

A satellite image of a hurricane, showing a well-defined eye and spiral cloud bands. The image is in grayscale, with the clouds appearing white and the ocean surface appearing dark. A large, semi-transparent red triangle is overlaid on the right side of the image, pointing towards the bottom right corner.

# Hurricane Guide

COURTESY OF





# Introduction

In a coastal state, hurricane season is never that far away. When these devastating storms come ashore, smart preparation is often the only thing you can control. Whether you stick it out at home or evacuate inland, it's the choices and preparations you make during the months, weeks and days leading up to a storm that keep your family and property safe.

## A word from Storm Solutions CEO Jimmy Hawley

*My name is Jimmy Hawley, CEO of Storm Solutions. I was raised in Southwest Florida and am extremely familiar with the dangerous weather that can occur in here in the Sunshine State. Being in the hurricane protection business, I have seen first-hand the damage these storms cause and how quickly lives can be turned upside down.*

*As Irma was approaching as a category 5 hurricane, I realized how many people were unprepared. A storm of that magnitude was scary, even for seasoned Floridians. Eight months later, Storm Solutions is still working with our customers to get their homes back in order after Irma's destruction. Seeing how unprepared so many were, I decided to make and provide this informational booklet to prepare for these potential threats.*

*Please take the time to read through the information, and I hope you find it helpful in your preparation for this and future hurricane seasons. Preparedness is key to keeping you, your family, and home safe. Please feel free to contact me or my staff if we can assist you in your hurricane preparation needs.*

*Stay safe!*



# When a Storm is Brewing

In South Florida and beyond, the most important principles of hurricane season are staying informed and staying prepared. By understanding storm risks and terminology, you can make the preparations and decisions that best protect your property and the people you love.

## Wind, Water and Weather: Terms You Need to Know

### **Direct Hit:**

The close approach of a hurricane to an area.

### **Eye:**

The circular area of lighter winds at the center of a hurricane.

**Gale Warning:** Sustained winds of 39 mph – 54 mph.

### **Hurricane:**

A tropical cyclone with max sustained surface wind of +74 mph.

### **Hurricane Warning:**

An announcement of expected hurricane-force winds.

### **Hurricane Watch:**

An announcement of possible hurricane-force winds.

### **Indirect Hit:**

Not a close approach by a hurricane but affected by hurricane-force winds or tides more than four feet above normal.

### **Landfall:**

The intersection of the surface center of a hurricane with a coastline.

### **Major Hurricane:**

Hurricanes classified as category 3 or higher.

### **Maximum Sustained Winds:**

The highest one minute average of wind speeds.

### **Storm Surge:**

An abnormal rise in sea level, measured by subtracting the increased storm-induced sea level from normal levels.

### **Tropical Storm:**

A circular storm with a well-defined center, originating over tropical waters, that becomes a named storm once maximum sustained surface wind speed exceeds 73 mph.





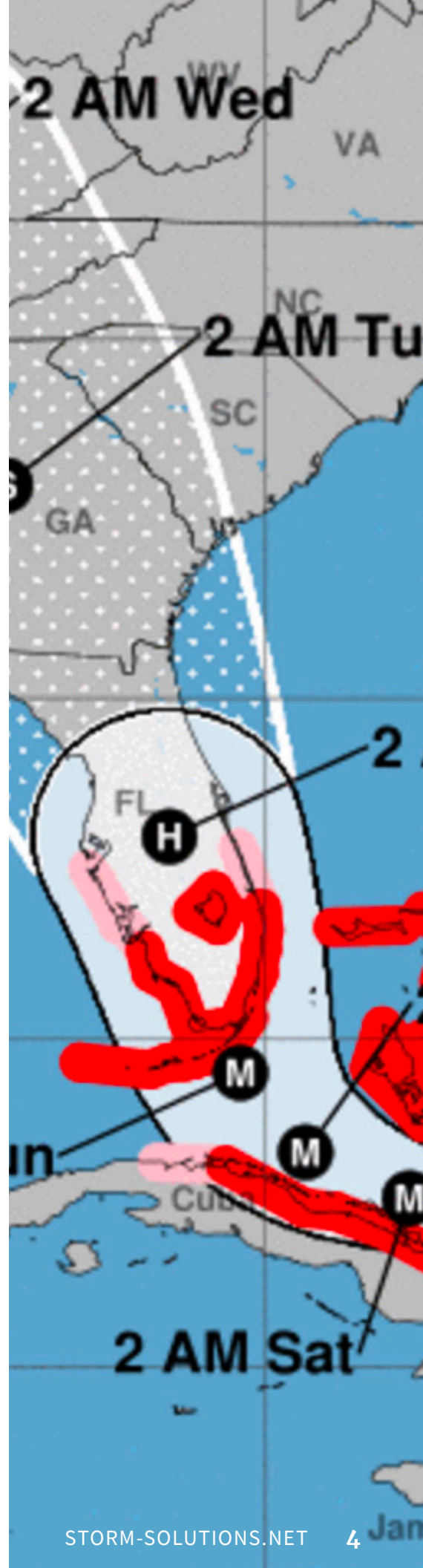
## The Saffir-Simpson Scale

The standard for hurricane classification, this system rates these storms on a scale of one through five, based on wind speed alone. While this rating won't tell forecasters every detail, it provides an indication of the storm's potential for causing destruction and flooding. This information is crucial to making important decisions, such as large-scale evacuations.

Although this system doesn't cover every potentially dangerous aspect of a storm, including rainfall and storm surge, it's a simple way to understand the level of threat a hurricane poses, similar to the way we understand earthquakes.

### Saffir-Simpson Hurricane Classifications

| CATEGORY | WINDS (MPH) | EFFECTS                                                                                                                                                                                                                                                                                                                                                                                    |
|----------|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1        | 74-95       | <ul style="list-style-type: none"><li>Some power outages</li><li>Poorly attached roof shingles can fly away</li><li>Unanchored mobile homes can be flipped</li><li>Coastal flooding</li><li>Pier damage</li></ul>                                                                                                                                                                          |
| 2        | 96-110      | <ul style="list-style-type: none"><li>Extensive and total power outages</li><li>Loss of potable water</li><li>Roof damage is common</li><li>Trees uprooted, snapped branches</li><li>Mobile homes severely damaged or destroyed</li><li>Pier and sign damage</li></ul>                                                                                                                     |
| 3        | 111-129     | <ul style="list-style-type: none"><li>Near total to total power loss for weeks</li><li>Water loss and contamination likely</li><li>Residential and utility building damage</li><li>Buildings without foundations are destroyed</li><li>Inland and coastal flooding</li><li>Large number of trees uprooted and down</li></ul>                                                               |
| 4        | 130-156     | <ul style="list-style-type: none"><li>Total power and water loss expected to last for weeks</li><li>Residential homes destroyed</li><li>Mobile and manufactured homes flattened</li><li>Most trees down</li><li>Extensive beach erosion</li><li>Extensive inland flooding</li></ul>                                                                                                        |
| 5        | +157        | <ul style="list-style-type: none"><li>Extreme total power and water loss for months</li><li>Nearly all trees down</li><li>Total roof failure</li><li>Complete building destruction</li><li>Total destruction of manufactured homes and many wood frame structures</li><li>Only hurricane-resistant glass or shuttered windows are safe</li><li>Major coastal and inland flooding</li></ul> |





## Hunkering Down or Heading Inland: Prepping for a Hurricane

Even for seasoned coastal residents, deciding whether to stay in your home or evacuate inland is rarely a clear-cut decision. Both come with different, but distinct, losses of control.

While there's no way to ever stay fully in control of what happens during a hurricane, careful preparation can better protect you, your family, your home and your business, whether you stay or seek shelter inland. When you're facing 100+ mph winds and flooding, everything you can do to minimize risk matters, no matter how small.

### Know When to Go

Hurricane paths and plans change fast and are impossible to predict with complete certainty. Thankfully, your local and national media provides full, 24-hour coverage of dangerous storm threats. So, tune in to stay informed using your well-charged mobile devices, television, emergency radios and anything else that would give you access to local emergency notifications or evacuation orders.


If you're able to leave the path of the storm until the threat has passed, do so before an evacuation has been ordered. Once a large-scale evacuation is underway, it will be difficult to find fuel and navigate clogged roadways for the hundreds of miles you'll be trekking with all of your neighbors.

### Don't Wait to Buy Supplies

When a storm is approaching, you'll want to be either evacuating or at home, preparing your property and family for maximum safety. Don't wait until you're directly in a storm's path to gather supplies. Not only will you have to endure a stressful, long and expensive hunt for batteries, water, flashlights and other storm staples, you're far less likely to find what you need before the storm hits. Not having the supplies you need to get through a storm puts you and your loved ones at risk.

**You will need to gather 3 days worth of supplies minimum when going to a shelter.** Then, store it in a cool, water-resistant and easily accessible location before storm season begins.





# STORM PREPARATION SUPPLY GUIDE

- 💧 One gallon of water per person, per day
- 💧 Non-perishable food
- 💧 Can opener
- 💧 Medications
- 💧 First aid supplies
- 💧 Flashlights
- 💧 Emergency radio
- 💧 Camp stove
- 💧 Generator and fuel
- 💧 Insurance policies
- 💧 Birth certificates
- 💧 Social security cards
- 💧 Pet vaccination records
- 💧 Important phone numbers
- 💧 Identification
- 💧 Cash
- 💧 Personal hygiene items
- 💧 Dry clothes and shoes
- 💧 External hard drives
- 💧 Small devices and charging cords
- 💧 Pet food
- 💧 Diapers
- 💧 Batteries
- 💧 Waterproof containers and bags





## During the Storm

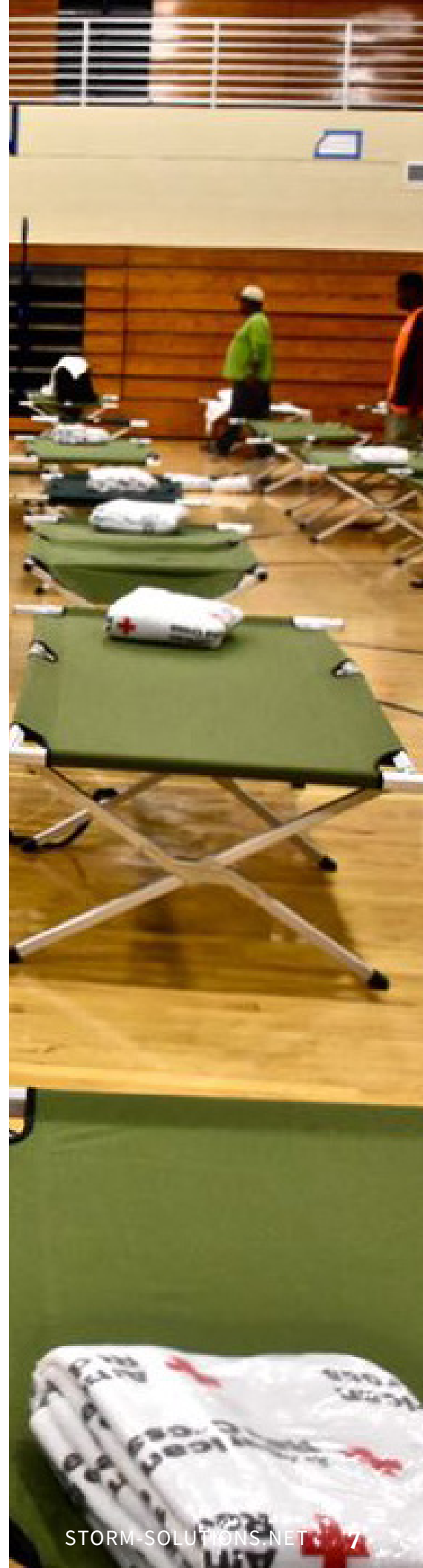
### Stay safe, sheltered and informed.

After you've made as many interior and exterior preparations as possible before the storm, gather your family, pets and hurricane supply kits into a safe, interior room of your home. Close all of the interior doors of your home as well, to seal each room separately in the case of destruction that penetrates the exterior of your home.

Stay away from large windows or glass doors, using a mattress to block them when necessary. One of the safest options, while sheltering in your home, are interior closets or hallways.

Turn off your phone to conserve your battery as there's a good chance you'll lose power in your home at some point. Instead, use a battery-powered radio to stay informed of the storm's track, evacuation orders and impending danger in your area. In the case of evacuation, make sure you've got an evacuation plan you can execute in moments, with reliable transportation, more than one route out of the storm's path and a shelter that can accommodate both your family and pets.

Finally, what you see outside of your windows or hear beyond the walls of your home can be deceiving, like the eye of a hurricane. Even the most calm conditions can turn into extremely dangerous conditions in just moments. Stay indoors and tuned into emergency broadcasts until you're told the threat is gone.



# Inside Your Home

If you live in an area affected by these devastating storms, it's important to prepare your home to withstand the force of a hurricane, whether you're there throughout the storm or not. The best time to assess your home and begin making these preparations is always long before the storm, or as soon as possible.

## Recognizing Hazards

Hurricanes are dangerous for two main reasons: wind and water. How do you contend with those extreme storm forces? Experts recommend following a simple strategy, "Run from the water, hide from the wind."

### Water

Hurricane flooding happens in several ways: wave-like flooding of storm surge, coupled with the gradual and flash flooding of hurricane rains are a major threat to urban areas. Rain and storm surges are very dangerous threats to both life and property in a hurricane. Your proximity to the coast will drastically influence your risk factors for hurricane-related water dangers.

Storm surge is the number one hurricane-related threat to coastal communities, typically the first ordered to evacuate. Salt water is driven inland for miles in the form of powerful waves, devastating coastlines, destroying buildings and roads, as well as eroding the shore itself. Extreme flooding can happen at the coast, and far from it, within mere minutes.

Inland flooding can also happen in an instant, as storm surge waters begin affecting streams, rivers and storm drains. Even if you're nowhere near a body of water, stay aware and away of rising water levels around you.

According to the Centers for Disease Control and Prevention, the majority of flood-related deaths occur from walking or driving in flood water. Not only is the water full of debris and toxins, it's murky and there's no way of knowing the depth.





## Wind

From ripping off a few loose roof shingles to flattening every wood-framed structure in its path, these super storms have devastatingly powerful wind speeds.

Even beyond the destructive force of hurricane winds alone, these storms frequently spawn tornadoes. In fact, about 20 percent of U.S. tornadoes are caused by hurricanes.

Not only is the wind itself dangerous to your home and family, it can bring buildings, signs, and trees crashing down all around you. Heavy or large pieces of debris are easily picked up by hurricane-force winds, turning them into flying missiles that could smash through a glass window or windshield.

Few structures, natural or manmade, remain unaffected in hurricane force winds. Coastal homes and buildings are the most at risk, without natural geographic obstacles and trees to act as a natural barrier or buffer. While the level of destruction potential depends greatly on the category of the hurricane, the safest strategy is to prepare your home for the worst case scenario.

## Preparing Your Home's Interior

Whether you're staying or evacuating, make sure your home is as prepared as possible to withstand the wind, water and loss of power that's typical in an hurricane.

Move furniture, electronics and valuables away from windows. Ideally, seal your most important valuables in an interior room without windows or outer doors. Unplug any appliances or furniture with wires that typically sit on the ground. Then, raise your washer, dryer, water heater and other large electrical appliances at least 12 inches off the ground, if possible. Turn off the main water valves to your home to protect your water line and storage tanks from contamination in the case of storm surge or broken water and sewage lines.

Purchase a flood policy in addition to your renters or homeowners insurance as flood damage is not covered by most blanket insurance policies. Make an inventory (with photos) of your furnishings, electronics and valuable possessions you'll want covered in the event of a flood. Store that inventory, along with your most important documents digitally and/or in watertight containers and bags.

Close your interior doors, along with all exterior doors and windows, to isolate each area of your home in the event an area becomes damaged and exposed to the elements.

**Pro Tip: Use plastic food storage containers to freeze large blocks of ice.**



Then, place a coin on top of a few of the ice blocks. Not only will these help to preserve your frozen food if you lose power, a coin that you find in the middle or bottom of its container after the storm tells you that the power went out and if your frozen foods ever reached room temperature.

## Protecting Your Windows

Everyone living in a coastal region understands the importance of preparing their windows before a storm. Unfortunately, this crucial part of storm preparation can be the most difficult to do when you're running out of time.

Plywood, the most common choice for last minute storm preparation can be incredibly hard to find as a storm approaches, selling out as quickly as emergency power generators do. Be sure your plywood panels are at least  $\frac{5}{8}$  inch thick and securely screwed or bolted to the side of your home. Cut each panel to fit the windows of your home, either at the store or with your own tools.

Metal or fabric shutters come in a wide variety and must be custom ordered ahead of time, usually through an authorized installer. The four main types of hurricane shutters include:

### **Roll down shutters:**

Permanent window protection that can be raised and lowered as needed, by hand crank or electric motor.

### **Accordion shutters:**

This option for maximum storm security can be installed on windows or a sliding door. They slide from side to side, can be locked in place and are also a permanently installed solution.

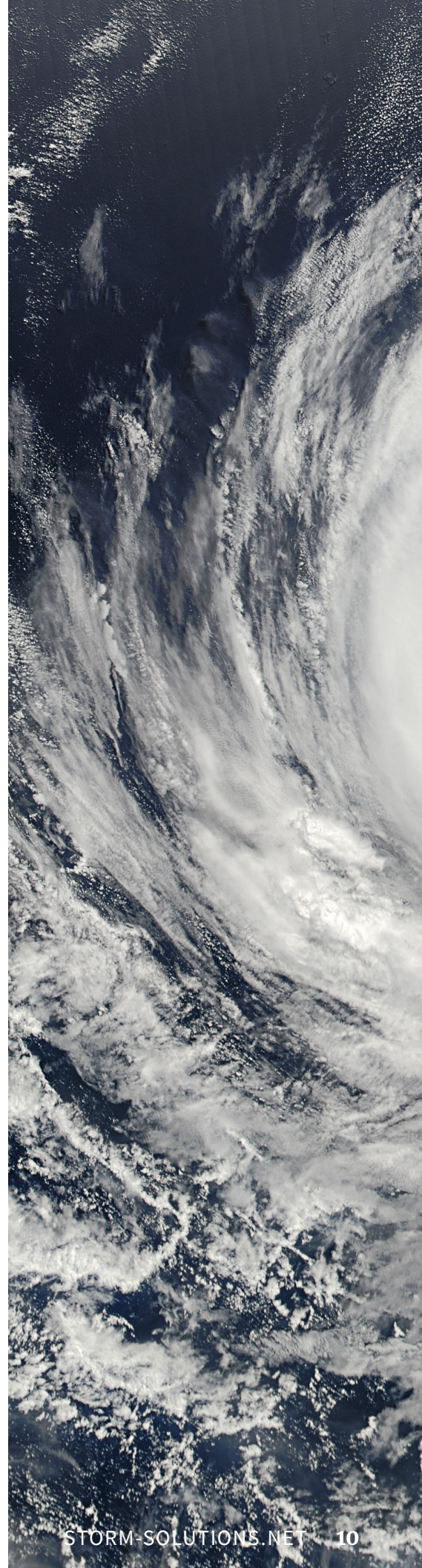
### **Storm panels:**

These steel, aluminum or clear panels come on and off of your windows as needed and can be stored away. Often, steel panels are the least expensive shutter that still meets Florida regulations.

### **Bahama shutters:**

Unlike the other options, Bahama shutters are also decorative, an important factor to consider for any permanent custom addition to your home. These heavy aluminum options also provide shade and sit at a 45 degree angle on the top of your window.

If you're opting to explore the permanent solution of hurricane windows or shutters, be sure to work with a certified professional, like Storm Solutions, that's licensed and insured to install this important piece of your family's storm protection.





Another great option for permanent hurricane protection are Impact Windows, a year-round substitute for hurricane shutters that won't interfere with your home's aesthetics.

Essentially, these replacement glass windows are impact-resistant, designed with laminated, double-plated glass to withstand hurricane winds, rain and flying debris. These windows come in endless designs and customizable sizes, are energy efficient, stand up against intruders and are shatter-proof in the case of extreme cases that breaks even the thickest storm glass.

## Window Preparation Do's and Don'ts

- ◆ Do caulk around your windows to prevent wind and water from getting indoors.
- ◆ Do remove all of your window-unit air conditioners.
- ◆ Don't tape windows to prevent shattering. This only results in larger pieces of broken glass.
- ◆ Don't open windows to stabilize the pressure of your house. No building is airtight. Small cracks let in enough air to typically prevent glass from shattering. Cracked windows that allow hurricane force winds into your home are a much more dangerous threat than glass shattering under storm pressure.
- ◆ Don't put pressure against a window or door to stop it from breaking against hurricane wind gusts. Not only will you be unable to support windows and doors against that level of force, you're putting yourself at serious risk of injury.
- ◆ Don't assume only water-facing glass is at risk. Hurricane winds (and the debris they carry) blow in all directions.
- ◆ Don't wait until a storm is approaching to begin looking for a licensed contractor to protect or replace your home's windows. Shop around and start planning now, before an emergency occurs.



Explore the Hurricane Impact Windows designs available from Storm Solutions, an authorized installer you can trust.

View Hurricane Windows →

## Protecting Your Doors

Protecting the doorways of your home is just as important as preparing your windows. Wind, water and debris all pose serious threats to the entryways of your home.

Before the storm begins, lock your exterior doors, adding reinforced bolt kits to both the top and bottom of doors without locks that can stand up to the storm. Brace older, weaker doors by bolting wooden 2x4 beams into the door frame or concrete block. French doors, or doors with any type of glass, will need the same shutter-style precautions you've taken to protect your windows.

To prepare your doorways for the likelihood of flooding, anchor plastic sheeting against your doorways, extending beyond the edges. Then use duct tape to secure it in place. Now use stacked rows of sandbags to brace the door, on top of the plastic.

Another option to seal doorways and other entries into your walls (like dryer vents) is canned spray foam. This effective, yet messy option, is likely to require intensive clean up and may damage some surfaces.

However, no flood prevention methods are more devastating to your property than the water damage caused by a flood.

Consider investing in impact-resistant doors, built to stand up against hurricane-force winds and debris. These heavy-duty doorways made of fiberglass and aluminum are your safest bet, and available in stylish designs that look just like their less-safe, premium wood counterparts. Just like hurricane-grade windows, be sure to consult an authorized and insured installer, well before storm season.



Protect what's inside of your home with designer entryways that can stand up to hurricane-force storms.

[View Hurricane Doors](#) ➔



## Protecting Your Garage

Of all the entryways to your home, the garage door is both your largest opening and your largest risk factor. (Often, it's your flimsiest entryway as well.) Because of its size, a garage door that doesn't withstand hurricane, wind, rain or debris can let enough wind in your home to blow your roof completely off. Protecting or replacing your garage door before a hurricane hits can single handedly save your entire home.

The cheapest option for securing your garage door is by bracing. Screw vertical wooden 2x4 beams or a metal bracing kit into the interior of your garage door and surrounding walls or concrete floors to reinforce and strengthen it.

If your current garage door is too weak or poorly made to bother reinforcing, consider investing in impact resistant garage doors, composite garage doors or steel carriage house style garage doors. Just like impact-resistant windows and entry way doors, hurricane-proof garage doors come in stylish designs and add value to your home, while providing a permanent storm-protection solution.

Seek professional, qualified help to replace or reinforce your garage door, before supplies and support are in high demand due to impending hurricanes.



Protect the most vulnerable entrance to your home with hurricane-rated garage doors you can rely.

[View Hurricane Garage Doors](#) ➔

## Preparing Your Pets

Family pets are an important pre-storm consideration you'll have to make special accommodations for whether you shelter in place or evacuate. Too many animals are left to fend for themselves during disasters because the plans weren't in place to protect and care for them beforehand.

- ◆ Keep your animals securely inside with you, untethered, during the duration of a hurricane and flooding or hazardous conditions that may follow.
- ◆ Store food and water for your animals in a dry, interior location that's still easily accessible during the storm.
- ◆ Keep a leash, collar, carrier, medicine, litter and litter box, puppy pads, food and water dishes with your own evacuation supplies.
- ◆ Store your pet's vaccination records in a water-tight plastic bag with your other important documents.
- ◆ Make sure your evacuation plan includes pet-friendly shelter options as most public shelters do not allow animals.



# Outside of Your Home

While you can't eliminate all of your risk factors in a hurricane, awareness and simple precautions can help to manage the risks you actually can control in your immediate area. Assess and take steps to secure the outside of your home, your yard and your neighborhood, before the storm.

## Recognizing Hazards

If your home is in a region affected by hurricanes, spend some time every year to reassess the hazards around you, both on and near your property.

Big considerations should include whether you're in an area that's flood-prone, near a body of water, or if you have the potential for being impacted by dangerous storm surge. Check your elevation level and identify local levees or dams that could pose a hazard. Closer to home, check the integrity of small buildings or structures on your property including swingsets, sheds, treehouses and playhouses.

## Preparing Your Home's Exterior

Before hurricane season begins, it's a good time to tackle the major storm preparation projects on your property. Rebuild, reinforce or anchor your outbuildings, sheds, playhouses and swing sets so they won't be destroyed in a major hurricane or worse, become dangerous debris.

Trim shrubs and trees to prevent weak branches from becoming debris in hurricane-force winds. Finally, make a list of everything in your yard that's not anchored down: trash cans, decor, planters, outdoor antennas and furniture. Have a plan to store it all and ensure you have the space.

Disconnect the fuel lines to your outdoor grills, refill fuel tanks and carefully store them both. In the event of an extended power outage following the storm, your outdoor grill may be your only way to cook.



## Hurricane Screens

Many coastal homes have outdoor living areas, patios or large openings that shutters and impact-resistant windows just can't protect. In those cases, your safest option is professionally-installed hurricane screens. Like shutters, these permanent storm protection solutions can be deployed when you need them, to shield your home or business from the impact of hurricane debris.

Several styles of hurricane screens offer a variety of protection and designs:

### **Buckle & Strap:**

The strongest, most versatile system. Uses zippers for easy egress.

### **Roll Up System:**

Electric or manual operation with an interface that can work with your home automation system. Good for everyday sun, wind and rain protection. Tested up to 257 mph.

### **Hemcord System:**

Deploy as needed with a sliding track design. Inside deployment for upper level windows. Zippers for easy egress. Tested up to 257 mph.

### **I-Beam System:**

Store and deploy these screen as needed with an easy-to-use sliding track system, similar to interior drapes. Can also be used for sun, wind and rain.

As with all of your major storm preparations, consult a professional hurricane screen installer, well in advance of hurricane season.



Protect your pool from wind, rain and debris with screens built to withstand even the most severe storms.

[View Hurricane Screens](#) →



## Preparing Your Roof

One of your most important considerations before a hurricane is the roof of your home, an especially vulnerable point for coastal properties. If your home is in a hurricane prone area and more than 15 years old, it's extremely important to have it professionally assessed to ensure it still meets local build codes for your area.

Florida building codes have recently changed to include specific fastening systems for roofs including straps, tie-downs and lateral anchors that hold your roof to the walls of your home. These measures are especially important for gable-end roofs, the rood type most vulnerable to hurricane winds.

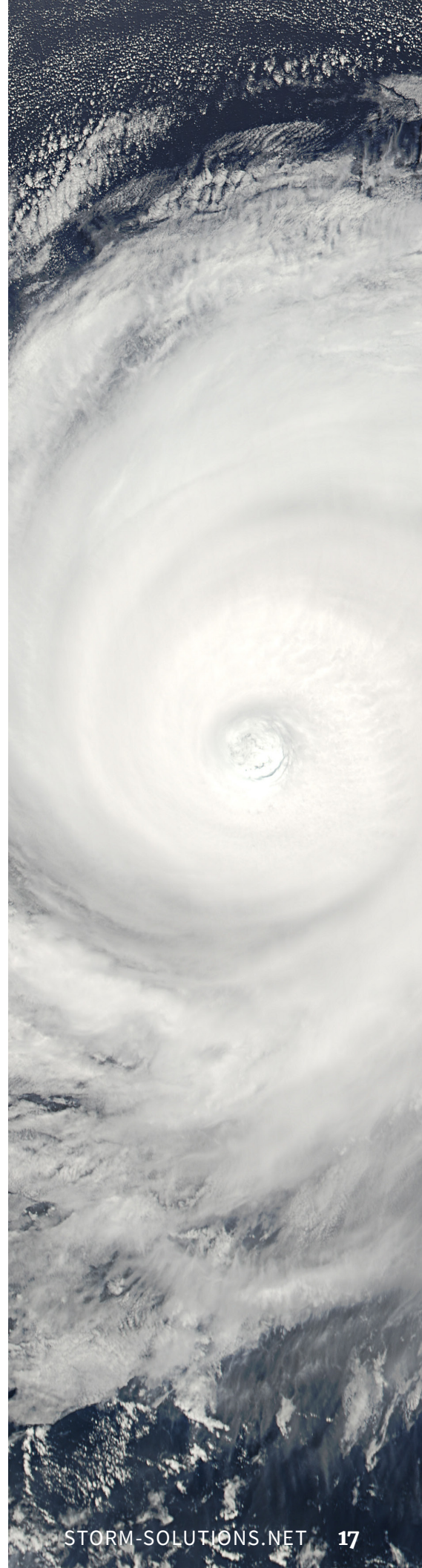
Other major factors of a hurricane-resistant roof include properly attached plywood sheathing, using nails instead of staples, skylights kept up to code, properly covered roof vents and the storm-resistant soffit coverings.

As part of your roof preparation and inspection, make sure your gutters and downspouts are clear of debris and properly routing water runoff.

## Preparing Your Car

Storm paths and evacuation plans change fast, leaving little time to scavenge for fuel or wait for roadside assistance. So when the weather makes it uncertain if you'll have to drive long distances at a moments notice, it's extremely important to gas up, check your fluids and be ready to drive in heavy traffic, through severe weather.

Keep your car garaged, or sheltered from wind and debris, if possible, while you plan several evacuation routes from your home to dryer, higher ground where you can remain until it's safe and possible to return home.



## Preparing Your Pool

Hurricanes pose a special threat to pools, a staple to most South Florida homes. Thankfully, many of them are already enclosed by screens.

Rather than thinking of these pool-surrounding screens as a practical way to keep bugs out, consider upgrading your screen to a hurricane-rated enclosure. Not only will you get the basic same style, design and function, you'll be protecting your pool covered patio and glass sliding doors from flying debris that can put your easily whole home at risk.

Explore the options from an authorized, insured installer, before the next storm season.

When preparing your pool itself for the drenching rains of a hurricane, drain six to 12 inches of water out to allow for some extra room and prevent flooding. Remove and store flotation devices or ladders, over chlorinate to avoid contamination and finally, unplug, disconnect and protect your electric pool pumps.





# The Bottom Line

The stakes don't get much higher.

In the face of winds over 100 mph, you can't just hope you're ready, you need to know. When you make careful hurricane preparations with the best solutions available, you're safeguarding your home and family from one of the most destructive natural disasters on the planet.

So when considering what you're willing to do and spend on hurricane preparation, first consider what you'd be willing to lose. Because that's ultimately the choice we're all making.

Stay safe, stay strong and choose to be prepared.

Contact the professionals of Storm Solutions for an assessment of your risks and a free estimate of the solutions you need, before it's too late.

