DISASTER INFORMATION KIT FOR THE MEDIA

Prepared by the
Caribbean Disaster Emergency Response Agency
(CDERA)

with the support of the
United Nations Educational, Scientific and
Cultural Organisation (UNESCO)

and the
Pan American Health Organisation (PAHO)

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The material in the Kit was prepared by a Working Group comprising the following:

Ms Patricia Bittner, PAHO, Washington DC, USA
Mr Jeremy Collymore, CDERA, Barbados
Mr Timothy James, Office of Disaster Preparedness and Prevention, St Lucia
Mr Stephen Louis, CDERA, Barbados
Ms Judy Thomas, Central Emergency Relief Organisation (CERO), Barbados
Ms Wendy Thompson, Caribbean News Agency (CANA), Barbados
Ms Sandra Ward, Department of Information and Public Relations, British Virgin Islands

with technical inputs from:

Dr Jean-Luc Poncelet, PAHO, Barbados
Ms Elizabeth Stonaker, PAHO, Washington DC, USA
Caribbean News Agency (CANA)
Caribbean Broadcasting Union (CBU)
Caribbean Institute for Mass Communications (CARIMAC)

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FOREWORD

As a media worker you may very well become involved in reporting events related to the occurrence of a disaster. In so doing, you will provide a service to the public which depends on you for appropriate information before, during, or after an event. Disaster Management professionals are also interested in keeping the public informed. Ideally therefore, the Media Practitioner and the Disaster Management official should act as partners. For this to happen, both parties must understand the other's role, the environment in which both operate and the issues which both face.

This ***Disaster Information Kit for the Media*** has been prepared to assist with the above objectives. The material in the Kit was prepared by a team comprising Media Practitioners and Disaster Management officials. It provides the media with basic information on the types of disasters most likely to affect the Region, the characteristics of those disasters, and what actions to take in the event of such disasters. The Kit also provides background information on national, regional and international arrangements for Disaster Management in order to help the media understand how they can facilitate such arrangements.

Objectives

The objectives of the Kit are:

- ☆ To provide an easily accessible source of background information on disasters for media practitioners in the Region.

- ☆ To ensure consistent interpretation and reporting of basic disaster information by media practitioners across the Region.

- ☆ To alleviate the pressure placed on Disaster Management officials during emergencies by the need to constantly explain basic concepts, terminology and practices to the media.

- ☆ To demonstrate recognition of the important role of the media in Disaster Management and the commitment to increase cooperation and collaboration between media and Disaster Management professionals.

ORGANISATION OF THE KIT

The kit is divided into eight (9) sections. The sections are organised so that the reader, at any given time can easily refer to the ones which are of most interest to him or her. The sections and the type of questions they are meant to answer are shown in the table below.

SECTION	TITLE	CONTENT	QUESTIONS ANSWERED
1	Disaster Management Management Concepts and related activities	Definitions of Disaster Management. What are the activities related to this discipline!	What is entailed in Disaster Management!
2	Fact Sheets on specific hazards and related emergency actions	Information specific to the following types of disasters: Hurricanes, Earthquakes, Floods, Epidemics, Technological and Man-made disasters	What are the main hazards which we face! What are their characteristics! What should the media do if a particular type of disaster is threatening or has occurred!
3	Contact Directory	Contact information for key national and regional disaster agencies and officials, including press liaison officials	Who should be contacted for further information!
4	Disaster Organisations and Systems	Overview of the most important national, regional and international disaster management organizations, their roles and functions and how they relate to each other	Who are the main agencies involved in Disaster Management at the national, regional and international levels! What are their roles! How do they relate to each other!
5	Suggested Questions	Suggested questions to be asked by the media in the event of a disaster	What questions need to be asked to get a true picture of the situation!
6	Media Do's and Don'ts	Courses of action that media persons are advised to take and some that they should avoid	What actions should be avoided in such situations! What actions should be taken to make the situation easier for everyone!
7	Disaster History	Listing of major disasters in this century; brief description of some examples; summary of the last thirty (30) years	What types of disasters have affected the Caribbean in the past! What damage have they done! What lessons have been learnt!
8	Acronyms	Explanation of acronyms	What are the meanings of the acronyms!
9	Bibliography	Listing of some sources of information	Where can I find more information on these subjects!

SECTION 1

DISASTER MANAGEMENT

DISASTER MANAGEMENT

INTRODUCTION

Disasters and their impact on man world-wide are increasing at an alarming rate and the Caribbean is no exception. In the last decade, the Caribbean has experienced several disaster events ranging from natural disasters like floods, hurricanes and earthquakes, to man-induced events like industrial and transportation accidents and fire.

The reasons for man's increasing vulnerability are:-

1. Rapid population growth where disaster events can claim more lives.
2. Environmental degradation due to poor land use, deforestation, over cultivation, and over grazing. These all render the land more prone to floods and landslides.
3. Increasing industrialisation without the necessary safety measures.
4. Absence of mitigation or preventative measures in development planning.

This section gives an overview of the field of Disaster Management and provides working definitions for common terminology. It also discusses the phases of the Disaster Management cycle

DEFINITIONS

Disaster Management

A collective term encompassing all aspects of planning for and responding to disasters, including both pre- and post-disaster activities. It may refer to the management of both the risks and consequences of disasters.

(Source: UNDP Disaster Management Training Programme)

Disaster

A disaster is a serious disruption of the functioning of a society, causing widespread human, material, or environmental losses which exceed the ability of the affected society to cope using only its own resources. Disasters are often classified according to their speed of onset (sudden or slow) or according to their cause (natural or man-made.)

(Source: ODFA Disaster Management Training Programme)

CLASS	NATURAL	MAN-MADE
Rapid Onset	Earthquakes Floods Hurricanes Volcanic Eruption Landslides Tsunamis	Fires Technological Accidents Industrial Accidents Transportation Accidents
Slow Onset	Droughts Floods Epidemics	Famines Civil Strife

Source: African Disaster Handbook (Draft) 1990

WHY, WHEN AND WHERE DO DISASTERS OCCUR?

Disasters can be meteorological, topographical, or accidental in origin.

Meteorological	Drought Floods Cyclones
Topographical	Earthquakes Volcanic Eruptions
Technological	Chemical Accidents Industrial accidents Oil Spills

WHEN

Disasters are not easily predicted. However, historical data, geographic location and meteorological and seismographic indicators can pinpoint highly vulnerable areas. Hazard Mapping and Disaster Preparedness can assist in preparing disaster-prone communities.

Hazard

A hazard is a rare or extreme event in the natural or man-made environment that adversely affects human life, property or activity to the extent of causing a disaster. *(Source: OFDA Introduction to Disasters Training Manual, 1994)*

Risk

Risk is expected loss (lives lost, persons injured, damage to property and disruption of economic activity) due to a particular hazard. Risk is the *product* of hazard and vulnerability. *(Source: OFDA Introduction to Disaster Training Manual, 1994*

Vulnerability

The vulnerability of a building, a population, or an entire country is measured by how susceptible it is to harm or loss in the face of a hazard.

Rehabilitation

The restoration of basic services and the beginning of the repair of physical, social and economic damage.

Complex Disasters

Complex disasters exist where adverse political conditions compound a disaster or emergency situation. Such situations are complicated because the break-down of the political structure makes assistance or intervention difficult. This sort of emergency is usually associated with the problems of displaced people during times of civil conflict or with people in need caught in areas of conflict.

DISASTER MANAGEMENT CYCLE

A disaster can be viewed as a series of phases on a time continuum. The Disaster Management Cycle is made up of the following phases: Alert, Preparedness, Response, Prevention, Mitigation, Rehabilitation.

Alert

The notice issued indicating that specific precautions should be taken because of the probability or proximity of a dangerous event.

Preparedness

Measures taken to reduce to the minimum level possible, the loss of human lives and other damage, through the organising of prompt and efficient actions of response and rehabilitation.

Effective preparedness enables communities and institutions to provide a quick, organised response to disasters. Disaster Preparedness is designed to minimize loss of life and damage, to organise the temporary removal of people and property from a threatened location, and to facilitate timely and effective rescue, relief and rehabilitation. Public information and ongoing training activities are necessary to create a "culture" of Disaster Preparedness.

Response

Actions carried out in a disaster situation with the objective to save lives, alleviate suffering and reduce economic losses.

Actions include search and rescue and the provision of shelter, water, food and medical care.

Mitigation

Measures taken to reduce the loss of life, livelihood and property by disasters, either by reducing vulnerability or by modifying the hazard, where possible. Examples are:

(i) The adoption and enforcement of building codes.

(ii) The utilization of design and construction techniques that will make critical facilities adequately resistant to damage by hazards.

Prevention

Measures taken for the purpose of preventing natural or man-made phenomena from causing or giving rise to disasters or other emergency situations.

e.g: *Prevention measures include passing legislation that affects urban planning and citing of public works and key facilities and the institutionalisation of policies leading toward disaster reduction.*

Reconstruction

The medium and long term repair of physical, social and economic damage, and the return of affected structures to a condition equal to or better than before the disaster.

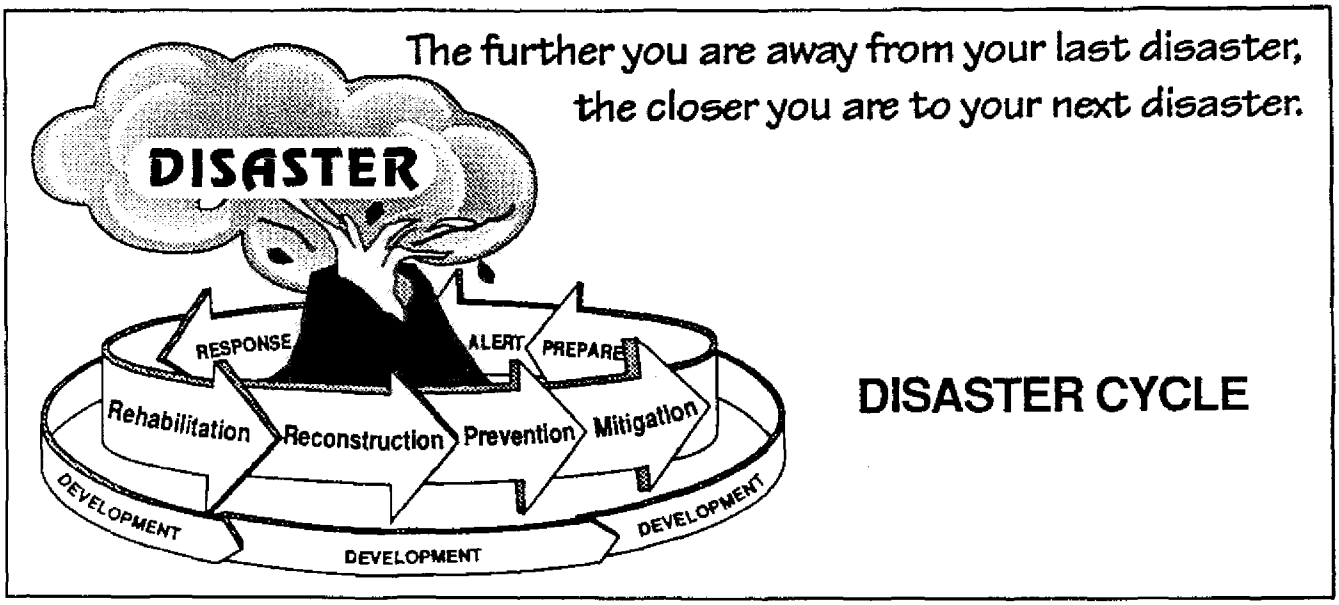
e.g: *Actions would include construction of permanent housing, full restoration of all services, and complete resumption to the pre-disaster state.*

CAUSES OF DISASTERS

Factors that contribute to the vulnerability of communitiess and societies to the impacts of hazards are:

Poverty	Changes in cultural practices
Population Growth	Environmental Degradation
Rapid Urbanization	War and Civil strife

Lack of Public Awareness and Information



Source: USAID/OFDA. Introduction to Disasters Training Manual, 1994

SECTION 2 (A)

FACT SHEET

HURRICANES

FACT SHEET
HURRICANES

DEFINITION

A hurricane is a tropical cyclone in which the maximum average wind speed near a centre or eye exceeds 74 mph or 119 Km/h. The winds rotate in a counter-clockwise spiral around a region of low pressure.

In the Atlantic and Eastern Pacific they are called HURRICANES. In the Western Pacific, including the Philippines - TYPHOONS, near Australia - WILLY WILLY and in the Indian Ocean - CYCLONES.

The tropical cyclones are given names for easier identification and tracking.

FORMATION AND INITIAL DEVELOPMENT STAGES OF TROPICAL CYCLONES

Tropical cyclone is the generic term used by the World Meteorological Organisation to define weather systems in which winds exceed 34 knots or 63 km/h. These are rotating intense low, pressure systems of tropical oceanic origin.

Four conditions are necessary for the development of a tropical cyclone.

1. A warm sea temperature in excess of 26 degrees Celsius or 79 degrees Fahrenheit.
2. High relative humidity (degree to which air is saturated by vapour).
3. Atmospheric instability.
4. A location of at least 4 - 5 latitude degrees from the Equator.

There are four phases of development according to its associated wind intensities.

PHASES

Tropical Disturbance

A weather system which gives rise to a specific area of cloudiness with embedded showers and thunderstorms.

Tropical Depression

A tropical cyclone system with definite counter-clockwise wind circulation with maximum sustained winds of less than 38 mph (61 km/h).

Tropical Storm

A tropical cyclone system, with maximum sustained surface winds greater than 38 mph (61 km/h), but less than 74 mph (119 km/h).

Hurricane

A tropical cyclone with wind speed greater than 74 mph (119 km/h). The weather system is now better organised and the eye is well defined.

The Saffir Simpson Scale (see page 10) is used to classify Hu rricanes.

CHARACTERISTICS

Tropical cyclones are characterised by their destructive winds, storm surges and exceptional levels of rainfall which may cause flooding.

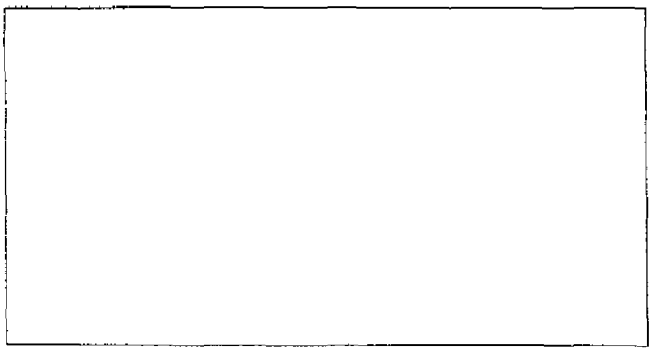
Destructive Winds

The strong winds generated by Tropical cyclones circulate clockwise in the Southern Hemisphere and counter clockwise in the Northern Hemisphere while spiraling inward and moving towards the cyclone center. Winds spreads progressively increase towards the core.

As the eye arrives, winds fall off to become almost calm but rise again just as quickly as the eye passes and are replaced by hurricane force winds from a direction nearly the reverse of those previously blowing.

Storm surges

The rise in sea level above the normally predicted astronomical tide. (See Below)



As the cyclone approaches the coast, the friction of strong on shore winds on the sea surface, plus the "suction effect" of reduced atmospheric pressure, can pile up sea water along a coastline near a cyclone's landfall well above the predicted tide level.

Major factors include:

1. **A fall in the atmospheric pressure over the sea surface**

   In the center of a tropical storm the atmospheric pressure is much less than outside. The maximum rise in mean sea level due to this effect is about one meter.

2. **The effect of the wind**

   As the winds strengthen they will exert force on the surface of the water causing waves, swells and storm surges.

3. **The influence of the sea bed.**

   As the storm approaches a coastline, especially if the sea bed slopes gradually, friction at the sea bottom will interfere with the return water currents and the wind will pile up water along the shore. This combination of strong winds and gently sloping sea bed can result in very strong storm surges, reaching as high as eight meters.

4. **A funneling effect**

   A semi-enclosed bay in the path of a storm surge permits the storm's winds to trap high water there for extended periods.

5. **The angle and speed at which the storm approaches the coast.**

   In general, the greater the forward speed and the more perpendicular the track is to the coast, the higher the surge will be, but these two conditions do not have to exist for a severe storm surge to occur.

6. **The tides**

   Tides in some countries show variation in height with the seasons as well as the time of day. If a storm surge coincides with the high tide and/or the maximum seasonal tide, the effect can be devastating.

Excessive Rainfall

The high humidity condenses into rain and giant cumulus clouds result in high precipitation rates when the cyclone reaches land. The rain rapidly saturates the ground and rapid run off will result in severe flooding.

SAFFIR/SIMPSON HURRICANE SCALE

Category	Central Pressure Mean Millibars	Winds (mph) (km/h)	Surge (ft)	Example of Damage	Example of a Storm
1	980 or more	74 - 95 mph 119 - 151 km/h	4 - 5	Minimal	Agnes 1972
2	965 - 979	96 - 110 mph 152 - 176 km/h	6 - 8	Moderate	Kate 1965
3	945 - 964	111 - 130 mph 177 - 209 km/h	9 - 12	Extensive	Elena 1985
4	920 - 944	131 - 155 mph 210 - 248 km/h	13 - 18	Extreme	Hugo 1989
5	less than 920	more than 155 mph more than 248 km/h	more than 18	Catastrophic	Gilbert 1988

LIKELY IMPACT

Physical damage

Structures will be damaged or destroyed by wind force, storm surges, landslides and flooding. Public utilities such as overhead power lines, water and gas distribution lines, bridges, culverts and drainage systems are also subject to severe damage. Falling trees, wind driven rain and flying debris can also cause considerable damage.

Crops and food supplies

The combination of high winds and heavy rain and flooding can ruin crops and trees. Food stocks may be lost or contaminated and it is possible that food shortages will occur.

Casualties and Public Health

There are relatively few deaths associated with the impact of high winds, however, storm surges may cause many deaths but usually few injuries among survivors.

Lack of Communication

Communication may be severely disrupted as telephone lines, radios and television antennae and satellite disks are blown down. Roads and railway lines may be blocked by fallen trees or debris and aircraft movements are curtailed for hours after a cyclone.

EMERGENCY ACTION

WEATHER WARNINGS - Who Warns?

The local Meteorological Service, the National Disaster Organisation in association with the National Broadcast Media.

ADVISORIES

Messages issued by the authorities warning about the formation and development of tropical cyclones.

These are usually issued at the following times:

0600 AST, 1200 Noon, 1800 AST and 1200 midnight

by the National Meteorological Service via the Electronic Media. (AST = Atlantic Standard Time is the same time zone as "Eastern Caribbean Time")

Information Includes

(1) Name, Date and Time of Fix.

(2) Location (relative distance from prominent place).

(3) Coordinates (latitude and longitude).

(4) Maximum winds.

(5) Movement (direction and speed).

(6) Forecast position.

(7) Precautionary information.

(8) Time of next issuance.

TYPES OF ADVISORIES

Tropical Depression Advisory

Provides information on the development and threat of a Tropical Depression which becomes a threat to land. The system is not named unless it is a Hurricane or Tropical Storm which has been down-graded to a Tropical Depression.

Tropical Storm Advisory

Issued when the wind speed of a tropical cyclone reaches 39 mph (63 km/h) or higher. Tropical Storms are given names.

Hurricane Watch

Advisory issued for a particular area when conditions are favourable for the development of a hurricane. It does not necessarily mean that a hurricane is imminent.

Hurricane Warning

Issued when hurricane conditions are expected to affect a particular area within twenty-four (24) hours.

OTHER WARNING SYSTEMS

Many warning systems are determined by individual countries and may include the following:

- Ringing of Church Bells
- Hoisting of Hurricane Flags
- Sounding of Sirens

PRECAUTIONARY MEASURES

Before the Season

- Ensure that roofs and foundations are secure.
- Ensure that windows and doors are in order.
- Construct wooden shutters to protect windows and doors.
- Protect property against termites.
- Trim trees.
- Purchase or check Insurance Policy.
- Secure emergency supplies and equipment.
- Establish contact with local disaster organisation.
- Learn First Aid and Survival techniques.
- Establish and review family plan and identify nearest shelter.

On Hearing Advisory

Continue normal activities but stay tuned to radio and television for further messages.

On Hurricane Watch

Review emergency preparedness requirements, especially family emergency plans.

Continue to listen to weather advisories on radio.

Be ready to take quick action in case of a Warning.

Establish contact points.

On Hurricane Warning

- Stay tuned to the radio for information.
- Protect property and personal possessions.
- Place indoors, loose objects found in and around the yard.
- Fill up car with gasoline.
- Pick fruit and trim trees if near house.
- Store water, food and essential medicines.
- Feed animals and pets and move indoors or loose.
- Know where you are going to shelter.

After the Hurricane

- Assist in search and rescue.
- Seek medical attention for persons injured.
- Clean up debris and effect temporary repairs.
- Report damage to utilities.
- Assist in road clearance.
- Watch out for secondary hazards, fire, flooding
- Assist in community response efforts.
- Avoid sightseeing.
- Co-operate with Damage Assessors.

Note: **Additional precautions will be available from the local National Disaster Office**

PREVENTION AND MITIGATION MEASURES

Risk Assessment

The evaluation of risks of tropical cyclones should be undertaken and illustrated in a hazard map. The following information may be used to estimate the probability of cyclones which may strike a country.

1. Analysis of climatological records to determine how often cyclones have struck , their intensity and locations.
2. History of winds speeds, frequencies of flooding, height location or storm surges.
3. Information about 50-100 years cyclone activity.

Land use Control

This is designed to control land use so that the least critical facilities can be placed in most vulnerable areas. Policies regarding future development may regulate land use and enforce building codes for areas vulnerable to the effects of tropical cyclones.

e.g: ***In coastal areas, regulation can stipulate maximum building heights, types of land use and occupant density. Another option includes the purchase of vulnerable areas by government for use of parks, sports facilities and open grazing land.***

Flood Plain Management

A master plan for flood plain management should be developed to protect critical assets from flash, riverain and coastal flooding.

Reducing Vulnerability of Structures and Infrastructures

- New buildings should be designed to be wind and water resistant. Design standards are usually contained in Building codes.
- Communication and utility lines should be located away from the coastal area or installed underground.
- Improvement of building sites by raising the ground level to protect against flood and storm surges.
- Protective river embankments, levees and coastal dikes should be regularly inspected for breaches due erosion and opportunities taken to plant mangroves to reduce breaking wave energy.
- Improved vegetation cover. This helps to reduce the impact of soil erosion and landslides and facilitates the absorption of rainfall to reduce flooding.

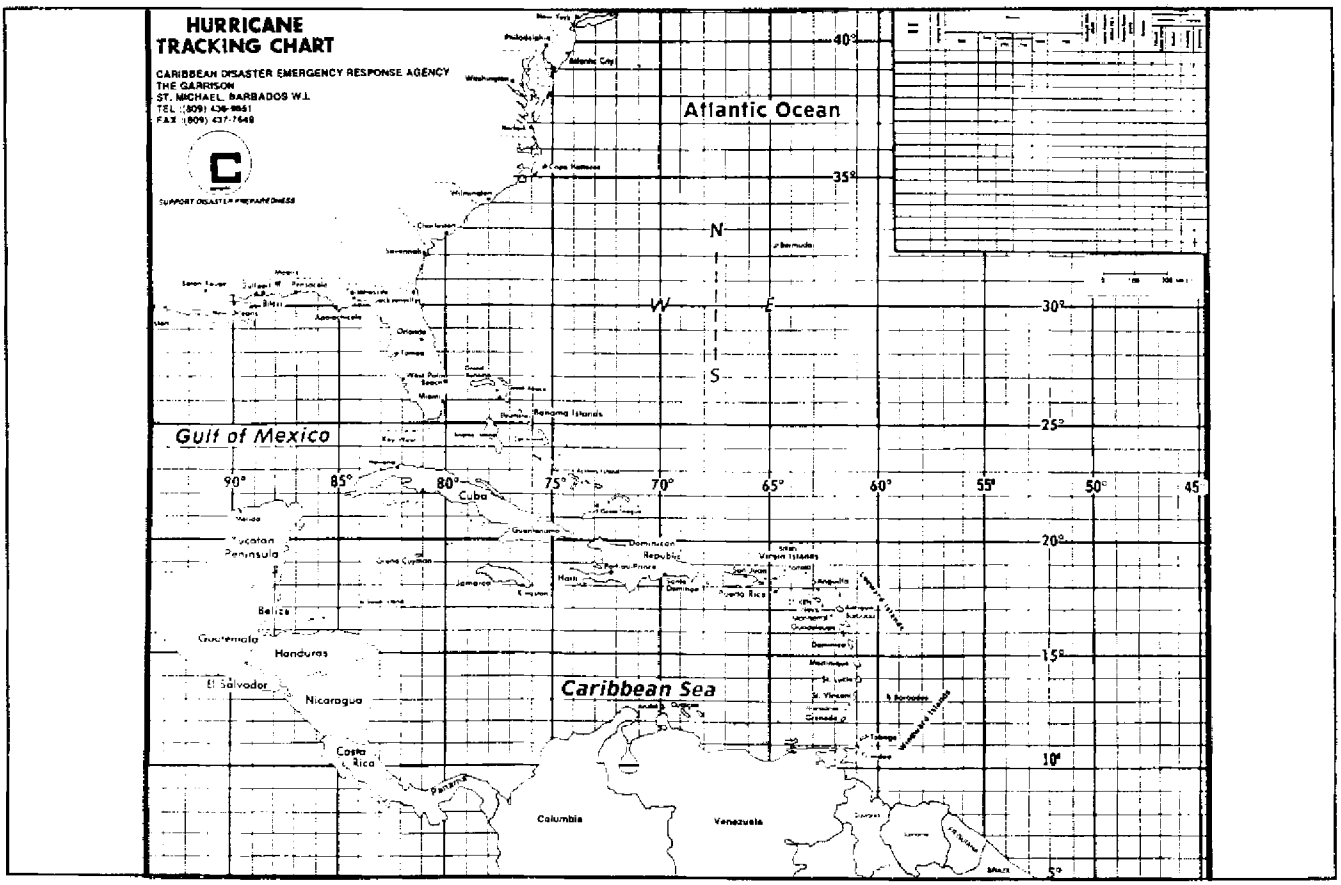
HOW TO TRACK A HURRICANE

Advisories are numbered consecutively for each storm, and describe the present and forecast position and intensity of the storm. Tropical cyclone advisories are issued at six (6) hour intervals i.e at midnight, 6 am and 6 pm Eastern Daylight time. Bulletins provide additional information. Each message gives the name, eye position, intensity and forecast movement of the tropical cyclone. (Eastern Daylight Time is the time in the Eastern US during the summer months. It is the same as AST)

Hurricane eye positions are given by latitude (for example, 13.2 degrees North) and longitude (for example, 57.8 degrees West), to the nearest one-tenth of one degree. When the storm moves within range of the radar fence eye position may also be given as statute miles and compass direction from a specified point.

When you receive a tropical cyclone advisory, note the advisory number, eye position, intensity, and forecast direction of movement. Then mark the eye position on the tracking chart. Because hurricanes change direction very quickly, you should concentrate more on where the storm will go than where it has been.

Source: Office of Disaster Preparednesss, Tortola, British Virgin Islands



Hurricane Tracking Map

GLOSSARY

ESTIMATED MAXIMUM SUSTAINED WIND SPEED - estimated maximum surface wind speed averaged over one minute. Wind gusts should be considered to be higher by 10 to 25 per cent.

EYE OF A HURRICANE is the relatively calm region at its centre. The minimum pressure is attained in that area and it is lightly clouded or cloud free.

EYE WALL is the boundary of the eye, usually 10 to 20 nautical miles from the centre of the eye. The highest wind speeds and heaviest rainfall associated with the cyclone are found in the Eye Wall.

FLASH FLOOD WARNING is issued when sudden, very heavy or violent rainfall is expected to cause flooding in a short time.

FLOODING is an overflowing of water usually over a relatively flat land surface.

FLOOD WARNING is issued when rainfall is sufficient to cause flooding.

GUSTS are sudden increases in the wind speed registering ten units or more above the average.

HURRICANE is a tropical cyclone in which the maximum average wind speed is 74 mph or greater. Before becoming a hurricane, a system goes through the Tropical Depression stage and the Tropical Storm stage when it is given a name. All hurricanes go through those stages, but not all systems become hurricanes. Hurricanes are subdivided into five categories from 1 to 5 with Category 5 being the strongest and most destructive.

HURRICANE WARNING is issued for an area when hurricane conditions are expected to affect that area in 24 hours or less. Average winds of 74 mph or higher and/or dangerously-high water are expected. A warning may also be issued if a combination of dangerously-high water and exceptionally high waves in the absence of hurricane force winds are expected.

ITCZ or the Inter Tropical Convergency Zone is a narrow east-west band of deep convection and heavy precipitation near the equator.

LANDFALL is the general vicinity along the coast where the eye passes. Areas affected by the tropical cyclone can reach 200 nautical miles or more many hours before landfall.

SMALL CRAFT ADVISORY is issued when weather conditions make small craft operations marginally safe. This advisory is issued for moderate sea conditions, winds of 20 mph or low visibility due to haze.

SMALL CRAFT WARNING is issued when conditions are unsafe for small craft operations. Small craft warnings are issued for tropical depressions, storms, hurricanes, tornadoes and rough seas.

STORM SURGE is the difference between the resultant tide due to the influence of a weather disturbance (i.e. storm tide) and the tide which would have occurred in the absence of a weather disturbance (i.e. astronomical tide). Storm surge results from the combined effects of low barometric pressure and water moved shore ward by wind stress. Wind stress is the dominant factor in a Storm Surge.

STORM WARNING is issued for an area when tropical storm conditions are expected to affect that area in 24 hours or less.

STRONGEST WINDS are found in the eye-wall, the area surrounding the eye of the hurricane.

TROPICAL CYCLONE is the general term used for all anti-clockwise (cyclonic) circulations originating over tropical waters.

TROPICAL DISTURBANCE is an area of organised convection in the lower atmosphere which may or may not be associated with a surface low pressure system and which has maintained its identity for at least 24 hours. A disturbance can be classified as a wave, depression, storm or hurricane.

TROPICAL DEPRESSION is a tropical cyclone in which the maximum average surface wind is 38 mph or less.

TROPICAL STORM is a well organised tropical cyclone in which the maximum average surface wind is in the range of 39 - 73 mph inclusive.

TROPICAL WAVE is a low pressure trough or a weak low pressure circulation in the trade wind easterlies.

Photograph showing the effects of a hurricane