

COMMUNITY Disaster Preparedness GUIDE



"It is better to prepare and prevent, rather than repair and repent." S. Thomas 1856



Protecting Your Home

Advice for the Elderly



What Damage You Can Expect

Protecting your Business



Recovering from a Disaster

Disaster Supplies Kit



Tips for Hoteliers

Emergency Sheltering

COMMUNITY
**Disaster
Preparedness**
H A N D B O O K



Department of Disaster Management
#3 Wailing Road, MacNamara
VG1110 Tortola, Virgin Islands

Tel.: 284-468-4200 Fax: 284-494-2024
Email: bviddm@surfbvi.com
Website: www.bviddm.com

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Message from the Director, Department of Disaster Management

Dear Community Member,

This Handbook has been compiled by the Community Preparedness Programme of the Department of Disaster Management to provide you with practical information on how to best prepare and recover from the effects of disaster events which may affect the BVI Territory. It includes hazard-specific safety tips and information on personal and family preparedness and protection.

It is designed to provide a guide on Disaster Preparedness for all residents of the BVI and, as such, we encourage you to be familiar with it as disasters can occur at any time. Being prepared and knowing what to do can help reduce fear, anxiety and losses that accompany these events.

We should all know how to prepare for and respond to emergencies or disasters that may occur in our community, where national emergency shelters are located, and be ready to be self-sufficient after an event, until official assistance arrives.

Disasters affect everyone, they do not discriminate, therefore "It is better to prepare and prevent than to repair and repent" (S. Thomas, 1856)

Sincerely,



Sharleen S. DaBreo



Acknowledgments

Researched and Compiled by: Robert N. Harewood, Sharleen DaBreo & Zebalon McLean

Edited by: Sharleen DaBreo, Zebalon McLean & Joyce Thomas

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References: Are You Ready? Guide to Citizens
Community Emergency Plan, National Emergency Commission
American Red Cross
www.fema.gov
BVI National Disaster Plan
BVI National Integrated Development Plan



Emergency Contact Numbers

Police	999/911
Fire	999/911
Ambulance	999/911
VISAR (Virgin Islands Search & Rescue)	494-4357/6613
DDM (Department of Disaster Management)	468-4200
Virgin Islands Shipping Registry	468-2902 Ext 2902, 2903
BVI Red Cross	494-6349
Conservation & Fisheries Department	494-3429
Environmental Health Division	468-3701 Ext 4954, 5110

Personal Contact Numbers

Doctor _____

School _____

Insurance _____

Land Based Emergency Shelters in the BVI (2011 Official List)

PRIMARY SHELTERS	LOCATION
Methodist Church Hall	Road Town
St. Georges Anglican Church Hall	Road Town
Long Trench Community Center	Long Trench
West End Community Center	West End
Brewer's Bay Community Center	Brewer's Bay
East End Long Community Center	Old Plantation/Long Look
Emile Dunlop Community Center	Anegada Primary
St. Ursula's Catholic Community Center	The Valley
SECONDARY SHELTERS	LOCATION
Agape Total Life Center	Anderson Estate
Seventh-day Adventist Church	Road Town
New Testament Church	Purcell
Church of God of Prophecy	Hope Hill
Mount Carmel Baptist Church	West End
Methodist Church	Carrot Bay
Cane Garden Bay Baptist Church	Cane Garden Bay
Enis Adams Primary School	Meyers
Agape Total Life Center	Brewers Bay/Meyers
Methodist Church Hall	Long Look
Upper Room Victory Church	Little Dix Hill
Sea Cow's Bay Community Center	Sea Cow's Bay
Seventh-day Adventist School	Sea Cow's Bay
Methodist Church	Anegada
St. Mary's Church Hall	The Valley
Ashford Waters Community Center	The Valley
Methodist Church	North Sound
Robinson O'Neal Secondary School	North Sound
Church of God of Holiness	North Sound
Jost Van Dyke Primary School	Jost Van Dyke
TERTIARY SHELTERS	LOCATION
Leonara Delville Primary School	Apple Bay/Capoons Bay
Willard Wheatley Primary School	East End
Church of God of Prophecy	East End

1.0 Introduction

When Disasters strike an unprepared community, the damage can be incredible. Ironically, many communities, including within the BVI, are often not prepared because disasters do not happen often. With no sense of immediate need, Community Preparedness is rarely a priority. However, vulnerability reduction must continue, and communities must be made ready for disaster impacts. Historically, communities have allocated human, physical and financial resources quickly in order to meet urgent human needs. Putting these resources in place has naturally varied in their timing, effectiveness, efficiency and reliability, which are critical factors in the cost that is measured either in lives lost or property damaged and/or destroyed.

Community-based preparedness and planning allow us to manage the potential hazards following a disaster event. Individually, we can prepare our homes and families to get through those critical times. Communities can also plan to work together, through their Zonal Committees or example, to reduce injury, death and property damage. Community Preparedness will improve the ability of individuals and groups to reduce the effects of the hazard impact and manage their resources until assistance is available.

Post-disaster Studies have shown that groups perform better during disaster response with prior planning. They also show that organized community efforts may be more successful if integrated into the social and political processes of community associations, schools, workplaces, places of worship and other organizations.

Effective response needs comprehensive planning and coordination of all who will be involved, which includes the private sector, schools, volunteer groups and community organizations. Training and information can prepare individuals and groups to be crucial resources in their community, capable of performing many emergency functions needed during the immediate post-disaster period. This Handbook is designed to help communities and individuals prepare for and respond to hazards that affect the BVI.

The Handbook focuses on the physical hazards of disasters; however, there are some emotional aspects as well. Living through a major emergency or a disaster may cause fatigue, hyperactivity, anger and withdrawal. Children and seniors are especially vulnerable to these types of post-impact psychological effects.

The Handbook should be shared with every household and community. Being prepared for and aware of the risks of hazard events and taking steps to reduce them can eventually reduce their negative effects and/or resulting damage.

Becoming involved in community disaster management could greatly improve the preparedness and response capability of your community. One way to do this is to volunteer your services to your local Community or Zonal Committee. For more information on Zonal Committees, please contact the Department of Disaster Management.



1.1 Zones and Zonal Committees

The BVI Territories have been divided into ten (10) Zones for the efficient and effective management of their various communities. Each Zone is managed by a designated Zone Coordinator, and run by a Zonal Committee.

The Coordinator and his Committee is responsible for the management of all emergency activities at the Zonal level, with the overall goal of evaluating community resources and organizing response before the need to use them arises.

Each Zone is mandated to work closely with the National Disaster Management Council (NDMC) and should ideally assume roles and functions in all areas of disaster preparedness and response. Activities should not be restricted to hurricane preparedness alone; they should also develop procedures for other disaster situations or emergency conditions that may affect the territory or their particular Zone.

The objective of establishing Zones and Zonal Committees is to help reduce or minimize the loss of life and property in the Zone from the impact of natural or other hazards.

1.2 Terms Used in Disaster Management

Disaster – a situation resulting from an environmental phenomenon or human-induced conflict that produces stress, personal injury, physical damage, and economic disruption of great magnitude. It causes intense negative impacts on people, goods, services and/or the environment and exceeds the effective community's capability to respond to it. It is important to note that even though disasters are referred to by the event that caused them; a disaster is not the event itself. For example, an earthquake is a natural phenomenon; if it does not strike a populated area with weak buildings, it is not likely to be a disaster.

Disaster Management – is a collective term, encompassing all aspects for and responding to emergencies and disasters including both pre and post activities; the management of risk and consequences of an event.

Disaster Recovery – is the planned and coordinated process of supporting disaster affected communities in reconstruction of the environment, physical infrastructure and restoration of emotional, social, economic and physical welfare of the population.

Emergency – a period of time in which there is a clear and marked deterioration in the coping abilities of a group or community. Additionally, it is a situation in which coping abilities are only sustained by unusual initiatives by the group / community, or by external intervention.

Hazard – is a potential occurrence of a natural or man-made event/disaster that has negative consequences.

Risk – is the probability that a disaster will occur given the hazard and vulnerability.

Vulnerability – is the susceptibility of persons, structures or systems to be affected by a hazard.

Climate Change - Any change in global temperatures and precipitation over time due to natural variability or to human activity.

1.3 Disaster Preparedness

Why should we prepare for a disaster?

Disaster preparedness is everyone's business. There are many hazards which threaten our communities. When these hazards actually come into contact with us, they may affect our lives and the resources we have to deal with them, thereby causing emergency or disaster situations.

To know how to respond to a possible threat, the community needs to be organized and prepared with the correct information and tools to be effective.

Being prepared and knowing what to do can reduce fear and anxiety, thereby reducing losses that may result from a disaster event.

Therefore communities, families and individuals should know what to do in the event of a storm or hurricane, fire, earthquake, or flood. If they have to evacuate their homes, they should know where the nearest emergency shelter is located, and what items should be taken there.

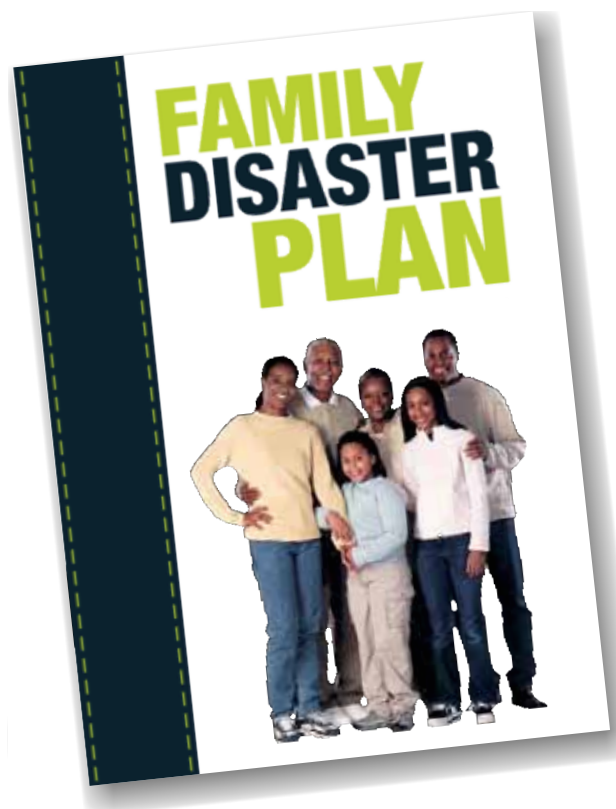
Emergency Planning & Disaster Supplies

Directly after an emergency, essential services may be cut off and local disaster relief and government responders may not be able to reach your community right away. As such, knowing what to do to protect yourself, your family and property is essential.

Each family should create a Disaster Plan.

Disaster Plan - Family

1. Know the natural or man-made hazards that could affect your community, and seek advice on how to best prepare for or mitigate these hazards. This information may be obtained from the Department of Disaster Management or your Zonal committee.
2. Talk to your household about potential hazards or emergencies, how they should respond to them, and what they would need to do if they had to evacuate.



3. Plan how your household would stay in contact with each other if separated. Identify two meeting places. One should be near your home in case of a fire, and the other should be away from home -at a neighbor or family member, in case you cannot return home.
4. Choose a friend or relative who lives outside of your area for family members to call and say they are okay.
5. Draw a floor plan of your home and mark-out escape routes from each room
6. Post emergency telephone numbers by the telephone and teach children how and when to use them
7. Make sure everyone in the household knows how to shut off gas, water and electricity at the main switches. Consult with your local utility companies if you have any questions.
8. Join a local Community Emergency Response Team (CERT) which is organized through Zonal Committees and the Department of Disaster Management. This would give you the necessary training in the basic requirements for identifying potential hazards and, if necessary, assisting in the response to hazards which may affect your community.
9. To reduce the economic impact of disasters on your household or property:
 - a. *Review property insurance policies regularly. Make sure they are current and meet your needs (type of coverage, amount of coverage, and hazard covered, e.g. flood, hurricane, earthquake).*
 - b. *Protect your household's financial well-being before disaster strikes - review life insurance policies, and consider saving money in an 'emergency' savings account that could be used in times of crisis. Also, always keep a small amount of cash available as ATMs and banks may not be available directly after a disaster.*
 - c. *Ensure that health insurance policies are current and meet your requirements.*
10. Also, include neighbors with special needs into your plan (the elderly and disabled, etc.)



Care of Children in Disasters

General Information

Children depend on daily routines: They wake up, eat breakfast, go to school and play with friends. When emergencies or disasters interrupt this routine, children may become anxious.

In a disaster, they'll look to you and other adults for help. How you react to an emergency gives them clues on how to act. If you react with alarm, a child may become more scared. They see our fear as proof that the danger is real. If you seem overcome with a sense of loss, a child may feel their losses more strongly.

Be aware that after a disaster, children are most afraid that--

- The event will happen again.
- Someone will be injured or killed.
- They will be separated from the family.
- They will be left alone.

Preparing Children

Teach your child how and when to call for help. Check the telephone directory for local emergency phone numbers and post these phone numbers by all telephones.



**911 Or 999
FOR FIRE, AMBULANCE, POLICE**

Even very young children can be taught how and when to call for emergency assistance.

Help your child memorize important family information. Children should memorize their family name, address, phone number and name of school and or/early childhood centre. They should also know where to meet in case of an emergency. Some children may not be old enough to memorize the information. They could carry a small index card that lists emergency information to give to an adult or babysitter.

After a disaster

Keep the family together. While you look for housing and assistance, you may want to leave your children with relatives or friends. Instead, keep the family together as much as possible and make children a part of what you are doing to get the family back on its feet. Children get anxious, and they'll worry that their parents/guardians won't return.

As the adult, we should walk in a manner that places us between the traffic and the child. As much as possible we should never expose our child to the dangers of moving traffic, and never place children in the front seat of vehicles (even outside emergency and disaster situations.)

Encourage children to talk. Let children talk about the disaster and ask questions as much as they want. Encourage children to describe what they're feeling. Listen to what they say. If possible, include the entire family in the discussion.

Cooking

Many families gather in the kitchen to spend time together, but it can be one of the most hazardous rooms in the house if you don't practice safe cooking behaviors.

What you can do:

1. Young children are at high risk of being burned by hot food and liquids. Keep children away from cooking areas by enforcing a "child-free zone" of 3 feet (1 meter) or more around the stove, microwave and bar-b-que.
2. When young children are present, use the stove's back burners whenever possible.
3. Never hold a child in your arms while cooking, drinking, or carrying hot foods or liquids.
4. Keep young children at least 3 feet (1 meter) away from any place where hot food or drink is being prepared or carried, such as around the microwave or bar-b-que. Keep hot foods and liquids away from table and counter edges.
5. Teach children that hot things can burn them.
6. When children are old enough, teach them to cook safely. Supervise them closely.
7. Use fire-resistant materials around stoves, microwaves and bar-b-ques.
8. Store fuels in proper containers, and keep them out of the reach of children and away from combustible materials.



Fire

Every child should be taught that matches and lighters are tools, not toys. Adults use these tools for specific purposes: lighting a stove, lighting a bar-b-que, lighting a candle, etc.

Being Prepared

1. In many fatal residential fires, no smoke alarms were present. Keep your family safe by installing a smoke alarm [75 decibels or higher] on every level of your home and inside and outside sleeping areas. Test smoke alarm batteries every month and change them at least once a year. In addition, make an escape plan with a common meeting place and call 911 once you are safely outside. Practice the escape plan with your family; plan a home fire drill on a regular basis.
2. Families can further reduce their risk of injury or death by also installing residential sprinkler systems.
3. Practice Fire Safety behaviors and know what to do in an emergency to give your family extra time to escape.

Disaster Supply Kit

One of the most important tools for emergency preparedness is the Disaster Supply Kit. Listed below are the most important items. Stock up today and replenish as necessary, especially at the beginning of the Hurricane Season (June 1):

- Two-weeks supply of prescription medicines.
- Two-weeks supply of non-perishable/special dietary foods.
- Drinking water in containers: 1 gal per person/per day for two weeks.
- Flashlights and batteries for each member of the family.
- Portable radio and (7 sets) batteries.
- First aid book and kit including bandages, antiseptic, tape, compresses, non-aspirin pain reliever, anti-diarrhea medication.
- Two coolers (one to keep food and one for ice).
- Plastic tarp for roof/window repair, screening, tools, nails, etc.
- Water purification kit (tablets, bleach, chlorine [plain] and iodine).
- Infant necessities (medicine, sterile water, diapers, ready formula, bottles).
- Clean-up supplies (mop, buckets, towels, disinfectant).



- Non-electric can opener and plastic trash bags.
- Toilet paper, paper towels and pre-moisturized towelettes.
- Fire extinguisher.
- Complete set of clothes, shoes, gloves, etc.
- Personal sanitary items.
- Important documents (stored in water-tight plastic bags).



Protecting your Animals

Pet owners are responsible for the protection of their pets during disaster events. If you plan to evacuate, plan for your pet as well. Pets are not allowed in public emergency shelters so it is advisable to make prior arrangements to shelter pets. If you go to friends or relatives, and if it is OK to take your pets take your Pet Survival Kit as well.

After the disaster event has passed, be careful in allowing your pets outside as familiar scents and landmarks may have been altered, causing your pets to become confused and lost. Also, downed power lines, damaged buildings and animals and insects brought with the disaster could also present real dangers to your pet. Take care not to allow your pet to consume food or water which may have become contaminated.

Farm Animals

1. Let livestock, such as cattle, sheep, goats, horses, & donkeys graze in an open field. Tying increases the chance of injury and death.
2. Switch off all electrical supply to pens, water pumps-etc.
3. Remove all loose material such as galvanized sheeting, ply boards, empty containers etc. These can turn into missiles and injure animals.
4. Ensure that roofs of poultry and pig pens are properly fastened.
5. Chickens in the backyard and other domestic birds must be placed in a safe cage or box.
6. Chemicals, fertilizers and other toxic materials should be stored in the safest sections of buildings. Chemical exposure can cause serious injuries to people as well as animals.
7. The safest and most humane course of action is to free all cows, horses, goats and sheep and let them find high ground on their own. In most cases, livestock will be able to save themselves as they instinctively seek out a safe area.

8. If your preparations for the hurricane are completed, offer assistance to other farmers, especially the elderly.
9. Ensure that your feed and water storage can last for at least 5 days for caged and penned animals.

Wildlife

1. Be cautious when approaching wild animals during emergency situations. Do not corner them. Wild animals will likely feel threatened and may endanger themselves by dashing off into floodwaters, fire, etc.
2. If wild animals are trapped or no natural food source is available, you can leave food appropriate to individual animals (i.e., animals could become trapped on an “island” after seeking high ground as floodwaters rise).
3. Wild animals such as snakes often seek refuge from floodwaters on upper levels of homes and have been known to remain after water recedes. If you encounter animals in this situation—open a window or other escape route and the animal will likely leave on its own. Do not attempt to capture or handle the animal. Should the animal stay, call the Department of Agriculture.
4. If you see an injured or stranded animal, do not approach or attempt to help. Call the Department of Agriculture.
5. Animal carcasses can present serious health risks if not managed.
6. Wild or stray domestic animals can pose a danger during or after many types of disaster. Remember, most animals are disoriented and displaced, too. Do not corner an animal. If an animal must be removed, contact your local animal control authorities.
7. If any animal bites you, seek immediate medical attention. If a snake bites you, try to accurately identify the type of snake so that, if poisonous, the correct anti-venom can be administered. Do not cut the wound or attempt to suck the venom out.
8. Rats may also be a problem during and after many types of disaster. Be sure to secure all food supplies and contact your local animal control authorities to remove any animal carcasses in the vicinity.

Pet Survival Kit

1. Proper ID collar and tag
2. Carrier or cage
3. Leash
4. Ample food supply (at least two weeks)
5. Water/food bowls
6. Any necessary medication(s)
7. Specific care instructions
8. Newspaper, cat litter, scoop, plastic trash bags for handling waste
9. Proper ID on all belongings
10. Non electric can opener
11. Make sure your pets have had all their shots within the past twelve (12) months



Tips for Hotel Operators

- Without creating panic, hoteliers should alert guests to the situation on an on-going basis once relevant bulletins are being received and keep them posted of developments and apprised of your establishment's disaster plans.
- If the situation deteriorates, consider suggesting their departure and assist those who wish to evacuate.
- Anyone staying should be briefed on shelter locations and procedures and provided with basic essentials (non-perishable food, hygiene articles, water, and bedding).
- Encourage guests to take responsibility for their own luggage and advise them of the dangers they may encounter during and after a hazard event like a flood, storm, earthquake, etc.
- Discuss with your insurance agent the extent of your coverage and ensure that it fits your requirements.
- Encourage your staff to understand the risk and the methods of preparedness and recovery available to them.
- Arrange training for your staff in First Aid and other disaster preparedness training through the DDM or BVI Red Cross. Encourage them to have a disaster kit available at home and train them in your business's preparation and recovery plans.
- Purchase materials early as stocks run low in the advent of a hazard. Ensure all electronic documents are suitably backed up and disks stored safely.
- Familiarize yourselves with the National Disaster Management Plan and disaster plans of the BVI Tourist Board.

Tips for Farmers

- Let livestock such as cattle, sheep, goats, horses and donkeys graze in an open field. Tying animals increase their chances of injury.
- Ensure that drains in the fields are cleared of debris. A clogged drain can flood your farm and destroy your crops.
- Empty all plastic water tanks and store them in a safe place.
- Switch off all electrical supply to pens, water pumps, etc.
- Remove all loose material such as galvanized sheeting, ply-boards, empty containers, etc. which can easily become missiles.
- Ensure that roofs of poultry and pigpens are properly fastened.
- Chickens and other domestic birds should be placed in a safe cage or box.
- Chemicals, fertilizers and other toxic materials should be stored in the safest sections of buildings, as chemical exposure can cause serious injury to people and animals alike.





Tips for Fishermen & Boaters

Before the onset of a Tropical Storm or Hurricane, it is very important for fishermen and boat owners to secure their boats and equipment. The following precautions should be followed:

1. Boat moorings, anchors, chains, cables and ropes should be kept in good condition and rechecked well in advance.
2. Monitor and listen to the radio for regular weather reports, warnings and Marine Notices.
3. Remove fish pots and gear out of the water at the first warning.
4. Remove boats from the water if you can, or take them to one of the approved Marine Shelters.
5. If possible, move boats on trailers close to house. Fill boat with water to weight it down. Lash the boat securely to the trailer and use tie-downs to secure the entire unit to the ground. Strip off and remove all loose or movable accessories, let the air out of your trailer tires, and tighten tie-downs.
6. Make sure that your boat or its moorings, anchors, etc. do not block or otherwise obstruct the navigable channel or other access into the mooring or anchorage. Leave room for late arriving boats.
7. Do not tie-up parallel to the bank or shoreline (receding tides may leave your boat stranded or cause it to capsize).
8. If possible, boats should be moored in a group (rafted). Bow lines must be secured, individually tied to trees, (never to mangroves), piling, or other strong points on land; allowing sufficient slack for rising tides. The stern too should be similarly secured above ground or with an anchor or other strong point on the sea bed. Boats assembled in groups must also be secured to adjacent boats with breast-lines and spring lines forward and aft. Fenders or cushions of car tires should be placed between the boats to absorb movement, impact, and friction.
9. Mooring lines and cables should be of sufficient strength and long enough to absorb any surge or excessively high tides. They must be protected against chafing.
10. Moor and secure your boat well in advance of the Tropical Storm or Hurricane; then, leave it and do not return to it until the storm has passed and the winds and seas have subsided.
11. Relatively large vessels may not fit into the listed marine shelters. Their operators should seek other places to safely secure their vessels which are comparable with the respective size and type of vessel, or put vessels to sea in due time to travel away from the storm or Hurricane to avoid it altogether.

For further information, please contact the Virgin Islands Shipping Registry at (284) 468-2902 or ext. 2902, 2903

2011 Official Marine Shelter List

LOCATION	DEPTH AT ENTRANCE	DEPTH AT BAY	MOORING TYPE	VESSELS ACCOMODATED
Sea Cow's Bay, Tortola	17 feet	4-6 feet	Anchoring (very muddy bottom)	40-100 feet LOA
Trellis Bay, Beef Island	12 feet	8-10 feet	Private moorings and anchoring closest to shore	60 feet LOA
Hodges Creek, Tortola	10-12 feet	12-18 feet	Anchoring or private mooring	Up to 50 feet LOA
Great Harbour Jost Van Dyke	50 feet	30 feet	Anchoring and private Moorings in the harbor	40-45 feet LOA
Little Harbour, Jost Van Dyke	60 feet	30 -35 feet	Anchoring and private Moorings	Small vessels and large vessels up to 150 feet
The Bight, Norman Island	50 feet	15-50 feet	Anchoring and Private Mooring	30-100 feet pleasure and fishing vessels
Beef Island Creek	3-5 feet	5-6 feet	Anchors (with caution)	Small vessels up to 35 feet
Sopers Hole, Tortola	70-80 feet	3 feet	Anchoring and private moorings are located in the harbor	Small vessels and large vessels over 150 feet
Gorda Sound, Virgin Gorda	12-18 feet	30-65 feet	Anchoring and private Moorings	
Paraquita Bay Lagoon	9-11 feet	6 feet	Moorings and anchors	Allotted spaces for fishing vessels, 3 spaces for HLSCC and 2 spaces for Port Authority



Protecting Your Business

Use the following checklist to prepare a Business Disaster Recovery Plan:

Know Your Risk

Have your building/s inspected by a licensed professional to find out if your workplace is vulnerable to the various hazards which may affect the BVI, and request recommendations for retrofitting if necessary.

Take The Necessary Precautions

- If a storm threatens, secure your building.
- Cover windows.
- Cover and move equipment/furniture to a secure area.
- Always protect your data with backup files.
- If dependent on data processing, consider keeping backups at an alternative site (an "off-site" location).
- Make provisions for alternative communications and power.
- Make plans to resume work with limited resources (water/power).
- Store emergency supplies at the office.

Protect Your Employees

- Employee safety comes first!
- Prepare, distribute and exercise your Business Continuity Plan.
- Consider providing shelter to employees and their families, and helping them with supplies after a disaster event.
- Establish a rendezvous point for employees in the event of a building or office evacuation.
- Establish a call-down procedure for warning and post-storm communications.
- Provide photo IDs to staff.

Contact Your Customer & Suppliers

- Share your Business Continuity Plan in Advance.
- Prepare a list of vendors to provide disaster recovery services.



1.4 Disaster Preparedness for People With Disabilities

General Information

Many people will have a disability, either short-term or permanent, that will limit their ability to move around.

Disabilities manifest themselves in varying degrees. Everyone needs to have a plan to be able to evacuate a building, regardless of his or her physical condition. When preparing for a disaster, we must consider carefully all aspects and categories of disabilities.

The Five General Categories of Disabilities

- Mobility Impairments
- Visual Impairments
- Hearing Impairments
- Speech Impairments
- Cognitive Impairments

Advice For Persons with Disabilities

- If you are in a wheelchair when the earthquake begins, lock your wheels.
- Keep your service animals with you in a safe place at home, or take them with you to a shelter. (SERVICE ANIMALS ARE THE ONLY ANIMALS ALLOWED IN A SHELTER)
- If you are taking your service animal to an Emergency Shelter, remember, these places, cannot care for your animal. Do not forget to take a collar, harness, identification tags, records of vaccinations, medications, and food for your service animal with you.
- Install at least one smoke detector on each level of your home, outside sleeping areas. Install a system with flashing strobe lights for the hearing impaired. Replace batteries in detectors at least once a year, such as on your birthday, New Year's Day, or an easily remembered day. Test smoke detectors once a month by pushing the test button.
- Find the location of and learn how and when to disconnect main utility cutoff valves and switches in your home during an emergency. Try to do this yourself, or arrange for help.
- When traveling, know the types of disasters that threaten the area you will be visiting. Let the hotel or motel front desk know of your possible needs in case of an emergency. Describe the type of help you may need. Inform friends, family and/or your network members of your travel plans, when you will leave and when you will return.



Home Health Care and Home Bound Patients

Build a support team of people who are usually in the same area as you, and can help you in an emergency if necessary. The real first responders in an emergency are often your neighbors, friends and co-workers.

Build support teams with many people at every place where you spend a large part of your day: at work, home, school, or volunteer site. This is especially important when it is hard to predict who will be where you are at any given time.

Practice with different people to figure out who will best be able to help you. Look for people with the following qualities:

- Strong,
- Calm,
- Listens well,
- Communicates clearly,
- Can guide you safely, and
- Attends to important details.

Work with people who are dependable and have the physical and emotional ability to assist you reliably.

Buddy Systems and Attendants: Do Not Rely on One Person

Do not depend on any one person.

If you rely on personal assistance services (attendants), they may also not be available when you need them. Therefore, it is important that your support team include other people.

Plan Multiple Ways to Give and Get Information

Different communication systems work differently. In an emergency, some may work when others fail. The more systems you have available to you, the more likely it is that you will be able to contact other people. Means of communications include:

1. E-mail
2. Internet
3. Pagers
4. Text messaging
5. A standard phone that does not need electricity (most new phones, including cordless ones, need to be plugged into an electrical outlet)
6. Cell phone
7. Low cost two -way radios
8. Ham radio

Master the Skill of Giving Quick Information on How Best to Help You

Sometimes you have to build a support team on the spot. Think about what you will need, how you want it done and what kind of people you want to work with if you have a choice.

Be ready to give people who may not know you clear, specific, concise information they need to be able to help you without causing injury. For example:

1. "Connect the battery by the window to my vent by following the instructions attached to the battery."
2. "Take my oxygen tank; right side of green bookcase. I can breathe without it for 15 minutes."
3. "Take my communication device from the table by the wall."
4. "Take my manual wheelchair."
5. "The traditional "Fire-fighter's Carry" is hazardous for me because of my respiratory condition. Carry me by ..."
6. "You have to carry me out; get an evacuation chair hanging at the top of 'Stairway Two' and I will tell you what to do next."

If communicating may be a problem, consider carrying preprinted messages with you, for example:

I cannot speak, but I do hear and understand. I use a communication device. I can point to simple pictures or key words. You will find a communication sheet in my wallet.

When walking with Blind Persons or frail persons, allow them to hold you by your elbow. This way, the Seeing Person or the guiding person leads, and the other person will follow.

Ten (10) Preparedness Steps for People With Disabilities

1. Know what kinds of **disasters** could happen in your area and consider what the **environment** might look like after one occurs. Certain resources or utilities may not be available and conditions could hamper your **independence**.
2. Complete a **personal assessment**. Decide what you will be able to do for yourself and what assistance you may need before, during and after a disaster (based on the disruption)
3. Create a **personal support network** of family, friends, relatives, neighbors, roommates and co-workers who could assist you at a moment's notice. Discuss your special needs with them, including evacuation plans and medical information lists.
4. Make an **emergency information list** so others will know whom to call if they find you unconscious, unable to speak or if they need to help you evacuate quickly. Include the names, and numbers of out-of-town contacts, as well as everyone in your network.
5. Compile a **medical information list** that contains the names and numbers of your doctors, your medications, dosage instructions, and any existing conditions. Make note of your adaptive equipment, allergies, and any communication difficulties you may have.

6. Keep at least a **seven-day supply of medications** on hand. Ask your doctor or pharmacist what you should do if you cannot immediately get more. If you undergo treatments administered by a clinic or hospital, ask your provider how to prepare for a disruption caused by a disaster.
7. Install at least one **smoke alarm** on each level of your home and test them once a month. Know the location of main **utility cutoff valves** and learn how and when to disconnect them during an emergency. Identify **evacuation routes** and **safe places** to go during a disaster.
8. Complete a **summary checklist** to make sure that your personal disaster plan is comprehensive. Be sure to include your medical needs, evacuation routes, care plans for your service animals, an alternative place to stay etc.
9. Keep a **disaster supply kit** in your home, car, and workplace or anywhere you may spend your time, include such items as food, water, a first aid kit, adaptive equipment, batteries, and supplies for your pets or service animals.
10. Make your **home or office** safer by checking hallways, stairwells, doorways, windows and other areas for hazards that may keep you from safely leaving a building during an emergency. Secure or remove furniture and objects that may block your path.

Assisting People With Disabilities In Disasters

People with disabilities who are self-sufficient under normal circumstances may have to rely on the help of others in a disaster.

Provide Assistance

- People with disabilities often need more time than others to make necessary preparations in an emergency.
- The needs of older people often are similar to those of persons with disabilities.
- Because disaster warnings are often given by audible means such as sirens and radio announcements, people who are deaf or hard of hearing may not receive early disaster warnings and emergency instructions. Be their source of emergency information as it comes over the radio or television.
- Some people who are blind or visually impaired, especially older people, may be extremely reluctant to leave familiar surroundings when the request for evacuation comes from a stranger.
- A *guide* dog could become confused or disoriented in a disaster. People who are blind or partially sighted may have to depend on others to lead them, as well as their dog, to safety during a disaster.
- People with impaired mobility are often concerned about being dropped when being lifted or carried. Find out the proper way to transfer or move someone in a wheelchair and what exit routes from buildings are best.
- Some people with mental retardation may be unable to understand the emergency and could become disoriented or confused about the proper way to react.

- Many respiratory illnesses can be aggravated by stress. In an emergency, oxygen and respiratory equipment may not be readily available.
- People with epilepsy, Parkinson's disease and other conditions often have very individualized medication regimes that cannot be interrupted without serious consequences. Some may be unable to communicate this information in an emergency.

Be ready to offer assistance if disaster strikes:

If a disaster warning is issued, check with neighbors or coworkers who are disabled. Offer assistance whenever possible.

Prepare an emergency plan.

Work with neighbors who are disabled to prepare an emergency response plan. Identify how you will contact each other and what action will be taken.

Evacuation

Be able to assist if an evacuation order is issued.

Provide physical assistance in leaving the home/office and transferring to a vehicle.

Provide transportation to a shelter. This may require a specialized vehicle designed to carry a wheelchair or other mobility equipment.

1.5 Evacuation

Although evacuations are not that common in the BVI, we should still prepare to evacuate if the need does arise.

If and when community evacuations become necessary, local officials will provide information to the public through the National Emergency Broadcast System (NEBS) via the media (television and radio) or in extreme circumstances, via a siren system.

To be prepared for an emergency, you should have enough water, food, clothing and emergency supplies to last at least three days.

The amount of time you have to evacuate will depend on the disaster. If the event can be monitored, like a hurricane, you might have a day or two to get ready. However, events such as flash floods and earthquakes do not allow any time for people to acquire even the most basic necessities, hence the need to prepare now.

Stay tuned to your local radio and television station for emergency broadcasts.



Planning For Evacuation

Ask the Department of Disaster Management or your local Zonal committee representatives about community evacuation plans. If you do not own a car, make transportation arrangements with family or friends.

Talk with your household about the possibility of evacuation. Plan where you would go if you had to leave the community. Determine how you would **get** there.

Plan a place to meet your household in case you are separated from one another in a disaster. Ask a friend outside your community to be the "checkpoint" so that everyone in the household can call that person to say they are safe.

Assemble a disaster supplies kit. Include a battery-powered radio, flashlight, extra batteries, food, water and clothing. See the ***Emergency Planning & Disaster Supplies*** section for a complete list (Page 12).

Keep fuel in your car if an evacuation seems likely. Gas stations may be closed during emergencies and unable to pump gas during power outages.

Know how to shut off your home's electricity, gas and water supplies at main switches and valves. Have the tools you would need to do this (usually adjustable pipe and crescent wrenches).

What To Do When You Are Told To Evacuate

If ordered to evacuate, you must do so immediately. Take note of those emergency shelters that have been declared open.

Listen to a battery-powered radio and follow given instructions. If the danger is a chemical release and you are instructed to evacuate immediately, gather your household and go. Take one car per household when evacuating. This will keep your household together and reduce traffic congestion and delay. In other cases, you may have time to follow these steps.

1. Gather water, food, clothing, emergency supplies, and insurance and financial records. See the ***Emergency Planning and Disaster Supplies*** section of this Handbook.
2. Wear sturdy shoes and clothing that provide some protection, such as long pants, long-sleeved shirts and a cap.
3. Secure your home. Close and lock all doors and windows. Unplug appliances.
4. Turn off the main water valve and electricity, if instructed to do so.
5. Let others know where you are going.
6. Leave early enough to avoid being trapped by severe weather.

7. Follow recommended evacuation routes. Do not take shortcuts; they may be blocked. Be alert for washed-out roads. Do not drive into flooded areas. Stay away from downed power lines.
8. Take your Disaster Supplies Kit with you!
9. Take important papers with you, including your driver's license, special medical information, insurance policies and property inventories.

1.6 Recovering From A Disaster

This section offers some general advice on steps to take, after disaster strikes, to begin putting your home, your community, and your life back to normal.

Health and Safety

Your first concern after a disaster is your household's health and safety.

1. Be aware of new or secondary hazards created by the disaster. watch for washed out roads, contaminated buildings, contaminated water, gas leaks, broken glass, damaged wires and slippery floors.³
2. Be aware of exhaustion. Don't try to do too much at once. Set priorities and pace yourself.
3. Drink plenty of clean water. Eat well and get enough rest.
4. Wear sturdy work boots and gloves.
5. Wash your hands thoroughly with soap and clean water often when working in debris.
6. Inform authorities about health and safety hazards, including chemical releases, downed power lines, washed out roads, smouldering insulation or dead animals.



Returning To A Damaged Home/Building

Returning to a damaged home can be both physically and mentally challenging. **Be very careful when re-entering your home/building.**

- Keep a battery-powered radio with you so you can listen for emergency updates.
- Wear sturdy work boots and gloves.
- Before going inside, walk carefully around the outside of your home and check for loose power lines, gas leaks and structural damage. If you smell gas, do not enter the home - leave immediately. Do not enter if floodwaters remain around the building. If you have any doubts about safety, have your home inspected by a professional before entering.
- If your home was damaged by fire, do not enter until authorities say it is safe.
- Check for cracks in the roof and foundation. If it looks like the building may collapse, leave immediately.
- A battery-powered flashlight is the best source of light for inspecting a damaged home. **CAUTION:** The flashlight should be turned on outside before entering a damaged home as the battery may produce a spark that could ignite leaking gas, if present,
- Do not use oil, gas lanterns, or candles for lighting inside a damaged home. Leaking gas or other flammable materials may be present. Do not smoke. Do not turn on the lights until you're sure they're safe to use.
- Enter the home carefully and check for damage. Be aware of loose boards and slippery floors.
- Watch out for dangerous insects. Use a stick to poke through debris.
- If you smell gas or hear a hissing or blowing sound, open a window and leave immediately. Turn off the main gas valve from the outside, if you can. Call for immediate assistance – **DO NOT USE A CELLPHONE** in the vicinity of a gas leak. If you shut off the gas supply at the main valve, you may need a professional to turn it back on.
- Check the electrical system where visible and accessible. If you see sparks, broken or frayed wires, or if you smell hot insulation, turn off the electricity or the main fuse box or circuit breaker. If, however, you are wet, standing in water, or unsure of your safety, do not touch anything electrical. Leave the building and seek assistance from BVI Electricity Corporation.
- Check appliances. If appliances are wet, turn-off the electricity at the main fuse box or circuit breaker. Unplug appliances and let them dry out. Have appliances checked by a professional before using them again. Also have the electrical system checked by an electrician before turning the power back on.
- Check the water and sewerage systems. If pipes are damaged, turn-off the main water valve.
- Clean and disinfect everything that got wet. Mud left behind by floodwaters can contain sewerage and chemicals.
- Check with local authorities before using any water; it could be contaminated. Cisterns should be pumped out and the water tested by authorities before using.
- Throw out fresh food, cosmetics, and medicines that have come into contact with floodwaters.
- Check refrigerated food for spoilage; your power supply may have been disrupted during the emergency. Throw out all spoiled food and any food that you suspect might be spoiled.
- Call your insurance agent. Take pictures of damage. Keep good records of repair and cleaning costs.

Disaster Assistance

Throughout the recovery period, it's important to monitor local radio or television reports and other media sources for information about how to get emergency housing, food, first aid, clothing and financial assistance.

Creating policies to direct assistance to individuals and families after a disaster event is the responsibility of the Welfare & Relief Distribution Sub-Committee of the National Disaster Management Council. Other voluntary organizations, such as the BVI Red Cross and the Adventist Disaster Response Association (ADRA), may also provide food and supplies and assist cleanup efforts.

In addition, the Social Development Department may be available to help people in shelters or provide direct advice and assistance to families.

Disasters And Mental Health

How do People React?

Most people show signs of emotional stress as an immediate reaction to a disaster. Different people react differently and most recover spontaneously or with the help of others. Information on disasters and mental health can assist relief workers to identify and communicate better with affected persons and to be alert for abnormal behaviour. It can also assist in early treatment, thereby increasing chances of recovery.

Phases of Reactions

- (a) Pre-impact** - The period when a disaster is known to be impending. Behaviour patterns vary but may include:
 - Under activity
 - Refusal to prepare for disaster impact
 - Tendency to adopt an attitude that a disaster will not occur
 - Anxiety
- (b) Warning** - That period when a disaster is imminent and warnings are posted and announced. Some behaviour patterns may include:
 - Frantic search for information on what to do to evade the impact
 - Over acting, sometimes described as panic
 - Restlessness
 - Calmness
- (c) Impact** - The period during which the disaster event occurs. Some behaviour patterns are:
 - A large portion of the population may be stunned, but most recover quickly
 - A small portion show confusion, paralysis and anxiety
 - There is a hard core of survivors who retain their awareness, appraise the situation and decide on actions. This last group provides the leadership, helps relieve distress and organizes rescue services and communications.

(d) Recovery - Immediately after impact when individuals have had time to take stock of the situation. Some reactions are:

- Gradual return to awareness, recall and emotional expression
- Emotions of fear, anger, loss of trust, dependency, and anxiety
- Alternative periods of crying and laughing
- Child-like dependency
- Positive and immediate actions

People who survive a disaster are strongly motivated not only to repair the damage done, but to bring something positive out of the ruins.

How to Manage

Preparation is the key. Reactions to disaster are largely influenced by the psychological state of the individual before the disaster. The stability of the home, community and country is also a very important factor influencing the type of personal reaction. Preparation of the individual, long before disaster strikes, is the best form of boosting the mental state to cope with emergencies.

Measures Before Disasters

Provide as much information on disasters at the family level:

- Which hazards are likely to result in disasters?
- Possible effects.
- How to cope.
- Rehearsal of survival techniques.
- Family discussions of past disasters and their effects.
- Develop personal/family plan for dealing with disasters.
- Organize group training sessions to demonstrate to the individual that he/she is not alone in the impending danger

Treatment After Disasters

Relief workers, friends and family can assist the individuals by:

- Allowing rest for a few hours
- Establishing close personal contact
- Encouraging emotional expression and airings of experiences
- Catering to the need for affected persons to be given something; food, a blanket, clothing or simply a holding of hands.
- Organizing survivors into support groups for treatment, encouragement and activity in relief programs. Do not underestimate the power of prayer in a Caribbean Society.
- Explaining what has happened and the steps being taken
- Providing centralized treatment with other victims near disaster site. This helps individuals to feel part of a group and enhances recovery.

The Emotionally Wounded

People can be emotionally upset for long periods after disasters, and affected by such factors as:

- Seriousness of disaster
- Degree of disruption of personal connections
- Extent of disruption of pre-existing way of life

Responses to disfigurement, dismemberment or mutilation may also add reactions. Some reactions are relief, and reflecting a feeling of good fortune. This is soon replaced by a sense of exasperation, frustration or anger, especially in those losing family, property or belongings.

Managing the Emotionally Wounded

Management usually involves social, psychological and spiritual support with opportunities for expression, such as:

- Supportive relationships, which will allow feelings or anxiety to be tested
- Maintaining contact of individuals with their primary groups and other familiar links

Coping with the Disaster

You should be aware of the signs that a person needs help in coping with the stress of a disaster event.

1. Important things to remember when trying to understand a disaster event:
 - No one who sees a disaster is untouched by it
 - It is normal for persons to feel anxious about their own safety as well as that of their friends and family
 - Profound sadness, grief and anger are normal reactions to a disaster event
 - Acknowledging your feelings helps you to recover
 - Focusing on your strengths and abilities will also help you recover
 - We each have different ways of coping with stress after a disaster
2. Signs that adults may need crisis or stress management counseling:
 - Difficulty communicating thoughts
 - Difficulty sleeping
 - Difficulty maintaining balance
 - Easily frustrated
 - Increased use of drugs and/or alcohol
 - Very short/limited attention span
 - Poor work performance



- Headaches and/or stomach problems
- Tunnel vision and/or muffled hearing
- Colds or flu-like symptoms
- Disorientation or confusion
- Difficulty in concentrating
- Depression and/or sadness
- Feeling of hopelessness
- Mood-swings and crying easily
- Guilt and self-doubt

3. Some ways to ease disaster related stress:

- Talk with someone about your feelings even though it may be difficult - anger, sorrow, etc.
- Seek help from professional counselors who deal with post-disaster stress.
- Don't hold yourself responsible for the disaster event or get frustrated because you cannot directly assist in the recovery work.
- Stay active in your daily routine to help promote your own physical and emotional healing (e.g. healthy eating, exercise, rest, relaxation).
- Spend time with family and friends.

Children's Reactions to Disasters

Children show a remarkable resistance to disasters. Those affected, however, show temporary emotional upsets manifested by insomnia, clinging to parents, dependency and fear. After disasters, children usually fear:

- Recurrence, injury or death.
- Being separated from parents.
- Being left alone.

How to Cope

These steps can help:

- Keep the family together. Avoid leaving the child alone.
- Give assurance by word and deed.
- Listen to what a child says about his/her fears.
- Encourage the child to talk about his/her reactions to the disaster.
- Include children in cleaning up activities.
- Parents must control their own fears and seek professional help if:
 - Sleeping problem is prolonged.
 - Clinging behaviour does not diminish
 - Fears become worse.



For more information please contact the Mental Health Unit at: (284) 494-3472

1.7 Emergency Sheltering

One of the realities of emergencies and disasters of all kinds is that people may be forced to leave their homes; firstly, because of the threat of a hazard impact or secondly, their homes may have been destroyed or damaged extensively by the event.

Shelter is a basic human need. In addition to water, food, health and personal care, shelter is crucial to survival in an emergency or disaster. In addition to survival, good shelter promotes the maintenance of health and safeguards the population from the potential negative impacts of exposure to the physical environment. However, emergency shelters are not expected to become permanent homes for evacuated persons.

Shelters are structurally sound buildings, in safe locations that are designated in the planning stages of Disaster Management Programmes to house victims of an emergency or disaster and to provide for their immediate needs. The period of occupation at these facilities is usually a very brief one extending not more than a few days, but may be lengthened depending on the severity of impact on the affected community.

Sheltering in a national emergency shelter should be your last resort. Persons should always make prior arrangements to seek shelter at a family or friend first - it would be much more comfortable. However, if you have to evacuate to a public shelter, you should follow the guidelines below:

- Be aware of emergency shelters located in your area, this information can be had from you Zonal Committee or the Department of Disaster Management.
- Do not attempt to seek refuge in a shelter unless notified by authorities that it has been officially opened.
- Listen for evacuation advice and leave promptly when advised by authorities to do so.
- Recognize that a public shelter's primary function is to provide refuge, that is, a roof over your head. Food and blankets may not always be available.
- Pets, weapons, alcoholic beverages and narcotics will NOT be allowed in a shelter. Circumstances may also require a ban on cigarette or cigar smoking.
- If at all possible, make arrangements to stay with a friend. Wherever you go, take provisions with you. Remember you are not just a guest but also a shelteree. Help others in the shelter in any way you can.





Before you Leave

- Be sure your family is well fed before you take them to the home of a friend or to a public shelter.
- Fill as many containers as possible with water and store in the refrigerator. Fill bathtub and washing machine with water. (You may need this supply when you return.)
- Shut off water and electricity at their main switches. Do not touch any electrical equipment unless it is in a dry area or you are standing on a piece of dry wood with rubber footwear and gloves.
- Shut off valve of propane gas tank. Leave outside and anchor securely
- Lock windows and doors
- Bring pets inside if you remain at home
- Have plenty of newspaper for sanitary purposes. Feed pet's moist or canned food to preserve water.
- If you decide to evacuate, remember shelters will not take pets. If possible, arrange to leave your pets with a friend or release pet inside house. Do not leave any pet outside or tied up during a hurricane. Leave plenty of water. Remove toilet tank lid and raise toilet seat so pet can drink. Brace bathroom door to stay open.
- Take small valuables and the following important papers but travel light: Driver's License or other identification, bankbook/cards, insurance policies, property inventory and photos, device to convey special medical information. Shelter managers will not be responsible for the storage of valuable items.

When You Leave

Leave early, in daylight if possible.

- Avoid already flooded areas. Do not attempt to cross any stretch of floodwaters on foot if the water is above your knees
- Do not drive where water is over roads or under floodwaters, the road could already be washed away. The rising waters could lift your car and carry it away... and no one could do anything to help you.
- Drive carefully: do not travel farther than necessary. Roads may be jammed or blocked.
- Take extra precautions if you are told to evacuate at night. Night darkness hides the flood dangers. If you suddenly find yourself driving through floodwaters and your car stalls, get out immediately and climb to higher ground. A stranded auto could become a coffin.
- When you have found a safe refuge, stay put! Many people have lost their lives trying to go from one place to another,
- Register each member of your group as soon as you enter the shelter.
- If conflicts arise between shelter occupants, the shelter manager will decide the course of action.
- Remember "keeping the shelter facility clean and sanitary is everyone's job."

Items To Take To An Emergency Shelter:

- Pillows, blankets, sleeping bags or air mattresses.
- Extra clothing, shoes, eyeglasses, etc.
- Folding chairs, lawn chairs or cots.
- Personal hygiene items (toothpaste, toothbrush, deodorant, etc.).
- Quiet games, books, playing cards and favorite toys for children.
- Important papers (driver's license, special medical information, insurance policies and property inventories).
- Portable radio and batteries.
- Flashlights and batteries.
- A 24-hour supply of food (non-perishable can foods).



2.0 Natural Hazards Affecting The BVI

2.1 Floods

Floods are one of the most common hazards worldwide. More importantly are Flash Floods, which can develop very quickly - in just a few minutes.

What to do before a flood

1. Know the terms used to describe flooding:

Flood Watch - Flooding is possible. Stay tuned to the local radio or television station for information. Watches are issued 12 to 36 hours in advance of a possible flooding event.

Flash Flood Warning - A flash flood is impending. Seek higher ground on foot immediately.

2. Ask local officials whether your property is in a flood-prone or high-risk area. (Remember that floods often occur outside high-risk areas). Ask about official flood warning signals and what to do when you hear them. Also ask how you can protect your home from flooding.
3. Identify ghuts or natural run-offs in your area and determine whether they pose a hazard to you.
4. Be prepared to evacuate. Learn your community's flood evacuation routes and where to find high ground. See the 'evacuation' section for important information.
5. Talk to your household about flooding. Plan a place to meet your household in case you are separated from one another in a disaster and cannot return home. Choose a relative or friend that the family may contact to say they are okay.
6. Determine how you would care for household members who may live elsewhere but might need your help in a flood. Determine any special needs your neighbors might have.
7. Prepare to survive on your own for at least three days. Assemble a disaster supply kit. Keep a stock of food and extra drinking water. See the "Emergency Planning and Disaster Supplies" section for more information (page 12).
8. Know how to shut off electricity, gas and water at main switches and valves.
9. Consider purchasing flood insurance



10. Some options to consider protecting your property:
 - a. Make a record of your personal property. Take photographs or videotapes of your belongings. Store these documents in a safe place.
 - b. Keep insurance policies, deeds, property records and other important papers in a safe place away from your home.
 - c. Avoid building in a flood prone area unless you elevate and reinforce your home.
 - d. Elevate your water heater and electric panel to higher floors or levels if they are susceptible to flooding.
 - e. Call the Town & Country Department or the Department of Disaster Management office for more information.

What to do During a Flood

1. Be aware of flash floods. If there is any possibility of a flash flood, move immediately to higher ground. Do not wait for instructions to move.
2. Listen to radio or television stations for local information.
3. Be aware of ghuts or drainage channels and other areas known to flood suddenly, as flash floods can occur in these areas with little warning signs.
4. If local authorities issue a flood watch, prepare to evacuate:
 - Secure your home. If you have time, tie down or bring outdoor equipment and lawn furniture inside. Move essential items to the upper levels.
 - If instructed, turn off utilities at the main switches or valves. Disconnect electrical appliances. Do not touch electrical equipment if you are wet or standing in water.
 - Fill the bathtub or clean containers with water in case water becomes contaminated or services cut off. Before filling the tub, sterilize it with a diluted bleach solution.
5. Do not walk through moving water. Six inches of moving water can knock you off your feet. If you must walk in a flooded area, walk where the water is not moving. Use a stick to check the firmness of the ground in front of you.
6. Do not drive into flooded areas. Six inches of water will reach the bottom of most passenger cars causing loss of control and possible stalling. A foot of water will float many vehicles. Two feet of water will wash away almost all vehicles. If floodwaters rise around your car, abandon the car and move to higher ground. **IF** you can do so safely. You and your vehicle can be quickly swept away as floodwaters rise.
7. See the “Evacuation” Section (page 27) for important information.

What to do After a Flood

1. Avoid floodwaters. The water may be contaminated by oil, gasoline or raw sewerage. The water may also be electrically charged from downed power lines.
2. Stay away from downed power lines and report them to the power company.
3. Avoid moving water. Moving water only six inches deep can cause you to lose your footing.
4. Be aware of areas where floodwaters have receded. Roads may have weakened and could collapse under the weight of a car.
5. Stay away from designated disaster areas unless authorities ask for volunteers.
6. Return home only when authorities indicate it is safe. Stay out of buildings if surrounded by floodwaters. Use extreme caution when entering buildings. There may be hidden damage, particularly in foundations.
7. Consider your family's health and safety needs:
 - Wash hands frequently with soap and clean water if you come in contact with floodwaters.
 - Throw away food that has come in contact with floodwaters.
 - Listen for news reports to learn whether the community's water supply is safe to drink.
 - Listen to news reports for information about where to get assistance for housing, clothing and food.
 - Seek necessary medical care at the nearest medical facility.
8. Service damaged septic tanks, cesspools, pits and leaching systems as soon as possible. Damaged sewerage systems are a serious health hazard.
9. Also, drain and clean cisterns as they may also be contaminated.
10. Contact your insurance agent. If your policy covers your situation, an adjuster will be assigned to visit your home. To prepare:
 - Take photos of your belongings and your home or videotape them.
 - Separate damaged and undamaged items.
 - Locate your financial records.
 - Keep detailed records of cleanup costs.



2.2 Hurricanes

A hurricane is a severe tropical storm that forms in the Southern Atlantic Ocean, Caribbean Sea, and Gulf of Mexico or in the Eastern Pacific Ocean. For hurricanes to form, they need warm tropical oceans moisture and light winds above them. If the right conditions last long enough, a hurricane can produce violent winds, incredible waves, torrential rains and floods.

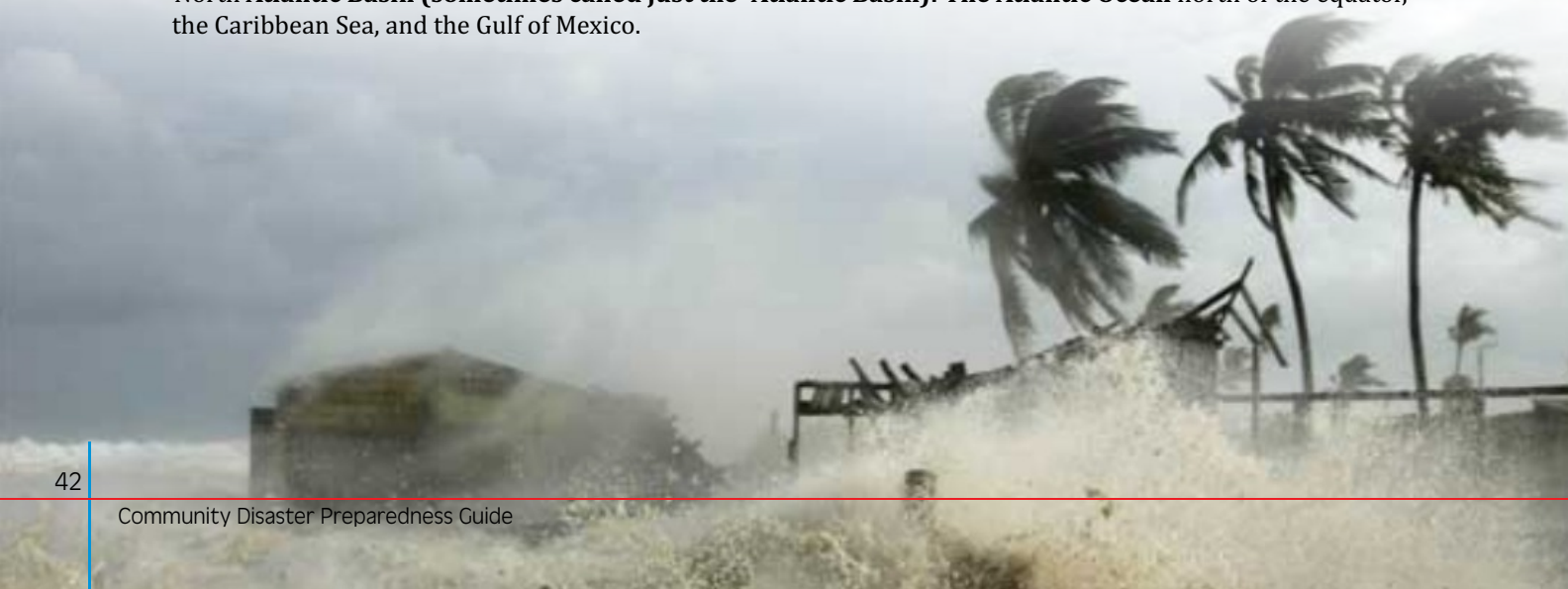
Hurricanes rotate in a counterclockwise direction around an "eye," with winds of at least 74 miles per hour. There are on average six (6) Atlantic hurricanes each year; over a 3-year period.

When hurricanes move inland, the heavy rain, strong winds and heavy waves can damage buildings, trees and cars. The heavy waves are called Storm Surge, which is very dangerous and a major reason why you **MUST** stay away from the ocean during a hurricane warning or hurricane.

HURRICANE GLOSSARY

- **Tropical storm:** Tropical cyclone with winds of 39 to 74 mph.
- **Tropical Wave:** A kink or bend in the normally straight flow of surface air in the tropics, which forms a low pressure trough, or pressure boundary, and showers and thunderstorms. Can develop into a tropical cyclone.
- **Tropical cyclone:** A low-pressure weather system in which the central core is warmer than the surrounding atmosphere. The term "tropical cyclone" is also used in the Indian Ocean and around the Coral Sea off northeastern Australia to describe storms called "hurricanes" and "typhoons" in other areas.
- **Tropical depression:** A tropical cyclone with maximum sustained winds near the surface of less than 39 mph.
- **Hurricane:** A tropical cyclone with winds of 74 mph or more. Normally applied to such storms in the Atlantic Basin and the Pacific Ocean east of the International Date Line.
- **Tropical Storm Alert:** Tropical storm conditions (34-73 mph) are expected within 48 hours.
- **Tropical Storm Watch:** Tropical storm conditions (34-73 mph) are expected within 36 hours.
- **Tropical Storm Warning:** Tropical storm conditions (34-73 mph) are expected within 24 hours.
- **Tropical Storm All Clear:** This means that the storm has left the area, but caution should prevail.

- **Hurricane Alert:** Hurricane conditions are possible (winds greater than 73 mph) within 48 hours.
- **Hurricane Watch:** Hurricane conditions are possible and may threaten land within 36 hours.
- **Hurricane Warning:** Hurricane winds conditions are expected to make land-fall within 24 hours.
- **Hurricane All Clear:** This means that the hurricane has left the area, but caution should prevail.
- **Storm surge:** The dome of water that builds up as a hurricane moves over water. As this water comes ashore with the storm, it causes flooding that is usually a hurricane's biggest killer.
- **Eye:** The low-pressure center of a tropical cyclone. Winds are normally calm and sometimes the sky clears.
- **Eye wall:** The ring of thunderstorms that surrounds a storm's eye. The heaviest rain, strongest winds and worst turbulence are normally in the eye wall.
- **Knot:** A measure of speed. It is one nautical mile per hour. Never refer to "knots per hour" unless you want to describe acceleration. A nautical mile is one minute of one degree of longitude and is slightly longer than the ordinary, or statute, mile used in the United States. To convert nautical miles to miles or knots to miles per hour, multiply by 1.15. To convert miles to nautical miles or miles per hour to knots, divide by 1.15.
- **Millibar:** A metric measurement of air pressure.
- **Barometric Pressure:** is defined as atmospheric pressure i.e. the force exerted on a surface of unit area caused by the weight of the air column above, normally at 1013.2 millibars at sea level. It indicates the presence and movement of weather patterns and affects many physical measurements.
- **North Atlantic Basin (sometimes called just the "Atlantic Basin):** The Atlantic Ocean north of the equator, the Caribbean Sea, and the Gulf of Mexico.



Things To Do At The Start Of The Hurricane Season

1. Check on these emergency items: water, boots, raincoats, flashlights and batteries, battery powered radio, battery-powered lamp, matches, hurricane shutters, etc.
2. Clear all limbs and rotten tree branches.
3. **DO NOT** attempt to cut branches or trees that may fall on the wires.
4. **DO NOT** pack refrigerator or freezer with lots of perishable foods.
5. Have on hand simple First-Aid supplies.
6. Stock up on 4-5 days supply of food that does not need cooking or refrigeration.
7. Open flame lamps and candles create a possible fire hazard. Use flashlights or battery powered lamps.
8. Be sure you have adequate insurance coverage.
9. Check your roof annually for loose screws or nails and damaged roof sheeting. Repair and replace according to the BVI Building Code.
10. For your Business - take the necessary precautions. If a storm threatens, secure your building. Cover windows and cover and move equipment/furniture to a secure area.
11. ALWAYS protect your data with backup files. If dependent on data processing, consider storage at an alternate site. Also, make provisions for alternate communications and power.

What To Do When A Hurricane Watch Is Given

STORM WARNING FLAG

- Listen for weather updates on the local radio and television stations. Don't trust rumours, and stay tuned to the latest information.
- Check your disaster supplies kit. Obtain any needed items.
- Refill prescriptions. Maintain at least a two-week supply during the hurricane season.
- Clear yard of potential flying debris. E.g. patio furniture, potted plants, bicycles and trash cans.
- Clean containers for drinking water and your bathtub for storing clean water. Plan on three gallons per person, per day for all uses.

- Protect your windows and glass doors. If shutters have not been installed, you may also use pre-cut plywood. NOTE: tape does not prevent windows from breaking, so taping windows is not recommended. See 'methods of window protection' section. (page 46)
- Fill your car's gas tank and check oil, water and tires. Remember that gas pumps don't operate without electricity.
- If you own a boat, secure it early. See section for Fisherman and Boaters on Page 20.
- Leave the swimming pool filled and super-chlorinated. (cover the filtration system)
- Get cash. Banks and ATM won't be in operation without electricity and few stores will be able to accept credit cards or personal checks.

When the Hurricane Warning is Given

- Listen to the advice of local officials, and leave if they tell you to do so
- Complete preparation activities. Make sure your windows are protected and home secured.
- If you are not advised to evacuate, stay indoors, and away from windows.
- Check your disaster supplies kit. Also make sure you have at least a two-week supply of non-perishable foods.
- During the storm, stay inside and away from windows, skylights and glass doors. Find a safe area in your home – an interior, reinforced room, closet or bathroom on the lower floor.
- Wait for official word that the danger is over. Don't be fooled by the storm's “eye”. Be aware that the “eye” of the hurricane is deceptive; is not over. The worst part of the hurricane occurs once the eye passes over and the winds blow from the opposite direction. Trees, shrubs, buildings and other objects damaged by the first winds can be further destroyed by the second winds.
- If you lose power, turn off major appliances to reduce the possibility of damage.
- Be alert for storm surges that may result in further damages to properties along the seashore.

Evacuation

See the “Evacuation” section of this handbook on Page 27.

Protect Your Home

There are some specific actions you should take to make your home safer. You may feel more comfortable with an experienced inspector, architect, engineer or contractor inspecting your home. Whatever choice you make, take time to do this and well before the storm.

To withstand the forces of wind and water associated with severe weather, there are three (3) major considerations: (1) roof bracing; (2) entry doors; and (3) window protection.

Roof

During a hurricane event, the force of the winds pushes against the outside of your home and is passed along from your roof to the exterior walls and foundation. The type of roof, and the way it is constructed, makes a big difference.

Install hurricane straps when your house is being built. It can be a somewhat tedious process if they are to be installed after the fact.

Check your roof annually for loose screws and nails and damaged roof sheeting. Repair and replace according to the BVI Building Code.

Entry doors

Entry doors are easily damaged by high winds. Bolt all doors with foot and head bolts with a minimum one-inch bolt throw length.

Windows

Protecting your windows is perhaps one of the most important factors in securing your home or office from total destruction in a hurricane or severe storm.

- Make sure all doors and windows are properly caulked and/or weather-stripped.
- Cover all large windows and glass doors with securely fastened, impact resistant shutters with proper mounting fixtures.

Methods of Window Protection Include:

- Plywood sheets (at least 5/8') are inexpensive but difficult to handle and install. They should be pre-measured, pre-drilled, labeled and sorted where they can be installed quickly.
- Shutters offer good window protection, but make sure they are strong enough to withstand air-borne debris. Steel panels are cost effective and tend to be easier to handle and store than plywood. Colonial and Bahamian style shutters offer convenience of minor preparation and no storage, "Roll down" shutter system offer protection with little maintenance: however, a motorized system is more expensive than the alternatives. Choose shutters that pass both the small and large missile impact tests especially on the 1st and 2nd floors,
- In addition to shutters, impact resistant window and security films, new products have been developed to protect your window and doors including impact resistant "screens" and flexible wind-abatement barriers.

When Building or Remodeling

1. When repairing your roof, check the decking. Make sure it is secure and nailed properly. Install roof covering that is rated for hurricane force winds.
2. When replacing windows or doors, consider installing hurricane shutters.
3. Building a new home? Consult with authorities on hurricane protection options.

Contact the Building Authority at the Public Works Department for assistance (284) 494-2722

Safety Tips and Precautions for Business Establishments

Use the following checklist to prepare a business Disaster Recovery Plan:

Know Your Risk

Have your building (s) inspected by a licensed professional to find out if your workplace is vulnerable to hurricane force winds and what is recommended to retrofit.

Take The Necessary Precautions

1. If a storm threatens, secure your building. Cover windows. Cover and move equipment/furniture to a secure area.
2. Always protect your data with backup files. If dependent on data processing, consider an alternative site. Make provisions for alternate communication power.
3. Make plans to work with limited cash and no water, sewerage facilities or power for two weeks. Store emergency supplies at the office.

Protect Your Employees

1. Employee safety comes first!
2. Prepare, distribute, and exercise your business hurricane plan for recovery. Consider providing shelter to employees and their families and helping employees with supplies after the storm. Establish a rendezvous point and time for employees in case damage is severe and communications are disrupted. Contact your customers and suppliers
3. Share your communication and recovery plan in advance. Prepare a list of vendors to provide disaster recovery services.

What Damage Can You Expect

To relate hurricane intensity to damage potential, the National Hurricane Centre uses the Saffir/Simpson Scale, which assigns storms to five categories—Category One being a minimum-strength hurricane and Category Five being the worst type.

After the Storm Passes

After a disaster, you may be without power, water, food or any of the services and businesses we rely on. Immediate response may not be possible, so residents must be prepared to be self-reliant for several weeks.

Re-Entry

- BE PATIENT. Access to affected areas will be controlled. You won't be able to return to your home until search and rescue operations are completed and safety hazards, such as downed trees and power lines, are cleared.
- Stay tuned to your local radio or TV station for advice and instructions about emergency medical aid, food and other forms of assistance.
- Have a picture ID on your person. Security operations may include checkpoints.
- Avoid driving. Roads will have debris, which can puncture your tires! Don't add to the congestion of supply and relief workers, law enforcement, etc.
- Don't sightsee, especially at night.
- Use caution before entering your business. Check for downed power lines, gas leaks and structural damage. If any electrical equipment is wet, contact an electrician.
- Prepare loss information for insurance claims and get independent estimates of damages.
- Take pictures before cleanup.
- Minimize additional damage.



For Your Safety

- 1. Avoid downed or dangling utility wires, especially when cutting or clearing fallen trees. Metal fences may have been "energized" by fallen wires.
- 2. Beware of snakes or insects driven to higher ground by floods.
- 3. Enter your home with caution. Open windows and doors to ventilate and dry your home.
- 4. If there has been flooding, have an electrician inspect your home or office before turning on the breaker.
- 5. Be careful with fire. Do not strike a match until you are sure there are no breaks in gas lines. Avoid candles. Use battery-operated flashlights and lanterns instead.
- 6. Keep grills outdoors in a well-ventilated area.
- 7. Use your telephone only for emergencies to keep lines open for emergency communications.

Category	Wind Speed	Damage Potential	Storm Surge
1 (Weak)	75-95 mph	Minimal damage to vegetation	4-5 feet
2 (Moderate)	96-110 mph	Moderate damage to houses	6-8 feet
3 (Strong)	111-130 mph	Damage to buildings	9 – 12 feet
4 (Very Strong)	131-155 mph	Extreme structural damage	13-18 feet
5 (Devastating)	> 155 mph	Catastrophic building failures	> 18 feet

Table 1: Hurricane Categories

Generators

In order to ensure that you have electric power after a disaster event, you should consider investing in a portable generator.

Generators can run appliances and fans. Sizes range from 750 watts which will run a fan and a light, up to 8000 watts which will practically run a house (except for the air conditioner). Refrigerators require 400-1000 watts. If you have lost power, don't connect a portable generator to building wiring unless the unit has been installed and inspected by a licensed electrician (this could injure or kill neighbours or electrical repair crews). Plug appliance, etc., directly into generator, place generator outdoors or in a well-ventilated area. Don't forget to check the oil every time you add fuel. Conserve fuel by alternating appliances. For example, refrigerators can be kept cool by supplying power eight hours a day.

Using a Generator

Follow the directions supplied with the generator. Under no circumstances should portable generators be used indoors, including inside a garage. Adequate ventilation is necessary and proper refueling practices, as described in the owner's manual, must be followed.

Be sure to let the generator cool down before refueling. Store fuel for the generator in an approved safety can. Use the type of fuel recommended in the instructions or on the label of the generator.

Repairs

- Make temporary repairs to correct safety hazards and minimize further damage. This may include covering holes in the roof, walls or windows and debris removal.
- Take photographs of all damage before repairs and try to keep receipts for insurance purposes.
- After assessing damage to your home, contact the Building Authority and the Town and Country Planning Department for information on required permits. Permits are always required for any kind of demolition or permanent repairs, reconstruction roofing, filling and other types of site development.

Do not dump in drainage canals, ditches or ghuts as this causes backups and overflows in the system

Water Purification

Whenever widespread flooding occurs, there is a potential for bacterial contamination. Bacteria, such as shigella and salmonella, can lead to life threatening dehydration for people and their pets if untreated by antibiotics. Disinfect any tap water you drink or use for cooking or cleaning. You must purify the tap water until officials notify you of its safety. Bring water to a rolling boil for 10 minutes or use chemicals (eight drops of chlorine bleach or iodine per gallon) or water purification tablets as directed. Let water sit at least 10 minutes before using. Water you saved in clean containers before the storm will be fine for 2-3 weeks. To be sure, add two drops of chlorine or iodine per gallon before drinking.



Advice For Senior Citizens

The elderly are especially vulnerable to disaster and emergency events. Those who live alone, or are without the support of family or friends, must take special precautions in the event of an emergency situation.

People who are frail or disabled (either mentally or physically) may need special assistance from family members, friends or social service agencies. Seniors, who are also caregivers, may require outside assistance. Excessive stress and anxiety can contribute to increased episodes of illness, particularly for persons with heart disease. If a senior person lives in a nursing home, the administrator should be contacted to learn about the disaster plan for that facility.

Care for Home-Bound Persons

1. Notify your care giver where you will be during a hurricane and when care can be re-established.
2. If you are homebound and under the care of a physician, and do not have a home care provider, contact your physician.
3. If you require respirators or other electric medical equipment, you should make prior medical arrangements with your physician. You should also register in advance with your local power company.
4. If you require oxygen, check with your supplier about emergency plans.
5. If you evacuate, remember to take medications, written instructions regarding your care, your walker, wheel chair, cane or special equipment along with your bedding and other disaster supplies.
6. If you will need assistance in evacuation, please contact the Department of Disaster Management.

2.3 Earthquakes & Tsunamis

Earthquakes

The Puerto/Virgin Islands region is located at the Northeastern corner of the Caribbean Plate (tectonic plate) where the North American Plate meets and slides past it, in a region known as the Puerto Trench (the deepest trench in the Atlantic Ocean) causing stress build-up and release. This movement is largely responsible for much of the frequent seismic activity or earthquakes occurring in and around the territory.

With this in mind, persons need to know what to do to prepare for these events.

In Preparing for Earthquake Events:

Have basic emergency supplies, including a portable radio and flashlight, plus the following:

- Water (2 qts. per person) and dried or canned foods (2 weeks' supply per person) and 2 weeks' supply of medications
- First Aid Kit and handbook
- Pipe or crescent wrenches (to turn off gas and water if necessary)
- Soap, toilet paper
- Smoke detectors, fire extinguisher/s
- Extra clothing, blankets and/or sleeping bags
- Personal items (including valid ID) and a large piece of plastic (for use as ground cover)



Avoid having bookshelves and file cabinets near doorways. If they fall and are heavy, they can block escape routes.

During An Earthquake, Keep Calm. Panic Kills!

1. Protect your head and face.
2. If you are in a wheelchair when the earthquake begins, lock your wheels.
3. If inside a building, stand in a strong doorway, or get under a sturdy desk, table or bed.
4. Avoid using elevators as power may fail. Elevator cables may also become tangled making the elevator unsafe.
5. Don't stand under or near to electrical poles or close to buildings from which debris may fall.
6. If you are in a store or shop, move away from display shelves containing bottles, cans, or other objects that may fall.

After A Major Earthquake, Stay Vigilante

1. Check for fires.
2. Turn on a transistor radio for emergency bulletins.
3. Stay away from landslide prone areas.
4. If you are indoors, get under a strong piece of furniture (desk or table) or into a doorway. Stay clear of windows and exterior doors.
5. If you are outside, get into the open, away from buildings and utility wires.
6. If you are in a car, stop, but stay inside. Do not stop on or under a bridge, tree, light posts or signs.

Hazards Caused By Earthquakes

Ground shaking, in itself, is not dangerous. However, the resulting damage to buildings and other structures and the risk of casualties from falling debris can make it extremely hazardous. Some of the earthquake effects that can be harmful to people are:

- Collapsing buildings, walls, bridges, falling furniture or objects, shattering glass windows and mirrors can cause injury to persons.
- Falling electrical lines, which can cause injury to people, damage buildings or cause fires.
- Ruptured gas lines and spillage of flammable substances, which can cause fires.
- Rock slides and or landslides on mountains and hillsides, which may cause damage to persons and property,
- Tsunamis: A sea wave or a series of waves that can be generated by an earthquake, which could devastate low-lying coastal areas.
- Liquefaction: When sediments with a high water content (e.g. Reclaimed lands) are subjected to prolonged shaking, they may become fluid (liquefy) thereby causing buildings and structures to sink.



Tsunamis

A tsunami (pronounced "too-nah-mee — Japanese for "great harbor wave") is an ocean wave or series of ocean waves caused by the abrupt disturbance of the ocean floor which displaces a large mass of water. Earthquakes, landslides, volcanic eruptions, explosions and even the impact of asteroids, meteorites or comets can generate tsunamis.

A tsunami can race across the ocean at speeds up to or greater than 500 miles (805 kilometers) an hour. In deep water, however, its waves are only a few feet high, but when they approach shorelines, they increase in energy and height.

Generally, before a Tsunami strikes, there is a giant vacuum effect, water is sucked from harbors and beaches and people may see the bare sea bottom. This happens because waves are made up of crests, or high points, and troughs, or dips between crests. When a trough hits land first, the water level drops drastically. Usually another wave blasts ashore about 15 minutes later, then another and another—this may continue to happen for two hours or more, from 5-90 minutes apart. Tsunamis can originate hundreds or even thousands of miles away from coastal areas.

Tsunamis are a potential hazard to the BVI as the last recorded tsunami (generated by an earthquake) to affect the Territory was on November 18, 1867.

Although faults around the Puerto Rico region have the potential of generating local tsunamis, earthquakes greater than magnitude 7.5 which occur beyond the Puerto Rico/Virgin Islands region waters also have the potential of generating tsunamis, which could reach and affect the Territory.

Areas of greatest risk are generally less than 50 feet above sea-level and one mile off the shoreline.

Tsunamis can devastate coastlines, causing widespread property damage and loss of life. They strip beaches of sand, uproot trees and other coastal vegetation and cause large-scale flooding. Most deaths from tsunamis are caused by drowning.

Know the Emergency Terms

Tsunami Warning—A Tsunami was or may have been generated, therefore people in the **WARNING AREA** are strongly advised to evacuate.

Tsunami Watch— A Tsunami may have been generated, but it has at least 2 hours travel time from the area in **WATCH STATUS**. Be prepared for possible evacuation.

Tsunami Advisory—An event has occurred which might generate a Tsunami. Stay tuned to the radio for more information.

Tsunami Facts

- Tsunamis are not "Tidal Waves" as they are not caused by or related to tides.
- They are generally triggered by a major earthquake under the ocean.
- Once created, they may propagate quickly from the point of creation (up to 435 mph).
- In the ocean, these waves may only be 0.5 metres high, but 50 to 60 miles wide.
- They may be so low and broad in the ocean that they may not be recognized by ships.
- The first wave to hit land is usually not the biggest. Other larger waves may follow in 15-minute to 1-hour intervals.
- As it enters coastal waters, its speed decreases and height increases.
- Coastal waters usually recedes first before the first tsunami strikes
- Damage is generally caused by the flow of water run-up and drawdown on the coastal area.
- They normally encounter land more like a quickly rising high tide than a big breaking wave.

What to do in the Event of a Tsunami

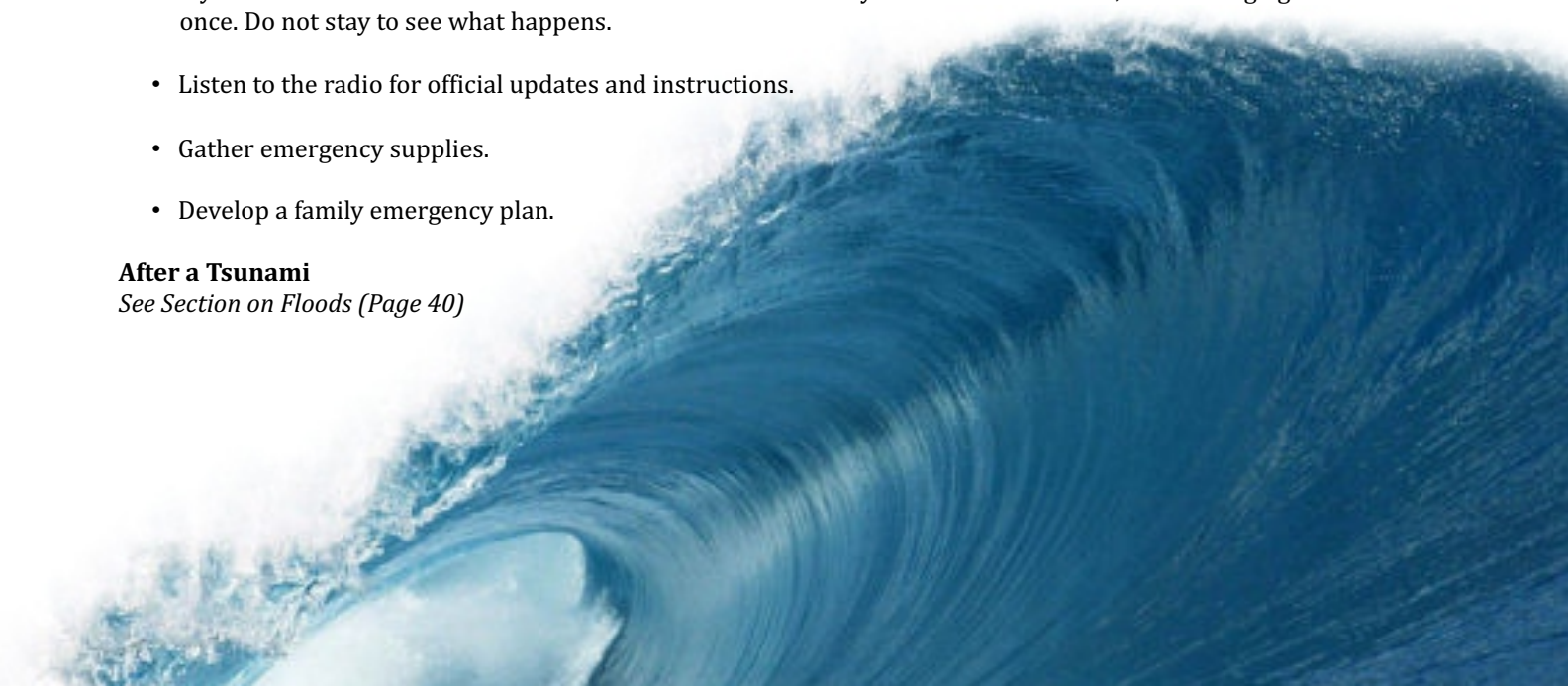
If a tsunami warning is given, never go to the beach to watch the wave come in because you will not live to tell the story! Remember that a tsunami is a series of waves and the first wave is not necessarily the biggest.

Before a Tsunami

- Find out if your home is in an area vulnerable to tsunamis. If you live in a low-lying area, familiarize yourself with the quickest way to retreat to high ground. Make sure all family members know the evacuation plan.
- If you are close to the sea and notice that the water recedes by an abnormal amount, move to high ground at once. Do not stay to see what happens.
- Listen to the radio for official updates and instructions.
- Gather emergency supplies.
- Develop a family emergency plan.

After a Tsunami

See Section on Floods (Page 40)





2.4 Extreme Heat and Droughts

Extreme Heat

This can occur during a period of very hot weather lasting several days but that can sometimes last much longer, during which temperatures average more than 38 degrees Centigrade.

There are certain groups that are particularly at risk during an Extreme Heat event. These include:

1. Older people, especially those over 65 years old and/or living on their own, or in a care home;
2. People suffering from mental ill health, those with dementia, and those who rely on help from other people to manage day to day activities;
3. People who are house/bed bound;
4. People taking certain types of medication; and
5. Babies and young children, especially those under four years old.

A Heat Advisory means that a period of hot temperatures is expected. The combination of hot temperatures and high humidity will combine to create a situation in which heat illnesses are possible. We should:

1. Stay cool
2. Stay hydrated. Drink water, not juices or sodas;
3. Minimize consumption of alcoholic or caffeinated beverages;
4. If possible stay in an air-conditioned room;
5. Stay out of the sun; and
6. Check up on co-workers and family members, neighbors, and other vulnerable individuals in your area.

Drought

There are different categories of drought:

Agricultural Drought is brought about when there is insufficient moisture for average crop or range production. This condition can arise, even in times of average precipitation, due to soil conditions or agricultural techniques.

Meteorological Drought – is brought about when there is a prolonged period with below average precipitation. and

Hydrological Drought – is brought about when the water reserves available in sources such as aquifers, lakes, and reservoirs falls below the statistical average. This condition can arise, even in times of average (or above average) precipitation, when increased usage of water diminishes the reserves.

Listen to Officials. Conserve water:

1. When washing dishes by hand, don't let the water run while rinsing. Fill one sink with wash water and the other with rinse water.
2. Run your clothes washer and dishwasher only when they are full. You can save up to 1,000 gallons a month.
3. Monitor your water bill for unusually high use. Your bill and water meter are tools that can help you discover leaks.
4. Wash your fruits and vegetables in a pan of water instead of running water from the tap.
5. Collect the water you use for rinsing fruits and vegetables, then reuse it to water houseplants.
6. Lots more tips may be obtained at: <http://www.wateruseitwisely.com/100-ways-to-conserve/index.php>

2.5 Climate Change

Climate change is a change in average climate over many years. It is caused largely by human activity such as the burning of fuels that result in the warming of the earth's atmosphere (global warming) leading to a change in climate.

The International Panel on Climate Change (IPCC, 2001) has identified small islands as amongst the countries which will be most seriously impacted by climate change.

The effects of climate include higher average temperatures, more unpredictable weather, changes in rainfall patterns, sea level rise and more severe droughts and storms.

What Can You do to Reduce the Impacts of Climate Change?

Actions you can take can include:

1. Practicing water conservation measures, such as rainwater harvesting and the installation of water-efficient fixtures including low-volume toilet tanks and shower heads; recycling of wastewater;
2. Retrofitting existing buildings and building new ones to better weather severe storms;
3. Enforcing coastal and river setbacks and locating buildings away from areas prone to flooding and storm surge;
4. Designing houses to maximize natural ventilation;
5. Adjusting planting dates and crop varieties, including the use of drought-tolerant crops;

6. Developing health action plans, disease surveillance and control, including efficient and effective database systems;
7. Diversification of attractions and revenues in tourism;
8. Preserving existing (and planting new) trees to protect the soil and water catchments

Help to Reduce Greenhouse Gas Emissions by:

1. Reducing the amount of paper used, reusing paper when possible and recycling paper, to help reduce deforestation.
2. Using photo-voltaic (solar electric) systems to generate electricity, solar water heaters, energy efficient-architecture, phasing out of incandescent bulbs in favour of compact fluorescent bulbs, etc.
3. When possible, using transportation that does not burn fossil fuels to reduce the amount of greenhouse gas emissions.
4. Remembering to turn off lights and electronic equipment, since this helps to reduce the amount of fossil fuels that is burned to make electricity.
5. Using renewable energy, such as wind and solar power, as this reduces the amount of energy needed from fossil fuels for production of energy.
6. Using energy saving lights bulbs to reduce the amount of energy produced from burning fossil fuels.
7. Planting trees to absorb carbon dioxide from the atmosphere, thereby helping to reduce global warming.
8. Fixing leaky faucets to prevent the wasting of water, especially hot water. Energy from the burning of fossil fuels is sometimes used to heat water. Electricity is also sometimes used to pump water to homes.
9. Carpooling to reduce the amount of fossil fuel used in transportation.
10. Ensuring that your car is properly maintained and that your tyres are properly inflated. This increases fuel efficiency.
11. Walking or riding a bicycle, instead of driving, This reduces fuel use and also helps you to stay healthy.
12. Incorporating the topic of Climate Change into youth groups' activities [e.g. Boy Scout and Girl Guide], summer camps, environmental club plans and school curricula.

3.0 Community Emergency Response Team

It has been proven time and again that emergency services will take some time to respond to the immediate needs of a community affected by an emergency or disaster caused by a hazard event, especially if there is no warning, as in the case of an earthquake. As a result, people would generally have to rely on each other for help in order to meet their immediate lifesaving and life-sustaining needs.



In order to prepare communities for such a situation, the CERT programme has been introduced with the following objectives:

- Present citizens with the facts about what to expect following a major disaster in terms of immediate services.
- Inform citizens of their responsibility for mitigation and preparedness.
- Train them in needed lifesaving skills with emphasis on decision-making skills, rescuer safety, and doing the greatest good for the greatest number.
- Organize teams so that they are an extension of the Zonal committees offering first responder services to help victims until professional services arrive.

The CERT training will benefit any citizen who takes it, as he/she will be better prepared to respond to and cope with the aftermath of a hazard or disaster event. It is also a way for the community volunteers to supplement their Zonal committees in their response capability to an event. CERTs can provide immediate assistance to victims in their area or zone, organize spontaneous volunteers who have not had the training, and collect disaster intelligence that will assist professional responders with prioritising and allocating resources following a disaster.



The CERT training is delivered by a team of emergency responders through the Department of Disaster Management (DDM). Its training syllabus includes:

- Disaster Preparedness
- Disaster Fire Suppression
- Disaster Medical Operations
- Light Search & Rescue
- Disaster Psychology and Team Organization
- Disaster Simulation Exercise

Please contact the DDM at (284) 468-4200 for further information on CERT.

4.0 National Emergency Broadcast System

The National Emergency Broadcast System (NEBS) is a communications warning system which includes an Emergency Alert System (EAS), a special alert bulletin that can interrupt broadcasting on local radio and television stations, and a siren network to alert residents of an impending situation.



What to do When You Hear the National Siren

If you hear the sirens, immediately tune into any of the local radio stations or the television station for emergency information to be given by the National Disaster Management Council's Emergency Operations Centre.

5.0 Fire Safety Tips

A fire can engulf a structure in a matter of minutes. Understanding the basic characteristics of fire and learning the proper safety practices can be the key to surviving a burning house or building.

Children

Children die in fires they start themselves.

Very often, fires that kill children are started by children themselves. Every year people die in fires, which they, or other children started.

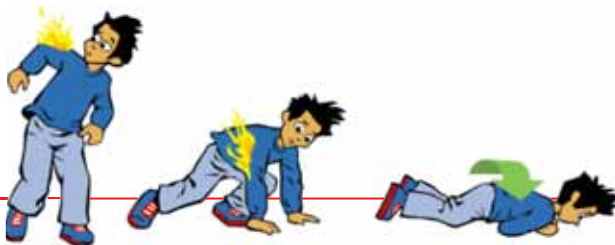
- Most of the children who start fires are simply playing with matches or lighters out of curiosity.
- They're fascinated with fire.
- They're imitating grown-ups without knowing how dangerous a single match can be.
- Fortunately, we all can take simple steps to prevent many of these fatal fires.

Every child should be taught that matches and lighters are tools, not toys. Adults use these tools for specific purposes: lighting a stove, lighting a bar-b-que, lighting a candle, etc.

Begin early to teach children that a fire started by one match can destroy a house or KILL someone.

If You Catch Fire:

1. Stop
2. Drop
3. Roll



Fires are Killers Because They Move Fast

1. Homes must have clear defensible space, 40 feet on all sides.
2. Cutting/clearing bush can help provide defensible space.
3. Install smoke detectors. Check them once a month and change the batteries at least once a year.
4. Make sure all family members know what to do in a fire.
5. Practice alerting other household members. It is a good idea to keep a bell and a flashlight in each bedroom for this purpose.
6. Practice evacuating the building blindfolded. In a real fire situation, the amount of smoke generated by a fire will most likely make it impossible to see.
7. Practice staying low to the ground when escaping.
8. Feel all doors before opening them. If the door is hot, get out another way.

Place emergency numbers near telephones; be aware, however that if a fire threatens your home, you should not place the call to your emergency services from inside the home. It is better to get out first and place the call from somewhere else.

1. Get out as quickly and as safely as possible.
2. Use the stairs to escape.
3. When evacuating, stay low to the ground.
4. If possible, your cover mouth with a cloth to avoid inhaling too much smoke and gases.
5. Close doors in each room after escaping to delay the spread of the fire.

TO REPORT A FIRE CALL 911 or 999



If A Fire Breaks Out

- Remain calm.
- Plan escape routes.
- Get everyone out of the house.
- Individual attempts at a fire fighting should not be attempted unless there is no risk to yourself.
- Keep the door of the room in which the fire is believed to have started shut. An ordinary wooden door will keep out fire for a while.
- Keep doors and windows closed. This reduces the supply of air to the fire and slows down burning.
- If trapped by fire, go into a room, shut the door and put a blanket or carpet at the bottom of the door (to keep out smoke). Call for help from a window.
- If someone's clothing catches afire put him/her to lie down on the floor and make him/her roll. Wrap him/her in a rug if possible, to extinguish the flame. After the flames are put out, keep the person warm. Call for medical assistance.
- To put out a fat (grease) fire, cover area with wet cloth, sand or earth. **DO NOT USE WATER.**
- Keep aerosols (spray cans) away from fire. When empty, keep apart from other household garbage. Do not deliberately puncture.
- Never put any hot ashes in a container with other garbage, or in a flammable container. Hot ashes may cause fire.
- Never use oil, gasoline, kerosene or paraffin to light or restart fires.
- Do not keep gasoline or other flammable liquids in breakable containers, or where children can get to them.
- Do not leave hot plates, electric irons or other electrical appliances plugged in or unattended.
- Avoid hanging curtains over stove or cookers.
- Keep matches and lighters out of reach of children.



- Never put used matches in a waste paper basket.
- Always apply a flame to the burner before turning on the tap.
- Always open the oven door before turning on the gas.
- Do not use naked flames to search for gas leaks
- Do not use rubber tubing to connect portable gas appliances to the gas supply
- Do not overload electric circuits.
- Have electrical repairs and alterations carried out by qualified electricians.
- Replace blown fuses with similar ones of the correct ratings.
- Turn off gas and electricity at the mains before going on holiday.
- Burn rubbish well away from buildings.
- Do not smoke in bed.
- Do not smoke when using flammable liquids such as petrol, lighter fluids, etc.
- Do not put lit mosquito coils under beds or in places where they can cause sheets or curtains to catch on fire.
- Candles should be fitted in proper candlesticks with heavy bases.
- Use only certified lights on Christmas trees. Be sure to unplug these before going to bed, or going out.
- Never leave handicapped persons or small children alone in the house.
- Know where the nearest telephones are and know the phone number of the VI Fire & Rescue Services.

Fire Emergency Number - 911

**THE SERVICES OF THE VI FIRE & RESCUE SERVICE ARE
FREE!**

6.0 Glossary

Weather Systems Terms

- **Trough** – A large scale anti-clockwise turning of the wind associated with low pressure systems and may exist as an elongated extension from a low pressure centre or without any connection to a low pressure centre.
- **Low Pressure System** – In the northern hemisphere it is characterised by the anti-clockwise circulation of the wind into a centre of relatively low pressure.
- **High Pressure System** – In the northern hemisphere it is characterised by the anti-clockwise circulation of the wind out of the centre of relatively high pressure.
- **Atlantic High Pressure System** – This is a feature at low levels over the Atlantic Ocean.
- **Inter Tropical Convergence Zone** – or ITCZ is a narrow east-west band of deep convection near the equator.
- **Jet Stream** – Is a narrow stream of relatively strong winds usually located in the upper atmosphere. The winds must be 50 knots (63mph) or more.
- **Tropical Disturbance** – Is an area of organised convection in the tropics or sub-tropics which has maintained its intensity for at least twenty-four (24) hours.
- **Tropical Wave** – This is a low pressure trough or a weak low pressure circulation in the trade wind easterlies.
- **Tropical Depression** – an organized system of clouds and thunderstorms with a defined, closed surface circulation and maximum sustained winds of less than 17 metres per second (33 kn) or 38 miles per hour (61 km/h). It has no eye and does not typically have the organization or the spiral shape of more powerful storms.
- **Tropical Storm** – Formed over open seas and is characterised by extreme wind damage, intense downpours of rain, wave, storms at sea, severe coastal wave action, marine flooding, river flooding, lightning and thunderstorms, with winds 39 mph – 73 mph.
- **Hurricane** – A large closed circulation system in the atmosphere with low barometric pressure and strong winds that rotate counter clockwise in the northern hemisphere and clockwise in the southern hemisphere. There are five categories of hurricanes based on sustained wind speeds. They are:

- Cat 1: 74 mph - 95 mph
- Cat 2: 96 mph – 110 mph
- Cat 3: 111 mph – 130 mph
- Cat 4: 131 mph – 155 mph
- Cat 5: 156 mph and above



Weather Terms

- **Fair/Fine:** Where less than 1/8 of the sky is covered with clouds.
- **Partly Cloudy:** Where less than 1/2 to 3/4 of the sky is covered with clouds.
- **Cloudy:** Where cloud cover is more than 3/4 but not total.
- **Overcast:** Sky is completely covered with clouds, no blue sky is visible.
- **Obscured:** State of sky cannot be determined due to one or more weather phenomena e.g. wide spread smoke, volcanic ash etc.
- **Dust Haze:** Is a suspension in the atmosphere of minute dust particulates of significant density to cause a significant reduction in visibility.
- **Humidity:** Is the amount of moisture in the atmosphere.
- **Relative Humidity:** Is the actual amount of moisture in the atmosphere divided by the amount it can hold at a given temperature and pressure expressed as a percentage.
- **Continuous Rain:** Is that which lasts for one hour or more without break.
- **Intermittent Rain:** Is that which falls in spells each lasting less than one hour.
- **Isolated Showers:** Showers which are physically remote from others.
- **Widely Scattered Showers:** Showers which are considerable distance apart either in space or time.
- **Scattered Showers:** Showers which are not clustered together either in space or time.
- **Occasional Showers:** Showers which occur irregularly and infrequently.
- **Frequent Showers:** Showers occurring often or in close succession.
- **Light Showers:** Showers of low intensity.
- **Moderate Showers:** Showers of medium intensity.
- **Heavy Showers:** Showers falling with force.
- **Violent Showers:** Showers of great physical force.

Sea Terms

- **Calm**- No visible waves, waves less than one foot.
- **Slight** - Waves one to three feet.
- **Moderate** - Waves three to six feet.
- **Locally Rough** - Waves six to ten feet.
- **Rough** - Waves ten to twelve feet.
- **Very Rough** - Waves over twelve feet.
- **Gusts** - Sudden increase in the wind speed registering ten units or more above average.
- **Variable** - Infrequent large changes in the wind direction.
- **Hurricane Force Winds** - Sustained winds of 74 mph or more.
- **Bulletin** - Information issued when a significant weather system is detected in the area;
- **Advisory** - issued at regular intervals when a tropical storm or hurricane is first detected in the area that encourages the public to keep listening;
- **Watch** - issued when the hurricane continues its advance and hurricane conditions are a real possibility. It does not mean that they are imminent;
- **Warning** - issued when once it is established that hurricane conditions are expected within 24 hours;
- **Tropical Depression** - A Tropical System with a circulation but with winds of less than 39 m.p.h. (34 knots);
- **Tropical Storm** - A Tropical System with a circulation and winds of 39 - 73 m.p.h. (34 - 63 knots).
- **Hurricane** -An intense Tropical System with maximum sustained winds greater than 74 m.p.h. (64 knots).
- **Eye** - The relatively calm area nears the centre around which the strongest winds blow. As the eye passes, light winds rapidly give way to very severe winds from the opposite direction;
- **Storm Surge** - The rise of water (as high as 10 to 20 feet) above sea level brought on by the strong winds and low pressure in the storm centre;



Types Of Warning - Terms

- **Flood Warning** - When flooding is expected in low lying areas and near the river banks due to a continuous downpour of rain (of many hours duration) a flood warning will be issued. This warning is not necessarily associated with Depressions, Storms or Hurricanes, and strong winds do not always accompany the rain.
- **Flash Flood Warning** - When sudden very heavy or violent rainfall is expected to occur, bringing a sufficiently large amount of water to cause flooding in a short time, a flash flood warning will be issued. As with the flood warning, this is not necessarily associated with Depressions, Storms or Hurricanes.
- **Small Craft Advisory** - When above normal winds, sea swells or wind driven waves are affecting surrounding waters, with conditions just marginally safe for small craft operations, a small craft advisory will be issued as a caution. These conditions are caused by various meteorological systems including Depressions, Storms and Hurricanes.
- **Small Craft Warning** - When a Hurricane, Storm or Depression moves within a few hundred miles of the coast, or when conditions caused by other systems are considered unsafe with winds up to 38 miles per hour (33 knots), a warning will be issued for small craft operators to take precautions and not to venture into the open sea.
- **Gale Warning** - When winds of 39 to 54 miles per hour (34 - 47 knots) are expected to affect the island within 24 hours, a gale warning is added to the advisory message. A gale warning may be issued when only the fringe effect of the Hurricane is expected to be felt.
- **Storm Warning** - When winds of 55 to 73 miles per hour (48 - 63 knots) are expected to affect the island within 36 hours, a storm warning is added to the advisory message.
- **Hurricane Watch** - A Hurricane Watch will be added to the advisory message when there is a threat of hurricane conditions affecting the island within 36 – 48 hours. A Hurricane Watch means that hurricane conditions are a real possibility; it does not mean that they are imminent. When a Watch is issued, everyone in the island should be prepared to act quickly if a hurricane warning is later issued.
- **Hurricane Warnings** - When hurricane conditions are expected to affect the island within 36 hours, a hurricane warning will be added to the advisory message. Hurricane conditions include winds of 74 miles per hour (64 knots) or more, and/or dangerously high tides and waves.

Hurricane warnings are seldom issued more than 36 hours in advance. If the hurricane's path is unusual or erratic, the warning may be issued only a few hours before the beginning of hurricane conditions. Local precautionary actions should begin as soon as hurricane warnings are issued.

- **Heat Advisory** - A Heat Advisory means that a period of hot temperatures is expected. The combination of hot temperatures and high humidity will combine to create a situation in which heat illnesses are possible.

Special Coastal Warning Terms

- **Hurricane Tides And Surge** - Major hurricane swells travel great distances ahead of the centre and may cause a rise in the level of the sea along the shore, called the Hurricane Tide. While the hurricane is still some distance away, warnings would be issued to beach goers (along with small crafts). A wave front produced by the hurricane will bring a considerable mass transport of water towards the shore. The rise in the water level in this case is a rapid phenomenon, occurring near the area where the eye makes landfall, and about the same time. This is called the Hurricane surge (or storm surge in the case of that system), and can bring tidal waves of 15 to 20 ft. (sometimes higher). The surge can enter the mouths of rivers and move a considerable distance and loss of life is usually caused by surge, which is the primary reason for recommending the evacuation of low lying coastal areas. Warnings against the hurricane surge are not likely to be given a long time in advance.

