



# CARIBBEAN CURRENTS

Volume 4, Number 4

August 1996

EPA/220/N-96-014



## Welcome..

...to **CARIBBEAN CURRENTS**, Volume Four, Number Four. This newsletter is edited by INFOTERRA/USA in its capacity as the Regional Service Centre (RSC) for INFOTERRA National Focal Points (NFPs) in the English and French-speaking Caribbean. Although the **CURRENTS** is assembled at INFOTERRA/USA, the content belongs to you, the readers. You are encouraged to send in any questions, comments, problems, or interesting issues relevant to the Region for inclusion in the **CURRENTS**. Please see the Guidelines for Contributions on page 4 for more information.

Each issue will feature a Directory of NFPs in the Region so that anyone with international environmental questions can contact their nearest resource. Please feel free to contact one another as well as your RSC for assistance or materials.

Please don't hesitate to share **CARIBBEAN CURRENTS** with your friends and colleagues, and to make copies as needed. The Currents should serve as an informational forum for anyone who lives, works, or is involved in environmental issues in the English and French-speaking Caribbean Region.

## MANAGING NATURAL DISASTERS

This issue's topic: natural disaster preparedness. Coming next issue, **CARIBBEAN CURRENTS** will look at coral reefs. Coral reefs are a valuable resource, for food, tourism, coastal protection, and biodiversity in the Caribbean. Unfortunately, the worlds' coral reefs are declining and changing in composition. The reasons that coral reefs change their equilibrium are varied and complex, and include destructive fishing practices, diminished water quality and elevated water surface temperature. Scientists around the world are studying this phenomenon.

If you have any comments on this topic, or would like to contribute a short article or have a resources guide to share, please submit your contribution following the guidelines on page 4. Any information you can provide is useful. Please feel free to fax, write to, or call the RSC with any questions or comments you may have. Share any information you have and we will include it in the next or a future issue of the **CURRENTS**. Thank you for your assistance.

## **The Challenge of Natural Disaster Reduction**

*"There is no reason why we should wait passively for the next natural disaster to strike. We should mobilize scientific knowledge and technological know-how. We should give a positive response to the strong political interest and commitment of the international community." Boutros Boutros-Ghali, UN Secretary-General.*

In the Caribbean, as elsewhere in the world, there has been a dramatic upsurge in the level of destruction caused by natural disasters. Hurricanes and tropical storms with their related flooding and landslides are the most frequently experienced natural hazards in the Caribbean. Earthquakes and volcanoes pose a risk in the region as well. The daunting costs of recovery and the mandate to save lives have created multiple cooperative worldwide alliances among private voluntary organizations, non-governmental organizations, international organizations, U.N. Agencies, and U.S. Organizations/Programs.

Prevention of natural disasters is not often possible. However, strategies to reduce losses can be developed within each country through: (1) risk assessment and analysis, (2) mitigation, and (3) the development of early warning systems.

### **Risk Assessment**

A risk assessment determines the likelihood of an event. This involves (a) identifying the nature of various natural hazards, and (b) assessing the probability of impacts, considering the vulnerability of exposed populations, critical facilities, structures, natural resources, etc. The tools to carry out risk assessment include monitoring systems, geographical information systems, and computer models, such as those developed by the insurance industry for quantifying risk.

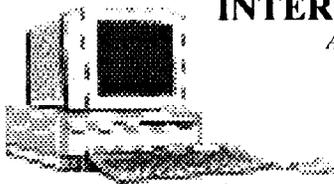
### **Mitigation**

Mitigation efforts seek to lessen the impact by reducing the number of victims and lowering the financial cost of disasters. This can be accomplished by: (a) developing construction standards and enforcing building codes that require structures able to withstand the effects of natural disaster; (b) implementing land-use measures that identify areas which are particularly threatened by natural disaster (floodplains, steep inclines, the slopes of volcanoes) and that restrict construction in these areas, (c) instituting economic measures such as adequate insurance coverage; (d) empowering through education, training, and technology transfer those who implement mitigation measures and those responsible for relief and recovery. These are mitigation strategies that development organizations are increasingly incorporating into planning and investment projects.

### **Warning Systems**

Good warning systems provide timely information about an impending disaster to those who need to know, in order to facilitate appropriate decisions and timely responses. Effective warning systems require: (a) scientific forecasting from radar, satellites and other observation networks; and (b) communication that involves scientists, government officials, the media, and the public. Notably, the warnings issued must be understandable and evoke the appropriate response.

The current emphasis of international and regional partners is to attempt to predict, control, and limit the impact of natural disasters. The International Decade of Natural Disaster Reduction (1990-2000) has challenged members of the international community to take a proactive stance in reducing the damage from hazardous natural phenomena, stressing the economic and societal benefit to be gained from diligent mitigation and preparedness activities.



# INTERNET SITES ON DISASTER PLANNING

*A few of many sources of electronic information on disasters,  
disaster preparedness and mitigation.*

## EPICENTER

### Emergency Preparedness Information Center

<http://theepicenter.com>

The Emergency Preparedness Information Center site features a "Tip o' da Week" on topics relevant to disaster planning and response. In addition, this Seattle Washington site contains news of disasters, and products for disaster, including survival kits, supplies, books, audio and video resources.

## EPIX

### Emergency Preparedness Information eXchange

<http://hoshi.cic.sfu.ca/~epc>

The Emergency Preparedness Information eXchange (EPIX), is operated in English and French by Simon Fraser University, Vancouver, Canada. This site supports exchange of ideas and information about the prevention of, preparation for, recovery from and/or mitigation of risk associated with natural and socio-technological disasters. EPIX's Natural Hazards Research and Applications Staff have compiled a number of useful directories that deal with hazards and disasters.

## FEMA

### FEDERAL EMERGENCY MANAGEMENT AGENCY

<http://www.fema.gov/fema/pre1.html>

The FEMA site on preparing for disaster provides information on planning for various kinds of natural disasters and technological disasters. It lists a number of FEMA publications that are available on earthquake preparedness, fires, floods, hurricanes, among other topics.

## University of Illinois at Urbana-Champaign

### Cooperative Extension Service Disaster Resources

<http://www.ag.uiuc.edu/~disaster>

This web site provides information on disaster preparedness for educators, professionals and the general public. Includes news, releases about current disasters and weather conditions around the world. Gives information on how to prepare for disasters, what to do after a disaster strikes, how to get disaster assistance, and how to get help for disaster victims. The site also provides names of agencies, organizations, and networks worldwide.

## HazardNet

### United Nations

<http://hoshi.cic.sfu.ca:80/~hazard/>

An international, prototype natural and technological hazard information network that is a collaborative demonstration project of the International Decade for Natural Disaster Reduction (IDNDR). For persons and organizations worldwide concerned with preventing, mitigating, preparing for, or responding to large-scale emergencies. This site includes warnings, forecasts, and other information about natural disasters around the world using a Geographic Information System, and an information service according to hazard type.

## How to Contact PAHO's Emergency Preparedness Program

### Pan American Health Organization

<http://www.paho.org/english/pedconen.htm>

<http://www.paho.org/spanish/pedcones.htm> (Spanish)

Includes street and e-mail addresses and telephone numbers for the Headquarters and the Caribbean Subregional Office in Barbados, among other PAHO Disaster Offices. PAHO's web site can be accessed in English or Spanish.

## Updated Information on the Soufriere Hills Volcano in Montserrat Department of Geological Engineering and Sciences, Michigan Technological University

<http://www.geo.mtu.edu/volcanoes/west.indies/soufriere/>

Gives the latest scientific information on the eruption of the Soufriere Hills Volcano in Montserrat from the Government of Montserrat and Montserrat Volcano Observatory. Shows images of the volcano emissions, and maps of Montserrat and the Caribbean. Located on Michigan Technological University's Volcanoes Page, that provides activity reports for other volcanoes around the world, information on volcanic hazards mitigation, and volcanic humor, among other topics.

## PAHO'S Disaster Listserv

Disaster managers or other interested persons with e-mail addresses can subscribe to a newly created listserv called "desastres-ca" that is maintained by PAHO's country office in Nicaragua. In order to subscribe, send a message to [majordomo@ops.org.ni](mailto:majordomo@ops.org.ni) Leave the subject line blank. Include in the body of the message: subscribe desastres-ca [type your e-mail address]



## *Conferences on Disaster Research and Response*

### **October 9-12, 1996**

A four day conference entitled the Second Caribbean Conference on Natural Hazards and Disasters will be held in Kingston, Jamaica. The first conference was held in Trinidad in 1993. The objectives of the meeting, according to a conference flyer, are "to review the current research on and management of natural hazards as well as the establishment of a network of organisations involved in this work." Interested participants should respond to Dr. B. Carby, Coordinator, 2nd Caribbean Conference on Natural Hazards and Disasters, Department of Geology, University of the West Indies, Mona, Kingston 7, Jamaica, W. I. Telephone: (809)929-2781, 927-2253, 927-2728; Fax: (809)927-2156. E-mail: bcarby@uwimona.edu.jm

### **October 11-14, 1996**

The International Conference on National Experiences in Disaster Response and Rehabilitation will be held in Merida Venezuela. For more information about this conference (in Spanish or English), contact Organizing Committee, Conferencia Internacional sobre Manejo de Desastres. Apartado postal 344, Merida 5101, Venezuela. Telephone/fax: (58-74)441-270. E-mail: confmer@bolivar.funmrd.gov.ve

### **October 14-16, 1996.**

A Technical Conference on Engineering Design to Cope with Risk and Uncertainty, will be held in Port of Spain, Trinidad and Tobago. Contact: Ministry of National Security, NBS Radio 610 Bldg. (Ground Floor), 17 Abercromby Street, Port-of-Spain, Trinidad and Tobago. Telephone: (809) 623 4008; 1943; 2078. Fax: (809)625 8926.

## Guidelines for Contributions to *CARIBBEAN CURRENTS*

Any organization or individual operating or involved in the English and French-speaking Caribbean Region is welcome to contribute to the content of the newsletter. Contributions should be addressed to:

Caribbean Currents Coordinator  
INFOTERRA/USA  
U.S. Environmental Protection Agency  
Headquarters Library, 3404  
401 M Street, S.W.  
Washington, D.C. 20460  
UNITED STATES  
Telephone: (202)260-5917  
Fax: (202)260-3923  
Internet: library-infoterra@epamail.epa.gov

Please note that submissions should meet the following criteria:

- They should be relevant to environmental issues
- They must be of interest to or directly involve the Region
- They must not endorse or recommend any product or commercial service either explicitly or implicitly
- They must be brief--preferably under 250 words; Bulletin Board requests should be kept under 100 words
- They must be received by the posted deadline (see below)

Please feel free to contact the *CARIBBEAN CURRENTS* coordinator if you are interested in submitting a longer article. You should contact the coordinator to discuss your topic and any size or content restrictions beforehand. Be aware that once your article is submitted, it is subject to editing as needed. Final decisions on editing and inclusion of any contributions are left to the INFOTERRA/USA Manager. Please contact INFOTERRA/USA using the address above to contribute any comments, questions, problems, or ideas.

**DEADLINE FOR CONTRIBUTIONS TO Vol. 5, No. 1: October 30, 1996**

## Expanded, Improved Weather Services Now Available in the Caribbean

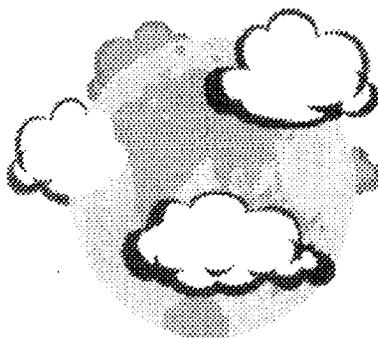
Caribbean weather forecasts, hurricane warnings, and other meteorological data are now more reliable and available faster than ever before. New two-way, interactive, high-speed, satellite links for meteorological data have been made operational between the United States and the Caribbean and Central American countries. The new International Satellite Communication System (ISCS) is a cooperative effort between the National Weather Service at the National Oceanic and Atmospheric Administration (NOAA) and the World Meteorologic Organization (WMO), within their World Area Forecast System (WAFS). Antiquated land line circuits, previously operated by the Antilles Meteorological (ANMET) and the Central American Meteorological (CEMET) systems, have now been replaced by the new system throughout the Caribbean, as of August 15, 1996.

There are two parts to the system. The 24 hour satellite data transmission part of the system is run by MCI, financed by FAA and the Caribbean countries. To connect with the satellite part, each country has installed a Very Small Aperture Terminal antenna (VSAT) placed on the ground and a receiver placed in the meteorological forecast office. The second part involves a Satellite Telecommunications and Analysis for Region IV (STAR4) workstation in each country's hydro- and meteorological services; these have been donated to each country under the auspices of WMO's Voluntary, Cooperative Program, and several other cooperative agreements. The STAR4 microcomputers, designed and manufactured by Alden Electronics, can create, communicate, analyze, display and store meteorological messages and charts, and are capable of performing a large number of functions simultaneously. Seventeen STAR4 systems are now operating throughout the Caribbean, Mexico and Central America.

### Comparison of New Weather Service to Old

#### New--Communication System

- Transmits directly from satellite to antennas
- Operates at 38.4 kilo bits per second
- More detailed, up-to-date weather information
- Data can be incorporated into climate models run by state-of-the-art Nat'l Weather Service supercomputers



#### Old--ANMET and CEMET

- Antiquated land-line circuits that were vulnerable to breakdowns -- one break in the land-based chain would cut off life-saving information to islands further down the chain.
- Operated at 75 baud
- Discontinued operation 8-15-96

## NEW DISASTER MANAGEMENT VIDEOS



**Supply Management After Disaster.** 1996, 12 minutes, 53 seconds. From PAHO, a video that helps avoid what has been termed the "second disaster," by teaching how to manage what can be an unpredictable and overwhelming flood of relief supplies after the disaster. Gives an overview of the Supply Management Project (SUMA) a methodology that was developed to quickly sort and inventory large volumes of relief supplies and report on these supplies to the proper authorities. The video also provides guidelines for countries requesting emergency assistance, as well as guidelines for potential donors. Available in English and Spanish. Price: free in the Caribbean, \$25 to others. Contact: Pan American Health Organization, Emergency Preparedness Program, 525 Twenty-third Street, N.W., Washington, D.C. 20037, USA. (202) 861-6096, fax: (202) 775-4578, e-mail: [disasterr@paho.org](mailto:disasterr@paho.org)

**Emergency Planning; The Big Picture for Water Utilities.** 1995, 27 minutes. Produced by the American Water Works Association. First hand accounts and case studies of how water utilities have survived and learned from catastrophic events. Demonstrates the role that perseverance, innovation, and even heroism play in keeping customers supplied with safe drinking water after devastating disasters. A 1996 Telly Award winner. If purchased with a companion manual, Emergency Planning for Water Utility Management, the price is \$215 (EPSET). Contact: American Water Works Association, 6666 W. Quincy Ave., Denver, CO, 80235, USA, (303) 794-7711, fax (303) 794-7310.

# Inexpensive or Free Periodicals on Disaster Preparedness

International publisher contacts, including telephone numbers and prices, according to our latest sources, are given below.

**Caribbean Disaster News**, The Newsletter of the Caribbean Disaster Emergency Response Agency, Saint Michael, Barbados, fax: (890) 437-7649. Quarterly - free.

**Disasters: Preparedness and Mitigation in the Americas**, Pan American Health Organization, Washington, DC, (202) 861-4323. Quarterly - free.

**Emergency Preparedness Digest**, Emergency Preparedness Canada, Ottawa, Ontario, (613) 992-3322. Quarterly - \$20 (Canadian)/year.

**epiCenter News**, U.S. Army Corp of Engineers, San Francisco, CA, (415) 744-2806. Quarterly - free.

**Hazard** (formerly *Hazard Monthly*), EIS International, Rockville, MD, (800) 999-5009, or (301) 424-2803, fax: (301) 738-1026. Ten issues per year - \$30.

**International Journal of Mass Emergencies and Disasters**, Disaster Research Center, University of Delaware, (302) 451-6618. Three times per year - \$48, institutions: \$20, individuals.

**Natural Disaster Loss Reduction Update**, National Committee on Property Insurance, Boston MA (617) 722-0200, fax: (617) 722-0202. Published irregularly - free.

**Natural Hazards Observer**, Natural Hazards Research and Applications Information Center, Boulder, CO, (303) 492-6819, fax: (303) 492-2151. Bimonthly - \$15/year.

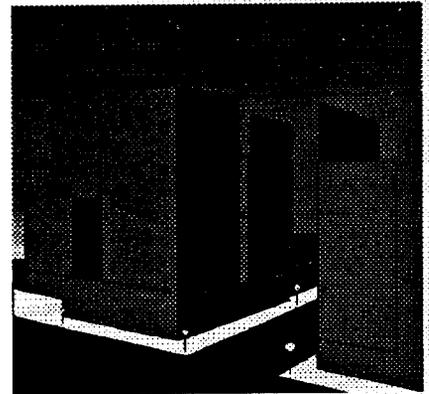
**Stop Disasters**, United Nations Secretariat for the International Decade for Natural Disaster Reduction, Geneva 10, Switzerland, (41) 22 798 8400, fax: (41) 22 733 8695; or, Naples Italy, 39-81 769. Bimonthly - free.

**Unscheduled Events**, Research Committee on Disasters, International Committee on Disasters, c/o Hazards Assessment Laboratory, Colorado State University, Fort Collins, CO, (303) 491-7347, fax: (303) 491-2191. Three times per year - \$22/year.

## Cities At Risk--IDNDR Day--October 9, 1996

"Cities at Risk" is the theme of International Day on Natural Disaster Reduction (IDNDR) this year. The reason for celebrating IDNDR day is to raise awareness about disaster risks, show how cities can be protected, and encourage governments and communities to take action. Pamphlets on Guidelines for Local Organizations, Conferences, Facts and Figures, Poster Contest, and Activities for Children are available in English or French from International Decade for Natural Disaster Reduction (IDNDR) Secretariate, UN Department of Humanitarian Affairs, Palais des Nations, 1211 Geneva 10, Switzerland, (41 22) 798 6894, fax: (506) 257 2139, or e-mail: [idndr@dha.unice.org](mailto:idndr@dha.unice.org)

An IDNDR Internet Conference, "Solutions for Cities at Risk," will be broadcast via Internet from August 26 to October 25, 1996. The text is available in English, Portuguese and Spanish. The Internet address is: <http://www.quipu.net>



# Welcome to The *CARIBBEAN CURRENTS* Bulletin Board

*Each issue, we will publish questions or concerns of interest to CURRENTS readers. Anyone who has materials or information that they are seeking or that they feel will be helpful should feel free to contribute. We will post queries and offerings of general interest on the Bulletin Board. You may respond by contacting the reader who has placed the item, or the RSC.*

## Bulletin Board



### DOCUMENTS AVAILABLE

INFOTERRA/USA has free copies of the following publications available.

If you would like copies of any of these documents, please let us know.

- **Effects of Increased Ultraviolet Radiation on Biological Systems, Proceedings of a Workshop Arranged by the Scientific Committee on Problems of the Environment (SCOPE)**
- **Barriers to U.S. Environmental Technology Innovation, Report and Recommendations of the Technology Innovation and Economics Committee: Permitting and Compliance Policy: 1991**
- **Improving Technology Diffusion for Environmental Protection, Report and Recommendations of the Technology Innovation and Economics Committee, 1992**

To request copies of these documents, just write to INFOTERRA/USA using the contact information on page 8.



### Information Needed on Your Country

INFOTERRA/USA receives many requests for information on countries around the world, including the Caribbean. We collect publications about environmental protection in various jurisdictions, organizing them together geographically, in our "Country Boxes." We would like to update our collection with current materials for the benefit of researchers and visitors to INFOTERRA/USA. Any environmental information, regulatory or educational guides you can provide would be greatly appreciated.

Please contact INFOTERRA/USA using the information on page 8 if you can provide any assistance. Thank you for your support!

**Send your Bulletins to the RSC for publication in the next issue. See the Guidelines on page 4 for information on submitting items.**

## About the NFP Directory

*This directory reflects changes and additions to the INFOTERRA Directory of National Focal Points distributed by INFOTERRA/PAC, dated July 1995. Please check this information to verify that it is correct and up-to-date. If you have any changes or corrections, please notify the RSC as soon as possible. We will be happy to relay the information to the PAC.*

## NFP DIRECTORY

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