



TsuInfo Alert

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

National Tsunami Hazard Mitigation Program

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

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Tsunamis in the Puget Sound Region: A New Program

S. Koshimura, H.O. Mofjeld, F.I. González, and V.V. Titov. National Oceanic and Atmospheric Administration

A program is underway to better understand and predict the tsunami threat in the Puget Sound Region. In the Strait of Juan de Fuca, tsunamis generated by earthquakes in the Cascadia Subduction Zone or propagating from distant Pacific sources represent the greatest threat. Within Puget Sound, dangerous tsunamis are more likely to be generated by local earthquakes and landslides. This work is being carried out at the Center for Tsunami Inundation Modeling Efforts, which is part of the Federal/State National Tsunami Hazard Mitigation Program.

The initial focus of the modeling in Puget Sound is the tsunami that was generated 1000-1100 years ago by an earthquake on the Seattle Fault. Paleotsunami evidence at West Point, Seattle, and Cultus Bay on Whidbey Island suggest the occurrence of this tsunami. Results from a high-resolution numerical model will be shown, indicating the areas around the Main Basin of Puget Sound that are most vulnerable to this type of tsunami. Future research will include the investigation of landslide-generated tsunamis and seismically generated seiche in lakes.

Downloaded 12-2-2003 from
www.psat.wa.gov/Publications/01_proceedings/sessions/abstract/abstr_4d.pdf

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electronically (by e-mail), and at <http://www.dnr.wa.gov/geology/tsuinfo/index.html>.
Participants in the TsuInfo program can request copies of reports listed in this issue from:

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WASHINGTON STATE DEPARTMENT OF
Natural Resources
Doug Sutherland - Commissioner of Public Lands



The International Workshop, Tsunamis in the South Pacific, Research towards Preparedness and Mitigation Report by George Crawford, Earthquake Program Manager, Washington State EMD

Introduction:

The international workshop was held in Wellington, New Zealand, Sep 25 – 27, 2003. Eleven countries took part, with over 30 contributions (papers) by a wide community of researchers, emergency managers, decision makers and other practitioners. Specific topics for discussion during the workshop included:

Present status of the tsunami observation and response networks in the southwest and central Pacific;

Completeness and reliability of regional and national tsunami catalogs;

Regional features of tsunami-generation mechanisms – relative importance of tectonic, landslide and volcano generation mechanisms;

Regional features of wave propagation and run-up from local and remote sources;

Regional features of the geology of tsunamis and paleotsunami research;

Tsunami hazard, risk assessment and mitigation;

Tsunami education and public awareness; and

Socio-economic and Lifeline issues.

Key Points:

Tsunami inundation modeling is essential in defining the tsunami hazard and vulnerability of our tsunami at-risk communities.

Emergency Managers must work in a “gray area” when it comes to the geological hazards – use existing data (best available science) to formulate hazard assessment and update as new data becomes available.

Emergency Managers must work in close collaboration with modelers to ensure product delivery is transferable to enhance planning and mitigation efforts – i.e., it has to be in a compatible format for planners to use.

Define tsunami sources to develop priority assessment of at-risk communities.

Partner with scientific agencies to host workshops to collect current scientific data on tsunami sources.

Produce written documents of workshops to substantiate the development of mitigation plans and priority mapping efforts.

Real-time reporting and forecasting of tsunamis will enhance the timely decision making capabilities of state/local officials and reduce loss of life and property from a tsunami strike.

Deep-ocean Assessment and Reporting of Tsunamis (DART) and other issues:

The Deep-ocean Assessment and Reporting of Tsunamis (DART) buoys complement the network of real-time reporting coastal tide gage stations around the Pacific rim. DART provides direct measurement of tsunami energy propagating from the source to distant communities. Every effort must be made to support NOAA’s effort to install more of these systems in the Pacific – they provide critical time sensitive data that decision makers require to make sound evacuation decisions. A real-time, far-field tsunami forecasting system is being developed by the National Tsunami Hazard Mitigation Program (NTHMP) as an additional tool for the tsunami warning centers. Workshops will be held shortly to develop the plan that is in an early stage of implementation.

Hal Mofjeld (NOAA/PMEL) has developed a forecasting tool that needs to be briefed to our local emergency managers – it will help decision makers in calling the “All Clear.” Public Education needs to support the efforts of mapping, warning, planning and mitigation. Risk communication by emergency managers will be the driving force deciding how the public will react in a tsunami strike or acceptance of tsunami mitigation efforts. Every effort must be made to exchange experiences and product development of public education and mitigation measures throughout the international community. Social science disciplines must be part of emergency management’s strategy to understand the ways in which citizens interpret hazard information and its implications for the process of adjustment adoption or preparedness. Survey information can provide the basis for defining strategies for enhancing preparedness, maintaining and enhancing hazard knowledge and risk perception, promoting the development of preparatory intentions, and facilitating the conversion of these intentions into sustained preparedness.

Contacts made:

I met all the participants at the workshop and had a good exchange of information regarding their/our efforts and discussed how scientific data could be integrated into the emergency management arena.

Peter Wood – Emergency Management Planner with the Ministry of Civil Defense & Emergency Management NZ has requested we continue a dialogue and wanted additional EMD materials as well as my PowerPoint presentation.

Dawn Davison – Hazards Analyst with Environment Canterbury (Christchurch NZ) requested educational material, PowerPoint (risk communication, Nisqually EQ etc.) and planning materials.

Barry Low – Manager Emergency Management, Tauranga Western Bay Emergency Management NZ requested electronic version of our tsunami educational booklet.

Fred Stephenson – Manager, Geomatics Engineering – Fisheries and Oceans Canada requested our tsunami booklet.

Andrew Gissing – Planning & Research Officer, State Emergency Management Australia requested education materials, a CEMP CD and other information regarding the State Flood Program.

Lawrence Anton – Geological Survey of Papua New Guinea – I spent many hours discussing preparedness, public education and other emergency management issues – He has requested any public education materials in electronic form – the country has little to no public education materials on earthquakes/tsunamis – He has also requested that we maintain a dialogue.

Recommendations:

Maintain the strong partnership with NOAA/PMEL and continue to use “best available science” to provide state/local emergency managers with natural hazards data that is useable for hazard mitigation planning.

Use the current Puget Sound Tsunami Sources – 2002 Workshop Report as our baseline and update periodically through partnership workshops.

Be an advocate to enhance the NTHMP warning guidance program nationally and internationally – provide emergency management feedback on scientific research being accomplished to ensure tools meet end user requirements.

Continue the social science work with David Johnston to assess our educational program and develop effective tools to change public perception and attitudes on hazard preparedness, mitigation and survival – the coast has two vulnerable groups – children and the elderly (largest retirement population in Washington lives in coastal communities) – lessons learned from this program is transferable to all hazards.

Share public education materials with the inter-national community and maintain a dialogue at all levels of emergency management.

Work with the International Tsunami Information Center to provide electronic copies

of public education materials for use by the international community.

Maintain an open dialogue with national and international warning centers in the Pacific – they have valuable information that EMD can use.

Summary:

The International Tsunami Workshop provided an excellent forum for the exchange of information and developing a dialogue with other Pacific at-risk countries. It was readily apparent that the NTHMP has made significant progress in reducing the impact of tsunamis and have products that are transferable to the international community. Partnerships with the international community (i.e., tsunami warning/guidance products) will enable greater detection of tsunamis in real-time for both the United States and countries in the Pacific. Participants at the workshop were very interested in our approach to mapping, warning and notification, and public education and I would highly recommend NTHMP Emergency Management experiences and products be made readily available to the international community – many of the countries are where we were in the early 1990s.

Continued engagement with the national and international tsunami community will enhance all four phases of emergency management and will provide us the tools that we need to be ready for the next tsunami strike on our coastline.

On another note, I have several meetings with David Johnston to continue work in both the tsunami and volcano program. During the next several weeks, I’ll be working with Pierce County and David Johnston to develop a Statement of Work (SOW) to continue looking at Mt Rainier educational issues and will also work to combine the tsunami social science efforts to enhance our educational efforts statewide. I have been urged by several parties to introduce a NTHMP social science review and will work with several NTHMP members to have a SOW developed for the November 2003 NTHMP Steering Group meeting. This collaboration with the social science community will provide emergency managers with the necessary tools to enhance a risk communication program to effectively communicate risk issues to their community. By taking an “all-hazard” approach, all-hazards within the risk communications program will be assessed and tools developed to increase the utility of the overall program. ▲

Opening a Gateway to Oregon's Coastal Information

"The site provides everything from hydrography data sets to information on the facilities available at beach-access sites."

From: Coastal Services, v. 6, no. 6, p. 2-3., a publication of NOAA Coastal Services Center
Reprinted with permission

What if all the data about a state's coastline—everything from maps to current weather conditions—were in one easy-to-access place? Beach lovers, researchers, and coastal resource managers in Oregon are taking advantage of a Web site that is one of the country's most comprehensive information sources about a state's shoreline.

"The scope of this project is enormous," says Paul Klarin, coastal project coordinator with the Oregon Ocean Coastal Management Program. "It goes much deeper in data and content" than other similar Web sites.

The Oregon Coastal Atlas is a "portal" to interactive maps, and data and metadata collected by local, state, and federal agencies, and researchers. Users of the Web site can search a wide variety of data, which can be viewed in their original context or manipulated to solve spatial problems using on-line tools. The site provides everything from hydrography data sets to information on the facilities available at beach-access sites.

Dawn Wright, a professor of geosciences at Oregon State University, says the atlas will help managers and researchers address beach erosion, salmon restoration, protection of marine fisheries, and forecasting of ocean and atmospheric conditions. Surfers and beachgoers are using the site to get information on the coastline and coastal issues.

The Coastal Atlas is Oregon's contribution to the National Spatial Data Infrastructure, the purpose of which is to provide consistent ways to share geographic data among all users.

If You Build It . . .

Klarin had the original vision for the atlas in the late 90s as the state's use of geospatial data took off. The problem, he says, was that data were being collected in a variety of incompatible formats, scales, and projections by state, local, and federal agencies, and university researchers. Once completed, projects often sat on a shelf or were forgotten as staff moved on to new projects or positions.

"The data essentially was in the hands of those project people and wasn't available for distribution," Klarin recalls. "I didn't want to

lose that data. I wanted to find a way to keep it and distribute it, and make it useful for everybody."

In 2000, Klarin helped forge a partnership of the coastal program, Oregon State University's Department of Geosciences, and EcoTrust, a nonprofit organization that promotes conservation-based development, to design and build the Coastal Atlas.

A Question of Technology

When Klarin first had the idea for the atlas just six years ago, he says there wasn't adequate technology to fulfill his vision. "This was before Web mapping was anything like it is today," notes Wright.

But the right technology "arrived sooner than we thought," Klarin says.

With seed money from the National Oceanic and Atmospheric Administration's (NOAA) Coastal Services Center, the partners began convening small workgroups where they "combed the field trying to figure out the best way to go about" creating the atlas, including talking to potential system users and examining data, available technology, software options, and storage needs.

Klarin credits the system's design and smooth operation to Tanya Haddad, the project technical coordinator and system administrator, who "made a complex system simple to use."

Brick by Brick

A four-year, \$508,000 grant from the National Science Foundation and additional funds from the Federal Geographic Data Committee (FGDC) enabled the partners to build and bring the atlas to life.

The funding enabled the coastal program to hire Haddad full-time to work on designing and building the atlas. One of the most time-consuming elements, Wright notes, was making sure all the metadata were present and accurate. Oregon State University undergraduate students were hired to perform this tedious task.

Wright says the design of the atlas "draws from the reality that resource decision-making applications require much more than simple access to data. Resource managers commonly make decisions that involve modeling

risk, assessing cumulative impacts, and weighing proposed alterations to ecosystem functions and values.”

Layer upon Layer

When the atlas went live in December 2002, it had 500 to 600 geographic information system (GIS) data coverages. There are plans, Klarin says, for upwards of several thousand.

While the information on the atlas appears seamless to the user, pieces of it actually reside on each partner’s server.

Upon entering the atlas, the user finds four main functional areas represented by different tabs across the top of the screen: Maps, Tools, Learn, and Search. Content is accessible through different paths to accommodate the different types of users.

Under Maps and Tools, users can create maps on-line, display the data, and manipulate them. The newly created maps can be saved as PDF files so that they can be kept and printed.

Wright says popular data sets include hydrography, public land-survey system section lines, transportation, county boundaries, territorial-sea lines, orthophotos, elevation, land cover, and bathymetry. All data sets have meta-data that meet FGDC standards.

Klarin notes that the mapping feature of the atlas has been helpful to coastal staff members located across the state. With the atlas, when discussing a specific project, staff members can be “looking at the same image with the same data at the same time, instead of everyone looking at a variety of different maps. . . That’s very useful.”

The Tools of the Trade

The Tools tab includes a wide variety of tools for planners, as well as the “I found a bug” tool, where users can report information about typos, missing images, or other mistakes or problems.

The Learn section is the equivalent of an on-line encyclopedia about the Oregon coast, Wright says. Information is broken down into four different coastal settings—estuaries, sandy shores, rocky shores, and ocean areas—and by topic, including hazards, access, history, and processes.

When users click on the estuaries section, they find information on the state’s 22 estuaries, including graphics and fact sheets. By going to the access topic, users can click on the coastal access inventory page, www.coastalatlantlas.net/tools/public/

[coastal_access.asp](http://www.coastalatlantlas.net/coastal_access.asp), which has a searchable detailed database on public beach access points.

The Search section provides links to searchable GIS data sets, and in the future will include archives. Links throughout the atlas are provided to other relevant Web sites.

Construction Continues

The atlas, Klarin says, is continually being updated. “It’s never static. It’s always changing and we’re always making improvements. We use feedback from users and our own observations to keep it fresh, keep it moving.”

Klarin adds, “We’re never looking towards finishing the project and putting it in a box. Technology is not like that and the user community is not like that. We’ve always kept the scope aggressive and over the top. It keeps us pushing towards the edge.”

To access the Oregon Coastal Atlas, point your browser to www.coastalatlantlas.net. For more information, contact Paul Klarin at (503) 373-0050, ext. 249, or paul.klarin@state.or.us. You may also contact Dawn Wright at (541) 737-1229, or dawn@dusk.geo.orst.edu. ▲

WEBSITES

<http://training.fema.gov/emiweb/EENET/>

The current schedule of programs and satellite information for the Federal Emergency Management Agency’s Emergency Education Network (EENET) is available on this web site.

From: Natural Hazards Observer, v. XXVIII, no. 2, p. 13

<http://www.geoplance.com/gw/2003/0311/0311gnis.asp>

Many connections between geospatial data, geographic information systems, and risk analysis for estimating populations at risk in natural disasters, technological accidents, terrorist attacks, and regional conflicts are presented in this column at GeoSpace.com, a resource for geospatial information.

From: Disaster Research 397, November 14, 2003

<http://www.sthjournal.org/tspict.htm>

Second Tsunami Symposium Photographs, May 28, 29, 30, 2002...awards, people, field trip "photo album."

NEWS

Hokkaido Earthquake/Tsunami

The September 26, 2003 Hokkaido earthquake (magnitude 8.0) did produce tsunamis on the Pacific coast of Hokkaido and the Tohoku region. Waves were measured at 1.2m at Kushiro; 1.3m at Urakawa; and 1.0 at Hachinohe. According to EOS, v. 84, no. 42, p. 442, "Unsaturated seismic and tsunami (pressure) data from the Japan Marine Science and Technology Center's (JAMSTEC) real-time cabled observatory system have provided invaluable data on the earthquake (<http://www.jamstec.go.jp>). The cable is 30km from the epicenter and extends over the rupture area. This is the first time that such data have been recorded for a major M8 subduction earthquake (S-P time=8 s, 10 minutes earlier than the nearest coastal tsunami detection). ... The Japanese Meteorological Agency issued a tsunami warning on the Pacific coast of Hokkaido at 0456 on 26 September, and following an evacuation advisory, about 41,000 people from 16,000 households took refuge. By 27 September, nearly all of the residents had returned home."

FEMA Curriculum for Community-Based Disaster Mitigation

The Federal Emergency Management Agency (FEMA) announces a new, online curriculum. The community-based pre-disaster mitigation curriculum is designed to involve emergency management and community and faith-based organizations (CBOs/FBOs) in pre-disaster mitigation activities at the local level. The goals of the curricula are to enable participants to discover the role that CBOs/FBOs can play in mitigation activities, determine possible mitigation projects in which they might engage, and better understand ways that CBOs/FBOs and emergency managers can work together.

The curriculum can be seen at http://www.fema.gov/tab_education.shtm (scroll down).

If you would like to learn about pre-disaster mitigation successes in other communities or share how these training materials were used to launch a successful mitigation project in your community, success stories are available at http://www.fema.gov/mitigationss/story_seek.jsp.

From: Disaster Research 397, Nov. 14, 2003

DHS Awards \$74 Million for Emergency Operation Centers ...

On September 25, DHS announced that it

was awarding almost \$74 million to 19 states and territories in grants for improvements to and construction of emergency operations centers (EOCs). The grants, being distributed by the Federal Emergency Management Agency (FEMA), are designed to help improve emergency preparedness and management by ensuring that EOCs are flexible, sustainable, and secure, with "the interoperability necessary to respond to emergencies."

The grants were awarded through a competitive application process and were part of \$81 million made available by FEMA for the EOC grant program. An initial \$2.8 million was provided to all states in December 2002, enabling each state to conduct an initial assessment of the hazards, vulnerabilities, and risks to existing state and local EOCs. In addition to funding the initial assessments, \$4.3 million was awarded to states to establish secure communications systems.

Again, additional information is available from the DHS web site: <http://www.dhs.gov/dhspublic/> (click on "Press Room" and see the press release from September 25).

From: Natural Hazards Observer, v. XXVIII, no. 2, p. 7

Nation's First Automated Alert System Up and Running

The Regional Alliances for Infrastructure and Network Security (RAINS), a public/private partnership promoting homeland security and emergency response, and Portland (Oregon) 9-1-1 have teamed to deliver official emergency incident information over the Internet to local schools, businesses, and government agencies. The result of 16 months of development and testing, RAINS-Net is the nation's first automated alert notification system serving key local public safety stakeholders, such as schools, hospitals, building managers, and others.

RAINS-Net enables information sharing across traditional, jurisdictional, and technical boundaries, and delivers near real-time emergency incident alerts and related information directly from Portland 9-1-1 to cell phones and personal computers of participating local organizations. End users only receive information that is pertinent to them and that they have the security clearance to receive. In addition to automatic pop-up alert windows that appear on a user's PC, the network automatically alerts users via cell

(NEWS continued)

phone, sending notification that they have an emergency message waiting.

For example, RAINS-Net can immediately provide school principals with up-to-the-minute details about emergencies taking place in their neighborhoods or citywide emergencies that might affect all schools. Typically schools receive emergency incident information only via phone calls that often occur well after an incident is underway. With the RAINS-Net system, schools will receive fire information as soon as fire trucks are dispatched. RAINS-Net provides similarly targeted emergency information to other participating organizations. Information sent via RAINS-Net is highly secure and cannot be copied, forwarded, edited, or printed by recipients (unless so authorized by the sender of the information).

RAINS-Net, funded with \$60,000 in state grants and private company sponsorships, has been a grassroots effort and a public/private collaboration using the donated technology, services, talent, and time of private companies, individuals, and public officials. RAINS-Net is nonetheless the first official program to capture real-time data in a 9-1-1 center's local information system and redistribute it broadly to those responsible for public safety in a community.

The developers of RAINS-Net anticipate that their approach will serve as a model that can be adopted by cities throughout the nation, and they see the system as only one step toward a much needed new national emergency information infrastructure. They intend to contribute to the building of this infrastructure by continuing to work closely with federal officials.

For more RAINS information contact RAINS, 326 SW Broadway, Third Floor, Portland, OR 97205; (503) 701-7683; e-mail: ck@oregonrains.org; or see the RAINS web site: <http://www.oregonrains.org>.

From: Natural Hazards Observer, v. XXVIII, no. 2, p. 17

Hagemeyer Award for 2003

No award will be given for 2003. The two nominations submitted did not meet the award's criteria.

PUBLICATIONS

New CERT Newsletter

Since January 2002, there has been a nearly 100% increase in the number of states where

Community Emergency Response Team (CERT) training is available. As funding continues to reach local communities, the number of citizens trained in basic disaster response skills, such as fire safety, urban search and rescue, and medical operations will continue to grow.

The "Connection" newsletter, comprised of articles written by the people from around the country who are involved in community preparedness on a daily basis, is seeking contributions. Suggested stories include (but are not limited to) emergency responses that CERT teams were involved in, schools and preparedness trainings, innovative CERT ideas, and how CERTs are maintaining skills and motivation to others.

The newsletter can be found at www.naem.com/connection.html, and complete guidelines for article submission can be found at www.naem.com/connection/guidelines.html. You may also contact Frank Lucier, 3212 Jefferson Street, #117, Napa, CA 94559; (707) 251-8694; e-mail: flucier@naem.com.

From: Disaster Research 397, November 14, 2003

Mass Fatalities Institute On-line Newsletter

The National Mass Fatalities Institute (NMFI), an organization established to help communities, businesses, industries, government and disaster response agencies effectively plan for, respond to, and recover from a mass fatalities incident, announces an on-line newsletter.

The newsletter will be sent out periodically to provide updated news, information, and event listings to help communities and organizations be prepared for mass fatality incidents. To sign up for this free newsletter, send an e-mail to nmfi@kirkwood.edu. General information about NMFI, along with the newsletter, is available at <http://www.nmfi.org/index.htm>.

From: Disaster Research 397, November 14, 2003

The George Washington University

EMSE 232 - Crisis and Emergency Management Newsletter

Volume 5 - Number 1, October 15, 2003

<http://www.seas.gwu.edu/~emse232>

The EMSE 232 Crisis and Emergency Management Newsletter is produced by the students in the Fall 2003 class EMSE 232. The purpose is to provide its readers with a current perspective of activities in the disaster management field in the United States and around the world. The Newsletter includes information on

(PUBLICATIONS continued)

current disaster management trends in the areas of research, funding, technology, legislation and consulting. This information is provided in brief summaries of current activities accompanied by a computer link or reference to more detailed information. Two articles from Vol. 5, no. 1 are reprinted in this issue; see pages 10 and 11.

NSTC/SDR Issues *Reducing Disaster Vulnerability*

A report identifying critical opportunities to reduce future loss of life and property as a result of disaster was released in August by the Subcommittee on Disaster Reduction (SDR) of the Committee on Environment and Natural Resources of the National Science and Technology Council (NSTC). The interim report, *Reducing Disaster Vulnerability Through Science and Technology*, reviews current government efforts and identifies six actions that require attention:

- Leverage existing knowledge of natural and technological hazards to address terrorism events.
- Improve hazard information data collection and prediction capabilities.
- Ensure the development of widespread use of improved hazard and risk assessment models and their incorporation into decision support tools and systems.
- Speed the transition from hazard research to hazard management application.
- Increase mitigation activities and incentives.
- Expand risk communication capabilities, especially public warning systems and techniques.

The report discusses an upcoming SDR effort to establish a coordinated, strategic national framework for science and technology research and application development for disaster risk reduction and looks at both the successes and needs regarding disaster reduction throughout the nation.

Reducing Disaster Vulnerability Through Science and Technology is available from the SDR web site:

http://www.sdr.gov/SDR_Report_ReducingDisasterVulnerability2003.pdf. Interested persons can also contact Dori Akerman, SDR Secretariat; (703) 560-7448; e-mail: dori.akerman@noaa.gov.

From: Natural Hazards Observer, v. XXVIII, no. 2, p. 23

The Emergency Manager of the Future: Summary of a June 13, 2003, Workshop in Washington, D.C. Monique C. Hite. 2003. 31 pp. Free. Only available on-line from the National Academies Press, 500 Fifth Street, NW, Lockbox 285, Washington, DC 20055; (202) 334-2451; <http://books.nap.edu/books/NI000431/html/index.html>.

Emergency managers of the future will need to contend with a broad array of disasters exacerbated by global changes in demographics, climate, and geography, in their quest for useful mitigation, preparedness, response, and recovery strategies. In this, the eighth public workshop sponsored by the National Academies Disasters Roundtable, participants identified and discussed the role and responsibilities of emergency managers of the future and the resources needed to meet future challenges. These challenges include the need to maintain an all-hazards approach and the need to enhance inter-operability.

From: Natural Hazards Observer, v. XXVIII, no. 2, p. 24

Catastrophe Insurance: Consumer Demand, Markets and Regulation. Martin F. Grace, Robert W. Klein, Paul R. Kleindorfer, and Michael R. Murray. ISBN 1-4020-7469-7. 2003. 147 pp. \$115.00. Available from Kluwer Academic Publishers, 233 Spring Street, Floor 7, New York, NY 10013-1522; <http://www.wkap.nl/>.

The risk of large losses from natural disasters in the U.S. has significantly increased in recent years, straining private insurance markets and creating troublesome problems for disaster-prone areas. This book explores the impacts of these changes on the insurance industry and provides an overview of catastrophe insurance markets, regulatory institutions and policies, supply, demand and regulation, demand estimation for homeowner insurance policies, and an introduction to modeling.

From: Natural Hazards Observer, v. XXVIII, no. 2, p. 24 ▲

Deadlines for submission of material to TsuInfo Alert is January 15, March 15, May 15, July 15, September 15, and November 15.
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Fiscal Year 2004 Budget: Federal Emergency Management Agency
by Laura Berger

The continuing development of the Department of Homeland Security (DHS) has caused significant changes to the appropriations afforded to federal emergency management. The Federal Emergency Management Agency (FEMA), falling under the new DHS, is included in the FY 2004 Budget proposal for the Department's Emergency Preparedness and Response Directorate. Activities once operated by FEMA, including those authorized by the National Flood Insurance Act, the Flood Disaster Protection Act, the Robert T. Stafford Disaster Relief and Emergency Assistance Act, Earthquake Hazards Reduction Act, and Federal Fire Prevention and Control Act, fall within this legislation.

Emergency Food and Shelter: In 2004, the budget proposes transferring these services, carrying with them appropriations of \$153 million, to the Department of Housing and Urban Development for more efficient coordination of services.

Disaster Relief: The President's Budget provides \$3.2 billions for disaster relief, including \$2 billion in new money to be added to funds carrying over from previous years. The operations conducted under the Robert T. Stafford Disaster and Emergency Assistance Act will receive \$1.95 billion. The Department of Homeland Security will continue to operate primary assistance programs to individuals and public organizations for the purpose of repair and reconstruction through the Disaster Relief Fund. The budget also allows for Disaster Assistance Direct Assistance Loans, also authorized by the Stafford Act, provided that gross obligations for the principal amount of direct loans do not exceed \$25 million. It also restricts administrative costs associated with the loans to \$557,000.

The FY 2004 Budget proposes a new \$300 million pre-disaster mitigation program. This program will replace the existing formula-based program funded through the Disaster Relief Fund with competitive awards in an effort to increase the efficiency and effectiveness of projects that are funded.

The Administration's "First Responder" initiative will provide "firefighters, emergency medical services, emergency management agencies, and law enforcement with coordinated training, grants for preparedness equipment, technical assistance, and federal, state, and local

joint exercises." The budget estimates \$3.5 billion for this effort including \$181 for the Citizen Corps initiative, which helps individuals prevent, prepare and respond to disasters.

National Flood Insurance Fund: Funds are restricted to \$32 million for salaries and expenses associated with flood mitigation and flood insurance operations and \$78 million for flood hazard reduction. National Flood Insurance coverage is available for \$350,000 for residential structures and \$1 million for commercial and other structures. The FY 2004 Budget "assumes collection of all of the administrative and program costs associated with flood insurance activities from policy holders." Structures existing in flood prone areas will be eligible for limited coverage at subsidized insurance rates. The budget also limits funding, without notice to the Committees on Appropriations, for operating expenses, \$55 million, for agents commissions and taxes, \$565,897,000, and for interest on Treasury borrowing, \$40 million.

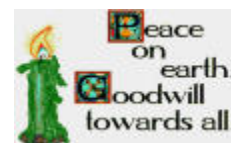
Flood Map Modernization effort: The President has contributed an additional \$200 million in his FY 2004 Budget to continue FEMA's map modernization efforts. This program expedites the cost-effective collection of mapping data using current technologies, and develops models to identify flood-prone areas.

All information in this article as well as additional information can be found at:

Budget of the United States of America, Fiscal Year 2003. Available from <http://w3.access.gpo.gov/usbudget/fy2004/pdf/budget/homeland.pdf>. Accessed September 26, 2003

Budget of the United States Government, Fiscal Year 2004 Appendix. Available at <http://w3.access.gpo.gov/usbudget/fy2004/pdf/appendix/dhs.pdf>. Accessed September 26, 2003

From: The George Washington University
EMSE 232 - Crisis and Emergency Management
Newsletter, Volume 5 - Number 1
<http://www.seas.gwu.edu/~emse232>
<http://www.seas.gwu.edu/%7Eemse232/october2003fema1.html> October 15, 2003 ▲



Update on Citizen Corps
By Andrew Levinson

Overview

In January 2002, President Bush launched USA Freedom Corps following the terrorist attacks on September 11, 2001. Citizen Corps, a component of USA Freedom Corps, was created to coordinate volunteer activities in support of local first responders during incidents of crime, terrorism, and disasters of all kinds. Citizen Corps is coordinated nationally by the Federal Emergency Management Agency. The Citizen Corps is comprised of five main programs. They are: the Citizen Corps Councils, Community Emergency Response Teams, the Medical Reserve Corps Program, Neighborhood Watch, and Volunteers in Police Service. (www.usafreedomcorps.gov)

September 25, 2003 - President Bush signed an executive order directing federal agencies to look for ways to expand, promote, and enhance volunteer service opportunities overseas. Activity will be coordinated and administered by USAID. As part of the order, USA Freedom Corps will match doctors, nurses, teachers, engineers, economists, and computer specialists with organizations working on U.S. development initiatives.

September 2, 2003 - FEMA announced a partnership with The Salvation Army to distribute two million "Ready" brochures. The Ready campaign is designed to educate and empower American citizens to prepare for and respond to potential terrorist attacks. It advises citizens to take simple steps that can minimize the impact a disaster on their lives: Make a kit, make a plan and get informed. To date, more than 16 million visitors have logged on to Ready.gov and nearly 140,000 individuals have requested the brochure.

August 29, 2003 - AmeriCorps announced grants totaling \$10.8 million to support approximately 5,000 AmeriCorps members who will work with local nonprofit organizations to tutor and mentor at-risk youth, feed the homeless, respond to disasters, care for seniors and the disabled, and mobilize volunteers to meet other vital community needs. AmeriCorps is part of the USA Freedom Corps.

August 27, 2003 - FEMA announced a partnership between the Veterans of Foreign Wars. Citizen Corps and the VFW will work together to raise public awareness about appropriate actions to take regarding emergency

preparedness, disaster response, and volunteer service.

August 26, 2003 - FEMA announced a partnership with the Civil Air Patrol. CAP is a congressionally chartered civilian auxiliary of the U.S. Air Force. CAPs' volunteer members provide coastal patrol, air/ground observation, radio communications and relay, aerial reconnaissance, air-to-ground photography, radiological monitoring, and disaster and damage assessment assets.

August 22, 2003 - FEMA announced a partnership with the International Association of Fire Chiefs. Citizen Corps and the IAFC will work together to raise public awareness and education regarding emergency preparedness, disaster response, community risk reduction, fire prevention, life safety and volunteer service.

July 29, 2003 - The Justice Department announced that its Volunteers in Police Service Program is now active in every state. The 585 registered VIPS programs represent more than 27,000 civilian volunteers who are supporting law enforcement agencies.

July 29, 2003 - FEMA announced a partnership between Citizen Corps and three new federal partners: the National Oceanic and Atmospheric Administration, the Environmental Protection Agency, and the Department of Education's Office of Safe and Drug-Free Schools. ▲

From: The George Washington University
EMSE 232 - Crisis and Emergency Management
Newsletter, Volume 5 - Number 1
<http://www.seas.gwu.edu/~emse232>
Downloaded: Nov. 24, 2003:
<http://www.seas.gwu.edu/%7Eemse232/october2003citizenscorps1.html>



BOOK REVIEWS

American Hazardscapes: The Regionalization of Hazards and Disasters edited by Susan L. Cutter
2001, Joseph Henry Press, Washington, D.C., 211 pp., ISBN: 0-309-07443-6
Reprinted with permission from ASCE Publications.
Originally published as "Review of *American Hazardscapes: The Regionalization of Hazards and Disasters* edited by Susan L. Cutter" by James M. Kendra in *Natural Hazards Observer*, v. 4, no. 4,
©November 2003, p. 222-223

This book will be both an important text for initial reading by emergency planners and policy makers as well as one to be referred to repeatedly thereafter. The book is a review of the state-of-the-art of a variety of relevant domains--risk assessment, hazards assessment, vulnerability science, mapping and spatial analysis--and a call for improving these fields and the data they are founded on as the basis for more prudent land-use decision making.

As a text and as a reference, the book has a number of useful features. It is a compendium of statistics of damage costs and fatalities, summaries of major disaster events, and disaster trends over time and space. Indeed, the book is packed with an abundance of maps and charts that speak of the sizable data management operation underlying this volume. While it is sometimes tempting to dismiss the importance of "date," an appreciation of when (and where) events happened is essential in understanding the hazardscape. Moreover, major disasters are often the catalysts for changes in policy or new legislation, so it is useful to know when they occurred. (It should be noted, though, that the cataloguing of disasters sometimes makes for difficult reading.) This book not only presents the American hazardscape, but it also helps the reader to comprehend a conceptual landscape as well. It lays out the major events, trends, methodological approaches, and philosophical questions that inform, or should inform, current thinking about hazards and that should guide next steps in research and practice.

The fundamental premise of the book is that sound policy making, particularly at the national but also at other levels of government, will be impossible until we finally are able to assemble consistent, commensurate data that help us determine the hazardousness of places over time. The sequence of subsequent discussions flows logically from this goal. Chapter 1 maps the intellectual landscape and sketches the evolution of thinking about risks, hazards, and disasters in

several disciplines. Chapter 2 outlines methods for assessing risks from a number of different perils: airborne pollutants, storm surges and hurricane landfall, tornadoes, and coastal erosion. There is also a discussion of HAZUS and other loss-estimation methods. Chapter 3 reviews mapping and the challenges of gathering and integrating spatial information. Chapter 4 tackles the data challenge in more detail, focusing on inconsistent data sets, fragmented record keeping at all levels of government, and disparate methods of calculating disaster losses (some of which are fundamental epistemological issues). Chapter 5, "Trends in Disaster Losses," looks at the historical trajectory of losses from a number of events, reminding us that the data challenges outlined in Chapter 4 bear directly on the question of estimating losses, and that the results of such an analysis are necessarily conservative. Chapter 6 looks at disasters by state, considering both deaths and injuries and monetary cost. Chapter 7, "Charting a Course for the Next Two Decades," presents policy recommendations that are indicated in the previous discussions. These include, principally, a change in direction toward mitigation and away from disaster assistance, and a shift of responsibility for locational decisions toward more local levels and away from the federal level.

So carefully do the authors present the data and at the same time note the limitations inherent in the data that the validity of the book's argument is undeniable. The existing data are incomplete, disconnected, and ambiguous, while the analytical tools and models themselves suffer from their own particular limitations. We know now that we have, at best, a blurry view of the American hazardscape: the shapes are there but are too indistinct to allow us to make decisions with any confidence. Better tools and better data are needed to correct the astigmatism. Since the World Trade Center attack, however, as the editor herself noted at a conference and as other researchers have experienced since, data is being

recalled from public access, particularly data pertaining to infrastructure and critical facilities. Good data was often, although not always, hard to find just through the standard inertial of bureaucracies. Now data will be hard to find by design. Worse, the efforts that researchers have made over the last 20 years or so to bring an all-hazards approach to planning are quite likely to redound upon them. If natural, technological, and purposeful disasters have a number of common features that make planning and responding broadly similar, some will reason that identifying vulnerabilities to hurricanes might also identify vulnerabilities to some kinds of attack. In this new climate, evidence suggests that some emergency managers are becoming less willing to deal with researchers who ask annoying questions that may uncover, and publicize, those vulnerabilities.

The book's primary policy-related conclusion, that land-use decision making is often disconnected from an appreciation of the hazardousness of places, is undeniable. That disconnect results not merely from deficiencies of data but from a deliberate ignoring of what is already well-known about some locations. The concluding chapter takes a hard line against "foolish" land-use decisions. There is no doubt that some decisions deserve harsh rebuke, because obviously there are places that are directly and unambiguously dangerous and where development should be vigorously discouraged: a hillside, a barrier island. But as one moves away from such manifest examples, with such a well-defined geographic scope, the picture becomes much more complex. The entire Midwest of the country is prone to tornadoes; any place could experience one at any time, and we have no means for clearing people out of all of those places. Suppose, for infinitely prudent land-use planning, one could eliminate from habitation and restore to open space the following areas: all areas within 50 miles of a coastline; all areas comprising "Tornado Alley," all areas of known or suspected strong seismic activity; all areas of repeated drought; and all areas subject to a 100-year flood. That's a lot of area, and a lot of people. Where will they go? Such a supposition doesn't even consider areas at risk from industrial accidents and transportation mishaps, which will follow people wherever they go, nor macro-economic ramifications.

The coasts present a particular challenge. Most of our international commerce is carried aboard ships. That means seaports, which in turn means, at a minimum, people living close enough to commute and the vast multiplier effects that extend from shipping activity. Many of those people are all going to be exposed to the risk of hurricanes. And while it may be true that any one of them had the choice of living elsewhere, as a nation participating in a global economy, we need people in those places and, therefore, exposed to that hazard. If everyone made the rational locational decision with respect to hazard, no one would live near a harbor. From a policy perspective, getting everyone away from hazard, no matter how one defines it, is an untenable prescription because we actually can't do it. Therefore, who should be left, and why? What is a "foolish" or imprudent land-use decision, where the loss should be borne entirely by a heedless home-owner, is not easy to assess. Some decisions are more egregiously bad than others, but people, not just poor people, do not have an infinite elasticity of choice in their locational decision-making. How bad a decision is too bad--too bad to deserve a bailout? The book unfortunately does not engage this question. The book is right to call for increased attention to distributive justice and the inequities in the distribution of hazard exposure. This book is right on target in its conclusion that we need plenty of data, commensurate across time and space, to see what are the bad and not-so-bad land-use decisions that people and communities make. But even with much-improved data, we are still ultimately left with the fundamental problem of assessing how much risk is too much and making an essentially normative assessment of what constitutes bad choices. The improved data and modeling tools appropriately called for in this book will certainly help with a better understanding of the hazardousness of places. But a fundamental question will remain, which is primarily an ethical and political one: what is the acceptable risk? At what threshold do we define someone as a fool, deserving not sympathy but a scolding? Improved data will sharpen our view of the American hazardscape, but drawing the boundary around foolishly-habited locations is a job of normative surveying, for which advanced philosophical models are just as necessary.

Introduction to Emergency Management

Reprinted with permission from *Continuity e-GUIDE*, November 12, 2003, A Wednesday Update by Disaster Resource GUIDE.

From: <http://disaster-resource.com/newsletter/subpages/v7/newsclip4v7.htm>

New Book Covers Emergency Management's Origins and Evolution

The Federal Emergency Management Agency (FEMA) was largely unknown to many Americans before September 11, 2001. However, since then, the agency's goals and objectives have risen to the top of the nation's list of priorities. A new book by George Washington University researcher George Haddow and Jane Bullock, a former FEMA official with Duke University, charts this evolution of emergency management in the US from the first disaster legislation passed by Congress in 1803 right up to the creation of FEMA in 1979 and then the Dept. of Homeland Security two years ago. *Introduction to Emergency Management* is described by the publishers at Butterworth-Heinemann as a useful reference guide for professionals seeking to understand the process of disaster response planning and mitigation. In addition to the history and functions of FEMA, the book lays out the roles and jurisdictions of federal, state and local emergency management systems and

how these systems are intended to function in concert following an emergency or disaster. A full chapter of the book is devoted to an evaluation of the changing role of emergency management since 9/11. The work also features a series of case studies, detailed appendices, a glossary of terms and even a directory of emergency management organizations nationwide. **e-G**

Note: Continuity e-GUIDE is a Weekly Publication of the Disaster Resource GUIDE. The weekly Continuity e-GUIDE will provide a concise seven-day snapshot of the business continuity, and emergency management industry from around the world right down to the local level. Based on the philosophy of "working together", the e-GUIDE will integrate, consolidate, and communicate resources from organizations that are leaders in business continuity, risk management, crisis management, emergency response, and disaster recovery. To subscribe, contact: e-guide@disaster-resource.com ▲

**Material added to the National Tsunami Hazard Mitigation Program Library
November - December 2003**

<p>Note: These, and all our tsunami materials, are included in our online catalog at http://www.dnr.wa.gov/geology/washbib.htm The September-December 2003 citations will not show up in the online bibliography until January 2004</p>

Hasenberg, Carol S., 2003, The search for New Zealand tsunami deposits: Geological Society of the Oregon Country, v. 69, no. 11, p. 52.

Hughes, Jonathan F.; Mathewes, Rolf W., 2003, A modern analogue for plant colonization of palaeotsunami sands in Cascadia, British Columbia, Canada: The Holocene, v. 13, no. 6, p. 877-886.

Kress, Monika, 2003, OSU's wave lab takes tsunami research to new heights: Northwest Science & Technology, Autumn 2003, p. 12.

Vilanova, Susana P.; Nunes, Catarina F.; Fonseca, Joao F. B. D., 2003, Lisbon 1755: A case of triggered onshore rupture?: Bulletin of the Seismological Society of America, v. 93, no. 5, p. 2056-2068.

Witter, Robert C.; Kelsey, Harvey M.; Hemphill-Haley, Eileen, 2003, Great Cascadia earthquakes and tsunamis of the past 6700 years, Coquille River estuary, southern coastal Oregon: Geological Society of America Bulletin, v. 115, no. 10, p. 1289-1306.

Infrequently Asked Questions
Compiled by Lee Walkling

What is a *tsunami earthquake*?

Because earthquakes smaller than magnitude 6.5 can cause terrible tsunamis, scientists are studying the reasons. Hiroo Kanamori, a scientist at Caltech, has studied earthquakes for more than 20 years. He calls these small earthquakes that generate large tsunamis *tsunami earthquakes*.

“When he began studying them, instruments measuring earthquakes weren’t very advanced. They only measured short-period waves of action in the earth.

Short-period waves jerk the surface hard. Everyone notices these jolting earthquakes.

But what about the earthquakes no one felt? Kanamori guessed long-period waves caused these. But no one could measure them.

Now instruments can measure long-period waves of action, too. For example, the Nicaraguan earthquake measured 7.0 with old instruments. Just the short-period waves were measured. With new instruments, the earthquake came up at 7.6.

This means that the Nicaragua quake was really almost ten times as strong as people first thought. ...

Slow motion slip is what Kanamori calls this kind of earthquake movement. ...Mr. Kanamori suggests that one oceanic plate slides slowly under an oceanic plate next to it. But ocean sediments soften the slide’s impact. These cause long-period waves. The plates move just as far. But they don’t jerk as much.

...In 1992, a station in Tahiti picked up the long-period waves from the Nicaraguan earthquake. Tahiti is 4,000 miles away. Seismologist Emile Okal saw right away that it could be a disaster for Nicaragua.

But it was already too late. By the time Tahiti got the signal, the tsunami had destroyed the Nicaraguan coast.

It took 25 minutes for the signal from the quake to travel to Tahiti. Unfortunately, the tsunami had to cover only 40 miles before hitting the Nicaraguan coast.”

From: Sorenson, Margo, 1997, *Tsunami! Death Wave*: Perfection Learning Corp., p. 27-28.

Do you remember the difference between a tsunami and a rogue wave?

(see also *TsuInfo Alert* v. 4, no. 2, April 2002, p. 21)

Rogue waves have only been recently (in the last twenty years or so) recognized as being something different from tsunamis. As the name implies, these freak waves have an unpredictable nature and appear unexpectedly in calm weather and benign seas. Little is known about these things, but it seems that they occur as a result of unique circumstances when the energy from regularly-spaced ocean swells is magnified by currents or vortices (whirlpool-like) to form an enormous wave. In effect, the spacing of the swells is changed so that the energy of many waves is focused into a single wave.

A place where several rogue waves have been observed and felt by a few supertankers is off the southeast coast of South Africa. Rogue waves have also been documented in the Atlantic Ocean. In fact, The "Baltimore Clipper," a tall sailing ship, was sunk by such a wave in the 1980s near the Bahama Islands. A few years ago [Note: this statement was made in 1997], a rogue wave crashed on-shore at Daytona Beach, Florida. Luckily, this happened during the night when the beach was empty. In 1942, a giant wave hit the [ship] Queen Mary about 700 miles west of Scotland, carrying 15,000 soldiers bound for England. The force of this wave was enough to roll the huge ocean liner on its side, but somehow it righted itself and continued its voyage to England.

From: <http://www.gsfc.nasa.gov/gsfed/educ/science/1997/05-05-97.htm>

Which horse came in second in the second race on August 9, 2002, at Emerald Downs, at odds of 12.60?

Tsunami Surprise, ridden by Pierce. (4 1/2 furlongs, purse \$6,000, 2-year-olds, filly, maiden claiming \$8,000).

From: <http://seattletimes.nwsourc.com/sports/horseracing/results/2002/august9.html>

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9-19-03



VIDEO RESERVATIONS

Place a check mark (T) beside the video(s) you want to reserve; write the date of the program behind the title. Mail to TsuInfo Alert Video Reservations, Lee Walkling, Division of Geology and Earth Resources Library, PO Box 47007, Olympia, WA 98504-7007; or email lee.walkling@wadnr.gov

- NEW!!** ___ Business Survival Kit for Earth-Quakes & Other Disasters; What every business Should know before disaster strikes. Global Net Productions for the Cascadia Regional Earthquake Workgroup, 2003. 27 min. With CD disaster planning tool-kit and other information.
- ___ Tsunami Chasers. Beyond Productions for the Discovery Channel. 52 minutes.
- ___ Earthquake...Drop, Cover & Hold; Washington Emergency Management Division. 1998. 5 min.
- ___ Tsunami Evacuation PSA; DIS Interactive Technologies for WA Emergency Management Division. 2000. 30 seconds.
- ___ Cascadia: The Hidden Fire—An Earthquake Survival Guide; Global Net Productions, 2001. 9.5 minutes. A promo for a documentary about the Cascadia subduction zone and the preparedness its existence demands of Alaska, Oregon and Washington states. Includes mention of tsunamis. (The full documentary was broadcast on a PBS station in April 2002.)
- ___ Not Business as Usual: Emergency Planning for Small Businesses, sponsored by CREW (Cascadia Regional Earthquake Workgroup), 2001. 10 min. 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.
- ___ Adventures of Disaster Dudes (14 min.) Preparedness for preteens
- ___ The Alaska Earthquake, 1964 (20 min.) Includes data on the tsunamis generated by that event
- ___ Cannon Beach Fire District Community Warning System (COWS) (21 min.) Explains why Cannon Beach chose their particular system
- ___ Disasters are Preventable (22 min.) Ways to reduce losses from various kinds of disasters through preparedness and prevention.
- ___ Disaster Mitigation Campaign (15 min.) American Red Cross; 2000 TV spots. Hurricanes, high winds, floods, earthquakes
- ___ Forum: Earthquakes & Tsunamis (2 hrs.) CVTV-23, Vancouver, WA (January 24, 2000). 2 lectures: Brian Atwater describes the detective work and sources of information about the Jan. 1700 Cascadia earthquake and tsunami; Walter C. Dudley talks about Hawaiian tsunamis and the development of warning systems.
- ___ Killer Wave: Power of the Tsunami (60 min.) National Geographic video.
- ___ Mitigation: Making Families and Communities Safer (13 min.) American Red Cross
- ___ Numerical Model Aonae Tsunami—7-12-93 (animation by Dr. Vasily Titov) and Tsunami Early Warning by Glenn Farley, KING 5 News (The Glenn Farley portion cannot be rebroadcast.)
- ___ The Prediction Problem (58 min.) Episode 3 of the PBS series "Fire on the Rim." Explores earthquakes and tsunamis around the Pacific Rim
- ___ Protecting Our Kids from Disasters (15 min.) Gives good instructions to help parents and volunteers make effective but low-cost, non-structural changes to child care facilities, in preparation for natural disasters. The Institute provides a booklet to use with the video. Does NOT address problems specifically caused by tsunamis.
- ___ The Quake Hunters (45 min.) A good mystery story, explaining how a 300-year old Cascadia earthquake was finally dated by finding records in Japan about a rogue tsunami in January 1700
- ___ Raging Planet; Tidal Wave (50 min.) Produced for the Discovery Channel in 1997, this video shows a Japanese city that builds walls against tsunamis, talks with scientists about tsunami prediction, and has incredible survival stories.
- ___ Raging Sea: KGMB-TV Tsunami Special. (23.5 min.) Aired 4-17-99, discussing tsunami preparedness in Hawaii.
- ___ The Restless Planet (60 min.) An episode of "Savage Earth" series. About earthquakes, with examples from Japan, Mexico, and the 1989 Loma Prieta earthquake in California.
- ___ Tsunami and Earthquake Video (60 min.) Includes "Tsunami: How Occur, How Protect," "Learning from Earthquakes," and "Computer modeling of alternative source scenarios."
- ___ Tsunami: Killer Wave, Born of Fire (10 min.) NOAA/PMEL. Features tsunami destruction and fires on Okushiri Island, Japan; good graphics, explanations, and safety information. Narrated by Dr. Eddie Bernard, (with Japanese subtitles).
- ___ Tsunami: Surviving the Killer Waves (13 min.) Two versions, one with breaks inserted for discussion time.
- ___ USGS Earthquake Videotapes "Pacific Northwest" USGS Open-File Report 94-179-E
- ___ Understanding Volcanic Hazards (25 min.) Includes information about volcano-induced tsunamis and landslides.
- ___ The Wave: a Japanese Folktale (9 min.) Animated film to help start discussions of tsunami preparedness for children.
- ___ Waves of Destruction (60 min.) An episode of the "Savage Earth" series. Tsunamis around the Pacific Rim.
- ___ Who Wants to be Disaster Smart? (9 min.) Washington Military Department/Emergency Management Division. 2000. A game show format, along the lines of *Who Wants to be a Millionaire?*, for teens. Questions cover a range of different hazards.
- ___ The Wild Sea: Enjoy It...Safely (7 min.) Produced by the Ocean Shores (Wash. Interpretive Center, this video deals with beach safety, including tsunamis.

STOP THE PRESSES

This material arrived too late, or was discovered too late, to be incorporated in the correct sections.

A Risk Manager's Quick Guide to the Web

Despite the sheer volume of information available on the Internet for business continuity and emergency preparedness professionals, finding useful, timely and relevant material online is not always just a few simple mouse clicks away.

That's why *Risk Management* magazine, a regular publication for risk management professionals, recently published a showcase of risk management resources online - a kind of "Best-of-the-Web" guide. The wrap-up is featured in a *Risk Management* magazine story entitled "A Risk Manager's Quick Guide to the Web."

The guide features a series of links, categorized into groups such as: research and data sites, links to regulatory bodies and related information, news sites, professional organizations and associations, and daily resources. While most risk management professionals are likely aware of some of the sites listed in the guide already, some of the links may make suitable additions to a browser's existing bookmarks.

Written by the magazine's editors: Bill Coffin, Morgan O'Rourke and Laura Sullivan, it's available at: <http://pizzazzemail.com/t?ctl=475ABE:216969B>

From; Continuity e-Guide, A WEDNESDAY UPDATE BY DISASTER RESOURCE GUIDE, October 15, 2003

Cascadia Tsunami Deposit Database

The Cascadia Tsunami Deposit Database (by Robert Peters, Bruce Jaffe, Guy Gelfenbaum, and Curt Peterson) contains data on the location and sedimentological properties of tsunami deposits found along the Cascadia margin. Data have been compiled from 52 studies, documenting 59 sites from northern California to Vancouver Island, British Columbia that contain known or potential tsunami deposits. Bibliographical references are provided for all sites included in the database. Cascadia tsunami deposits are usually seen as anomalous sand layers in coastal marsh or lake sediments. The studies cited in the database use numerous criteria based on sedimentary characteristics to distinguish tsunami deposits from sand layers deposited by other processes, such as river flooding and storm surges. Several studies cited in the database contain evidence for more than one tsunami at a site. Data categories include age, thickness, layering, grainsize, and other sedimentological characteristics of Cascadia tsunami deposits. The database documents the variability observed in tsunami deposits found along the Cascadia margin.

Available at: <http://geopubs.wr.usgs.gov/open-file/of03-13/>

***Tsunami Man*, by Anthony D. Fredericks**

Anthony D. Fredericks is the author of many teacher resource books including the best-selling *The Complete Science Fair Handbook*, which he coauthored with Isaac Asimov. Fredericks is professor of education at York College, Pennsylvania

The career of UH-Hilo Professor Walter Dudley comes alive in *Tsunami Man Learning About Killer Waves with Walter Dudley*. Author Anthony D. Fredericks gives young readers an inside look at the life of a working scientist who uses his knowledge for the common good and serves as an exciting role model for future scientists.

Filled with dramatic photographs and accounts of tsunami survivors, the book also addresses the "how" and "why" of tsunamis, their impact on human lives and the ways in which information about these "killer waves" is shared throughout the world.

From: <http://www.hawaii.edu/ur/newsatuh/archives/020715/books.htm> and http://www.amazon.com/exec/obidos/tg/detail/-/0824824962/qid=1069790852/sr=1-1/ref=sr_1_1/102-9080838-5942542?v=glance&s=books

About EPICC

Several years ago a group of visionary business leaders recognized that British Columbia was ill prepared to cope with catastrophic events such as earthquakes. They banded together under the name of: EPICC -

Emergency Preparedness for Industry and Commerce Council, to promote preparedness within the business community and to government.

Today we find that the need for our organization is a great as ever. Business survival is critical to the economic and social well-being of our communities.

EPICC is a nonprofit government endorsed society supported by and for the benefit of business and institutions throughout British Columbia, to influence and help businesses prepare for emergencies and disasters.

EPICC provides a supportive forum in which businesses are encouraged to effectively practice emergency management procedures with a goal of surviving potential disasters. Membership is open to all sizes of business, levels of government and other organizations

Our Purpose

Disaster survival of business, industry and commerce for our communities

Our Mission Statement

To lead businesses in preparing to survive a disaster

Our Vision

Disaster resilient businesses within disaster resilient communities

A mutually supportive business community, educated, trained and committed to effective emergency management and prepared to survive a disaster

Our Distinction

Our focus is on survivability of business in disasters

We are a large and small business organization

We are increasing awareness through shared experience and expertise

We do influence government's focus on business survival

We encourage business preparation and emergency management

We provide recognition and demonstrated leadership

Our Values

We manage EPICC with high professional business standards and discipline.

We recognize the value of sharing problems, solutions and ideas to maximize effectiveness.

We are a "Learning Organization" encouraging members to learn continually and to embed their skills and knowledge into our attitudes and practices.

The "Pillars" of Our Organizational Approach

To perform beneficial services to our members and link emergency management to businesses, we have adopted the following approach elements:

Leadership (Managing the organization)

Education (Preparedness and mitigation)

Projects (Inspiring positive action)

Communications (Creating Awareness)

From: <http://www.epicc.org/about.html>

The 2004 EPICC Forum (A Blast from the Past: Solutions for Recovery) will be held on March 2nd and 3rd, 2004, at the Hilton Vancouver Metrotown. ▲



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HAPPY NEW YEAR!