

HURRICANES



*A*mong the disasters that plague the Caribbean region each year are Hurricanes. With this type of awareness, it is our intention to provide you with some useful information should a hurricane occurs. History tells us that a lack of hurricane awareness and preparation are common threads among all major hurricane disasters. Therefore, by knowing your vulnerability and what actions you should take, you can reduce the effects of a hurricane disaster.

One authority on hurricane awareness states – “The Caribbean experienced two land-falling category five hurricanes last season, (2007), we don’t know for sure what will occur this year (2008), but we can protect our communities through preparedness and awareness.

http://www.noaa.gov/stories2008/20080310_prepare.html.



A Hurricane is a revolving storm of tropical origin, accompanied by winds of 74 or more miles per hour, which circulate around a centre of vortex of lower barometric pressure in a counter clockwise motion. When the intensity of the winds does not reach 75 miles per hour (mph), wavering between that figure and 40 mph, the phenomenon is termed a tropical storm; under 40 mph it is called a tropical depression.

Is there a special season for Hurricanes?

Yes. **June 1 through November 30** are designated Hurricane Season each year. It is interesting to note, however, that August and September are peak months during the hurricane season.

One should also recognize that natural disasters can and do occur at any time of the year.

What is the Forecast for the 2008 Atlantic Hurricane Season?

The folks at Colorado State University's Tropical Meteorology Project have released their 2008 hurricane predictions. The long-range forecast calls for above-average hurricane activity. Here is what Dr. William Gray and Phil Klotzbach are calling for:



***They are also predicting:* ABOVE-AVERAGE MAJOR HURRICANE LANDFALL RISK IN THE CARIBBEAN.**

While this is only a forecast, it will serve us well to be in a state of preparedness and be ready to take the necessary precaution in the event of any eventuality.

“The life you save today may be your very own.”

Here are some TIPS that can help you as you prepare for the Hurricane Season.

Before the hurricane threatens

- Make sure your roofing is properly fastened and secure. Make all necessary repairs.
- Obtain lumber, plywood, and concrete nails for battening up.
- Make an inventory of possessions.
- Photograph your house and all the rooms inside for insurance purposes.
- Know your evacuation route.
- Organize a place to meet with your family should you become separated during the storm.
- Clear your yard and drains of debris.
- Prune trees limbs that are close to your house. They can cause damage to your home or utility wires during a storm.
- If your home is at risk, plan in advanced where you will stay. Call the Emergency Department for the location of the nearest shelter.
- Look over your insurance policy to insure it provides adequate coverage.
- Check the storm surge history and elevation of your area.
- If you need transportation to a public shelter due to special needs -- such as age, physical disability, or mental disorders; register in advance with the nearest District Emergency Organization.
- Determine type and amount of emergency supplies needed
 - *Battery operated radio*
 - *One flashlight per person*
 - *Extra batteries*
 - *First Aid Kit*
 - *Emergency Contact list*

- *Emergency Tool Kit*
- *Stocks of Food and Water Supplies*

When a hurricane threatens

- Turn refrigerator and freezer to the coldest level. Freeze water in plastic containers. Sanitize bath tubs and fill with water.
- Tie down or bring in all outdoor objects (such as awnings, patio furniture, garbage cans). Secure or remove satellite dishes, TV or radio antennae from roofs.
- Pick fruits such as coconuts, mangoes etc., from trees. Clear your yard and drains of debris.
- Remove all pictures, clocks, books, figurines, tools, office equipment, appliances and important papers (passports, birth certificates etc.); wrap them in plastic or in waterproof containers; and store in a safe room.
- Turn off electricity at the main switch and remove TV and radio antennae from roofs.
- Stock up on water and non-perishable foods. Refill prescriptions needed.
- Fill your car with gas to avoid long lines after the hurricane. Also fill containers for portable generators.
- Park your car in a place that is safest from falling trees and utility poles.
- If you are in a high-rise, know the location of the nearest stairways. Don't use the elevator.
- Batten down windows and doors with shutters or lumber. Wedge sliding glass doors with a bar.
- Turn off electricity from main switch 24 hours before the storm is expected to hit.
- Unplug major appliances.

During the hurricane

- Be calm! Your ability to act logically is very important.
- Stay inside. Do not go outside unless it is absolutely necessary
- Stay away from windows and doors even if they are covered. A windowless or interior room or hallway is usually the safest.
- Listen to the radio for information
- If you are in a two-storey house, stay on the first floor.
- If you are in a multiple-storey building, take refuge on the first or second floors. Interior stairwells and areas around elevator shafts are usually the strongest part of a building.
- If your house shows signs of breaking up, stay under a table or stand under a door frame.
- Do not go outside during the calm when the eye of the hurricane is passing.

After the hurricane

- Wait until you hear on the radio or television that the dangerous winds are definitely out of your area.
- Do not go sight-seeing

- Do not go outside barefooted. Avoid wearing open shoes and watch out for sharp debris
- Do not use phones or CB radios unless vital. Keep lines clear for emergency calls.
- Bury all dead animals as soon as possible.
- Beware of downed power lines, weakened bridges and washed-out roads, and weakened trees.
- Purify drinking water by boiling or by adding bleach, 2 drops of bleach per litre of water, 4 drops if the water is cloudy. Do not purify all your water at once.
- After adding bleach, let water stand for 30 minutes before drinking
- Use perishable food first , then non-perishable foods and staples after.
- Do not cook more than is needed for one meal
- Be alert to prevent fires
- Report broken sewer or water mains to local authorities
- Be sure to check your house for structural damage before moving back in.

How Are Atlantic Hurricanes Named?

<http://www.redcross.org/news/ds/hurricanes/010524naming.html>

The practice of naming our storms has a long history. Back in the 1800s, hurricanes in the West Indies were named according to the saint's day on which the storm occurred. Later, forecasters and weather experts started using latitude-longitude positions to describe hurricanes, but soon realized it was quicker and easier to use distinctive names.

Using only women's names for hurricanes became the fashion after a 1941 novel by George R. Stewart called Storm. In 1979, names of both genders were used for Atlantic hurricanes after eastern Pacific storms began to use male and female names. An international committee at a meeting of the World Meteorological Organization came up with six separate name lists for hurricanes. Each list is reused every six years, with the exception of the names of storms that have resulted in major damage or death (for example David, Gilbert, Ivan, Katrina, Wimla). Those names are "retired," just like the number of a hockey or basketball player whose accomplishments are so far above the rest.

2008 Tropical Storm Names & 2008 Hurricane Names



Arthur	Hanna	Omar
Bertha	Ike	Paloma
Cristobal	Josephine	Rene
Dolly	Kyle	Sally
Edouard	Laura	Teddy
Fay	Marco	Vicky
Gustav	Nana	Wilfred

Followed by the Greek alphabet, if needed.

Saffir Simpson Hurricane Scale

Herbert Saffir, a consulting engineer who specializes in wind damage to buildings, and Robert Simpson, who was then director of the National Hurricane Center, invented the scale in the early 1970s.

Category	Wind Speed	Storm Surge	Damage Level
1	74-95 MPH	4-5 feet	MINIMAL - Storm surge generally 4-5 ft above normal. No real damage to building structures. Damage primarily to unanchored mobile homes, shrubbery, and trees. Some damage to poorly constructed signs. Also, some coastal road flooding and minor pier damage. Hurricanes Allison of 1995 and Danny of 1997 were Category One hurricanes at peak intensity.
2	96-110 MPH	6-8 feet	MODERATE - Storm surge generally 6-8 feet above normal. Some roofing material, door, and window damage of buildings. Considerable damage to shrubbery and trees with some trees blown down. Considerable damage to mobile homes, poorly constructed signs, and piers. Coastal and low-lying escape routes flood 2-4 hours before arrival of the hurricane center. Small craft in unprotected anchorages break moorings. Hurricane Bonnie of 1998 was a Category Two hurricane when it hit the North Carolina coast, while Hurricane Georges of 1998 was a Category Two Hurricane when it hit the Florida Keys and the Mississippi Gulf Coast.
3	111-130 MPH	9-12 feet	EXTENSIVE - Storm surge generally 9-12 ft above normal. Some structural damage to small residences and utility buildings with a minor amount of curtainwall failures. Damage to shrubbery and trees with foliage blown off trees and large trees blown down. Mobile homes and poorly constructed signs are destroyed. Low-lying escape routes are cut by rising water 3-5 hours before arrival of the center of the hurricane. Flooding near the coast destroys smaller structures with larger structures damaged by battering from floating debris. Terrain continuously lower than 5 ft above mean sea level may be flooded inland 8 miles (13 km) or more. Evacuation of low-lying residences with several blocks of the shoreline may be required. Hurricanes Roxanne of 1995 and Fran of 1996 were Category Three hurricanes at landfall on the Yucatan Peninsula of Mexico and in North Carolina, respectively.
4	131-155 MPH	13-18 feet	EXTREME - Storm surge generally 13-18 ft above normal. More extensive curtainwall failures with some complete roof structure failures on small residences. Shrubs, trees, and all signs are blown down. Complete destruction of mobile homes. Extensive damage to doors and windows. Low-lying escape routes may be cut by rising water 3-5 hours before arrival of the center of the hurricane. Major damage to lower floors of structures near the shore. Terrain lower than 10 ft above sea level may be flooded requiring massive evacuation of residential areas as far inland as 6 miles (10 km). Hurricane Luis of 1995 was a Category Four hurricane while moving over the Leeward Islands. Hurricanes Felix and Opal of 1995 also reached Category Four status at peak intensity.
5	>155 MPH	>18 feet	CATASTROPHIC - Storm surge generally greater than 18 ft above normal. Complete roof failure on many residences and industrial buildings. Some complete building failures with small utility buildings blown over or away. All shrubs, trees, and signs blown down. Complete destruction of mobile homes. Severe and extensive window and door damage. Low-lying escape routes are cut by rising water 3-5 hours before arrival of the center of the hurricane. Major damage to lower floors of all structures located less than 15 ft above sea level and within 500 yards of the shoreline. Massive evacuation of residential areas on low ground within 5-10 miles (8-16 km) of the shoreline may be required. Hurricane Mitch of 1998 was a Category Five hurricane at peak intensity over the western Caribbean. Hurricane Gilbert of 1988 was a Category Five hurricane at peak intensity and is one of the strongest Atlantic tropical cyclones of record.

USEFUL DEFINITIONS

Atlantic Basin – The area including the entire North Atlantic Ocean, the Caribbean Sea, and the Gulf of Mexico.

El Niño – (EN) A 12-18 month period during which anomalously warm sea surface temperatures occur in the eastern half of the equatorial Pacific. Moderate or strong El Niño events occur irregularly, about once every 3-7 years on average.

Eye – Center of a hurricane with light winds and partly cloudy to clear skies (the calmest part of the hurricane). The eye is usually around 20 miles in diameter, but can range between 50 and 60 miles.

Eye Wall – location within a hurricane where the most damaging winds and intense rainfall are found. The eye wall is the most violent part of the hurricane.

Hurricane (H) – A tropical cyclone with sustained low-level winds of 74 miles per hour or greater.

Hurricane Day (HD) – A measure of hurricane activity, one unit of which occurs as four 6-hour periods during which a tropical cyclone is observed or estimated to have hurricane intensity winds.

Hurricane Watch – A hurricane or hurricane conditions may threaten a specific coastal area within 36 hours.

Hurricane Warning – A warning that sustained winds of 74 mph or higher associated with a hurricane are expected in a specified coastal area in 24 hours or less.

Intense Hurricane (IH) - A hurricane which reaches a sustained low-level wind of at least 111 mph (96 knots or 50 ms^{-1}) at some point in its lifetime. This constitutes a category 3 or higher on the Saffir/Simpson scale (also termed a “major” hurricane).

Intense Hurricane Day (IHD) – Four 6-hour periods during which a hurricane has an intensity of Saffir/Simpson category 3 or higher.

Named Storm (NS) – A hurricane or a tropical storm.

Saffir/Simpson (S-S) Category – A measurement scale ranging from 1 to 5 of hurricane wind and ocean surge intensity. One is a weak hurricane; whereas, five is the most intense hurricane.

SST(s) – Sea Surface Temperature(s)

SSTA(s) – Sea Surface Temperature(s) Anomalies

Storm Surge – A large dome of water, 50 to 100 miles wide, that sweeps across the coastline near where a hurricane makes landfall. It can be more than 15 feet deep at its peak.

Tropical Storm – (TS) A tropical cyclone with maximum sustained winds between 39 (18 ms^{-1} or 34 knots) and 73 (32 ms^{-1} or 63 knots) miles per hour.

1 knot = 1.15 miles per hour = 0.515 meters per second



As you prepare,
comfort yourselves
in the knowledge
that in every aspect
of preparedness,
God's guidance is
paramount.