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Surviving Natural Disasters: Floods, Tornadoes and Hurricanes

Weather, almost by definition, is unpredictable. The past few years have seen it be downright ornery and perhaps less predictable than usual. In these times especially, it is a good idea to always be prepared for the worst and the fact that it might hit suddenly.

Floods, tornadoes and hurricanes can generally be predicted but their paths or their intensity can alter at any time; floods are sometimes called 'flash floods' for a good reason as they strike unexpectedly. Some locations on the planet are relatively free of such activity but with the change in weather patterns it makes sense to be aware of the possibility and the eventuality that severe storms may leave you and your loved ones without aid, at least for a short time. In such circumstances the risk of injury, illness or even death can be avoided or curtailed by advanced preparation.

Flood Safety

Out of all severe weather-related events, floods are actually the greatest damage inducer in the United States costing, on average, $5 billion dollars worth of damage annually. Any of the U.S. territories or its 50 states can be affected by floods at any time of the year.

Floods can be curious events and even differ a good deal. Some, like the aforementioned flash floods, hit without warning while other flooding may be slow and obvious. Sometimes the floods are only a local problem and other times they can affect numerous states and whole flood basins.

There are multiple reasons for a flood to occur and not all floods happen with evidence of heavy rain; some may arise when manmade items such as levees or dams malfunction, snowmelt exceeds the capacity of drainage pipes, street drains overflow, and such. Flood waters can be dangerous if they are moving quickly, with undercurrents that can tug at the ankles or feet, causing a person caught in the waters to be swept away.

Drowning is one of the leading causes of death in a flood and it takes only six inches of water to lose your footing. Even if this isn't a concern, fast moving water carries debris like sticks, mud and stones, possibly dangerous wild animals such as snakes or rats, and even chemicals picked up as it rushes along. All of these can be hazards to you or your family, so stay out of the flood waters as much as possible and out of the way of the flood's immediate path. Always head for the higher ground.

It's essential to familiarize yourself with flood terms so you're aware of the perceived danger level. A flood watch or flash flood watch indicates flooding is possible. A flood warning or flash flood warning means flooding is imminent or already occurring.
Minor flooding suggests little or no property damage but some public vehicular inconvenience on roadways or even a small threat is possible.

Moderate flooding indicates some transfer of people and property to higher ground or evacuation is necessary. Some roadways and structures near streams or rivers may be inundated. Major flooding means extensive inundation, or water coverage, of roadways and structures. Evacuations are significant, as are the transfers of people and property to higher ground.

The level of threat or stage of a flood is determined by local authorities and public officials. At the hint of flood danger, prepare yourself for possible eventuality. Move important possessions to higher elevations in the home, such as the second floor. Bring outdoor furniture inside. Keep sandbags, plastic sheeting and plywood handy for doorways to mitigate damage. Move household chemicals above flood levels if possible. Move vehicles to higher ground.

While floods can happen almost anywhere and at anytime if conditions are right, there are those who are in greater danger than others due to location: streams and creeks or rivers are pretty to live by, but they have a high probability of flooding. Even dry river beds or other low-lying areas can be susceptible to flooding during the wet season. If your house or place of work is situated near or behind a dam, levee or other source of water, be prepared for flooding.

How to Prepare for a Flood

Determine whether you live in a flood-prone area. Insurance companies often have this information as might online flood-help sites and emergency management agencies. You can also ask neighbors to find out the flood history of your neighborhood. Then determine if your home is above or below flood level. This can be deceptive: anywhere it rains it can also flood. History is not the full measure of whether a home or area can flood or not, it also includes such factors as topography, construction and development changes, rainfall and flood control practices. Call a family meeting to discuss actions in case of a property flooding; create an evacuation plan and finalize escape route. Your plan will more than talk, however- you will need to make phone calls and flood kits. Be prepared to:

• Call friends or relatives to confirm you are able to rendezvous at their house in case of evacuation. If there are no friends or relatives nearby, seek out a Red Cross Shelter or similar. If you have pets, ask if they can come or establish a drop-off point for them such as at a vet's or a kennel.
• Build a Flood Emergency Kit and make sure your family knows how to communicate in case of the worst.
• If your house is in a high flood risk area, make sure you elevate the water heater, electric panel and furnace in your home. Reinforce your home, especially the basement, for waterproofing.
• Keep all important and irreplaceable (or hard to replace) papers in a watertight, waterproof safe box.
• Consider your utilities. You'll want to write instructions on how to shut off utilities and when, then explain them to the family. You don't want water and electricity mixing. Make a copy of the instructions to place in your kit.
• Don't do this once and forget it: go through periodic drills so everyone remembers what to do.
• Check home owner insurance policies; most do not cover flood damage. It may be wise to take some out especially in a higher risk area.
• If a flood is imminent, unplug electrical appliances and devices.

Emergency Flood Kit

Your flood kit should be in an easy to grab location and be as waterproof as possible. Items inside the kit -or box- should be stored in waterproof plastic bags. These kits can be purchased already prepared, in which case you'll need to add only a few items such as necessary medications, emergency numbers and contacts list, sturdy shoes, and the copy of instructions on how to turn off the utilities. However, if you'd rather build your own kit, include the following supplies:

1. Basic first aid kit or supplies
2. Essential medications
3. Battery-powered or hand crank flashlight and radio w/extra batteries
4. A whistle to grab attention
5. Important personal items such as ID cards, bank information, contact numbers
6. Warm clothing, good shoes, and blankets
7. Sanitation supplies and personal hygiene necessities
8. Three day supply of clean water and non-perishable food/hand can opener
9. Comfort items for small children if applicable, like books or games
10. Include an extra map in your kit with two alternative routes marked to shelter
11. Cash and credit cards
12. Spare cell phone if possible w/extra battery

There are other small items available these days that may also warrant consideration for your kits like hand-crank cell phone rechargers or solar powered cell phone rechargers. There are hand-crank devices that conveniently combine flashlight, radio and rechargers as well.
During the Flood

Caution is essential. Remember that flood waters can surge rapidly and may carry all manner of hidden dangers in its swirling midst. Invisible chemicals, sewage run over, poisonous animals or terrified, wild ones, nails, glass, stones, and anything else that can be swept up can cause you injury. Stay away and out of flood waters as much as possible.

The ground beneath you may not be solid with the erosion, so carry a stick to test the ground before you if you must walk through the area. Never touch electrical wires or equipment when you are standing in water. Do not drive through flood waters; abandon the car and move on foot to higher ground if you judge it can be accomplished safely.

If you find yourself caught in a car during heavy rains and you live in a flood-risk area, or if you feel you must try escaping a flood via use of a vehicle, there are some points to consider: □ Don’t drive unless there is no choice in the matter.

• Do not drive through areas that have been flooded. If the road before you is flooded out, reverse course and find an alternative route.

• If you discover there is no alternative route, wait for waters to subside on higher ground.

• In most cases, all a car needs is for six inches of rainfall to hit the car, which can cause stalling or dangerous conditions as water gets into the engine or the brakes. It takes very little water to cause hydroplaning; six inches of water can cause even greater loss of car control.

• A foot of water is often enough to float a vehicle. Two feet deep of water can sweep a car away in its current, including the larger, heavier trucks and SUVs.

• Flood waters can conceal damage to the road ahead, large dips or pits, underwater obstructions, or even erode a roadway into nothing. *Do not drive through flood waters.*

When a flood watch is announced, listen to the radio or TV stations. As soon as you are instructed to evacuate, do so. Flash floods can overwhelm in a matter of minutes; if you can’t evacuate, then get to higher ground, especially if you live near creeks, dams, levees, riverbeds, or storm drains and stay away from those areas. Higher ground may be the second story of your home or even the roof. Try to remember to grab your flood kit, pets in carriers and to turn off the electricity.

After the Flood

Once the majority of danger has passed, and you will know by paying attention to local radio stations on your battery powered or hand crank radio, listen for reports on whether the local water supply is safe to drink or not. A lot happens when the destructive
power of water rushes through an area. Continue to avoid flood waters which may still be raging, but can also be carrying dangerous contaminants or items inside its swells.

Gasoline, raw sewage, chemicals such as bleach or cleaning agents may be present or worse, water might be electrified. Be cautious of roads that were under water as their structure may be weakened; the weight of a car may collapse some areas. Wait until authorities say it's safe before you return home and stay out of any buildings still surrounded by flood waters.

Downed power lines also need to be avoided and reported to the power company. If septic tanks, leaching systems or cesspools were damaged, have them serviced immediately as they can be a serious health hazard. You’ll need to disinfect, clean and wash everything the flood waters touched especially if muddy; if perishable food came in contact with flood waters, throw it away. There is no way to know exactly what was in the water and to be safe, don’t eat it. Also be careful of contaminated drinking water.

Exercise extreme caution when entering your home if it was hit by the flood; the foundation may be damaged or other damage may have occurred. Even if your community is experiencing a power outage, turn off the electricity at the main fuse box or breaker. Make sure all appliances are dried and checked by a professional before turning them on again or using them if they were underwater or got wet. Be especially cautious of stoves and heaters or anything that gets plugged-in.

Check for gas or water leaks. A little inconvenience is much better than the alternative. Contact the Red Cross for cleaning supplies and advice on how to clean your home after a flood. Continue to listen to your radio for any other help that may be offered by local, federal or charitable organizations.

**Tornado Safety**

Of all the severe weather forms, tornadoes are the most feared. They are unpredictable, appearing out of regular thunderstorms with a dip if a swirling, tightly wrapped tail. Their paths seem haphazard and often crazy: they can demolish one side of a street and leave the other side pristine.

They don’t tend to last very long, perhaps five to thirty minutes, but the places they touch can be utterly devastated in their wake. Tornadoes vary in strength and size, but even a weak one can tear the shingles off a roof or shoves a piece of straw through the thick trunk of a tree. Inside the tornado itself, winds can reach up to 310 miles per hour where nothing is safe and everything can be sucked up into its wild path. In fact, high winds is one of three ways a tornado causes damage. Flying debris is another way, followed by lightning and hail.
High Winds

Anything is fair game to the monumental winds of a tornado: the many tons of a semi truck are nothing for it to toss aside. Smaller vehicles are like Matchbox toys to a child, trees hundreds of years old can be uprooted or knocked down, and even entire houses can be ripped from their foundations and deposited far away. Sometimes even whole, more or less.

Debris

Those winds whip around a lot of stuff, as everything that is pulled up needs to be deposited eventually. Tornadoes are not overly picky about where they lay their goods: people have been buried in the wreckage of a neighbor’s home or mud sucked up from a river bank.

The powerful winds can send common items sailing with such force that cars or bikes are wrapped around trees or thin, harmless items like pieces of straw or hay become imbedded in the sides of houses. In rare occasions, some animals lifted by the tornado and spun about are even dropped alive without a scratch on them, but can be miles away from home. The debris whirled and thrown about by tornado winds can be a lethal hazard.

Lightning and Hail

Hailstones can vary from small and tiny (like a pea) to larger than a golf ball. Even small and tiny can be damaging but the larger sizes can pulverize cars, property and even cause injury or death if someone is struck in the head. Lightning can strike, causing fires and burning houses or fields and may cause electrical problems. Sometimes cars or even people may be struck. This can be lethal.

The Strength of a Tornado

Any thunderstorm can give birth to a tornado, even several of them, if the conditions are right. Tornadoes can happen anywhere, any time of the year, in any state. They are most likely to occur in spring and summer and between 3pm and 9pm, but this is a generality.

The better storm reporting and tornado detection systems become, the more tornadoes are reported, more than 1,000 annually. They can touch down on mountains, in valleys, on islands and even the wilds of Alaska. Although we often hear the term “tornado alley,” in point of fact, no area is immune. Indeed in recent years tornadoes have touched down on very unlikely areas.

Tornadoes are a violently rotating column of swirling air, that reach from the clouds of the thunderstorm to the ground. (Some tornadoes form and spike, but never touch the ground. These do no damage.) There is a system for rating the potency or
destructive ability of a tornado called the Fujita-Pearson Scale, usually shortened to just Fujita Scale, which isn't perfect in classification, but accepted as close enough and extensively used.

The vast majority of tornadoes, about 76% from 1950-2012, have been F0 or F1 tornadoes meaning they are weak or accomplish the damage due a weak tornado rating. F0 or F1 tornadoes have wind speeds of 40-112 miles per hour and harbor enough force to do damage that runs the gamut of uprooting shallow trees, breaking branches off trees and damaging signs or chimneys on the low end to yanking mobile homes off their foundations, peeling off roofs, push moving automobiles off the road, or destroying attached garages.

F2 and F3 tornadoes provide significant damage with wind speeds starting at 113 mph and moving upwards of 206 mph. These can demolish mobile homes, overturn trains, uproot most trees in a forest, tear roofs from house frames, and turn small objects into deadly missiles. 20% of all reported tornadoes from 1950-2012 have been in this category. F4 and F5 winds speeds start at 207 mph and top out at 318 mph at their greatest. These are the monsters, the beasts that devour everything in their paths and spit out toothpicks.

Cars are thrown, houses torn from foundations and carried impressive distances, trees are de-barked, and concrete structures are badly damaged, even if steelreinforced. Thankfully, only 1% of all reported and classified tornadoes are in this category. It's enough. There is an F6 classification as well, an 'Inconceivable Tornado' with winds of 319 mph - 370 mph. These winds are considered very unlikely but their existence would be very difficult to tell from an F5.

Understandably, it's the greatest of these tornadoes, the F4s and F5s, that cause the highest loss of human life at 67%. Bear in mind that the size of a tornado does not necessarily indicate its strength.

Before and During a Tornado

Before everything, make an emergency family communications plan. In the event a tornado strikes and your family is not together for whatever reason, you'll want a viable plan to allow for contacting one another, meeting up at a safe place, and what you'll do in various situations.

There are emergency plans you can download and fill out, then hand out to the family for discussion. Be familiar with the emergency plans of the places you or loved ones might be at the time of a tornado warning such as school, work, church, or public places like malls and sporting events.

An emergency kit is a necessity after a plan. If you are without power for a few days after a storm or your home has been damaged, you will need food, water and medicine. This can be purchased complete or you can build your own. Should you decide to build your own, have the following prepared:
• A minimum of three days' supply of non-perishable food ○ Ready Made Meals (RMEs) don’t take up a lot of room and can last for up to five years
• A first aid kit/medical supplies
• Any necessary medications (insulin/inhaler/blood pressure meds) ○ Always be mindful of expiration dates
  ○ Ibuprofen or other OTC pain killer
• Iodine
• Sutures and designate one person ahead of time who knows how to suture
• One gallon of water per person per day for washing and drinking
• Battery powered radio with extra batteries or hand crank radio
• Flashlight with extra batteries or hand crank flashlight
• Flashlight that fits around a person’s head, thus allowing the hands to be free at all times
• Hand operated can opener for cans (if applicable)
• Baby formula and diapers (if applicable)
• Moist towelettes, hand sanitizer, plastic bags and ties for personal sanitation □ A whistle to gain attention
• Duct tape and plastic sheeting for shelter
• Personal hygiene items/toiletries
  ○ Should include, sanitary napkins/tampax, soap (bars take up less room and don’t leak), shampoos and conditioners, Q-tips, cotton balls and Witch Hazel
• Extra pair of reading glasses (replace as often as you would the ones you wear daily)
• Saline and/or cleaning solution for any contact lens wearers

Depending on the time of year or where you live you may have to consider that being out of power may also mean braving cold weather. If this is a concern, you will need extra items for your kit:
• One change of clothes and a pair of sturdy shoes per person
• Long pants and a long sleeved shirt
• Gloves and a wool hat
• Warm blankets and/or sleeping bag

There is no real way to know which storms will produce tornadoes and which won’t. Our forecasters have educated guesses and they may even be correct, but the danger of tornadoes is their abrupt starts and finishes. During thunderstorms, in particular severe ones, turn on your radio and listen to the local stations for updates, watches and warnings.

A tornado watch indicates conditions are right for a tornado to form. A tornado warning means a tornado has been sighted. This is cause for some alarm and preparation.
Place pets into pet carriers and place your disaster kit in an easy-to-reach location. You do not need to open windows to equalize pressure in a tornado as the windows will not explode in a tornado. The time it takes for you to open windows could be better used by seeking shelter.

If a tornado warning sounds, gather your family, pets, and kit and head to the lowest point of the house, preferably the basement, and shelter yourself under a sturdy table. You may wish to pull blankets and pillows around you. Be aware of heavy objects above you like pianos or televisions as the floor could give way to leave that crashing on your head. If your home does not have a basement, move toward the interior of the house on the first floor, the opposite side to the incoming tornado. Use a small room with no windows or stay away from the windows.

A bathroom may be good for this. In a public building such as a church, store, or school go to the designated shelters and again stay away from glass or large rooms. Seek small rooms and try to find a table under which to crawl. A restroom or storeroom may be ideal. Never seek the shelter of your parked car.

Always look to get underground or under a table; pull a mattress over you as a last resort, especially if you are in a motel. Always stay away from glass and small rooms are best. If you are in a vehicle when a tornado touches down nearby leave your vehicle and seek shelter in a ditch, a low bridge, a sturdy building, or a culvert.

You do not want to get caught in your vehicle. If you are in a mobile home, exit immediately. Get to a shelter or some other permanent shelter. Any mobile home is in severe danger of being relocated or ripped apart.

Signs of a Tornado

Especially if you are driving during a storm being aware of tornado signals can help you be prepared to abandon your car and head for better protection.

1. Tornadoes do not always have a funnel. If you see debris or dust/dirt swirling on the ground under a cloud base, it's a good bet there's a tornado looming.
2. A cloud base exhibiting a strong, constant rotation.
3. A loud roaring sound, similar to thunder, that doesn't fade like thunder but remains a constant.
4. Many twisters can be encased by heavy rains and seem invisible to the eye because of it. If heavy rain or hail is followed by a sudden calm or a powerful shift of wind, there is probably a tornado close by.
5. There may be a noticeable greenish or green-black cast to the sky and an unnatural stillness to the air.
6. Debris falling from the sky.
7. At night if you witness white or blue-green flashes of light near the ground, it could be very strong winds snapping power lines and indicating a moving tornado.
8. Also at night, if you notice the cloud base consistently lowering as illuminated by lightning or you see the blue-green or white ground level flashes of snapping power lines, a tornado could be moving your way.

After it all Blows Over

Once the tornado has passed or blown itself out, carefully emerge from your shelter and wait for emergency personnel to arrive. You may render aid to others but cautiously. Structures may be unstable, collapsing or otherwise dangerous so stay out of buildings as much as possible. Be aware of such things as broken glass, nails or debris, and downed power lines especially in your walking path. Avoid puddles if wires are lying in them. There may be natural gas leaks or ruptured fuel tanks nearby so refrain from using matches or a lighter. It is important to remain calm and patiently wait for instructions from local authorities or emergency crews.

Hurricane Safety

Hurricanes, or tropical cyclones, are tropical storms that have graduated past a certain wind speed and claim sustained one-minute winds at 10-meter elevation of at least 74 mile per hour. That is minimum; most hurricanes have much stronger winds in excess of 155 miles per hour. Hurricanes can often lead to other problems such as flooding, high winds, storm surges, storm tides, microbursts, mudslides and even tornado-spawn.

They are ferocious and life-threatening events that necessitate planning and preparation before they hit, especially if you live in a hurricane prone area. The states most greatly affected are those along the Atlantic Coast and the Gulf of Mexico coastal regions, though the Pacific Coast and parts of the Southwest United States can suffer from the floods and heavy rains from hurricanes that form off Mexico. If you live on one of the Virgin Islands or another the US’s territories, such as Puerto Rico, the likelihood of hurricane increases greatly.

The Atlantic and Pacific coasts have slight variances in their hurricane season: the Atlantic season is from June to November and hits peak around mid-August to late October. The Eastern Pacific season runs from May 15th through November 30th. In the Western North Pacific tropical cyclones can strike any time throughout the year. There are different names for the four stages of a hurricane.

A tropical cyclone rotates counterclockwise in the Northern Hemisphere; it is a system of organized, rotating thunderstorms and clouds with a close low-level circulation and originates over sub-tropical or tropical waters. The stages are based on the wind speed of the storms: a tropical depression is a system with maximum wind speeds of 38 mph.
A *tropical storm* has max sustained winds between 39 mph and 73 mph. A *hurricane* proper has max sustained speeds over 74 mph. (A typhoon and a cyclone are the same as hurricane, just named differently depending on location.) A *major hurricane* is a tropical cyclone with sustained wind speeds of 111 mph or higher and will be categorized according to the Saffir-Simpson Hurricane Wind Scale at corresponding categories of 2, 3, 4, or 5. The higher the category rating, the higher the wind speed and the more severe the destruction.

There have been many hurricanes of late that have left a huge impression on the collective psyche of our nation with the immense devastation and loss of life they've left in their wake. They destroy the immediate coastline and extend several hundred miles inland to ravage the land there, too.

With the heavy rains they produce, hurricanes that strike at mountainous regions can entice landslides and mudslides to endanger the lives and homes below. Flash floods are common with these storms. Fortunately they take time to gather in intensity and can often be mapped and predicted. Predictions aren't failsafe, as even hurricanes can take a sudden swing in another direction, but they are highly visible on radar in their counterclockwise swirls.

A *hurricane watch* for your area or your part of the coastal means it's possible that the next 36 hours will bring hurricane conditions. This should sound klaxons and launch your family's Hurricane Disaster Plan if needed. Take this time to secure all the things that need securing. A *hurricane warning* suspects winds reaching a minimum of 74 mph are expected in the next 24 hours. It's time to decide where you and your family want to be during the storm.

**Before a Hurricane**

Prior to the season even beginning, you should have your Hurricane Disaster Plan laid out and practiced with the family. Your Plan should consist of communication options if your family is not together when a storm rears its head, evacuation routes and alternate routes, keeping your home up to storm codes and fixed with storm shutters, keeping batteries for a portable radio and a flashlight on hand, having water stored in sealed bottles and always having plenty of non-perishable food available along with a hand-turned can opener.

Your plan should be so easily comprehensible that your youngest speaking child can understand it and execute on it, if necessary. Also put a pet evacuation plan in place or a safe place to drop off pets as many human shelters don't take them. Have a vet or kennel in mind for your dear animals. Keep carriers ready in which to place the animals. Do not leave them to fend for themselves during and after a storm. Have a storm survival kit at hand and ready to go.
You can buy a hurricane survival kit already prepared or you can make one yourself. If you choose to make one for yourself, make sure it's stocked with the following amenities:

• Here is where you keep the non-perishable food, sealed water and can opener. Have enough food and water for three days, at least
• Keep a battery operated flashlight and radio with extra batteries
• Alternatively, keep a hand crank flashlight and radio in the kit
• Keep a set of clothing and a pair of sturdy shoes for each person
• Pack your toiletries and personal hygiene items
• Have a fully stocked First Aid kit
• Keep a supply of all necessary medications
• Have a copy of written instructions on how to turn off the water, gas and power to the house
• Cash on hand is helpful as many ATMs and banks may be closed for lack of power a few days after the hurricane

There are other ways to prepare for the eventuality of a hurricane at home too, such as knowing your elevation level and whether or not your home is flood-prone. This assists in knowing if your house may be affected by a storm tide and flooding. Understand the location of dams and levees in the community to assess whether they may be a danger.

Install storm shutters or board up windows with marine plywood measuring 5/8" thick. Make sure rain gutters and downspouts are cleared. Bring in anything not tied down like garbage cans, outdoor furniture, or lawn decorations. Strapping down your roof to the frame structure can help minimize wind damage.

Consider building a safe room and installing a generator for emergencies. If you own a boat, consider how to secure it and where. Also, if you live above the 10th floor in a high-rise, make plans to take shelter below the 10th level during a hurricane. Consider flood insurance.

A Bit on Storm Surge

Often overlooked, the storm surge is actually the most lethal part of a hurricane and can potentially claim more lives than any other aspect of the storm. Storm surge is the amount of water shoved toward the shore line by the storm winds. This 'assisted' tide marries to the natural tide to create a huge swell in the normal water level, which ends in severe flooding of the coastal area especially when the surge happens to coincide with high tides.

Many people who live on the coast are a mere 10 feet above average sea level, making a storm surge abundantly dangerous. Combined with wave action, especially stirred up by winds, this can lead to killer waves that quickly and easily erodes roadways and coastline, toppling buildings when their foundations are undermined.
During a Hurricane

Keep the radio or TV on and set to local weather. If you are instructed to turn off appliances, follow the edict. If you are not, set the refrigerator to its coldest setting and keep the door shut. If the power does go out, this will help keep the food colder longer. Turn off propane tanks and use the phone only in case of emergency. To ensure a clean water supply, you can fill the bathtub and other large basins or containers with water.

This water will also help assist in flushing toilets. If and when local authorities direct you to evacuate, do so and follow instructions. Secure storm shutters and outside items. If you have a wind-safe room, get to it. Avoid windows and glass (tape doesn’t keep glass from breaking), brace and secure external doors and close internal ones. Curtains and windows should be kept closed. Lie on the floor at the lowest level and take refuge under a sturdy object like a table. A small interior room, a closet or a hallway will be your safest locations. If you live in a place that has elevators, avoid using them during a hurricane.

After a Hurricane

Continue to listen to your radio for directions and updates while remaining on the lookout for flooding due to extended rainfall. Avoid flood waters and downed power lines; do not drive in flood waters and try to avoid driving at all unless it’s an emergency. Streets, bridges, walkways, and buildings may have fallen or been damaged by the winds and rains, which can lead to highly unsafe driving conditions.

If you were evacuated only return when it’s been deemed safe by the Red Cross or other public authority. Other good ideas after the storm has passed:

1. If you smell gas, fuel or floodwaters are still in your building or home, or the structure was damaged by fire, do not enter the area until a professional declares it safe.
2. Inspect your home for damage, especially for insurance purposes. This supposes your home is declared safe. If you are not sure it is safe, have it inspected by someone authorized to make that decision, like a structural engineer.
3. Don't use candles for light in case of a gas leak. Only use a battery powered or hand cranked flashlight and for battery powered lights, turn them on before entering the home to prevent any kind of sparking from possibly igniting the fumes.
4. Flood waters can conceal wild animals – both large and small such as snakes or scorpions. The animals can and will be agitated and easily provoked. They may cling to furniture or items to escape the waters so be extra careful about hand or foot placement, especially where you can’t directly see like under piles of debris. Keep your own pets nearby and in your direct supervision.
5. The community water supply could be contaminated by flood waters, so refrain from drinking tap water or using it to cook with until authorities have deemed it potable.
6. Go through your refrigerator and throw out any food you suspect has spoiled or come in contact with flood water.
7. Very carefully check the exterior structure of your home for gas leaks, damage or loose power lines before entering.
8. Do not turn on appliances or electricity to your home until it has been inspected and thoroughly dried. Appliances that have gotten wet should be checked by a professional electrician prior to use. Also, never use a generator in an enclosed spaced even when fans are being used as carbon monoxide can build up quickly. This deadly gas can linger for hours.
9. Always keep your common sense and wits about you. These will be your best assets.
Resources

**Flood Safety and Survival:**
http://www.floodsafety.noaa.gov/floodsafe.shtml
http://www.ready.gov/floods
http://gohsep.la.gov/factsheets/floodsaf.htm
http://www.usgs.gov/hazards/disasters/floodsafety
http://www.fema.gov/national-flood-insurance-program
http://www.redcross.org/images/MEDIA_CustomProductCatalog/m4540081_repairingFloodedHome.pdf
http://www.nilesema.com/floods1.htm

**Tornado Safety and Survival:**
http://weather.about.com/od/tornadoes/a/tornadosafety.htm
http://www.tornadochaser.net/safety.html
http://www.tornadoproject.com/fscale/fscale.htm
http://www.ready.gov/tornadoes
http://www.ready.gov/make-a-plan
http://www.public.iastate.edu/~atmos/tornado_safety_rules.html
http://www.spc.noaa.gov/faq/tornado/safety.html
http://www.huffingtonpost.com/2013/05/21/tornado-safety-myths-misconceptionstwisters_n_3314146.html
http://www.spc.noaa.gov/faq/tornado/
http://www.tornadoproject.com/safety/safety.htm

**Hurricane Safety and Survival:**
http://www.weather.com/encyclopedia/tropical/forecast.html
http://www.ready.gov/family-communications
http://www.ready.gov/hurricanes
http://landscaping.about.com/cs/cheaplandscaping1/a/hurricane_prep.htm
http://www.redcross.org/prepare/disaster/hurricane