

What are YOU gonna do about...

HURRICANES, CYCLONES & TYPHOONS?

Hurricane season in North America is generally between June and November. Hurricanes are tropical cyclones with torrential rains and winds of 74 - 155 miles per hour (120 - 250 km/h) or faster. These winds blow in a counter-clockwise direction (or clockwise in the Southern Hemisphere) around a center “eye”. The “eye” is usually 20 to 30 miles (32 to 48 km) wide, and the storm may be spread out as far as 400 miles (640 km)!

As the hurricane approaches the coast, a huge dome of water (called a storm surge) will crash into the coastline. Nine out of ten people killed in hurricanes are victims of storm surge. Hurricanes can also cause tornadoes, heavy rains and flooding.

What’s with all the different names?

You may have heard different words used to describe storms depending on where you live in the world. It’s a little confusing but hopefully this explains the various names.

Cyclone - an atmospheric disturbance with masses of air rapidly rotating around a low-pressure center... (sort of like a dust devil or a tornado)

Tropical Depression - maximum surface winds of less than 39 miles per hour (62 km/h) over tropical or sub-tropical waters with storms and circular winds

Tropical Storm - a tropical cyclone is labeled a Tropical Storm if winds are between 39-73 mph (62 - 117 km/h) and given a name to track it

Hurricane, Typhoon, Tropical cyclone - surface winds are higher than 74 mph (120 km/h)... and depending on where it is happening will determine what it is called

Where in the world do they use these names?

(Please note: We are only listing a few major countries or areas for each name.)

Cyclone - used in several parts of the world - **Indian Ocean, Australia, Africa, SW and southern Pacific Ocean**

Hurricane - used in North Atlantic Ocean, Northeast Pacific Ocean (east of the dateline), or South Pacific Ocean (east of 160) - **both coasts of North America, Puerto Rico, Caribbean Islands, and Central America**

Typhoon - used in Northwest Pacific Ocean west of the dateline - **Guam, Marshall Islands, Japan, Philippines, Hong Kong, coastal Asia**

Tropical cyclone - used in Southwest Pacific Ocean west of 160E or most of Indian Ocean - **Australia, Indonesia, Africa, Middle East**

Hurricanes are classed into five categories based on wind speeds, central pressure, and damage potential. The chart below is called the Saffir-Simpson Hurricane Scale with examples of damage provided by NOAA:

Scale # (Category)	Sustained Winds	Damage	Storm Surge
1	74-95 mph 119-153 km/h	Minimal: Untied mobile homes, vegetation & signs	4-5 ft 1.2-1.5 m
2	96-110 mph 154-177 km/h	Moderate: All mobile homes, roofs, small crafts, flooding	6-8 ft 1.8-2.4 m
3	111-130 mph 178-209 km/h	Extensive: Small buildings, low-lying roads cut off	9-12 ft 2.7-3.6 m
4	131-155 mph 210-249 km/h	Extreme: Roofs and mobile homes destroyed, trees down, beach homes flooded	13-18 ft 3.9-5.4 m
5	> 155 mph > 250 km/h	Catastrophic: Most bldgs and vegetation destroyed, major roads cut off, homes flooded	> 18 ft > 5.4 m

BEFORE A HURRICANE:

Prepare - Review FLOOD, LIGHTNING, POWER LOSS and WIND MITIGATION at beginning of this Section.

Learn the buzzwords - Learn the terms / words used with hurricanes...

- **Hurricane/Tropical Storm Watch** - hurricane/tropical storm is possible within 36 hours so listen to TV and radio updates
- **Hurricane/Tropical Storm Warning** - hurricane/tropical storm is expected within 24 hours -- may be told to evacuate (if so, do it) and listen to radio or TV for updates
- **Short term Watches and Warnings** - warnings provide detailed information on specific hurricane threats (like flash floods and tornadoes)
- **Storm surge** - large dome of water formed as the winds push water towards the shore. Surges can be up to 20 feet (6 meters) tall and 50 to 100 miles (80-160 km) wide.

- **Eye wall** - area that circles the eye of the storm and contains the most damaging winds and heaviest rains
- **Outer bands** - the outer rings or bands of thunderstorms that make landfall first

Listen - Keep local radio or TV tuned in for weather forecasts and updates. (Some other radios to consider are Environment Canada's Weatheradio and NOAA's Weather Radio with battery backup and tone-alert feature that automatically alert you when a Watch or Warning has been issued.)

Be ready to evacuate - Listen to local authorities and leave if you are told to evacuate. (*see EVACUATION*)

Pets & large animals - Make arrangements for pets since shelters may not allow them. If you have horses or livestock, make a plan for an alternate site in case they must be evacuated. (*see tips on page 11 and in EVACUATION*)

Make a plan - Review Section 1 to develop a **Family Emergency Plan** and **Disaster Supplies Kit**.

Learn to shut off - Know where and how to shut off electricity, gas and water at main switches and valves -- ask local utilities for instructions.

Batten down - Make plans to protect your property with storm shutters or board up windows with plywood that is measured to fit your windows. Tape does not prevent windows from breaking. (*see WIND MITIGATION*)

Get insurance...? - Talk to your agent and find out more about the **National Flood Insurance Program**. (*see FLOOD MITIGATION*)

Put it on film/chip/drive - Either videotape or take pictures of home and personal belongings and store them in a safe place (like a fireproof box or a safety deposit box) along with important papers.

DURING A HURRICANE THREAT:

Listen - Have a battery-operated radio available to keep up on news reports, tornado warnings and evacuation routes.

Evacuate? - If you are told to leave - do it! (*see EVACUATION*) And if you have time also...

- Secure your home - close storm shutters or put up boards on windows, moor your boat, and secure outdoor objects or put them inside since winds will blow them around.
- Turn off utilities at main switches or valves, if instructed.

- Fill up your car with fuel.
- Make arrangements for pets in case you can't take them with you.

Food & water - If you prepared ahead, you'll have your **Disaster Supplies Kit** handy to GRAB & GO... if not, gather up enough food and water for each family member for at least 3 days!

IF INDOORS – Stay inside!

- Find a SAFE SPOT - get to small interior room, closet or hallway ... or lie on the floor under a heavy desk or table.
- Move away from windows and glass doors.

IF IN A MULTI-STORY BUILDING – Go to the first or second floor!

- Find a SAFE SPOT - get to a small interior room or hallway ... or lie on the floor under a heavy desk or table.
- Move away from outside walls and windows.
- Realize electricity may go out and alarms and sprinkler systems may go on.

Things to avoid:

- **moving water** - 6 inches (15 cm) can knock you off your feet and 2 ft (0.6 m) can float a car
- **flooding car** - if flood waters rise around your car, get out and move to higher ground if you can safely
- **bad weather** - leave early enough so you are not trapped
- **flooded areas** - roadways and bridges may be washed-out
- **downed power lines** - extremely dangerous in floods!!

Stay indoors - If you do not evacuate, stay indoors and stay away from glass doors and windows. Keep curtains and blinds closed and remember, a lull in the storm could only be the middle of the storm (the “eye”) and winds can start again. Keep listening to radio or TV reports.

Nasty weather - Be aware of other hazards like high winds, heavy rain, flooding and tornadoes. And realize weather can move hundreds of miles into the mainland too.

Right front quadrant - The northeast part or right front quadrant of a hurricane typically has the strongest winds and highest storm surge. If it's a high tide when the storm slams ashore you could have serious problems.

Limit phone calls - Only use phones in an emergency so it keeps lines open for local authorities.

AFTER A HURRICANE:

Stay put - Stay where you are (if you're in a safe location) and don't return home (if you've been evacuated) until local authorities say it's okay. Realize it may take weeks, months or years before some areas will be classed as "safe" due to health hazards or massive destruction from the storm.

Listen - Continue listening to your battery-powered radio for updates on weather and tips on getting assistance for housing, clothing, food, etc.

Stick together - Keep family together since this is a very stressful time. Try to find chores for children so they feel they're helping with the situation.

Things to avoid:

- **flood waters** - stay away from flood waters since it may be contaminated by oil, gasoline or raw sewage or may be electrically charged from underground or downed power lines - wait for local authorities to approve returning to flooded areas
- **moving water** - 6 inches (15 cm) can knock you off your feet and 2 ft (0.6 m) can float a car
- **flooded areas** - roadways and bridges may be washed-out or weakened
- **downed power lines** - extremely dangerous and report them to power company

Things to watch out for:

- **weak structures** - be careful since buildings and homes could have been weakened by wind or floods
- **looting, guns and panicked people** - be aware people may become violent trying to find loved ones, water or food (or there may be criminals and jerks out stealing whatever they can)
- **bodies** - strong storm surges, floods, and high winds may cause deaths so be aware there may be dead human and animal carcasses scattered around

Drinking water - Use bottled water or purify water until officials advise it is okay to drink out of the tap. (*see TIPS ON WATER PURIFICATION*)

Flooded food - Throw away any food that has come into contact with flood waters since eating it can make you sick!

Wash your hands - Use clean water and soap when washing hands.

Use bleach – The best thing to use for cleaning up flooded areas is household bleach since it will help kill germs.

Insurance - Call your insurance agent to set up a visit to your home.

Mold - Consider asking a restoration professional to inspect your house for mold. (*see AIR QUALITY MITIGATION*)

No power? - If you use a generator, keep it outside and follow the manufacturer's instructions. (*see some safety tips in POWER LOSS MITIGATION*)

Donations – Lots of people want to help victims of a hurricane and here are some tips...

- **wait & see** - don't donate food, clothing or personal items unless they are specifically requested
- **money** - donations to a known disaster relief group, like the Red Cross, Salvation Army, churches, etc. is always helpful
- **volunteers** - if local authorities ask for your help, bring your own water, food and sleeping gear

Recovery tips - Review TIPS ON RECOVERING FROM A DISASTER at end of this Section.