



Kawah Ijen volcano in Indonesia contains a large crater lake of hot acidic water. Such lakes can be catastrophically expelled during eruptions generating destructive mudflows.

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surveillance of volcanoes and studies of ash clouds. The equipment eliminates the delays in obtaining imagery from another receiving station.

One of very few observatories using regularly these capabilities is the Alaska Volcano Observatory, which inspects satellite images (covering the volcanoes of Kamchatka, the Aleutians and Alaskan peninsula) for thermal anomalies and ash plumes on a daily basis.

For many users it may not even be necessary to install a satellite dish, since increasing quantities of imagery are finding their way into archives accessible over the Internet. In the next two years we can expect provision of a vast database of imagery, ancillary data, and processing algorithms over the Internet thanks to NASA's forthcoming era of Earth Observing System satellites. We can also look forward to the decommercialization of the Landsat program with the launch of Landsat 7 due in 1998. A valuable achievement in these final years of the IDNDR would be the wider exploitation of these powerful but increasingly accessible technological resources.

The Tale of Three Caribbean Volcanoes: Islands' History, Geography and Vulnerability

James Lewis

The Caribbean population exposed to volcanic hazards is, at 1.3%, very small. However, this figure does not reveal the high proportion, at 13%, of global fatalities attributable to volcanic hazards. Although the world's largest single loss from a volcanic eruption - 28,000 killed - occurred on Martinique in 1902, there is concern that another Caribbean volcano, Soufrière on Montserrat, which has been erupting for almost a year, may also explode. The following is a closer look at the history of three island volcanoes.

Soufrière on Montserrat

Montserrat is one of the Leeward Islands in the eastern Caribbean, 40 km southwest of Antigua. Sixteen km long, with an area of 102 square km, the island comprises three mountain ranges. Soufrière rises to 901 m.

The present series of eruptions of Soufrière commenced in 1996, reaching heights of 4,500 m; numerous intermittent pyroclasts of fragmental lava, cinders, ash and dust, consolidated and compacted, flowed down the

mountain. Deposits covered large areas of lowland to the sea. On 15 and 16 January 1997 larger eruptions resulted in extensive pyroclastic flows depositing a new deltaic formation of land at the mouth of a river flowing from the mountain. Volcanic dust settled over a large area, including the capital town of Plymouth, and rivers and streams were heavily silted.

Nearly 4,000 people left Montserrat since eruptions began. The southern part of the island, including ash-covered Plymouth, was evacuated. People have been in temporary shelters for more than a year. Since there is uncertainty about the future of the island, officials have been hesitating about providing permanent housing and infrastructure.

In fact, there is concern that more serious explosions could occur if current series of eruptions of the mountain expose the magma within it.

Mont Pelée on Martinique

Mont Pelée's four explosions and an eruption of 8 May 1902 totally destroyed the town of St. Pierre and its population of 28,000.

The violence of the explosion was the result of the nearly solid viscosity of the

Notice for the readers:

During the preparation of this issue of the Magazine, the Soufrière volcano - reactivated two years ago after a long period of rest - dramatically erupted in an explosion of rock and ashes. Such a situation forced thousands of people to leave the island of Montserrat progressively covered and destroyed by the products of the eruption. More details on such a disaster and the details of its consequences for the inhabitants of Montserrat will be provided in a forthcoming issue of Stop Disasters.

magma, which blocked the volcano pipe. The combination of blast from explosions and the heat of incandescent gas devastated buildings, burned and suffocated inhabitants, caused fires and further explosions. A museum now commemorates tragic events of 1902.

In the months preceding the explosion, there had been sulphurous gas, roaring and rumblings, earth tremors, eruptions and ash falls. However, the authorities discouraged evacuation.

The island governor even took up residence in St. Pierre to calm fears - and died in the ensuing explosion. Mont Pelée erupted again in 1929 but less violently.

Soufrière on St. Vincent

St. Vincent is to the south of the chain of islands of the Lesser Antilles and 160 km south

of Mont Pelée. It is 30 km long ; Soufrière 's altitude is 1220 m.

Soufrière erupted most recently on 13 April 1979, exploding ash to a height of nearly 20 km and causing glowing avalanches of lava, dust, and scorching gas. Activity continued for several weeks.

Between 15,000 and 20,000 people were quickly evacuated from the immediate areas. Evacuation went on for two months as part of a compromise between public safety and the minimum of socio-economic disruption.

After the most dangerous period had passed people were given the option of returning or remaining longer in refugee shelters. There was wide acquiescence of precautionary measures and although there was a major volcanic eruption, no lives were lost.

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SAINT LUCIA. DISASTER STAMP ISSUE

In July 1997 the Saint Lucia General Post Office released the following stamp with the theme of "Disasters": 20 CENTS - depicts the capsizing of the M.V. St. George in 1935; 55 CENTS - depicts the foundering of the Belle of Bath; \$1 - depicts a sea spill; \$2.50 - depicts a hurricane. (\$1 = 37 U.S. cents).

The stamps can be ordered via the Internet at <http://www.sluonestop.com>. Please indicate how you would like the stamp(s) sent to you (air mail, Federal Express, etc). There will be a service and postal charge.

SAINT LUCIA'S PRIME MINISTER WANTS POLITICAL PARTIES TO PLAY A ROLE IN DISASTER PREPAREDNESS

On 7 June 1997 Dr. Kenny Anthony, the Prime Minister of Saint Lucia, chaired his first meeting of the National Emergency Management Organisation (NEMO).

NEMO is responsible for ensuring the efficient functioning of preparedness, prevention, mitigation and response action to a natural or man-made disaster.

In his capacity as NEMO's chairman, the Prime Minister received a report from the National Disaster Coordinator, Timothy James, on the state of Saint Lucia's preparedness for the 1997 hurricane season. Reports from the following sub-committees were also received: - Supplies Management; - Transportation; - Telecommunications; - Evaluation/Information; - Health and Welfare; - Rehabilitation/Reconstruction.

A national simulation exercise was held on 20 July 1997.

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NEW PUBLICATION ON DISASTER MITIGATION IN HEALTH FACILITIES IN LATIN AMERICA

"Lecciones Aprendidas en América Latina de Mitigación de Desastres en Instalaciones de Salud. Aspectos de Costo-Efectividad" has just been published. This is a joint

publication of the Pan American Health Organization / World Health Organization and the United Nations Department of Humanitarian Affairs/International Decade for Natural Disaster Reduction (DHA/IDNDR).

The book is concerned with the cost-effectiveness analysis of the mitigation measures adopted in hospitals and focuses on geological disasters. An entire chapter is dedicated to analyzing the advantage of using a cost-effectiveness model and not a cost-benefit model to measure the impact of mitigation measures in hospitals.

It also offers a wide variety of case studies in Latin American countries where vulnerability studies and retrofitting projects have been performed.

For printed copies of the book (available only in Spanish), write to Regional Disaster Information Center, CRID (P. Box 3745-1000, San Jose, Costa Rica, fax 506-231 5973), or you can visit the CRID web site (<http://www.neisalud.sa.cr/eric>) to view chapters of the book.

