

FERGUSON INSURANCE CENTER'S COMPLETE HURRICANE MAUNUAL:

What You Need To Know About Hurricane's
And How This May Save Your Life.



Hurricane Katrina- 2005

Also Included- *Special Report....*

What Is A Flood and Why Doesn't My
Homeowners Insurance Cover It?

HURRICANE BASICS

The ingredients for a hurricane include a pre-existing weather disturbance, warm tropical oceans, moisture, and relatively light winds aloft. If the right conditions persist long enough, they can combine to produce the violent winds, incredible waves, torrential rains, and floods we associate with this phenomenon.

Each year, an average of eleven tropical storms develop over the Atlantic Ocean, Caribbean Sea, and Gulf of Mexico. Many of these remain over the ocean and never impact the U.S. coastline. Six of these storms become hurricanes each year.

In an average 3-year period, roughly five hurricanes strike the US coastline, killing approximately 50 to 100 people anywhere from Texas to Maine. Of these, two are typically "major" or "intense" hurricanes (a category 3 or higher storm on the [Saffir-Simpson Hurricane Scale](#)).



Hurricane Fran 1996

What is a Hurricane?

A hurricane is a type of tropical cyclone, which is a generic term for a low pressure system that generally forms in the tropics. The cyclone is accompanied by thunderstorms and, in the Northern Hemisphere, a counterclockwise circulation of winds near the earth's surface. Tropical cyclones are classified as follows:

Tropical Depression

An organized system of clouds and thunderstorms with a defined surface circulation and maximum sustained winds* of 38 mph (33 kt**) or less

Tropical Storm

An organized system of strong thunderstorms with a defined surface circulation and maximum sustained winds of 39-73 mph (34-63 kt)

Hurricane

An intense tropical weather system of strong thunderstorms with a well-defined surface circulation and maximum sustained winds of 74 mph (64 kt) or higher

* Sustained winds

A 1-minute average wind measured at about 33 ft (10 meters) above the surface.

** **1 knot** = 1 nautical mile per hour or 1.15 statute miles per hour. Abbreviated as "kt".

Hurricanes are categorized according to the strength of their winds using the [Saffir-Simpson Hurricane Scale](#). A Category 1 storm has the lowest wind speeds, while a Category 5 hurricane has the strongest. **These are relative terms, because lower category storms can sometimes inflict greater damage than higher category storms, depending on where they strike and the particular hazards they bring.** In fact, tropical storms can also produce significant damage and loss of life, mainly due to flooding.

Hurricane Names

When the winds from these storms reach 39 mph (34 kts), the cyclones are given names. Years ago, an international committee developed names for Atlantic cyclones ([The History of Naming Hurricanes](#)). In 1979 a six year rotating list of Atlantic storm names was adopted — alternating between male and female hurricane names. Storm names are used to facilitate geographic referencing, for warning services, for legal issues, and to reduce confusion when two or more tropical cyclones occur at the same time. Through a vote of the World Meteorological Organization Region IV Subcommittee, Atlantic cyclone names are retired usually when hurricanes result in substantial damage or death or for other special circumstances.

WATCH vs. WARNING - KNOW THE DIFFERENCE

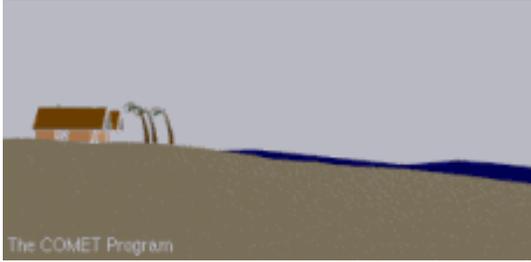
- A **HURRICANE WATCH** issued for your part of the coast indicates the possibility that you could experience hurricane conditions within 36 hours. This watch should trigger your family's disaster plan, and protective measures should be initiated, especially those actions that require extra time such as securing a boat, leaving a barrier island, etc.
- A **HURRICANE WARNING** issued for your part of the coast indicates that sustained winds of at least 74 mph are expected within 24 hours or less. Once this warning has been issued, your family should be in the process of completing protective actions and deciding the safest location to be during the storm.

STORM SURGE

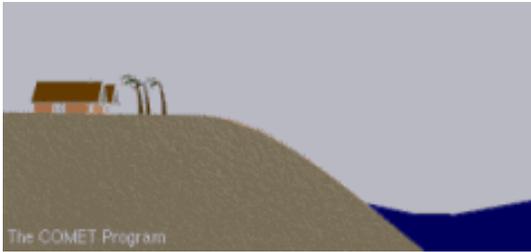
"The greatest potential for loss of life related to a hurricane is from the storm surge."

Storm surge is simply water that is pushed toward the shore by the force of the winds swirling around the storm. This advancing surge combines with the normal tides to create the hurricane storm tide, which can increase the mean water level 15 feet or more. In addition, wind driven waves are superimposed on the storm tide. This rise in water level can cause severe flooding in coastal areas, particularly when the storm tide coincides with the normal high tides. Because much of the United States' densely populated Atlantic and Gulf Coast coastlines lie less than 10 feet above mean sea level, the danger from storm tides is tremendous.





The level of surge in a particular area is also determined by the slope of the continental shelf. A shallow slope off the coast (right, top picture) will allow a greater surge to inundate coastal communities. Communities with a steeper continental shelf (right, bottom picture) will not see as much surge inundation, although large breaking waves can still present major problems. Storm tides, waves, and currents in confined harbors severely damage ships, marinas, and pleasure boats.



One tool used to evaluate the threat from storm surge is the [SLOSH model](#). Emergency managers use this data from SLOSH to determine which areas must be evacuated for storm surge. The links below provide some altered photos that show how the intensity of the storm affects the possibility of flooding from storm surge at two locations. Storm surge also affects rivers and inland lakes, potentially increasing the area that must be evacuated.

In general, the more intense the storm, and the closer a community is to the right-front quadrant, the larger the area that must be evacuated. The problem is always the uncertainty about how intense the storm will be when it finally makes landfall. Emergency managers and local officials balance that uncertainty with the human and economic risks to their community. This is why a rule of thumb for emergency managers is to plan for a storm one category higher than what is forecast. This is a reasonable precaution to help minimize the loss of life from hurricanes.

Wave and current action associated with the tide also causes extensive damage. Water weighs approximately 1,700 pounds per cubic yard; extended pounding by frequent waves can demolish any structure not specifically designed to withstand such forces.

The currents created by the tide combine with the action of the waves to severely erode beaches and coastal highways. Many buildings withstand hurricane force winds until their foundations, undermined by erosion, are weakened and fail.



In estuaries and bayous, intrusions of salt water endanger the public health and send animals, such as snakes, to flee from flooded areas and take refuge in urban areas.

STORM SURGE SAFETY ACTIONS

- Minimize the distance you must travel to reach a safe location; the further you drive the higher the likelihood of encountering traffic congestion and other problems on the roadways.
- Select the nearest possible evacuation destination, preferably within your local area, and map out your route. Do not get on the road without a planned route, or a place to go.
- Choose the home of the closest friend or relative outside a designated evacuation zone and discuss your plan with them before hurricane season.
- You may also choose a hotel/motel outside of the vulnerable area.
- If neither of these options is available, consider the closest possible public shelter, preferably within your local area.
- Use the evacuation routes designated by authorities and, if possible, become familiar with your route by driving it before an evacuation order is issued.
- Contact your local emergency management office to register or get information regarding anyone in your household whom may require special assistance in order to evacuate.
- Prepare a separate [pet plan](#), most public shelters do not accept pets.
- Prepare your home prior to leaving by boarding up doors and windows, securing or moving indoors all yard objects, and turning off all utilities.
- Before leaving, fill your car with gas and withdraw extra money from the ATM.
- Take all prescription medicines and special medical items, such as glasses and diapers.
- If your family evacuation plan includes an RV, boat or trailer, leave early. Do not wait until the evacuation order or exodus is well underway to start your trip.
- If you live in an evacuation zone and are ordered to evacuate by state or local officials, do so as quickly as possible. Do not wait or delay your departure, to do so will only increase your chances of being stuck in traffic, or even worse, not being able to get out at all.
- Expect traffic congestion and delays during evacuations. Expect and plan for significantly longer travel times than normal to reach your family's intended destination.
- Stay tuned to a local radio or television station and listen carefully for any advisories or specific instructions from local officials. Monitor your [NOAA Weather Radio](#).

HIGH WINDS

The intensity of a land-falling hurricane is expressed in terms of categories that relate wind speeds and potential damage. According to the [Saffir-Simpson Hurricane Scale](#), a Category 1 hurricane has lighter winds compared to storms in higher categories. **A Category 4 hurricane** would have winds between 131 and 155 mph and, on the average, would usually be expected to **cause 100 times the damage of the Category 1 storm**. Depending on circumstances, less intense



storms may still be strong enough to produce damage, particularly in areas that have not prepared in advance.

Tropical storm-force winds are strong enough to be dangerous to those caught in them. For this reason, emergency managers plan on having their evacuations complete and their personnel sheltered **before the onset of tropical storm-force winds**, not hurricane-force winds.



Hurricane-force winds can easily destroy poorly constructed buildings and mobile homes. Debris such as signs, roofing material, and small items left outside become flying missiles in hurricanes. Extensive damage to trees, towers, water and underground utility lines (from uprooted trees), and fallen poles cause considerable disruption.

High-rise buildings are also vulnerable to hurricane-force winds, particularly at the higher levels since wind speed tends to increase with height. Recent research suggests you should stay below the tenth floor, but still above any floors at risk for flooding. It is not uncommon for high-rise buildings to suffer a great deal of damage due to windows being blown out. Consequently, the areas around these buildings can be very dangerous.

The strongest winds usually occur in the right side of the eye-wall of the hurricane. Wind speed usually [decreases significantly](#) within 12 hours after landfall. Nonetheless, **winds can stay above hurricane strength well inland**. Hurricane Hugo (1989), for example, battered Charlotte, North Carolina (which is 175 miles inland) with gusts to nearly 100 mph.



Windows falling from a high-rise building

The **Inland High Wind Model** can be used by emergency managers to estimate how far inland strong winds extend. The [inland wind estimates](#) can only be made shortly before landfall when the wind field forecast errors are relatively small. This information is most useful in the decision-making process to decide which people might be most vulnerable to high winds at inland locations.



Burger King Headquarters' CEO office in Miami after Hurricane Andrew

QUESTIONS TO ASK YOUR COMMUNITY LEADERS

Does your community building code set standards that will help buildings withstand winds in a major hurricane?

Do your shelter facilities include long-span roofs or un-reinforced masonry walls (such as gymnasiums) that are vulnerable in high winds?



Damage from Hurricane Frederic (1979)

HIGH WIND SAFETY ACTIONS - before hurricane season

- Find out if your home meets current building code requirements for high-winds. Experts

agree that structures built to meet or exceed current building code high-wind provisions have a much better chance of surviving violent windstorms.

- Protect all windows by installing commercial shutters or preparing 5/8 inch plywood panels.
- Garage doors are frequently the first feature in a home to fail. Reinforce all garage doors so that they are able to withstand high winds.
- If you do not live in an evacuation zone or a mobile home, designate an interior room with no windows or external doors as a "Safe Room".
- Before hurricane season, assess your property to ensure that landscaping and trees do not become a wind hazard.
 - Trim dead wood and weak / overhanging branches from all trees.
 - Certain trees and bushes are vulnerable to high winds and any dead tree near a home is a hazard.
 - Consider landscaping materials other than gravel/rock.

HIGH WIND SAFETY ACTIONS - *as a hurricane approaches*

- Most mobile / manufactured homes are not built to withstand hurricane force winds. Residents of homes not meeting that level of safety should relocate to a nearby safer structure once local officials issue a hurricane evacuation order for their community.
- Once a hurricane warning is issued, install your window shutters or plywood panels.
- When a hurricane warning is issued for your community, secure or bring inside all lawn furniture and other outside objects that could become a projectile in high winds.
- Listen carefully for safety instructions from local officials, and go to your designated "Safe Room" when directed to do so.
- Monitor. [NOAA Weather Radio](#)
- Do not leave your "Safe Room" until directed to do so by local officials, even if it appears that the winds calmed. Remember that there is little to no wind in the eye of a hurricane!

INLAND FLOODING

"In the 1970s, '80s, and '90s, inland flooding was responsible for more than half of the deaths associated with tropical cyclones in the United States."

Ed Rappaport
National Hurricane Center

Consider the following:

When it comes to hurricanes, wind speeds do not tell the whole story. Hurricanes produce storm surges, tornadoes, and often the most deadly of all - inland flooding.

While storm surge is always a potential threat, more people have died from inland flooding from 1970 up to 2000. Intense rainfall is not directly related to the wind speed of tropical cyclones. In fact, some of the greatest rainfall amounts occur from weaker storms that drift slowly or stall over an area.

Inland flooding can be a major threat to communities hundreds of miles from the coast as intense rain falls from these huge tropical air masses.

Tropical Storm Allison (2001) produced extremely heavy rainfall and catastrophic floods in the Houston, Texas area. Allison then acquired subtropical characteristics and continued to produce heavy rainfall and flooding near its track from Louisiana eastward to North Carolina, and then northward along the U.S. east coast to Massachusetts. Forty-one deaths were directly related to the heavy rain, flooding, tornadoes, and high surf. Damage estimates reported by the Federal Emergency Management Agency (FEMA) were near \$5 billion, with approximately \$4.8 billion in the Houston metropolitan area alone



Tropical Storm Allison
Harris County Flood Control District

Hurricane Floyd (1999) brought intense rains and record flooding to the Eastern U.S. Of the 56 people who perished, 50 drowned due to inland flooding.



Hurricane Floyd Courtesy of NASA/GSFC

Tropical Storm Alberto (1994) drifted over the Southeast United States and produced torrential rainfall. More than 21 inches of rain fell at Americus, Georgia. Thirty-three people drowned. Damages exceeded \$750 million.

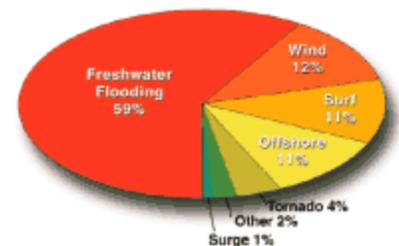
Tropical Storm Claudette (1979) brought 45 inches of rain to an area near Alvin, Texas, contributing to more than \$600 million in damages.

Hurricane Agnes (1972) produced floods in the Northeast United States which contributed to 122 deaths and \$6.4 billion in damages. Long after the winds

from Hurricane Diane (1955) subsided, the storm brought inland flooding to Pennsylvania, New York, and New England contributing to nearly 200 deaths and \$4.2 billion in damages.

In a study from 1970 to 1999, freshwater flooding accounted for more than half (59%) of U.S. tropical cyclone deaths. These floods are why 63% of U.S. tropical cyclone deaths during that period occurred in inland counties.

At least 23% of U.S. tropical cyclone deaths occur to people who drown in, or attempting to abandon, their cars.



78% of children killed by tropical cyclones drowned in freshwater floods.

So, the next time you hear hurricane -- think inland flooding!

What can you do?

- When you hear hurricane, think inland flooding.
- Determine whether you live in a potential flood zone.
- If advised to evacuate, do so immediately.
- Keep abreast of road conditions through the news media.
- Move to a safe area before access is cut off by flood water.
- Do not attempt to cross flowing water. As little as six inches of water may cause you to lose control of your vehicle.
- Develop a flood emergency action plan.
- Have flood insurance. Flood damage is not usually covered by homeowners insurance. Do not make assumptions. Check your policy.

BE PREPARED

"Preventing the loss of life and minimizing the damage to property from hurricanes are responsibilities that are shared by all."

The most important thing that you can do is to be informed and prepared. Disaster prevention includes both being prepared as well as reducing damages (mitigation).

Disaster Prevention should include:

- [Developing a Family Plan](#)
- [Creating a Disaster Supply Kit](#)
- [Having a Place to Go](#)
- [Securing your Home](#)
- [Having a Pet Plan](#)



One of the most important decisions you will have to make is **"Should I Evacuate?"**

If you are asked to evacuate, you should do so without delay. But unless you live in a coastal or low-lying area, an area that floods frequently, or in manufactured housing, it is unlikely that emergency managers will ask you to evacuate. That means that it is important for you and your family to **HAVE A PLAN** that makes you as safe as possible in your home.

Disaster prevention includes modifying your home to strengthen it against storms so that you can be as safe as possible. It also includes having the supplies on hand to weather the storm. The suggestions provided here are only guides. You should use common sense in your disaster prevention.

FAMILY DISASTER PLAN

- ✓ Discuss the type of hazards that could affect your family. Know your home's vulnerability to **storm surge, flooding** and **wind**.
- ✓ Locate a safe room or the safest areas in your home for each hurricane hazard. In certain circumstances the safest areas may not be your home but within your community.
- ✓ Determine escape routes from your home and places to meet. These should be measured in tens of miles rather than hundreds of miles.
- ✓ Have an out-of-state friend as a family contact, so all your family members have a single point of contact.
- ✓ Make a plan now for what to do with your [pets](#) if you need to evacuate.
- ✓ Post emergency telephone numbers by your phones and make sure your children know how and when to call 911.
- ✓ Check your insurance coverage - flood damage is not usually covered by homeowners insurance.
- ✓ Stock non-perishable emergency supplies and a [Disaster Supply Kit](#).
- ✓ Use a [NOAA weather radio](#). Remember to replace its battery every 6 months, as you do with your smoke detectors.
- ✓ Take First Aid, CPR and disaster preparedness classes.

DISASTER SUPPLY KIT

- Water** - at least 1 gallon daily per person for 3 to 7 days
- Food** - at least enough for 3 to 7 days
 - non-perishable packaged or canned food / juices
 - foods for infants or the elderly
 - snack foods
 - non-electric can opener
 - cooking tools / fuel
 - paper plates / plastic utensils
- Blankets / Pillows, etc.**
- Clothing** - seasonal / rain gear/ sturdy shoes

- First Aid Kit / Medicines / Prescription Drugs**
- Special Items** - for babies and the elderly
- Toiletries / Hygiene items / Moisture wipes**
- Flashlight / Batteries**
- Radio** - Battery operated and NOAA weather radio
- Telephones** - Fully charged cell phone with extra battery and a traditional (not cordless) telephone set
- Cash (with some small bills) and Credit Cards** - Banks and ATMs may not be available for extended periods
- Keys**
- Toys, Books and Games**
- Important documents** - in a waterproof container or watertight re-sealable plastic bag
 - insurance, medical records, bank account numbers, Social Security card, etc.
- Tools** - keep a set with you during the storm. After the storm, you may need axes, chain saw, gas, coolers, generator, cordless drill, lumber, nails, saws, shovel, etc. These items may not be available after a storm due to increased demand.
- Vehicle fuel tanks filled**
- Pet care items**
 - proper identification / immunization records / medications
 - ample supply of food and water
 - a carrier or cage
 - muzzle and leash

HAVE A PLACE TO GO

Develop a family hurricane preparedness plan before an actual storm threatens your area. If your family hurricane preparedness plan includes evacuation to a safer location for any of the reasons specified with in this web site, then it is important to consider the following points:

If ordered to evacuate, do not wait or delay your departure.

If possible, leave before local officials issue an evacuation order for your area. Even a slight delay in starting your evacuation will result in significantly longer travel times as traffic congestion worsens.

Select an evacuation destination that is nearest to your home, preferably in the same county, or at least minimize the distance over which you must travel in order to reach your intended shelter location.

In choosing your destination, keep in mind that the hotels and other sheltering options in most inland metropolitan areas are likely to be filled very quickly in a large, multi-county hurricane evacuation event.

If you decide to evacuate to another county or region, be prepared to wait in traffic.

The large number of people in this state who must evacuate during a hurricane will probably cause massive delays and major congestion along most designated evacuation routes; the larger the storm, the greater the probability of traffic jams and extended travel times.

If possible, make arrangements to stay with the friend or relative who resides closest to your home and who will not have to evacuate. Discuss with your intended host the details of your family evacuation plan well before the beginning of the hurricane season.



If a hotel or motel is your final intended destination during an evacuation, make reservations before you leave.

Most hotel and motels will fill quickly once evacuations begin. The longer you wait to make reservations, even if an official evacuation order has not been issued for your area or county, the less likely you are to find hotel/motel room vacancies, especially along interstate highways and in major metropolitan areas.

If you are unable to stay with friends or family and no hotels/motels rooms are available, then as a last resort go to a shelter.

Remember, shelters are not designed for comfort and do not usually accept pets. Bring your [disaster supply kit](#) with you to the shelter. Find [Pet-Friendly](#) hotels and motels.

Make sure that you fill up your car with gas, before you leave.

SECURE YOUR HOME

RETROFITTING YOUR HOME

The most important precaution you can take to reduce damage to your home and property is to protect the areas where wind can enter. According to recent wind technology research, it's important to strengthen the exterior of your house so wind and debris do not tear large openings in it. You can do this by protecting and reinforcing these five critical areas:

ROOF RETROFITTING

Gabled Roofs

Does your home have a gabled roof? If so, the end wall of your home takes a tremendous beating during a hurricane. If not properly braced, it can collapse, causing significant damage. However, *gable end walls* are easy to strengthen and deserve to be a high priority on your *retrofit* list.

Typically, gable end trusses are directly attached to the top of *gable end walls*. The bottom of the truss must be securely nailed to the top of the wall and braced to adjacent trusses. This prevents wind from pushing or pulling the gable end at its critical point, where the gable truss is connected along the gable wall. Without adequate bracing, the end wall may be destroyed during hurricane winds.

To secure your gable end wall, fasten eight-foot long braces to the bottom chord of the gable truss and the adjacent trusses with sixteen-penny (16d) nails. The braces should be perpendicular to the truss, spaced at a maximum of four feet on center. In addition, be sure to tie back the gable truss with at least one eight-foot long brace, along the ridge of the roof, to several of the interior trusses.

Shingles

Shingles are usually not designed to resist hurricane force winds. They come with integral locking tabs or factory-applied adhesives that on occasion do not adhere properly to the underlying shingle because of cold weather installation, uneven surfaces or any number of other reasons. For increased wind resistance, have a qualified person inspect several shingle tabs to see if the adhesive has engaged. If not, use a quick-setting asphalt cement to bond them together.

To cement the shingle tabs to the underlying shingles, place two spots of quick-setting asphalt cement about the size of a quarter under each tab with a putty knife or caulking gun. Press the tab into the adhesive. Be sure to cement all the tabs throughout the roof, being careful not to bend them farther than necessary when applying the adhesive. Replace any damaged shingles immediately.

Attach Roof Sheathing with Adhesive

You can also improve the uplift resistance of the roof deck from the attic -- without removing the roof covering. This is how:

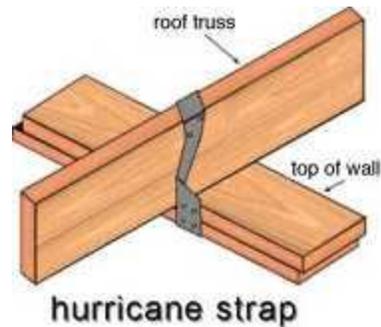
- Using a caulking gun, apply a 1/4 inch bead of wood adhesive along the intersection of the roof deck and the roof support element (rafter or truss chord) on both sides.
- At places where you have limited access, such as where the roof meets exterior walls, use quarter round pieces of wood approximately two to three feet long and apply the adhesive along the two adjacent sides of the block. The length of the quarter round pieces can be longer or shorter to suit your installation needs.
- Press the wood pieces in the intersection making sure the adhesive has made solid contact with the sheathing and roof support elements.

According to static pressure tests, using the wood adhesive can increase the wind uplift resistance of the plywood roof sheathing by as much as three times the conventional method of securing the sheathing with nails. It should be available at your local hardware and building supply stores. Please ask your local hardware expert if other products are available that could provide the same strength and properties as a wood adhesive.

HURRICANE STRAPS

Roof to Top of Wall Connection

Metal hurricane straps or clips provide the proper measure of strength and safety for the roof-to-wall connection. The common practice of toe nailing the trusses or rafters often is not sufficient to hold a roof in place in high winds. These clips or straps are usually very difficult to see from the attic because of insulation.



Areas where the roof framing meets the top of stud walls are normally covered by dry wall on the inside and by wall cladding and soffit board on the outside. To install *hurricane straps and clips*, remove the *roof sheathing* around the perimeter of the roof to reveal the top of the wall. You may also need to remove the soffit and exterior cladding to reveal the top 12 to 18 inches of the wall. In addition, if the exterior cladding is brick veneer, you may need to remove small sections of brick as needed.

If your roof has trusses, make sure you tie them to the wall by either anchoring to the top plate and then the top plate to the wall stud, or strapping the truss directly to the wall stud.

SHUTTERS

One way to protect a home from damage in wind storms is to install *impact-resistant shutters* over all large windows and glass doors. Not only do they protect doors and windows from wind-borne objects, but they can reduce damage caused by sudden pressure changes when a window or door is broken. *Laminated window systems* (plastic bonded to glass) are another option, and are a particularly good choice for either building a new home or adding to an old one.

The easiest designs are those that simply cover the opening with a structural panel such as plywood. **In past hurricanes, many homeowners upon returning have noticed their temporary plywood shutters blown off because they were not adequately fastened.** If you have a wood-frame house, use adequate fasteners to attach the panels over the openings when a hurricane approaches. Have these temporary shutters stored and ready to use since building supply stores generally sell out of these materials quickly during a hurricane warning. If your home is made with concrete blocks, however, you will have to install anchoring devices well in advance.

The American Plywood Association (APA) - *The Engineered Wood Association* offers a series of Hurricane Shutter Designs. Each design is available for \$1, or you can download all five designs from the APA's [Web site](#) at no cost.

Manufactured Shutters

If your residence has permanent shutters, evaluate their effectiveness. Manufacturers are responsible for testing their shutters up to the standards necessary to resist wind forces and wind-borne debris. Some shutters are very flexible, especially those that roll up.

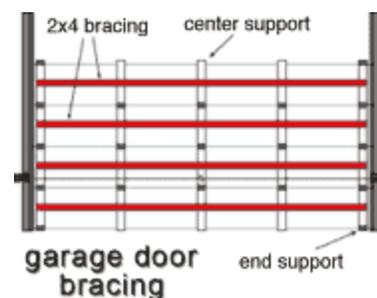
If struck by a rigid piece of debris, shutters may bend and break the window. To determine whether your shutter can resist this impact, gently lean against it and see if it yields. You can also inspect your shutters to see if they are properly attached to the house and will not fly off during a storm by inspecting the shutter connectors for obvious excessive wear or missing connectors. Ask the shutter manufacturer for proper installation criteria.

Impact-Resistant Windows

Another way to protect your home from damage in windstorms is through the installation of impact-resistant windows and doors. Although these products look no different than standard windows and doors, they offer significantly more protection from wind-borne debris. In fact, these systems are capable of resisting impacts from large objects. For this reason, temporary shutters do not need to be installed before a storm strikes. In general, the frame and glazing work together to protect your home from both the elements and the significant internal pressure changes which lead to structural damage. While large wind-borne debris may crack the impact resistant glass during the course of the storm, the window is designed to retain its integrity and not break apart. Should either the frame or glass be damaged, it can be repaired at your convenience after the storm has passed.

BRACING GARAGE DOORS

Because of their width, double-wide garage doors are more susceptible to wind damage than single doors. Unless you have a tested hurricane-resistant door, the wind may force it out of the roller track -- especially if the track is light weight or some of the anchor bolts are not in place. This occurs because the door deflects too much under excessive wind pressure and fails.



To secure your garage door:

- Check with your local government building official to see if there are code requirements for garage doors in your area.
- Check with your local building supplier or garage door retailer to see if a retrofit kit is available for your garage door.

You should probably reinforce your double-wide garage door at its weakest points. This involves installing horizontal and/or vertical bracing onto each panel, using wood or light gauge metal girds bolted to the door mullions. You may also need heavier hinges and stronger end and vertical supports for your door.

If you decide to retrofit your garage door with a kit that allows you to operate the door after it is installed, make sure the door is balanced by lowering it about halfway and letting go. If the door goes up or down, the springs will need adjusting. *Note: Since the springs are dangerous, only a professional should adjust them.*

If you are unable to retrofit your garage door with a kit specifically designed for your door, you can purchase garage door retrofit kits to withstand hurricane winds at your local building supply store. Also, check to see if the supplier can do the installation.

The above information is taken from [IBHS's](#) instructive pamphlet, "Is Your Home Protected from Hurricane Disaster? -A Homeowner's Guide to Retrofit."

PET PLAN

Contact your veterinarian or local humane society for information on preparing your pets for an emergency.



BEFORE THE DISASTER

- Make sure that your pets are current on their vaccinations. Pet shelters may require proof of vaccines.
- Have a current photograph
- Keep a collar with identification on your pet and have a leash on hand to control your pet.
- Have a properly-sized pet carrier for each animal - carriers should be large enough for the animal to stand and turn around.
- Plan your evacuation strategy and don't forget your pet! Specialized pet shelters, animal control shelters, veterinary clinics and friends and relatives out of harm's way are ALL potential refuges for your pet during a disaster.

If you plan to shelter your pet - work it into your evacuation route planning.

DURING THE DISASTER

- Animals brought to a pet shelter are required to have: Proper identification collar and rabies tag, proper identification on all belongings, a carrier or cage, a leash, an ample supply of food, water and food bowls, any necessary medications, specific care instructions and news papers or trash bags for clean-up.

- Bring pets indoor well in advance of a storm - reassure them and remain calm.
- Pet shelters will be filled on first come, first served basis. Call ahead and determine availability.

AFTER THE DISASTER

- Walk pets on a leash until they become re-oriented to familiar scents and landmarks may be altered and pets their home - often could easily be confused and become lost. Also, downed power lines, reptiles brought in with high water and debris can all pose a threat for animals after a disaster.
- If pets cannot be found after a disaster, contact the local animal control office to find out where lost animals can be recovered. Bring along a picture of your pet if possible.
- After a disaster animals can become aggressive or defensive - monitor their behavior.

Don't forget your pet when preparing a family disaster plan.

PET DISASTER SUPPLY KIT

- Proper identification including immunization records
- Ample supply of food and water
- A carrier or cage
- Medications
- Muzzle, collar and leash

FLOOD INSURANCE

The National Flood Insurance Program, is a pre-disaster flood mitigation and insurance protection program designed to reduce the escalating cost of disasters. The National Flood Insurance Program makes federally backed flood insurance available to residents and business owners

Flood damage is not usually covered by homeowners insurance. Do not make assumptions. Check your policy.

FLOOD INSURANCE: WHAT AND WHY?

Flood insurance covers losses to your property caused by flooding. From structural and mechanical damage to flood debris cleanup and floor surfaces (like tile and carpeting), your investment is protected by a flood insurance policy, something that your homeowners' policy does not offer.

In addition, you can purchase separate coverage that insures most of your personal property and belongings up to a specified limit, including:

- Clothing
- Furniture, house-wares, bedding
- Decorative items, lamps and lighting fixtures
- Books, home electronics, computers
- Area rugs and draperies
- Clothes washers and dryers
- Air conditioners
- Food freezers and the food in them
- Portable microwave ovens

Having flood insurance gives you many benefits. Not only is coverage there when you need it, but it also:

- Compensates for all covered losses
- Compensates for flood damages even if federal disaster aid is unavailable
- Pays for your covered losses, unlike interest-bearing loans through federal disaster assistance
- Comes in low-cost policies for those who qualify
- Guarantees compensation for flood damages because the Federal government backs NFIP flood insurance
- Helps you move on – if your property is damaged by flood, your agent is there to help you handle your claim (note: most claims are paid within 30 to 60 days)

Be Flood Smart! Get covered today.

Remember, there's a 30-day wait before a flood insurance policy takes effect! Be Flood Smart. Get covered today.

FLOOD FACTS:

Doesn't my homeowner's insurance policy cover flooding?

No. Flood damage is not covered by your homeowners' insurance policy.

If my home is flooded, won't federal disaster assistance pay for my damages?

No. Federal disaster assistance offers loans to help cover flood damage, not compensation for your losses. Even then, those loans are only available if the President formally declares a disaster ... and less than 10 percent of all weather emergencies in the United States are declared.

If a hurricane is approaching, why can't I just buy flood insurance then?

NO, There is a 30-day waiting period when you purchase flood insurance. You can buy it now, but it will not take effect for at least 30 days. The only exception is when you purchase a home and your mortgage company requires flood insurance for the closing.

Am I eligible for flood insurance?

You must live in a community that participates in the National Flood Insurance Program (NFIP) to qualify for National Flood Insurance. Find out if your community participates in the NFIP and the kinds of NFIP resources available in your community.

Can I get flood insurance if I'm renting a property?

If you live in a community that participates in the NFIP, you can get flood insurance to cover the contents of your home or business.

I live in a low-risk flood zone. Do I really need flood insurance?

It's a good idea to buy flood insurance even if you live in a low- or moderate-risk area. Almost 25 percent of all flood insurance claims come from areas with minimal flood risk. You may qualify for the Preferred Risk Policy (a lower-cost flood insurance policy) that provides contents coverage for as little as \$39 per year and building plus contents coverage for just over \$112 a year.

Why do I need flood insurance, even though my community has never been flooded?

The fact that a flood hasn't occurred within recorded history doesn't mean one hasn't happened in the past or that one won't happen soon.

Structures located in high-risk flood areas have a significant chance (26 percent) of suffering flood damage during the term of a 30-year mortgage while only a 9 percent chance of loss from fires. A home mapped in a high-risk area is three times more likely to suffer damage from a flood than a fire in the lifetime of a typical mortgage!

For these reasons, flood insurance is required as a condition of receiving Federal or federally-backed financial assistance.

Why does my mortgage lender require me to buy flood insurance?

The purchase of flood insurance is mandatory for all Federal or federally-backed financial assistance for the acquisition and/or construction of buildings in high-risk flood areas (Special Flood Hazard Areas or SFHAs).

The amount of flood insurance coverage required by the Flood Disaster Protection Act of 1973, as amended by the National Flood Insurance Reform Act of 1994, is the lesser of the following:

The maximum amount of NFIP coverage available for the particular property type,

The outstanding principal balance of the loan, or

The insurable value of the structure.

If the property is not in a high-risk area, but instead in a low- to moderate-risk area, the law does not require flood insurance; however, it is recommended since historically about one-in-four flood claims come from these low- to moderate-risk areas. Note that if during the life of the loan the maps are revised and the property is now in the high-risk area, your lender will notify you that you must purchase flood insurance. If you do not purchase flood insurance, the lender will force place it, which could be at a much higher rate.

Is there a low-cost policy for homes in low-to moderate-risk areas?

Yes. The Preferred Risk Policy is available in low- to moderate-risk areas for **as little as \$112 per year**. The Preferred Risk Policy (PRP) is a lower-cost protection option for residential and non-residential properties in moderate-to-low-risk areas. PRP makes lower-cost insurance rates available through several combinations of building and contents protections.

For just \$112 a year, homeowners can purchase a minimum of \$20,000 building and \$8,000 contents coverage (\$25 more if there is a basement).

Renters can pay as little as \$39 per year for \$8,000 contents coverage.

Business owners can buy \$50,000 building and \$50,000 contents coverage (per building) for only \$500 per year.

Business owners who lease their space can purchase \$50,000 contents coverage for just \$112 per year.

Flood Zone

Your property must be located in a B, C, or X zone on the effective date of the policy. At renewal, the current flood insurance rate map determines a property's continued eligibility for the PRP. NFIP map grandfathering rules do not apply.

Loss History

If one of the following conditions exists, regardless of any change(s) in property ownership, then the building **is not** eligible for the PRP:

2 flood insurance claim payments, each more than \$1,000

3 or more flood insurance claim payments, regardless of amount

2 Federal flood disaster relief payments (including loans and grants), each more than \$1,000

3 Federal flood disaster relief payments (including loans and grants), regardless of amount

1 flood insurance claim payment and 1 Federal flood disaster relief payment (including loans and grants), each more than \$1,000

Exclusions

The PRP is not available in Special Flood Hazard Areas or in Emergency Program communities.

"Residential – Other" properties are not eligible for building coverage.

Contents located entirely in a basement are not eligible for contents-only coverage. However, contents located entirely in an enclosure are eligible.

Condominium associations, unit owners, and their tenants are not eligible for the PRP, except for:

A townhouse/row house building insured under the unit owner's name

A detached, single-family dwelling insured under the unit owner's name

Contents-only coverage for tenants occupying townhouse/row house buildings or detached, single-family dwellings

Determining Your Eligibility

To determine eligibility for PRP coverage, you and your insurance agent will fill out a simple application together.

POLICIES AND COVERAGE

If your property is located in a community that participates in the National Flood Insurance Program (NFIP), it can be insured with an NFIP Flood Insurance Policy.

Standard Flood Insurance Policy Information

The NFIP offers three different types of Standard Flood Insurance Policies. The forms for these policies provide policyholders with a description of their coverage and other important coverage information. The policy type is determined by how a building is occupied. You can obtain these forms from your agent at Ferguson Insurance Center.

- **Dwelling** — This type insures residential structures and/or contents and individual residential condominium units (single family homes, apartments and condos with four or fewer families, etc.).
- **General Property** — This type insures residential buildings of more than four families as well as non-residential buildings (schools, churches, businesses, etc.).
- **Residential Condominium Building Association Policy (RCBAP)** — This type insures associations under the condominium form of ownership.

Flood Insurance Coverage

Flood coverage limits for a standard flood policy are:

Flood coverage by type and limit	
Coverage Type	Coverage Limit
One- to Four-family structure	\$ 250,000
One- to Four-family home contents	\$ 100,000
Other residential structures	\$ 250,000
Other residential contents	\$ 100,000
Business structure	\$ 500,000
Business contents	\$ 500,000
Renter contents	\$ 100,000

Flood Insurance Basics

Your agents at Ferguson Insurance can teach you the twelve different factors that are considered when calculating your flood insurance premium, including a definition of pre-FIRM and post-FIRM, see a description of high-risk areas (Special Flood Hazard Areas or SFHAs), and Elevation Certificate Requirement.

How much will flood insurance cost me?

We can help you estimate your flood insurance premium, simply call us. But remember that you have to ask a flood insurance agent to know for sure.

Save Money with a Preferred Risk Policy (PRP)

The [Preferred Risk Policy](#) is a **lower-cost option**, for building and contents coverage on properties located in low-to-moderate risk areas. It is available for both residential and non-residential properties.

Additional Benefits & Coverage

- **Increased Cost of Compliance (ICC)**— ICC coverage helps pay for the increased costs to comply with State or Community floodplain management laws or ordinances after a flood, when the building has been declared substantially or repetitively damaged. Coverage can be applied to elevation, relocation, demolition or flood proofing (non-residential only), up to \$30,000.
- **Debris & Loss Avoidance**— the NFIP also provides other types of flood insurance coverage, including debris removal and loss avoidance measures (like the cost of plywood and sandbags).

Don't Wait Until it's Too Late

Regardless of which type of policy you choose, there is a standard 30-day waiting period, from date of purchase, before a new flood policy goes into effect. However, if your lender requires flood insurance in connection with the making, increasing, extending or renewing of your loan, there is no waiting period.

POLICYHOLDER PREPAREDNESS:

By purchasing flood insurance, you have taken the first and most important step toward protecting yourself against financial loss. You can add an extra level of protection by being prepared to speed up the claims process – before a flood ever occurs.

Create a personalized "flood file."

- Include a copy of your insurance policy and the name and contact information for your agent or insurance company.
- Perform a thorough, room-by-room inventory of all possessions in your home or business. Describe each item and include serial numbers, model numbers, date of purchase and receipts. Itemize everything—from sofas, chairs and rugs to pictures, plants and contents of drawers and cupboards.
- Take photos or video of your possessions and add them to your "flood file" with your itemized list.

Safely store your flood file (flood insurance policy, itemized list, receipts, video, etc.) in a secure place, away from the property you are insuring; typically a safe deposit box.

Review your policy and understand what's covered.

Flood insurance covers buildings and/or contents for residential and non-residential properties. It's important to know what your policy covers. To claim personal property loss you must have contents coverage. Use this list for general guidance:

Covered:

- The insured building
- Built-in appliances and central air
- Permanently installed paneling, wallpaper, cabinets and carpets
- Garage (up to 10 percent of total building coverage)
- Limited coverage for basements
- Debris removal
- Contents, if contents coverage has been purchased

Not covered:

- Vehicles
- Decks
- Land and fences
- Plants
- Animals
- Currency
- Boats
- Swimming pools

FILE A CLAIM:

Understand the process.

Review the claims filing process. If anything is unclear, ask your agent detailed questions so that you understand what you will need to do if you ever experience a flooding event.

If you have experienced a flood, contact your agent or insurance company immediately. They will assign a claims adjuster to help you evaluate your loss and file your claim.

- Have the following ready:
 1. The name of your insurance company
 2. Your policy number
 3. A telephone and/or email address where you can be reached at all times
- If you will be going to a shelter or will not be easily reached, provide your agent with a trusted point-of-contact (friend, relative) who can reach you if necessary.
- If an adjuster has not been assigned to you within a few days of your phone call, contact your insurance agent or company again.

Separate damaged from undamaged property. Do not throw out damaged property before your adjuster has seen it, unless it may be a health hazard or could impede local cleanup.

- If objects must be discarded, take photos and keep samples (fabric swatches, pieces of furniture, etc.) to help substantiate your claim.
- Take photos of standing water, both outside and inside your home or business.
- Photograph and videotape everything—from structural damage and flood water levels on building exteriors to building interiors and contents—to help prepare documentation of what the flooding damaged.

Make a list of all damaged or lost items. Work with your adjuster to itemize your claim and calculate the value of the destroyed items by applying your detailed inventory against your damaged or lost property.

File a Proof of Loss within 60 days of the flood. Your official claim for damages is called a Proof of Loss. This sworn statement, made by you, substantiates the insurance claim and is required before the National Flood Insurance Program (NFIP) or insurance company can make payment.

- Your adjuster should provide the form for you. However, it is your responsibility to provide your insurance company with a signed Proof of Loss within 60-days of the date of loss.
- You must include a detailed estimate to replace or repair the damaged property, which you can obtain from your adjuster. You should both come to an agreement about the scope of damage and what needs to be repaired or replaced.

Your claim is payable after:

- You and the insurer agree on the amount of damages.
- The insurer receives your complete, accurate and signed Proof of Loss.

If major catastrophic flooding occurs, it may take longer to process claims and make payments because of the sheer number of claims submitted.

Remember:

1. Your agents at Ferguson Insurance are here to help you through any hardship.

2. To stay covered, you must renew your policy each year.

EMERGENCY AND SAFETY RELATED WEBSITE LINKS:

AMERICAN RED CROSS WWW.REDCROSS.ORG

NATIONAL WEATHER SERVICE WWW.NWS.NOAA.GOV

FEDERAL EMERGENCY MANAGEMENT AGENCY WWW.FEMA.GOV

FIREWISE WWW.FIREWISE.ORG

HOME SAFETY COUNCIL WWW.HOMESAFETYCOUNCIL.ORG

HURRICANE INTERCEPT RESEARCH TEAM WWW.HURRICANETRACK.COM

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