



Welcome to the second issue of the Early Warning Newsletter!

This issue: Hurricanes in the Caribbean and locusts in Africa have been in the news over the last few months — what happened and how well did the early warning systems work? Also news on early warning events at the World Conference on Disaster Reduction and an outline of PPEW's program for 2005.

Hurricanes - Typhoons - Tropical Cyclones

These are three different names for the same thing - massive rotating storms in the tropics that last for a week or more and bring extremely strong winds and heavy rains, often resulting in serious loss of life and costly destruction of property and agriculture.

Early predictions of an above-average North Atlantic hurricane season in 2004 came true with four major hurricanes that struck the Caribbean and the United States.

Hurricane Charley, packing winds up to 230 km/h, killed about 20 people and left thousands homeless. *Frances* prompted the biggest evacuation in Florida's history as nearly 2.5 million people fled their homes after early warnings were issued. *Ivan*, the most powerful, caused more than 100 deaths and forced more than 2 million people to evacuate to safer areas. This was followed by *Jeanne* which resulted in more than 1,500 deaths in Haiti, many from drowning when torrential rains and rising floodwaters submerged entire towns in the north of the country.



Preparations for hurricane winds.

The north-west Pacific region also experienced an unusually active season. In August over a million people had to be evacuated as two powerful typhoons, *Aere* and *Chaba*, affected parts of East Asia and the Philippines.

A record 10 typhoons landed at Japan, easily breaking the earlier record of 6. Typhoon *Tokage* caused 80 deaths and 377 injuries, the deadliest typhoon to strike Japan since 1991. At its peak, it stretched 1600 km in width and had wind speeds of 229 km/h. Thousands evacuated amid the threat of mudslides. Besides drowning, 280 landslides were the major reason for injuries and fatalities.

PPEW comment:

Once again, early warning and preparedness systems proved their worth in many countries. But what was missing in Haiti, that would have prevented such a large loss of life?

Hurricane track maps

Maps and reports about 2004 hurricanes are available at the US National Hurricane Center website:
<http://www.nhc.noaa.gov/2004atlan.shtml>. More hurricane track maps at: <http://www.atmos.umd.edu/~stevemb/hurr/>

Good Practice Example: Cuba

The losses of lives in hurricanes can vary widely between different countries. Cuba was hit by all four major hurricanes this season but the number of fatalities was very low, particularly compared to nearby Haiti. What are the reasons for this?

Cuba's formula for success in early warning

Public awareness of hazard risk + Public policy commitment + Application of scientific knowledge

Since it is the public who is at risk, public awareness can play a major role in stimulating and maintaining preparations for hazardous events. People who understand the risks and how to handle them have a much better chance to survive; their vulnerability will be clearly reduced.

In Cuba, long term planning is supported and for many years hurricane coping capacities have been integrated in basic policies including in education and health. Cuba has a strong scientific tradition and makes good use of internationally available weather data and satellite images.

In 1996 the Cuban National Forecast Center started a new approach on hurricane warnings. The main idea was to start early warnings to the public 3-5 days in advance followed by more precise forecasts and warnings 24-48 hours before the hurricane strikes. By gradually increasing the amount of information a sense of the approaching danger can develop without causing panic among the people.

The information given to the people at risk aims to include enough meteorological details but still be understood by the public. People have to be aware that a completely accurate forecast is impossible. An important part of Cuba's success story is the TV and radio delivery by forecasters - and sometimes even the President - of timely and consistent forecasts combined with information on likely impacts and necessary preparedness actions.

Equally important is the strong co-ordination of central and local government officials and civil defence authorities and the regular conduct of preparedness exercises that involve most of the population. See for further information:

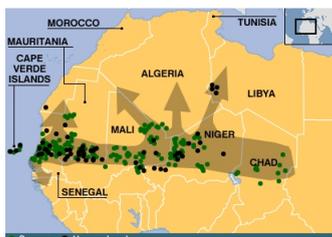
<http://www.arct.cam.ac.uk/islandvulnerability/NaranjoDiazMichelle.rtf> or
<http://www.oxfamamerica.org>



Severe damage after a hurricane. IFRC.

The 2004 locust plague an — early warning success or failure?

Locusts breed in hot, humid weather, and the combination of unusually heavy rains last year and high temperatures led to exceptionally high locust breeding rates this year. The UN Food and Agriculture Organisation (FAO) which has coordinated international efforts on locust control in Africa for more than 50 years warned the international community as far back as October 2003 of an impending locust plague (<http://www.fao.org/news/global/locusts/locuhome.htm>). This was later followed by an appeal for US\$ 9 million to support local



Map of Northwest Africa showing the distribution of locust swarms. FAO.



Plane spraying pesticide on desert locusts in Morocco. FAO.

operations to control the spreading of locust. But there was little response from donors. The crisis expanded and by August 2004 the FAO appeal had to be raised tenfold, to US\$ 100 million, and a warning was made of the risk of famine if the insects were not brought under control.

An inside view of the situation from Africa by Alhasanne Adama Diallo, director of AGRYMET, a specialized hydro-meteorological institute of the Permanent Interstate Committee for drought control in the Sahel (CILSS), is given on the ISDR web site (<http://www.unisdr.org/eng/media-room/mr-point-of-view-eng.htm>).

Accusations of failure have been loud on both sides. Major donors complained that FAO's warnings were not insistent enough and that the advice was too little and too late. But Clive Elliott, the head of the FAO's locust control unit in Rome, pointed out that had donors responded to the FAO's advice to boost control efforts in October 2003, or responded to its appeal for \$9 million in February, they would not have been asked for \$100 million to respond to a problem that has now mushroomed out of control.

"Unless immediate action is taken to stop what is now the worst locust plague of the last decade, up to 25 percent of crops in West Africa could be lost, and the livelihoods of 150 million people put at risk by year's end," Jan Egeland, the UN Emergency Relief Coordinator, said in an article published by the New York Times.

In Mauritania locusts had already destroyed nearly half of the crop. A small percentage of one locust swarm can eat as much food in one day as about 2,500 people.

Fighting the locust plague depends not just on money but also on the regional cooperation of governments and on local logistics. "To the regional threat of locusts, which know no frontier, the answer has to be regional," said Herve Ludovic de Lys, the head of the UN Organisation for the Coordination of Humanitarian Affairs (OCHA) regional support office in Dakar. "Cross-border cooperation is desperately needed, but so far such instances are very rare."

Meanwhile, WMO is planning to establish a database of meteorological information for locust control which should help to improve predict the different phases in the life-cycle of locusts and facilitate more effective locust control operations. National Meteorological and Hydrological Services in the locust-affected areas in Africa, the Middle East and Asia, are monitoring and forecasting meteorological elements such as precipitation, temperature, humidity and wind speed and direction, which are crucial to forecasting locust incubation and movement and spraying the affected areas.

EU representative Jos Van Aggelen told a news conference: "It's clear that this year we have not won this battle against the locusts. It's important that we're better prepared next year for this fight," he said.



A young Mauretian powerless in the face of a locust swarm. FAO.

PPEW comment

"The locust situation in 2004 demonstrates vividly how weak links in the early warning chain can result in failure. It shows once again the need for an integrated approach to early warning, spanning risk assessment, technical forecasts, communications and preparedness to act. Many effective elements are present, but there was not a well integrated complete system in place". Reid Basher, PPEW Coordinator.

The regional coordination link

An IRINnews (<http://www.irinnews.org>) report provides insight into the complexity of regional locust control. OCLALAV, a regional body established in 1965 to help control locusts across the Sahel, once had 5 regional centres across West Africa, but 15 years ago "they disappeared as a result of their very success in the fight against locusts," said Fakaba Diakite, the head of Mali's locust control campaign. Keith Cressman, a FAO locust control officer has a different opinion: "Regional organisations had simply gone out of style as a means of pest control in Africa because individual governments thought they could do the job more effectively themselves. Locust control has become nationalist rather than regionalist for some very good reasons; it is very difficult to get authorisation to do cross border operations either by land or air" Cressman said.

Nevertheless some experts believe that regional bodies are more flexible and can react much faster than FAO. Purchase procedures of FAO are not always well adapted to the urgency of the fight against locusts according to a quote from Mbargou Lo, an agronomist at Senegal's Ministry of Agriculture.

New ways to combat locusts

Global positioning system (GPS) is being used to improve locust spraying accuracy. Data on locust locations are compared with weather data, cloud cover and vegetation and historical data in order to forecast future locust activity. The information is collected and published by FAO in monthly Desert Locust Bulletin supplemented by updates and warnings. For further information see <http://www.fao.org/newsroom>. Also, ecological research is making progress on how locust upsurges evolve and about invasion corridors, says Moha Bagari, Chief of Research of the National Center for Locust Control in Agadir, Morocco.

Information sources on locusts

FAO up dates: <http://www.fao.org/news/global/locusts/locuhome.htm>
The Desert Locust in Africa and Western Asia: Complexities of War, Politics, Perilous Terrain, and Development:
<http://ipmworld.umn.edu/chapters/showler.htm>
Article on regional coordination:
http://dehai.org/archives/AW_news_archive/1177.html
NASA Earth Observatory Locust!
<http://earthobservatory.nasa.gov/Study/Locusts/locusts.html>

Risk and early warning sessions at the World Conference on Disaster Reduction

The Thematic Segment of the conference is a structured technical programme designed to complement and support the intergovernmental discussions and the desired focus on implementation of the conference outcomes. The segment will be organized around five clusters of topics (see <http://www.unisdr.org/wcdr/format/thematic.htm>).

While all clusters, e.g. governance, education, preparedness - are relevant to early warning, it is Cluster 2, titled *Risk identification, assessment, monitoring and early warning*, that is the primary focus for early warning. A good knowledge of risks and early warning of extreme events is an essential basis for risk management by decision makers and practitioners.

Risk and early warning information lies at the interface between the science and technology products and the people who receive and need to respond to it. As part of the ISDR Secretariat, PPEW has supported the cluster 2 lead agencies (WMO, UNU, and EC/JRC) in coordinating the following 9-session programme from the 25 proposals for sessions that were submitted by numerous organization and experts .

- Integrated flood management; technology and community action
- Networking for systematic drought risk reduction
- Hurricanes and storms: strategies to reduce weather-related disasters
- Coping with multiple hazards in urban settings
- Hidden weakness: indicators and assessments of vulnerability
- Disaster reduction through efficient risk communication
- People-centered early warning systems (see box →)
- Data for evidence-based policy making
- Earth observation for effective global disaster reduction

UN General Assembly - early warning stressed and linked to development

The need for disaster reduction and early warning systems was again stressed by countries at the recent 59th session of the United Nations General Assembly (UNGA) in New York.

In resolution A/C.2/59/L.7 on the International Strategy for Disaster reduction, the UNGA "*Recognizes the importance of early warning as an essential element of disaster reduction, recommends the implementation of the outcome of the EWC II and takes note of further work done in this regard, including the establishment of the Platform for the Promotion of Early Warning in Bonn.*"

Another resolution, A/C.2/59/L.11, on Natural disasters and vulnerability, also stressed the need to implement risk reduction strategies including disaster preparedness, mitigation, and early warning systems.

Early warning and preparedness systems were also featured in the reports of the UN Secretary General to the meeting. Many countries called for better preparedness and early warning as part of the disaster reduction and development agendas.

For example, Bangladesh that excessive floods such as last summer were impeding its development. But due to better preparedness even greater losses have been prevented. Caribbean countries drew attention to the enormous negative impacts of this year's devastating hurricanes, while African countries highlighted the seriousness of the locust invasion in Africa. Affected countries requested technical and financial resources to help them address the impacts and reduce the risks of future events. The documents are available at: <http://www.un.org/ga/59/second/documentation.html>

PPEW plans for 2005 - new international early warning programme

With the early warning platform having been established in 2004, the focus of PPEW work in 2005 will shift to the development of an International Early Warning Programme (IEWP). This is an important and exciting step forward, toward building a broad coalition of early warning partners around a coordinated effort to put into practice the lessons of the Second International Conference on Early Warning. The World Conference on Disaster Reduction will be used as an opportunity to galvanise support for the Programme. The goal of the PPEW work programme will remain the same - *The reduction of the growing impacts of disasters, through more effective early warning systems*. Three main tasks are set out in the draft work programme:

- ☞ Task 1: Promote early warning as a risk reduction strategy in key international policy processes, particularly in those associated with the World Conference on Disaster Reduction.
- ☞ Task 2: Undertake targeted activities and studies to stimulate dialogue, innovation and systematic development of early warning.
- ☞ Task 3: Develop the International Early Warning Programme and the platform's capacities to support it.

Further information on the International Early Warning Programme and PPEW's 2005 plans will be posted on the web site as the plans become firmer.

Full day workshop on disasters, weather, climate and water

WMO and the Japan Meteorological Agency, with support from many other national agencies and research institutes, are putting together a full day workshop on the hydro-meteorological community's contributions to preventing and mitigating disasters related to weather climate and water. This major event will be held in the public segment of the WCDR and therefore will be open to all conference participants.

People-centered early warning systems

This session in Cluster 2 will summarize the lessons of the Second International Conference on Early Warning, with a set of case examples to illustrate its key themes and the need for an International Early Warning Programme, followed by an open discussion. The session is being coordinated by PPEW and a number of partners. .

New PPEW web pages launched!

The new web pages, introduced in October and accessible at www.unisdr-earlywarning.org, are the start of a growing information resource on early warning systems. They also provide background information on goals and activities of the early warning platform.

World Disaster Reduction Day

On the occasion of the World Disaster Reduction Day on 13 October 2004, Kofi Annan, Secretary-General of the United Nations, Klaus Töpfer, Executive Director of the United Nations Environment Programme (UNEP) and many other eminent persons emphasized the importance of early warning and preparedness to combat the impacts of natural disasters.

News items on early warning**Disaster figures for 2003 - millions affected**

Increasing numbers of people are becoming more vulnerable to natural hazards. According to a new report by Professor Debarati Guha Sapid, from the Centre for Research on the Epidemiology of Disasters (CRED) at the University of Louvain, Belgium, more than 254 million people were affected by natural hazards in 2003; an increase of 180 per cent over 90 million people affected in 1990.

Fatalities were particularly high, with three times the dead compared to 2002, mainly due to the devastating earthquake in Bam, Iran, and the unprecedented heat wave in Europe. It is estimated that 40,000 people died in Bam, while over Europe 35 000 people died in the heat wave, 15,000 of these in France alone. The International Red Cross reported that worldwide property damage from disasters in 2003 amounted to 56 billion US dollars.

Experts debate whether they have a true picture of disaster impacts, as not all disasters get reported, especially from smaller events and from remote areas. While insurance losses are known accurately from claims, the non-insured economic losses are hard to estimate, especially for poor communities. The number of people being injured and losing their livelihoods appear set to keep increasing.

"Urbanization in high-risk areas, the effects of climate change and the environmental degradation are the main reason for the increasing vulnerability" says Sálvano Briceño, director of UN/ISDR. Better ways to cope with disasters are urgently needed, through education, land use planning and environmental management early warning and preparedness (UN-press release IHA/944).

Meteorological community sets new priorities on preventing disasters

The Executive Council of the World Meteorological Organization (WMO) recently set new priority actions to be undertaken by the Organization for natural disaster prevention and mitigation.

The main objective was the delivery of progressively more accurate and reliable warnings of severe weather events. About 90 % of all natural disasters are of meteorological or hydrological origin according to data over 1992 - 2001. During that decade, 622 000 people lost their lives and more than two billion people were affected. The economic loss caused by meteorological or hydrological events added up to US\$ 446 billion, which is about 65 % of damage caused by all natural disasters.

"It is critical to build a culture of prevention. This could be done through further improvements in risk assessment, monitoring, forecasting for early warnings, capacity building and raising the awareness of the public as well as decision-makers through education and sharing of knowledge and information" said Mr Michel Jarraud, Secretary-General of the WMO.

National meteorological and hydrological services (NMHS) are the authoritative official source of early warnings on hydro-meteorological phenomena and climate issues, and are key elements of national systems for disaster risk reduction and emergency management. (See press releases WMO 708/714/715; www.wmo.int.)

USA: Earthquake, windstorm bills approved

It is expected that the approved legislation to mitigate damage from earthquakes and windstorms will be signed into law. It authorizes US\$ 900 million over a 9-year period for a National Earthquake Hazards Reduction Program which aims to improve the understanding of earthquakes and how to respond to them. The bill also creates a program focused on mitigation of windstorm damages which caused US\$ 4.5 billion in damages annually from 1995-2002.

Meetings**10th Session of the Conference of Parties (COP 10), 6 - 17 December 2004, Buenos Aires, Argentina**

COP 10 will mark the 10th anniversary of the entry into force of the Framework Convention on Climate Change.

In addition to reviewing the accomplishments of the past ten years, COP 10 will highlight a range of issues including the impacts of climate change and adaptation measures, mitigation policies and their impacts, and technology transfer, and the impending entry into force of the Kyoto Protocol.

PPEW will participate at COP 10 to promote the role of early warning and disaster risk reduction as an adaptation strategy.

http://unfccc.int/meetings/cop_10/items/2944.php

World Conference on Disaster Reduction (WCDR) 18-22 January 2005 Kobe, Hyogo, Japan.

The conference will review ten-year progress and set the course for the next decade. It will help to increase the international profile of disaster risk reduction, promote integration of disaster risk reduction into development planning and practice and strengthen local and national capacities to address the causes of disasters that continue to devastate and impede the development of many countries. See page 3 for further information on WCDR.

<http://www.unisdr.org/eng/wcdr/wcdr-index.htm>

Publications**World Disaster Report 2004**

The 12th edition of the World Disasters Report made by the International Federation of Red Cross and Red Crescent Societies examines the trends over time of different types of disasters and makes projections for the future. It also covers disaster losses and costs and preferences of donors for aid.

<http://www.ifrc.org/publicat/wdr2004/>

**Our Affair with El Niño: How We Transformed an Enchanting Peruvian Current into a Global Climate Hazard (2004) S.G.**

Philander's book on the El Niño phenomena is written for non experts. It aims to help to improve the communication between scientist and non-scientist.

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Write to us

We welcome any feedback on the Early Warning Newsletter, and any early warning news material to include in future issues. The newsletter is prepared and disseminated in electronic and print forms. Please email us to get your name on the email list or for selected mailing of the print version. Write to Newsletter Editor at: isdr-ppew@un.org

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