met at UCSF's Langley Porter Institute auditorium to present findings.

In introductory remarks [Craig Van Dyke](#), MD, professor of the UCSF Department of Psychiatry, noted that of the 300,000 people displaced by the dis-

aster in Japan, many are still homeless. Some were displaced from ancestral lands where their families had lived for hundreds of years.

The March 11, 2011 earthquake and tsunami and subsequent reactor meltdowns changed people's conception of tsunami hazards and nuclear power, Van Dyke said. Only two of 54 nuclear power reactors are still operating, and the remaining two are likely to be shut down. Opposition to nuclear power shows little sign of abating any time soon.

"The events had a profound effect on people's mental state," Van Dyke said.

Hospital hardship and tsunami lung

When the earthquake and tsunami struck, Hiroshi Nimura, MD, who now directs the Kudan Clinic in Tokyo, was director of surgery at Matsumura General Hospital in the disaster-area town of Iwaki, a few miles inland in Fukushima Prefecture, barely outside the current zone evacuated due to radiation. He described the hardships faced by hospital workers and their patients, and in the nearby coastal Choushunkan Hospital, in the wake of the tsunami and earthquake.

Both hospitals maintained electrical power. Workers at Choushunkan Hospital heard the tsunami warning over the radio and evacuated the first floor, which was inundated, within 30 minutes. Nimura said they were able to vacate quickly because they had prepared according to guidelines from a Chilean earthquake emergency manual.

Nimura made his way back to Matsumura General Hospital over several hours. The hospital was outside the tsunami zone, but suffered from non-structural damage. Uncertain about building safety, patients were first moved outside, but the staff who stayed on, fearing the effects of the cold, soon moved patients back inside again.

The hospital had a one-week supply of emergency rations — and a water-purifying plant and storage tank — but no running water. Major medications were used up within a week. Six of eight regional pharmacies with medications stored nearby were evacuated. Local ambulance service ceased due to a shortage of gas, but patients were transported to the hospital from private cars and helicopters fueled from outside the area.

Communication was challenging. Cell phone calls and texting were not an option. Fortunately, the hospital's internal phone system worked, and so did iPads running on a separate, 3G network, Nimura said.

Many people were treated for hypothermia. Caregivers also treated patients whose lungs were exposed to contaminated water and who contracted

infections, a condition called "tsunami lung." The staff treated these patients with a slew of antibiotics in the hopes that one of them would prove to be effective treatment.

Many from outside the area were reluctant to transport needed supplies to the hospital. There was no help forthcoming from the government for two weeks, according to Nimura. Hospital workers broadcast urgent messages via YouTube and Twitter and soon were able to make appeals for help through interviews with news media. It was three months before the hospital was again operating close to its pre-earthquake capacity, Nimura said. Of the estimated 19,000 who perished in the disaster, most died from drowning or hypothermia, not from the crushing injuries that are most prevalent after most major earthquakes, symposium speakers said.

Earthquake and tsunami damage, recovery and resilience

As in other recent, major earthquakes, modern engineered buildings held up well, but the tsunami provided new lessons about structural vulnerabilities. Disaster recovery — including rebuilding commercial infrastructure, housing the homeless and restoring communities to economic health — typically takes about a decade, presenters said.

Stephen Mahin, PhD, director of the Pacific Earthquake Engineering Research Center in Berkeley, who led an invited delegation that visited Japan shortly after the disaster, said most modern structures survived the earthquake. Most of these modern buildings, apart from those that house life-line services such as hospitals, now are designed to prevent loss of life, not necessarily to be usable immediately after an earthquake.

Structures older than about 20 years tend not to be built to the same standards and fared worse, but in general many structures survived better than expected, Mahin said. In addition, Japan has been thorough in retrofitting schools.

On the other hand, sea walls failed to contain tsunami waves, and wooden houses, bridges and other infrastructure that might have survived the 9.0-magnitude earthquake were destroyed by water and waves. The earthquake also caused substantial non-structural damage.

UC Berkeley professor of architecture Mary Comerio, MSW, MA, an internationally recognized expert on disaster recovery, compared the impacts of recent earthquakes in China, Chile and New Zealand. She said that national governments varied greatly in the ways they organized and administered disaster and housing relief. Following the 2008 Wenchuan earthquake, China levied taxes in

wealthier regions to aid relief efforts in poor earthquake-stricken regions. The central government and the army oversaw the re-housing of 5 million people in three years.

“Urban disasters are always housing disasters,” Comerio said.

According to Comerio, the poorest people to be displaced by disasters often are the last to find new homes in their communities. The Loma Prieta earthquake, about 100 times less powerful than the Japanese earthquake, occurred in 1989, but some public housing was never replaced, she said, and New Orleans after 2005’s Hurricane Katrina is demographically wealthier and less ethnically diverse.

Chile’s handling of the homeless after the 2010 earthquake was exemplary according to Comerio. “Chile’s flexible housing-recovery plan is really an excellent model of a centralized finance system with a broadly distributed system for engaging communities in decision-making.”

Arrietta Chakos, MPA, a public policy advisor on urban disaster resilience who has directed hazard mitigation efforts for local city governments, outlined issues related to disaster preparedness. Chakos said that there needs to be much more community engagement and intergovernmental coordination of planning and implementation.

“Local communities bear the impacts of disasters before any level of government shows up,” she said. According to Chakos, updated policies from the Federal Emergency Management Agency indicate that “the federal government is finally admitting that they won’t be there to rescue us all.”

San Francisco is taking disaster preparedness seriously, she said, through the [Resilient SF](#) program. The city also is restructuring its water system. “For every dollar spent before disaster hits, we save society an average of four dollars,” Chakos said.

Rebuilding lives

Van Dyke and fellow UCSF psychiatrist [John Takayama](#), MD, MPH, previously traveled to Japan to help provide assistance following the disaster, and helped to organize other relief efforts undertaken by UCSF faculty, fellows and students.

Residents in surrounding communities often stigmatized people who relocated to shelters and temporary housing after fleeing the tsunami or after evacuating radiation-contaminated areas. In addition to losing loved ones, their homes, communities and jobs, evacuees in shelters faced additional stresses due to overcrowding and lack of privacy.

Mental health professionals offered services to populations traditionally uncomfortable acknowl-

edging the need for such help, and organized local meetings with the help of community leaders to increase awareness of mental health issues and services.

Three symposium speakers spoke about organizing and providing psychological support in the wake of the disaster. Takayama described UCSF involvement in providing mental health services and other forms of relief, including public service announcements.

Hisako Watanabe, MD, a pediatrician and child psychiatrist from Keio University School of Medicine in Tokyo, and Toshifumi Kishimoto, MD, PhD, chair of the Department of Psychiatry at Nara Medical University in Kashihara, both spoke about their work in impacted areas, including rural communities, where they evaluated the mental health of survivors and helped establish mental health programs for both children and adults. In rural communities especially, Kishimoto said, “We needed the cooperation of community leaders who knew who was in trouble.”

Before the talks on science and medicine, [Jeffrey Bluestone](#), PhD, UCSF executive vice chancellor and provost, introduced Hiroshi Inomata, the consul general of Japan in San Francisco.

“We continue to be moved by the compassionate encouragement, support and assistance which the whole world has shown to us,” Inomata said. “In Northern California it is inspiring to see communities and people who still continue to support people who are victims of the disaster.”

“We must not only honor the memory of those who lost their lives, but we must also help rebuild the lives of those who are still suffering.”



Some Japanese evacuees living in shelters after the 2011 disaster resorted to cardboard boxes for a little privacy. Photo by John Takayama for UCSF ♦

Japanese tsunami debris issues, June 2012

More and more sightings of and concerns about the Japanese tsunami debris are showing up in the U.S. press. What follows is a sampling of the latest articles.

Tsunami debris clean-up plan urged (British Columbia, Canada)

<http://www.cbc.ca/news/canada/british-columbia/story/2012/05/19/bc-tsunami-debris.html>

Coastal communities question tsunami debris cleanup policies (Long Beach, Washington)

http://tdn.com/news/coastal-communities-preparing-for-tsunami-debris-wonder-who-will-foot/article_18dcf7a2-a312-11e1-9d8f-0019bb2963f4.html

Alaska sightings of tsunami debris increasing, so what now? (Alaska)

<http://www.alaskadispatch.com/article/alaska-sightings-tsunami-debris-increasing-so-what-now>

Japan tsunami debris—Toxicity main U.S. concern

http://www.cbsnews.com/8301-505263_162-57436969/japan-tsunami-debris-toxicity-main-u.s-concern/

NOAA lacks money and authority to lead U.S. tsunami debris clean up

<http://www.fiercehomelandsecurity.com/story/noaa-lacks-money-and-authority-lead-us-tsunami-debris-clean/2012-05-20>

A Harley Davidson lost in the tsunami changed my life (British Columbia, Canada)

A heart-warming story:

<http://www.cbc.ca/news/yourcommunity/2012/05/your-take-a-motorcycle-lost-in-the-tsunami-changed-my-life.html?cmp=googleeditorspick> ♦

Partners for pets—Public-private partnerships

By Karen Stewartson

Emergency Management, v. 7, no. 2, p. 50

Reprinted with permission

Partnering with animal welfare groups can help emergency managers put pets in the disaster preparedness and recovery equation.

Sixty-three percent of Americans have a feline friend, canine companion or other type of pet, according to the American Veterinary Medical Association. And when disaster strikes, most pet owners are reluctant to leave those pets behind.

That's where partnerships with local animal welfare groups can help, as they did during the 2011 Joplin, Mo., tornado, the Iowa and Memphis, Tenn., floods and other natural disasters nationally.

Through partnerships with the American Society for the Prevention of Cruelty to Animals (ASPCA), American Red Cross and local chapters of the Humane Society of the United States, Joplin, Iowa and Memphis received the help they needed to implement disaster preparedness and response plans that include animals.

Eye on Joplin

On May 22, when the catastrophic tornado struck Joplin, animal control officers were overwhelmed, according to Martin White, an animal control officer for the city. The main objective that night was to set up a co-located animal shelter close to pet owners.

"Experience has shown us through disasters that people will not go to a shelter where they couldn't take their animals," he said. "So we went in with the Red Cross to set up these little animal shelters adjacent to these human shelters."

In addition, White said the tornado was an "eye-opening" experience—one fraught with doubt. "I was very uncertain what our role would be—and how we would operate and [if we] could operate," he said of the destruction and response efforts.

But when natural disasters like this \$2.8 billion tornado occur, it is a quandary for all parties involved, since resources must be obtained and lives—both human and animals—are at stake. The Humane Society of Missouri handled the search and rescue, and the ASPCA did the shelter operations. But Martin said many animals were not rescued because it was unsafe for rescue workers to go into the debris and rubble.

The ASPCA is a nonprofit that "provides local and national leadership in three key areas: caring for pet parents and pets, providing positive outcomes for at-risk animals and serving victims of animal cruelty."

"The Joplin operation was among the most challenging operations because it was so personal to me," said Tim Rickey, senior director of the ASPCA Field Investigations and Response Team. "It was my hometown; many of my friends and family had been affected by the disaster, so that was part of it."

Rickey, an animal recovery veteran, has led efforts after major disasters like hurricanes Katrina and Rita, the Iowa floods, and multiple incidents in Missouri. He was on the ground for 45 days and found that it was overwhelming: Pet owners and

community members brought in more than 1,300 animals.

Further compounding the problem was handling the truckloads of donated supplies, including crates, food and leashes, without a donation management system. “It was honestly a wonderful problem to have,” said Rickey, “but it was a huge challenge for a few days and required us to bring in additional staff and secure an additional warehouse.”

Although that was a good problem, White said securing resources and funding through state, local and federal governments for some items was difficult. After the tornado, White said government’s red tape made it hard to get air conditioning units to cool down warehouses where animals were being sheltered, and it was difficult getting a site for the emergency shelter supplies.

Reminiscent of Katrina

In Memphis, the 2011 flooding and the Mississippi River overflow was somewhat reminiscent of Katrina’s aftermath. And just like Joplin, Memphis had its own problems. “We had a significant number of households that were gone due to the level of flooding, and they needed a place to [leave] their animals,” said John Robinson, shelter manager for Collierville animal services.

More than 300 animals were housed in an emergency shelter that the ASPCA set up and organized through the Memphis/Shelby County Emergency Management Agency. At the time of the flood, Robinson was the deputy incident commander and oversaw the event with the ASPCA. He said the county didn’t have its own technology resources, so most of them came from the ASPCA and other partnering agencies.

“I felt like I had a coach on the sidelines the whole time while I was trying to figure out this incident,” Robinson said. “Having [the ASPCA] on hand was a huge benefit to us and for everybody in the flood area. Them having the contacts and resources, things like that, and giving us the education, having worked on so many disasters.” With the agency’s help, all but 11 animals were reunited with their original owners in about seven weeks.

“We appreciate the assistance provided to our county from the ASPCA last year,” said Shelby County, Tenn., Mayor Mark H. Luttrell Jr. via emails. “Their volunteers, both here locally and the extensive network across the nation, saved hundreds of animals who were threatened by a history-making flood and several devastating storms.”

Lessons learned

Although Joplin and Memphis had their own unique challenges, there are still lessons for others to learn. Becoming educated on how local, state and federal governments operate is important, said Joplin’s White. He recommends working with people who know the ins and outs of requesting resources through all levels of government.

Robinson said one lesson learned in Memphis was keeping paperwork for animals organized so they could eventually be reunited with their owners. In addition, he said preparation is the key—knowing local rescue groups will help identify where animals are and provide a head count when disaster strikes.

In the future, both jurisdictions will develop animal preparedness and rescue plans. Joplin already has the funding component, which was a major hurdle, included in its plan, but is still dealing with homeless animals.

“They haven’t been able to get those animals adopted because the adoption market in that community has gone down significantly,” said the ASPCA’s Rickey. Memphis is consulting with the ASPCA on crafting a plan for implementation soon.

But what should be included in a disaster preparedness plan? The first thing, said Rickey, is for citizens to identify friends and family outside their regions who are less likely to be affected by the same disaster and ensuring that pets are properly identified. “Making sure that you tag your pets with updated information and having your pets microchipped,” he said. Also, people should consider having an emergency kit for their pets, a crate, extra leashes or any special dietary and medical supplies.

The ASPCA also provides workshops to citizens and local governments (welfare agencies and emergency management agencies). Emergency managers can promote information from the agency’s site to their communities. Rickey said the disaster response program will focus on public education and working with local communities to develop and promote disaster planning for animals.♦

NEWS

First national preparedness report gives the nation mostly thumbs up

When it comes to meeting national preparedness goals, the United States is making good progress overall, according to the [National Preparedness Report](#), which was released earlier today by the Federal Emergency Management Agency. Cy-

bersecurity and long-term recovery from disaster remained areas of concern, however. Measuring progress was also a challenge.

The report, which was mandated as part of [Presidential Policy Directive 8](#), will serve as a baseline on where the nation stands in meeting its [National Preparedness Goal](#), which outlines “core capabilities” needed to prevent, respond to, and recover from disaster. The report is based on self-reporting by all levels of government, private- and nonprofit-sector organizations, and community groups in 56 U.S. states and territories.

“This report illustrates areas of national strength to include planning, operational coordination, intelligence and information sharing, and other response related capabilities,” FEMA Administrator Craig Fugate said in a [statement](#).

“We must continue to build on the significant progress to date and address identified opportunities for improvement.”

Public health and medical services were rated a huge success in most states, with about 78 percent reporting they were solid on their capabilities. Operational coordination and communication during disaster and public information and warning were also ranked similarly.

Providing housing, economic recovery, and cultural resources after disaster were at the bottom of the capability spectrum, underranked only by preparedness for cyberattack.

“Cybersecurity was the single core capability where states had made the least amount of overall progress, with an average capability level of 42 percent,” the report stated, but added that improvements were already on the way.

“To counter these and related threats, federal and private sector partners have accelerated initiatives to enhance data collection, detect events, raise awareness, and respond to cyber incidents. In fact, most infrastructure protection stakeholders now identify cybersecurity as a priority issue for their programs.”

From: Disaster Research 587, May 3, 2012

Man cannot live by alert alone: Tsunami preparedness in Indonesia

Tsunami preparedness has come a long way in the eight years since the Indian Ocean tsunami ripped through South Asia, killing more than 225,000 people. The question is, has it come far enough?

The answer, provided last week by a high-magnitude yet essentially waveless earthquake off the coast of Sumatra, was a resounding “sort of.”

The 8.6 magnitude quake, which struck April 11, triggered the sprawling Indian Ocean tsunami warning system and caused many countries to issue

alerts. The warnings were well heeded and since more people have cell phones than they did in 2004, they were also better communicated to friends and family. Years of preparedness drills guided people where to go.

Despite these improvements, some think that if the wall of water had come, many would have died. Broken sensor buoys, sirens without battery back up, and the sheer mass of people that would need to migrate to higher ground could all contribute to tragedy, experts said.

“The tsunami alert system worked to a degree,” Keith Loveard, chief risk analyst at Jakarta-based Concord Consulting told Reuters. “The simple message is that in any critical condition like this it’s impossible to get everyone out in time.”

Even so, getting everyone out is the aim—one that is more within reach now that the famously delayed alert system is operational, according to IRIN reports. As late as 2010, the system was plagued with data holes caused by damaged buoys that hold sensors to monitor ground shaking and water movement and by a lack of sirens in remote locations.

Nearly 450 died that year when alarms failed to sound in remote areas of the Mentawai Islands. Although the buoy data gaps are shrinking, sirens are still a problem. It took more than 30 minutes to activate sirens in the more densely populated Aceh region thanks to power outages caused by the earthquake, a disaster agency official told Reuters.

“We understand that the ideal is to warn people of a tsunami five to 10 minutes after a quake. I wished we could have,” he said. “The power was cut completely and the operators were too scared to turn on the backup power because we saw wires dangling in the street. We decided to turn on the siren in the end.”

Staying informed is only half the battle. Even when people are getting the message, they can face obstacles in getting to safety. In Sri Lanka, the alert system was augmented by personal technology, but evacuees still faced issues related to congestion.

“The mass media, mobile telephones and [short messaging] mainly contributed to getting the word out,” World Vision’s Suresh Bartlett told the *Los Angeles Times*. “The news got to everybody. Of course the roads were a bit congested as people tried to get to higher ground.”

It may be time to focus more strongly on evacuation issues, considering seismologists are predicting more strong earthquakes in the Sumatra area, according to AlertNet.

Although slip-strike quakes like last week’s are less likely to generate tsunamis, some think that quake put even more stress on the nearby Sunda

megathrust, increasing the likelihood of future tsunami-generating earthquakes.

“We’ve had so many big earthquakes around in Sumatra in the past few years,” Earth Observatory of Singapore Director Kerry Sieh told Reuters, “that it seems like an awful lot of the faults around there seem ready to go.”

Fortunately, last week’s quake was a painless way for South Asian governments to assess what was right and wrong with their tsunami alert systems, and few seemed happy to rest on their laurels.

“It is during such moments that the effectiveness of our work on preparedness and early warning can be assessed,” Ignacio Leon-Garcia, head of the United Nations Office for the Coordination of Humanitarian Affairs, told Channel-News Asia. “We must never let our guard down—there is always room for improvement.”

From: Disaster Research 586, April 19, 2012

Nursing home emergency plans are a disaster

From documents scrawled on legal pads to those stored in boxes, a recent investigation into nursing home emergency plans found them severely lacking. The on-site inquiry at 24 nursing homes uncovered a plethora of missing and substandard plans that would leave residents without food, transportation, and medicine during a disaster.

The investigation, conducted by the U.S. Department of Health and Human Services Office of the Inspector General, was part of a larger study that followed up on a 2006 examination of emergency planning and preparedness training in nursing homes. The study found that, despite guidelines and regulations, nursing homes are still sadly ill-prepared to take care of patients during disaster.

“We identified many of the same gaps in nursing home preparedness and response that we found in our 2006 report,” wrote authors in the *latest report*, released last week. “Emergency plans lacked relevant information...nursing homes faced challenges with unreliable transportation contracts, lack of collaboration with local emergency management, and residents who developed health problems.”

Even more disturbing is the fact that the 24 facilities visited were culled from 210 organizations that had already experienced flood, hurricane, or wildfire between 2007 and 2010, according to an Associated Press article.

“Of the 24 emergency plans, 23 did not describe how to handle a resident’s illness or death during an evacuation,” the article stated. “Also, 15 had no information about specific medical needs of patients, such as feeding tubes and breathing equip-

ment. Seven plans were silent on how to identify residents in an evacuation [and] 15 made no provision for including medication lists.

“None of the nursing homes met a government recommendation for a seven-day supply of drinking water if residents had to shelter in place and their regular source of water was unsafe or unavailable. Twenty-two had no backup plans to replace staff members unable to report for work during a disaster.”

Investigators also found that transportation contracts were often not honored during disasters and only covered patients—not food, supplies, and medical equipment—when they were, according to the 2012 report.

Regulations require all nursing homes have to have a disaster plan, but many elements of that plan are optional. In fact, 92 percent of the 16,000 nursing home facilities met the letter of federal requirements for emergency planning and 72 percent met training requirements, according to the Associated Press.

Report authors recommended that those regulations be strengthened to include specific plan and training requirements, guidance be given on compliance, and nursing homes compelled to use existing planning checklists.

From: Disaster Research 586, April 19, 2012

Red Cross puts its social media where its mouth is

It’s been less than a year since the Red Cross told emergency agencies that they needed to listen up when people used social media to communicate during disasters. Now it’s taking its own advice.

The organization last month announced the launch of a social media Digital Operations Center that will monitor social media outputs, such as tweets, YouTube videos, and Facebook posts, and use them to answer questions, anticipate needed resources, and connect people with nearby services. Creating maps and other social media visualizations to share with the public and emergency managers will also be on the center’s to-do list.

“Our goal is to become a social liaison for people, families and communities to support one another before, during and after disasters,” Red Cross President Gail J. McGovern said in the announcement.

The center, which was developed in partnership with Dell and is based on Dell’s Social Media Listening Command Center, will be part of the Red Cross National Disaster Operations Center in Washington, D.C. The new center will be staffed by volunteers from a newly formed Digital Volunteers program, the Red Cross stated.

The center's launch is the latest in a series of Red Cross efforts to better understand and incorporate social media into disaster response in an authentic way. Among recent activities, the organization held an Emergency Social Data Summit and conducted a poll that found that one in five respondents would turn to social media for help if they weren't able to reach 911—and 74 percent of those would expect a response in less than an hour.

“Social media is becoming an integral part of disaster response,” Wendy Harman, American Red Cross director of social strategy, stated in an August press release about the poll's results. “During the record-breaking 2011 spring storm season, people across America alerted the Red Cross to their needs via Facebook. We also used Twitter to connect to thousands of people seeking comfort and safety information to help get them through the darkest hours of storms.”

Now that the digital operations center is online, the organization should be able to make those connections more easily and in real time, according to a Mashable article. And while the center will go a long way toward addressing the public expectations revealed by the poll, the Red Cross stresses that there's still no social media 911 call.

“We're not at the point where we're telling the public you can tweet at the Red Cross and we'll send a sandwich truck out to feed you,” Harman told Mashable. “But if we see 20 tweets like that, we may.”

From: Disaster Research 585, April 5, 2012

PUBLICATIONS

Tsunami evacuation—Lessons from the great east Japan earthquake and tsunami of March 11th 2011

By S. Fraser, G. S. Leonard, I. Matsuo, and H. Murakami, GNS Science Report 2012/17, April 2012.

John Schelling, Earthquake/Tsunami/Volcano Program Director, Washington Emergency Management Division, sent this notice:

“Following the tragic 3.11 earthquake and tsunami in Japan, New Zealand's GNS Science in collaboration with Washington State Emergency Management and other stakeholders set out to further analyze the successes of the evacuation and messaging approaches used in this event and glean addition insights into components that did not function as intended. A key element of this research was to investigate both traditional tsunami evacuation strategies used in communities, schools, etc. as well as non-traditional approaches, such as

vertical evacuation techniques and draw parallels with the concepts being applied in New Zealand, Washington, and elsewhere in the United States. The report

(<http://www.crew.org/sites/default/files/SR%202012-017.pdf>) details the results of this month-long effort and sheds new light on what worked well and additional items that need to be more fully considered during tsunami evacuation. I hope you find it useful.

I would also like to acknowledge the National Tsunami Hazard Mitigation Program (NTHMP) for contributions made to this multi-agency effort and helping to provide this critical transfer of knowledge that will hopefully be used to improve the tsunami evacuation strategies and techniques used throughout the world.”

Learning from catastrophes: Strategies for reaction and response.

Howard Kunreuther and Michael Useem, eds. 2010. ISBN: 978-0-13-704485-6. 352 pp., \$43.30 (hardcover). Wharton School Publishing. www.pearsoned.co.uk.

Businesses must prepare for catastrophes like anyone else. Howard Kunreuther and Michael Useem bring their experience in risk to bear on business' and society's preparation and response to catastrophe. “Before they can find strategies for expected loss reduction, societies need to identify areas of hazard that are worth investigating,” they write in the first chapter. “And, in addition to finding strategies for addressing the hazards they focus on, societies need to carry those strategies into action. Thus, the risk-management framework needs to be seen as part of the larger challenge of organizing and mobilizing public action. The losses from hazards (and the benefits from hazard loss reductions) are intrinsically in the future, so we can view this wider challenge as a problem of ‘acting in time’—that is, of taking action against future harms (or in favor of future opportunities) while there is still time to do so.”

The book covers a lot of ground, from economics to climate change to the affordability of disaster preparedness and mitigation in poor countries.

From Natural Hazards Observer, v. 36, no. 5, p. 21

Online tsunami modules.

National Oceanic and Atmospheric Administration National Tsunami Hazards Mitigation Program. 2012. Free. COMET Program. www.comet.ucar.edu.

Tsunamis and tsunami preparedness have risen to the top of the disaster agenda, and with good reason—Japan, Banda Aceh. And then there are the genuine scares that don't pan out, but which require planning, training, and execution to make sure that they remain only scares and not disasters. NOAA has prepared these five educational models about the hazard that will cover everything an American, at least, should need to know about this threat to its coasts. Two of the modules focus on the tsunami threat to specific sites—the Pacific and the Caribbean. The other three—Community Tsunami Preparedness, Tsunami Warning Systems, and Tsunamis—provide the fundamental lessons that individuals and communities need to deal with the hazard. This is a wonderful multi-media, pain-free way to learn about the tsunami threat, both in the United States and around the world.

From *Natural Hazards Observer*, v. 36, no. 5, p. 21

WEBSITES

http://www.cdc.gov/aging/emergency/pdf/guide.pdf?utm_source=NHC+Master+List&utm_campaign=e88bd8761f-DR_587&utm_medium=email

Identifying vulnerable older adults and legal options for increasing their protection during all-hazards emergencies

If disasters are difficult to weather when you are young and able-bodied, just imagine what they are like when you're not. Unfortunately, not enough response organizations have imagined that scenario, according to this recently released report by the U.S. Centers for Disease Control and Prevention. The CDC created the guide after determining that there were huge gaps in the way vulnerable adults were identified, considered in emergency plans, and legally protected. The report offers strategies and options to make sure older adults' needs are met at every level of planning.

From: Disaster Research 587, May 3, 2012

http://www.fema.gov/library/viewRecord.do?id=5823&utm_source=NHC+Master+List&utm_campaign=e88bd8761f-DR_587&utm_medium=email

Comprehensive Preparedness Guide 201: Threat and Hazard Identification and Risk Assessment

This guide, released last month by the Federal Emergency Management Agency, is a five-step path to helping communities better manage risk and their ability to cope with it. The steps offered in the guide were designed to help local decision makers recognize threats in the context of their

community and think about how they would respond based on changes in their local resources and population makeup. The guide is one of a collection of resources created by FEMA to help local governments incorporate the core capabilities outlined in the [National Preparedness Goal](#).

From: Disaster Research 587, May 3, 2012

http://www.emeraldinsight.com/products/journals/journals.htm?id=ijes&utm_source=NHC+Master+List&utm_campaign=e88bd8761f-DR_587&utm_medium=email

International Journal of Emergency Services

From the Coast Guard to mountain rescue, to all the police, fire, and EMS agencies in between, the *International Journal of Emergency Services* aims to collect a body of scholarship that will reach across all areas of emergency management. The journal, which emphasizes providing efficient and effective services with limited resources, will accept contributions from a number of social science fields. The first issue, to be published in July, is available for no cost until June 22.

From: Disaster Research 587, May 3, 2012

<http://itunes.apple.com/gb/app/fragile-earth/id515226237?mt=8>

Fragile Earth

If seeing is believing, then this app showing the effects of climate change on the landscape should win over a few skeptics. The app, built by Harper Collins from the *Fragile Earth* book series, let users visualize how Earth is changing by overlaying before and after photos of disaster sites, drying lakes, melting glaciers, and other phenomena. From the effects of Hurricane Katrina to the astounding shrinkage of the Aral Sea, these pictures are truly worth a thousand words.

From: Disaster Research 587, May 3, 2012

http://view.newsletters.nas.edu/?j=fe5a1574766d0d787617&m=fe6f1570776005797114&ls=fd61c7074640d7973157673&l=fe9416747063067b74&s=fe291c727167067e711276&jb=ff981675&ju=fe30157476660679751279&utm_medium=email&utm_source=The%20National%20Academies%20Press&utm_campaign=Crisis+Standards+of+Care+3.21.12&utm_content=&utm_term=&r=0

Crisis Standards of Care: A Systems Framework for Catastrophic Disaster Response

The Institute of Medicine has revisited its 2009 *Crisis Standards of Care* in this just-released report, which provides a guide for implementing special healthcare standards for use during catastrophes. The seven-volume set will include planning recommendations for state and local govern-

ments, emergency medical services, and hospitals and care facilities. Standards for out-of-hospital and alternate care during large-scale emergencies are also included.

From: Disaster Research 585, April 5, 2012

http://hlwiki.slais.ubc.ca/index.php/Disaster_Information_For_Librarians?utm_source=NHC+Master+List&utm_campaign=07725af25f-DR_585&utm_medium=email

Disaster Information for Librarians

Don't let the name fool you—this wiki goes far beyond helping those of librarian ilk. If you've ever needed or think you might need to quickly access disaster health information of any kind, this is your site. Created as part of HLWIKI Canada, a University of British Columbia resource for health librarians, the aim of the page is to help librarians working in disaster response. But with links to apps, RSS feeds, articles, journals, literature reviews, professional associations, widgets, e-mail lists, and much, much more, you'd be hard pressed not to find something useful.

From: Disaster Research 585, April 5, 2012

http://www.nanoos.org/nvs/nvs.php?section=NVS-Products-Tsunamis-Evacuation&utm_source=NHC+Master+List&utm_campaign=07725af25f-DR_585&utm_medium=email

Pacific Northwest Tsunami Evacuation Zones

Tsunami watchers in Washington and Oregon now have a new tool to help keep them abreast of tsunami threats. Developed by the Northwest Association of Networked Ocean Observing Systems, the Web site and similar smartphone apps display customizable maps of tsunami threats, evacuation zones by region and city, and incorporate a slew of preparedness information. Site visitors can also create an account and have alerts for their area sent directly to their device.

From: Disaster Research 585, April 5, 2012

http://currents.plos.org/disasters/?utm_source=NHC+Master+List&utm_campaign=07725af25f-DR_585&utm_medium=email

Public Library of Science Currents: Disasters

The Public Library of Science, a nonprofit organization that supports research sharing and open access publishing, has just launched a publishing system for disaster research works. The system allows researchers to contribute works directly to the system, which are then peer-reviewed and published under a Creative Commons license that allows them to be read and freely used. A versioning process allows articles to be updated, as well.

From: Disaster Research 585, April 5, 2012

CONFERENCES

June 25-27, 2012

World Conference on Disaster Management. Toronto, Canada; Cost and Registration: \$949, open until filled. <http://www.wcdm.org/>

This conference will discuss emergency management and business continuity strategies with a focus on accommodating reduced budgets and resources. Topics include cost-effective risk reduction programs, disaster resilience as a counter-terrorism measure, cyberattack preparation strategies, public alerts on mobile devices, and business continuity planning in a sluggish economy.

From: Disaster Research 587, May 3, 2012

September 3-5, 2012

5th International Tsunami Symposium, at the Joint Research Centre, in Ispra, Italy.

GAMES

http://www.em.gov.au/sites/schools/Teach/Resources/Pages/Before-the-Storm.aspx?utm_source=NHC+Master+List&utm_campaign=e88bd8761f-DR_587&utm_medium=email

Before the storm

What do you do when you're a mad scientist (or one of his beastly minions) bracing for a coming storm? This new game from Australian Emergency Management will let you find out. The game, which is aimed at fifth- through ninth-graders, lets kids take over a gothic mansion during four stages of a storm—preparedness, immediately before, during, and the cleanup afterwards. It's a dark and stormy night, so download it on your iPad or iPod Touch now or check out some of the other great games in the [Emergency Management for Schools collection](#).

From: Disaster Research 587, May 3, 2012♦

U.S. not ready for Japan tsunami debris
Report by Nancy Cordes, May 18, 2012

http://www.cbsnews.com/8301-505263_162-57436890/u.s-not-ready-for-japan-tsunami-debris/

BOOK REVIEWS

How the military responds to disaster

By Allan Boyce

Natural Hazards Observer, v. 36, no. 5, p. 18-20
http://www.colorado.edu/hazards/o/archives/2012/may12_observerweb.pdf

Manuals reviewed:

GTA 90-01-020, *DSCA Handbook: Tactical Level Commander and Staff Toolkit and Liaison Officer*. July 30, 2010. <http://usacac.army.mil/CAC2/FM3-28/CommanderStaffDSCAHandbook.Pdf>

Center for Army Lessons Learned (CALL), No. 11-07, Disaster Response Staff Officer's Handbook: Observations, Insights, and Lessons. December 2010. <http://usacac.army.mil/cac2/call/docs/11-07/11-07.pdf>

Department of the Army, *Field Manual 3-28, Civil Support Operations*. August 2010.
<http://usacac.army.mil/CAC2/FM3-28/index.asp>

The pace of military doctrine development sometimes mirrors the duality inherent in the concept of justice—alternatively described as being either a “swift sword” or a “slowly turning wheel.” The past decade of U.S. military involvement in two wars focused military doctrine development mainly on traditional military roles.

Response to several catastrophic natural disasters around the world during this same period brought some doctrinal advancement in the U.S. military conduct of humanitarian operations overseas. Lacking were corresponding doctrine, tactics, and procedures on the U.S. military response to such disasters in the United States. Over the last two years, this shortfall has been remedied with the publication of three new military manuals. Two were issued as procedural handbooks while one focused on doctrine.

Defense Support to Civil Authorities (DSCA) Handbook

The first publication is actually a two-in-one reference book called the *DSCA Handbook*. The two parts consist of the *Tactical Level Commander and Staff Toolkit* and the *Liaison Officer Toolkit*. Though requested by the United States Northern Command, the manual was actually developed by the Joint Test and Evaluation Command (part of the Office of the Secretary of Defense) to ensure it was jointly applicable across all military services. NORTHCOM wanted a practical, user-level manual for military personnel responding to an all hazards disaster.

The first part of the handbook for commanders and staff begins with a quick reference guide showing the page location of all-hazards planning factors for various staff positions and five categories of natural disaster. The next 11 chapters and 14 annexes are organized into four sections focusing on *DSCA* background information, planning factors, staff information, and reference annexes. Covered are incident management, civil and military response, risk management, requests for assistance, and reporting formats, to name just a few topics. All this information makes up about two-thirds of the 570- page volume. Flipping over and reversing the book reveals the liaison officer toolkit handbook with nine additional chapters of information designed to assist any military service member assigned to work directly with a civilian federal, state, or local emergency management organization.

The *DSCA Handbook* is accurate, useful, and durable. It contains the most up-to-date information from federal and military sources at the time of printing, as evidenced by the dates of the documents in the reference section. The subject matter is well-organized and thorough, covering federal laws and documents and progressing to tactical, field-level procedures and techniques. Handy extras include color-coded boxes throughout indicating critical information, warnings, vignettes, and special topics of interest. Its spiral bound, waterproof, rip-proof pages are durable and intended for use in the field as a working source book rather than sitting as a volume on a library shelf.

There are some minor weaknesses, though, which must either be overlooked or will hopefully be corrected in subsequent reissues. The handbook may be all-hazards, but it is not all encompassing. Other than a few pages in the liaison officer toolkit, the handbook does not cover CBRNE (chemical, biological, radiological, nuclear, high explosive—pronounced See-burn-ee) or terrorist incidents.

Although book size is a factor in determining its portability and utility in the field, a few dozen pages of additional material and the specific mention in each section of any extra considerations for CBRNE and terrorist incidents would be welcome.

The final weakness is the changing nature of the information and the handbook's design. Changes to laws, organizations, and processes are inevitable. As opposed to the costly replacing of the whole volume, a better binder edge that allows for single page replacement would be preferable.

Center for Army Lessons Learned Handbook 11-07

Published by the Center for Army Lessons Learned, the *CALL Handbook 11-07, Disaster*

Response Staff Officer's Handbook: Observations, Insights, and Lessons is designed for planners in both the Active Duty and Reserve forces who may receive short notice to deploy in support of American citizens. The genesis of the handbook was the discovery by *CALL* collection and analysis teams that few tactical military units were prepared to respond to a domestic emergency. Trained for overseas conflict, units had little or no knowledge of the complexities and constraints of civil support operations

The handbook consists of five main chapters that lay out the basics of disaster terminology, legal aspects, the NRF (National Response Framework), NIMS (National Incident Management System), ESFs (Emergency Support Functions), and the Defense Department's role at large. Seventeen appendices make up the remaining two-thirds of the handbook and focus on four main topics: planning factors, operations and organizations, incident characteristics, and contact information.

References and links are provided at the end of each chapter and within the appendices. Chapter 3 is a very good overview of the National Response Framework and the National Incident Management System. Appendix A is titled Unit Planning Considerations and does an excellent job covering many of the personnel, logistics, communications, and operational challenges military units face.

Additionally, at the conclusion of most appendices are other specific planning assumptions units must consider. There is much emphasis throughout the handbook on deliberate man-made disasters such as terrorist attacks or CBRNE incidents.

Detractors from the usefulness of the manual include too few useful diagrams or tables; for example a chart of the ESF functions would be preferable to verbiage. Many of the graphics are also too small and difficult to read. The organization of information in each appendix is haphazard and inconsistency in formatting. Some sections offer good explanations of the information presented while others merely have lists. The 8.5-by-11 inch format contains much white space on each page; a smaller size would be better for use in the field. All these aspects combine to disrupt the flow of the handbook and make finding information a bit difficult.

US Army Field Manual, FM 3-28

The U.S. Army operational concept of decisive action operations addresses offense, defense, stability, and defense support to civil authorities. The keystone Army doctrinal manual for DSCA is *FM 3-28, Civil Support Operations*. The manual provides doctrine guidance to those levels of Army

units from battalion and above that are directly involved in DSCA operations and focuses on the planning, preparation, execution, and assessment cycle. After providing an overview of domestic operations, several chapters hone in on the four main tasks that make up the Army's DSCA mission—support for domestic disasters, support for CBRNE incidents, support to law enforcement agencies, and other support as designated. Responsibilities for Army units of all components—Active, Reserve, and National Guard—are clearly delineated and addressed. All four chapters go into sufficient detail on response actions and considerations for Army forces.

The final three chapters of the main body of the manual discuss legal aspects, and the sustenance and medical requirements for deployed units (not logistics support to civil authorities or disaster victims). Eleven appendices provide further information to units including checklists (unit and staff officers), safety, CBRNE force capabilities, search and rescue, and media considerations. One appendix in particular compares DSCA operations (disaster response in the United States) to stability operations (outside the United States of which foreign disaster response is just one of several areas). This appendix clearly highlights the differences and legal restrictions the U.S. Army faces in conducting domestic support operations. Army doctrine is not famous for its readability. But *FM 3-28 Civil Support Operations* is a clear, concise, and well organized doctrinal manual. A major strength is the 60-plus pages of figures, tables, and checklists that clearly provide everything from a force package composition to an example of a logistics section in a joint field office. The Reference section is outstanding, with not only source documents from the federal, military, and state levels, but also links to many of those documents and a wide array of other sources. Though not reviewed here, there is a companion volume, *FM 3-28.1 Multi-Service Tactics, Techniques, and Procedures for Civil Support Operations*, that provides specific "how-to" guidance. It is currently under revision.

Conclusion

It is fitting that two of these books (*CALL* handbook and *FM 3-28*) originate at Fort Leavenworth, Kansas in the heart of Tornado Alley. All of these documents are excellent references and have much to offer not only their intended military audience, but civilian emergency management practitioners as well. They are good planning resources for military units new to the realm of defense support to civil authorities and also provide civilian

agencies an inside look at military capabilities and operational planning. There is some overlapping material in each book and each has a slightly different focus, but despite their specific weaknesses, taken together these three volumes should be in any organizations' emergency management library or kit bag.

All of these books can be accessed online and downloaded in PDF format to any Nook, Kindle, iPad or other portable electronic reading devices. A hardcopy of the *DSCA Handbook* can be ordered from the U.S. Government Printing Office bookstore for \$52.00 or downloaded from the US Army Combined Arms Center (USACAC). The Army field manual, *FM 3-28*, is available online at the General Dennis Reimer Training and Doctrine Digital Library at www.train.army.mil. *CALL Handbook 11-07* is available at the unclassified public website of the Center for Army Lessons Learned.

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National CERT Program at FEMA Updates

1) This year we're pleased to announce two new courses now available to States and local CERT programs across the nation:

G428: CERT Train-the-Trainer Course

G427: CERT Program Manager Course

States in particular are encouraged to offer these courses to local CERT instructors, Basic Training course managers, and program managers. The materials for each course include an Instructor Guide, Participant Manual, and PowerPoint slides, and are available for download at the national CERT website at www.citizencorps.gov/cert/training_mat.shtm.

G428: CERT Train-the-Trainer Course

The new Train-the-Trainer Course focuses on preparing instructors to:

Deliver the CERT Basic Training Course accurately.

Convey the messages and intent of the CERT Program (e.g., safety, teamwork, place in overall community emergency operations plan).

Assure the students achieve the objectives of the CERT Basic Training.

Create a comfortable yet managed learning environment for CERT participants.

The audience for this three-day course includes current and prospective CERT instructors, CERT course managers, and those who train CERT instructors.

View the new CERT Train-the-Trainer materials [here](#).

G427: CERT Program Manager Course

The new Program Manager Course defines the core components of a local CERT program and focuses on effective practices to establish and maintain an active program, including:

Develop local CERT program goals and a related strategic plan

Promote the local CERT program

Orient, manage and retain CERT members

Recruit, fund, manage, and retain CERT trainers

Acquire and manage program resources

Deliver and manage effective training and exercises

Develop essential policies and procedures for a local CERT program

Evaluate and sustain the program

The audience for this course includes any professional or volunteer interested in becoming a local CERT program manager as well as current CERT program managers. Participants will develop ideas to help start a new program or to revitalize an ongoing program.

View the new CERT Program Manager materials [here](#).

Course Delivery

The delivery of the CERT Train-the-Trainer Course and the CERT Program Manager Course may be paired or offer a five-day block of training.

States are encouraged to offer the courses and can use Homeland Security Grant Program funding to support the training.

States may also request an "L" delivery of either or both courses in conjunction with FEMA's Emergency Management Institute (EMI). An "L" delivery is an EMI course that takes place in the State and is funded by the State. State Training Officers and State CERT POCs should contact Paul Benyeda at EMI for more information, Paul.Benyeda@fema.dhs.gov.

Both courses are also offered on-site at EMI in Emmitsburg, Maryland. For information about on-site course offerings, schedules, and the application process, please visit the [EMI website](#).

2) CERT News Digest

Join the New CERT Online Forum

CERTers across the country are invited to join the discussion at the CERT Online Forum – a place to connect with CERT members, managers, trainers, and CERT advocates everywhere to exchange information, stories, successes, and ideas.

Registration to the forum is FREE. Once registered, you will find discussions about current and innovative practices and initiatives from the CERT community across the country. You'll also find information about new tools and resources like the Teen CERT resources recently posted on the National CERT website.

Additionally, the forum offers experienced CERT leaders the opportunity to mentor and guide those who are interested in CERT or have recently started a program.

Need help registering? If you have not yet registered please begin by going to National Preparedness Coalition website at <http://community.fema.gov> and click the "Click Here to Join" button. You will be directed to the registration/ login page and will click the "Register" button under the New Users section to proceed with online registration. Complete the online registration questionnaire and click the "Register" button and you will be officially signed up and logged in to the group. You will be returned to the National Preparedness Coalition home page.

Next, it is important that you go to the very bottom of the page and click "Join this group" and you will be automatically directed to a page where you can manage your email notifications. (If you do not click "Join this Group" then you will only be able to view the topics on the forum but won't be able to start your own discussions or reply to other discussions.)

Now you will choose how often you'd like to receive emails about the activity on the discussion forums – immediately, daily or never. Upon completion of this section, you will be taken back to the National Preparedness Coalition home page and will have full user rights to start new discussions or reply to other posts. From the home page, you will click the CERT Forum link located directly above the link to Resources and this will take you to the forum.

You're in! Now you may begin reviewing the discussions and replies by clicking on the subject title of each post. To post your own discussion, scroll to the bottom of the page and click "Start a new discussion."

We hope you enjoy connecting with fellow CERTers and find this experience to be beneficial

and enjoyable. Please help the new network grow by telling another CERTer about it. Let's get social!

New Teen CERT Materials and Webpage

By training teens in emergency preparedness and response, you have the ability to empower our Nation's future leaders with the skills necessary to protect themselves and assist others in the event of an emergency. Students learn basic disaster response skills including fire suppression, light search and rescue, team organization, disaster psychology, terrorism awareness and disaster medical operations—the same content as CERT basic training for adults but delivered to engage teens. Participation in CERT is an excellent opportunity for teenagers to learn preparedness and leadership skills that last a lifetime!

FEMA is pleased to announce the following new resources to support CERT training for teens:

- Teen CERT Annex to the Basic Training Instructor Guide
- Teen CERT Annex to the Train-the-Trainer Instructor Guide and Participant Manual
- Teen CERT Public Service Announcement video (English and Spanish)
- Launching and Maintaining the Training Guide
- Teen CERT tri-fold brochure
- Links to Teen CERT videos

All of the new resources are available at the national CERT website, www.citizencorps.gov/cert. Just click on Teen CERT.

If you are interested in starting a Teen CERT in your school or community, contact your local CERT Program.

View and download these new materials today and share your experiences and best practices via the [CERT Online Forum](#) on the National Preparedness Coalition Website.

Sincerely,

National CERT Program

Federal Emergency Management Agency ♦

Material added to the NTHMP Library

May - June 2012

Note: These, and all our tsunami materials, are included in the online (searchable) catalog at <http://www.dnr.wa.gov/ResearchScience/Topics/GeologyPublicationsLibrary/Pages/washbib.aspx>. Click on SEARCH DATABASE, then type 'tsunamis' in the Subject field to get a full listing of all the tsunami reports and maps in the collection.

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INFREQUENTLY ASKED QUESTIONS

Why didn't the 8.7 Indonesian earthquake trigger a huge tsunami like the 2004 catastrophe?

Today's [April 12, 2012] earthquake was a different kind of quake all together. Instead of occurring at a plate boundary along an area called a subduction zone, where one tectonic plate is diving beneath another, this earthquake occurred in the middle of an oceanic plate, where the faults in the crust essentially moved from side to side instead of up and down. These sorts of events are called strike-slip earthquakes.

Read more: <http://www.foxnews.com/scitech/2012/04/11/why-today-86-quake-didnt-make-monster-tsunami/#ixzz1rq33nZll>

Why haven't excavators at the roman harbor of Caesarea Maritima recognized tsunami deposits?

“Today, the roman harbor of Caesarea Maritima lies between 3 and 6 meters below the waterline. Until recently, the state of the harbor was primarily ascribed to earthquake activity combined with related liquefaction and gradual demise, while the impact of tsunamis was largely discounted despite numerous descriptions of tsunamis in textual sources.

Sedimentological evidence of tsunamigenic deposits discovered offshore from the ancient harbor in the past ten years, however, has cast a new light on the factors that led to the harbor's deterioration. Recent studies conducted by the Caesarea Coastal Archaeological Project have therefore focused on identifying and documenting the signature of tsunami deposits in the archaeological record at Caesarea, particularly in the intermediate harbor, where earlier excavators working the the 1990s described thick deposits of rubble attributed to episodes of destruction or deliberate deposition in the Byzantine and early Umayyad periods (4th-8th centuries CE).

Preliminary results from two seasons of fieldwork suggest the possibility of differentiating between two tsunami events spaced within 200 years of one another, based on carefully-controlled excavations and sedimentologically-based stratigraphy descriptions, coupled with chronological markers furnished by C14, OSL, and ceramic dating methods.

Curiously, there are no published claims of tsunami-derived deposits in terrestrial contexts at Caesarea, though past excavation reports strongly suggest the presence of such deposits that went unrecognized by the excavators. This is not entirely unexpected given that a) agreement over the character of tsunami deposits is even debated within the tsunami research community, b) most of these excavations were not conducted in direct collaboration with a sedimentologist or geologist, and c) Caesarea's continuous history of occupation has led to the transformation or disappearance of much of whatever deposits may have once existed.”

From: *Seismological Research Letters*, v. 83, no. 2, p. 448.

CALL FOR PAPERS (2nd ANNOUNCEMENT)

FIFTH INTERNATIONAL TSUNAMI SYMPOSIUM
of Tsunami Society International

Sept 3 - 5, 2012

EUROPEAN COMMISSION – JOINT RESEARCH CENTRE
ISPRA, ITALY

Dear Colleague,

The European Commission – Joint Research Centre (JRC) extended an invitation to Tsunami Society International (TSI) to hold the venue of the 5th International Tsunami Symposium in Ispra - and made available its large Amphitheatre and other facilities. The JRC in Ispra, is easily accessible – a major consideration in our changing the venue. It is the largest EC Research Centre in Europe and is located near Milan in a very beautiful area on the east coast of the Lake Maggiore, in Northern Italy.

I am attaching the Second Announcement and Call for Papers and cordially invite you to attend and present a paper at the Fifth Tsunami Symposium (ITS - ISPRA 2012) on September 3 – 5 , 2012, in Ispra. The Symposium will concentrate on a holistic approach in coping and addressing the array of tsunami risks facing vulnerable areas in all of the world's oceans and seas. The recent March 11, 2011 tsunami disaster in Japan, the meltdown at the Fukushima Daichi nuclear plant and other collateral disaster impacts of this and previous tsunami disasters in the Indian Ocean and elsewhere, point out to the need for a more comprehensive tsunami risk analysis approach and for more effective disaster management practices – even for countries that have initiated and have such programs in place. The recent great earthquakes of April 11, 2012 near Sumatra need to be examined carefully as to why no larger tsunamis were generated.

For your information, the Joint Research Centre (JRC) is the European Commission's in-house science service. Its mission is to provide customer-driven scientific and technical support for the conception, development, implementation and monitoring of European Union policies. The JRC serves the common interest of the Member States, while being independent of special interests, whether private or national. The JRC has seven scientific institutes, located at five different sites in Belgium, Germany, the Netherlands, Spain and Italy, with a wide range of laboratories and unique research facilities.

The European Crisis Management Laboratory, a Crisis Room model, was inaugurated on March 16, 2012 at the Joint Research Centre by the President of the European Commission, José Manuel Barroso. The Laboratory acts as a research, development and test facility for ICT focused solutions which integrate devices, applications, and crisis management related to information sources to support crisis management needs, such as threats analysis, common situation awareness, and collaborative decision making. The Laboratory also allows distributed crisis management training across relevant services of the European Commission, as well as with partners in the EU Member States and others engaged in crisis management, thereby enhancing their awareness and confidence in the application of technological solutions to strengthen their functions in crisis management. Tsunami risk assessment in real time is one of the major Laboratory functions. Participants to the Tsunami Symposium will have a chance to visit the Laboratory and view the state-of-the-art technology that has been implemented.

The success of our 5th International Tsunami Symposium relies on your valued support and professional experience. The attached Second Announcement provides useful information for your participation. Tsunami Society International (TSI) will also provide letters of invitation to participants needed to facilitate EU visa requirements. Please submit your abstract to TSI as soon as possible – as time is of the essence.

We are looking forward to seeing you in Ispra and to your participation in this exciting, productive and insightful 5th International Tsunami Symposium.

With Best Wishes,

Dr. George Pararas-Carayannis , President Tsunami Society International
Chairman, 5th International Tsunami Symposium (ITS - Ispra 2012)
<http://www.tsunamisociety.org>

VIDEO-CD-DVD RESERVATIONS

To reserve tsunami videos, CDs or DVDs, contact Lee Walkling, Division of Geology and Earth Resources Library, 1111 Washington St. SE, MS 47007, Olympia, WA 98504-7007; or e-mail lee.walkling@dnr.wa.gov.

These programs are available to all NTHMP participants, with a 3-week loan period.

Adventures of Disaster Dudes (14 min.). Preparedness for preteens. American Red Cross.

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

Business Survival Kit for Earthquakes & Other Disasters; What every business should know before disaster strikes (27 min.). Global Net Productions for the Cascadia Regional Earthquake Workgroup, 2003. With CD disaster planning toolkit & other data.

Cannon Beach Fire District Community Warning System (COWS) (21 min.) Explains why Cannon Beach chose their particular warning system.

Cascadia: The Hidden Fire—An Earthquake Survival Guide (10 min.). Global Net Productions, 2001. 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.

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.

Earthquake...Drop, Cover & Hold (5 min.). Washington Emergency Management Division. 1998.

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 warning systems.

International Tsunami Information Centre, 2004, Tsunami warning evacuation news clips and video footage, UNESCO/IOC International Tsunami Information Centre, 1 DVD, 12 min.

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

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

Not Business as Usual: Emergency Planning for Small Businesses, sponsored by CREW (Cascadia Regional Earthquake Workgroup) (10 min.), 2001. Discusses disaster preparedness and business continuity. Although it was made for Utah, the multi-hazard issues remain valid for everyone. Websites are included at the end of the video for further information and for the source of a manual for emergency preparedness for businesses.

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.)

Ocean Fury--Tsunamis in Alaska (25 min.) VHS and DVD. Produced by Moving Images for NOAA Sea Grant College Program, 2004.

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. Accompanying booklet. 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, 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.

Run to High Ground (14 min.). Produced by Global Net Productions for Washington Emergency Management Division and Provincial Emergency Program of British Columbia, 2004. Features storyteller Viola Riebe, Hoh Tribe. For K-6 grade levels. Have video and DVD versions.

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

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

Tsunami: Surviving the Killer Waves (13 min.). 2 versions, one with breaks inserted for discussion time.

Tsunami Chasers (52 min.). Costas Synolakis leads a research team to Papua New Guinea to study submarine landslide-induced tsunamis. Beyond Productions for the Discovery Channel.

Tsunami Evacuation PSA (30 sec.). DIS Interactive Technologies for WA Emergency Management Division. 2000. TsunamiReady Education CD, 2005, American Geological Institute Earth Science Week kit.

Tsunamis: Know What to Do! (8 min. DVD)

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

UNESCO/IOC International Tsunami Information Centre, 2005, U.S. National Tsunami Hazard Mitigation Program public information products—B-roll footage, tsunami science, warnings, and preparedness: UNESCO/IOC International Tsunami Information Centre, 1 DVD, 57 min.

The Wave: a Japanese Folktale (9 min.) Animated film to 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 Wash. Interpretive Center, this video deals with beach safety, including tsunamis. ♦

