

# HURRICANE GUIDE



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A photograph of a blue house partially submerged in floodwater, surrounded by palm trees and debris. The house is a single-story structure with a grey roof and white columns. The water is murky and reflects the surrounding greenery. In the foreground, there is a large pile of debris, including a large orange plastic net and some dry branches. The sky is overcast and grey.

## INTRODUCTION

The [National Weather Service](#) reports, on average, 12 tropical storms form over the Atlantic Ocean, Caribbean Sea, or Gulf of Mexico. Of these, 6 will become hurricanes. Over a typical 2-year period, three hurricanes make landfall along the U.S. coastline, bringing with them additional weather hazards such as flooding, high winds, and even offshoot tornadoes.

A single hurricane can be very destructive and leave a lasting impact. If you live in a hurricane-prone area, it's important to carefully prep before, during, and after storm season to protect your family and your home, and minimize damages. This guide will explain essential things to do now to prepare for hurricane season, including strengthening common weak points in your home, planning for safety and communication, and assembling the necessary supplies to ride out the storm.



## BEFORE THE STORM



### FORTIFY YOUR HOME

The official hurricane season starts on June 1 and ends on November 30. Leading up to and during this six-month period, you can protect your home through proactive advance planning.

#### **Preparing for a hurricane includes two types of precautions:**

1. Passive protection, such as the installation of impact-resistant windows, prepares you for potential damage well in advance and doesn't require immediate action as a storm approaches.
2. Active protection, such as boarding up doors and windows, applies to actions that may need to be taken in the event of an approaching storm when more advanced preparations are not available.

These two protective measures empower you to create a safe shelter for you and your loved ones so you can be confident your home will withstand a powerful storm.

Hurricanes bring high winds, torrential rain, and extreme pressures, all of which will put your home's structural integrity to the test. Even before tropical storm season officially arrives, you can take several preventative measures, called "home hardening," to fortify your home's weak points and mitigate significant damage. Areas of the home to pay careful attention to include the roof, exterior doors and windows, and the garage door. By hardening these areas ahead of time, you'll greatly improve the chances of your home remaining intact in the event of a storm.

Proactive planning also spares you the stress and expense of trying to "batten down the hatches" as an imminent storm arrives. Before hurricane season, consider hiring a professional to properly anchor your roof, inspect to ensure all doors and windows are properly sealed, and to determine if you have a wind-rated garage door.



## HOME HARDENING TIP: IMPACT-RESISTANT WINDOWS AND DOORS

Impact-resistant windows offer several advantages over standard glass panes. These specifically formulated windows

are engineered to withstand hurricane-related debris and avoid shattering if struck. The glass in these hurricane-resistant windows may crack, but even splintered, the glass is held securely in its frame by a strong, clear interlayer. Aside from keeping your loved ones safe from dangerous glass shards, impact-resistant windows prevent any intense buildup of pressure created by storms from entering your home and blowing out other openings. As a safety precaution, keep all windows and doors locked at all times through the duration of the storm. Never crack a window to “stabilize” pressure.

Another benefit to investing in impact-resistant windows is you won’t need to spend money, time, and energy installing plywood and shutters. Not

having to perform these tasks reduces the stresses associated with hurricane season and eliminates potential fire safety hazards because entry points are not obstructed by the wood barriers.

### ADDITIONAL BENEFITS TO INSTALLING IMPACT-RESISTANT WINDOWS AND DOORS:

- Lower energy bills due to reduced heat and cold transfer
- Potential discounts on home insurance
- Safeguard artwork, carpets, drapes, and furniture from harmful UV damage
- Experience up to 65% reduction of exterior noise\*

As a bonus, modern impact-resistant windows are attractive. Most people cannot tell the difference between impact-resistant and regular glass-paned windows. To determine if your home’s windows are impact-resistant, look at your purchase receipt, contact the manufacturer, or call the dealer that installed your windows.

PRODUCT	NO EFFORT REQUIRED	NO STORAGE REQUIRED	NO CHANGE IN HOME APPEARANCE	24/7 SECURITY PROTECTION	24/7 UV PROTECTION	24/7 NOISE REDUCTION
PGT WinGuard Impact-Resistant Windows and Doors	✓	✓	✓	✓	✓	✓
Electric Roll-Down Shutters	✗	✓	✗	✗	✗	✗
Manual Roll-Down Shutters	✗	✓	✗	✗	✗	✗
Accordion Shutters	✗	✓	✗	✗	✗	✗
Panel Shutters	✗	✗	✗	✗	✗	✗
Plywood Panels	✗	✗	✗	✗	✗	✗
Fabric Storm Panels	✗	✗	✓	✗	✗	✗

\*Sound reduction percentage is based upon the WinGuard® Aluminum Picture Window's (PW7720A) OITC rating compared to a single-pane window with an OITC rating of 19. Actual results may vary.



## PREPARE YOUR FAMILY

Hardening your home ahead of the season is essential, but

it's also critical to properly prepare your family for hurricane-related emergencies. This includes updating your emergency preparedness kit, knowing local evacuation zones, and establishing a communication plan.

**Ready.gov** suggests that a family emergency plan address the following four questions:

1. How will I receive emergency alerts and warnings?
2. What is my shelter plan?
3. What is my evacuation route?
4. What is my household communication plan?

### Prepare to receive emergency alerts and warnings

During natural disasters, cell phone and internet services aren't always reliable to keep you informed about local conditions, emergency evacuations, and other important alerts and warnings. Plan to have an alternative method of receiving information. A battery-powered weather radio is a good option. Tune into continuous weather forecasts and emergency warnings through the [NOAA Weather Radio All Hazards \(NWR\) broadcast](#). This station can also transmit non-weather emergencies through the Emergency Alert System.

### DEVELOP A SHELTER PLAN

Many people choose to shelter in their own homes if circumstances permit. Plan for this and potential evacuation, depending on storm severity and local guidelines. For both scenarios, you'll want emergency supplies on hand to get your family through the storm and its aftermath.

**For sheltering at home, take the following precautions:**

- Clear outdoor areas from as many movable objects as possible.
- Lock doors and windows.
- Turn off air conditioning, fans, and heat (even if you have power).

- Plan to stay in interior rooms or hallways away from doors and windows during the storm.

In either scenario, make sure to assemble a portable emergency supply kit ahead of storm season.

Emergency supplies can be hard to come by once a storm is announced and local panic ensues. Store your kit in easy-to-move bins, duffel bags, or other containers. If you need to leave the area quickly, you'll have a kit that is easy to grab and transport.

**Other preparatory steps to take include:**

- Filling clean, large containers with water to drink.
- Filling bathtubs with water to flush toilets and other sanitation needs (NOTE: This water isn't meant to be safe for drinking)
- Charging all cellphones, portable chargers, and other rechargeable devices.
- Setting refrigerator and freezer on the coldest settings and keep them closed as much as possible to prevent food from spoiling too quickly.
- Unplugging unnecessary small appliances during the storm and its aftermath to avoid possible damages from power surges.
- Ensuring all gas containers are full to run a generator, if you have one. Stow containers safely in an easily accessible place.
- Making a run to the gas station to fill up all household cars with gasoline (there could be a shortage in the storm's aftermath).
- Securing propane tanks in safe and easily accessible locations to ensure they don't blow away.





## EMERGENCY SUPPLY KIT CHECKLIST

**You cannot prevent disaster conditions, but you can proactively prepare for them by assembling an emergency kit stocked with necessary supplies. The Federal Emergency Management Agency (FEMA) suggests the following items be included in your kit:**

- One gallon of water per person per day for at least three days, for drinking and sanitation
- At least a 72-hour supply of non-perishable food
- Battery-powered NOAA Weather Radio
- Flashlight
- First aid kit
- Extra batteries
- Dust masks to filter contaminated air
- Plastic sheeting and duct tape for sheltering-in-place
- Moist towelettes, garbage bags, and plastic ties for personal sanitation
- Wrench or pliers (to turn off utilities)
- Manual can opener
- Local maps
- Cell phone with chargers and a backup battery
- Prescription and non-prescription OTC medications
- Glasses and contact lens solution
- Infant formula, bottles, diapers, wipes, and diaper rash cream
- Pet food and extra water for your pet
- Cash or traveler's checks
- Important family documents such as copies of insurance policies, identification, and bank account records saved electronically or in a waterproof, portable container
- Sleeping bag or warm blanket for each person
- Complete change of clothing appropriate for your climate and sturdy shoes
- Household chlorine bleach and medicine dropper to disinfect water
- Fire extinguisher
- Matches in a waterproof container
- Feminine supplies and personal hygiene items
- Mess kits, paper cups, plates, paper towels, and plastic utensils
- Paper and pencil
- Books, games, puzzles, or other activities for children

Source: fema.gov



## KNOW YOUR EVACUATION ROUTE

During severe weather conditions, local authorities may direct residents to evacuate. If this occurs, it's easier—and safer—if your family has an escape plan. Communication may be difficult, if even possible at all.

### Before a storm, ensure everyone knows the following:

1. Where the rally point is to meet.
2. Chosen backup location(s) in the event the rally point isn't available or accessible.
3. Who to call if communication channels are available; it helps to have an old-fashioned phone chain to reach all members.

Remember, navigating evacuation routes and perimeter highways, and obtaining lodging may be difficult in the wake of a storm. FEMA recommends choosing several meet-up locations in different directions, providing you options during emergency conditions.

Before evacuating, remember your emergency supply kit and weather radio, and keep a tank's worth of gas in your car if you plan to drive. When traveling on roadways, be mindful of downed power lines, rising water, standing water, and other potential hazards. Be sure to follow official

evacuation routes and avoid shortcuts that may be isolated and not safe for travel.

## ESTABLISH A COMMUNICATION PLAN

Technology makes things so much easier; however, during an emergency, it can be a huge impediment if it's not accessible due to power outages or drained batteries. Give everyone a laminated hard copy list of all family members' current contact information and store it in each emergency supply kit.

Hurricane warnings are often early enough to escape before the storm makes landfall, but be mindful it might arrive during school or work hours. It's important to be familiarized with the emergency plans for these places. Let children know how and where they'll be picked up so they aren't scared or confused.

FEMA recommends designating an emergency contact out of your local area. This person can serve as a central communicator in case local phone lines are jammed. Be sure to share the designated individual's address and phone number(s) with everyone (again, in written format).





## DURING THE STORM



### **STAY SAFE AS THE STORM PASSES**

Now that you're stocked with supplies and your home is fortified against extreme weather, riding out the hurricane is largely a measure of patience and conserving energy.

- Keep close to your NOAA weather radio for updates to learn when conditions are safe.
- Avoid using cellphones and other devices to conserve battery life (it may take time before power is restored).
- Retreat to an interior room without windows on the lowest floor of the house.
- Use flashlights, never candlelight, because if a gas leak occurs, there could be an explosion.
- Keep the generator outdoors and away from windows.



## PREPARE FOR STORM SURGES

Hurricanes pose great threats to life and property, but storm surges are also an important factor to consider in storm-prone areas. Surges can cause devastating flooding, even in inland areas. National Geographic reports [storm surges](#) are capable of pushing water tens of miles inland, causing flooding of 30 feet or more far beyond the coastline.

### WHAT IS A STORM SURGE?

A storm surge occurs when an abnormal rise of water is generated by a storm's winds. Large, battering waves and unusually high levels of rain create dangerous conditions, putting life and property at risk. If a surge occurs during high tide, it can be devastating. Storm surges are not a sudden wall of water, but rather a steady rising amount that can get dangerous—FAST. Surges often happen before the storm actually hits.

### WHAT CAUSES STORM SURGES?

Surges are primarily caused by strong circular winds, generating and transferring energy to the water, creating surface waves. Once they reach the

shore, the wind-generated waves have no place to go but inland. When this occurs, a huge wave wall can destroy anything in its path. Any CAT grade storm can produce storm surges.

### HOW TO PREPARE FOR A STORM SURGE

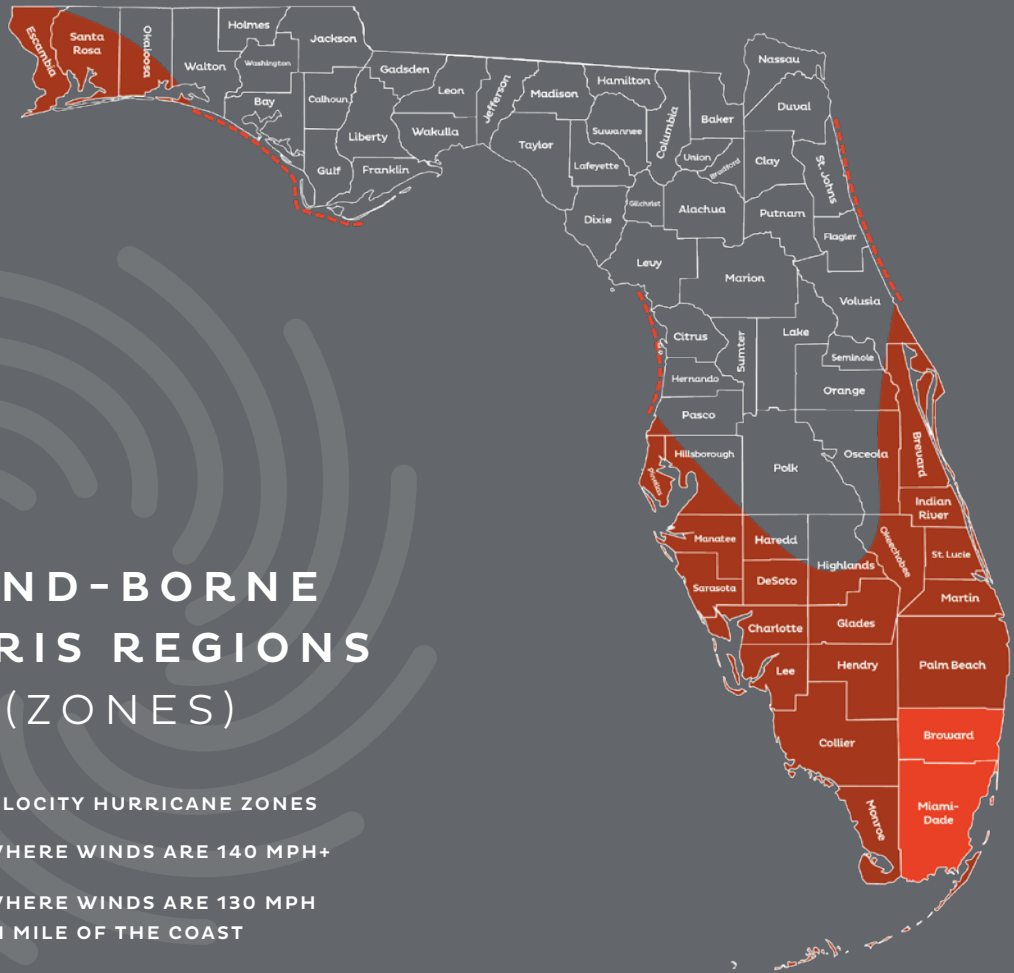
It's difficult to predict the events of any natural disaster, but [preparation helps ensure](#) the best possible outcome.

- Follow official recommendations and evacuate sooner rather than later.
- Choose a safe route and plan to go to the nearest possible evacuation location outside the risk area.
- Let your local emergency management know about any household members needing special assistance to evacuate.
- Keep an axe and rope fastened to the wall of the attic so a hole can be chopped through the roof if needed and everyone fastened to the structure.

Surges are one of the most dangerous aspects of hurricanes. Take them seriously. There will come a point when 911 won't be able to help because responders won't be able to reach you. Expect traffic congestion—one of the main reasons it's best to leave ASAP if a storm surge warning is issued.

# WIND-BORNE DEBRIS REGIONS (ZONES)

- HIGH-VELOCITY HURRICANE ZONES
- AREAS WHERE WINDS ARE 140 MPH+
- - - AREAS WHERE WINDS ARE 130 MPH WITHIN 1 MILE OF THE COAST



## HIGH-VELOCITY HURRICANE ZONES & WIND-BORNE DEBRIS REGIONS

With the steady increase of storm activity in the Atlantic, it's important to know if you're in a High-Velocity Hurricane Zone (HVHZ) or a Wind-Borne Debris Region. These two designations are part of the Florida Building Code. Areas that fall under HVHZ requirements in Florida are Coastal Palm Beach County and Broward and Miami/Dade Counties. (Other states have similar hurricane zoning code requirements but may have a different name.)

In Florida, the HVHZ is a portion of the larger Wind-Borne Debris Regions. The latter are areas located within hurricane-prone regions that are within one mile of the coastal mean high water line where wind speed is 140 mph or more plus those within one mile of the coast in the 130-mph zone. A good portion of Florida is designated as a Wind-Borne Debris Region.

Structures in these zones are held to higher standards and must be able to withstand extraordinarily high wind levels. The stronger a building is built to withstand hurricane conditions, the safer lives and property will be. Homebuyers should always check to ensure their home is adequately built to the appropriate standards. Builders should always follow requirements and, before starting construction, check to see if any have changed.



## AFTER THE STORM



### WATCH FOR HAZARDS

Once the hurricane passes, remain cautious and vigilant, even as the storm dissipates.

Floods can cause unseen damage that can lead to significant harm. [The American Red Cross](#) emphasizes the importance of avoiding floodwater, as even six inches of fast-flowing water can knock a person over. Two feet will float a car.

**Other Red Cross recommendations for dealing with hurricane aftermath include the following:**

- If caught on a flooded road with rapidly rising waters, get out of the car quickly and move to higher ground.
- Don't walk on beaches or riverbanks.
- Don't allow children to play in or near floodwater.
- Avoid contact with floodwater. It may be contaminated with sewage or contain dangerous insects or animals.
- Stay out of areas subject to flooding. Underpasses, dips, low spots, canyons, washes, etc. can become filled with water.

Flooding is the [leading cause of hurricane-related deaths](#) in the US. Avoid touching electrical equipment, and be cautious of standing water, as downed power lines can still be live.

Once it's safe, take photographs of any damage to your home or property and contact your insurance company ASAP. If returning from evacuation, be cautious when first entering your home. Check for gas leaks, structural damage, and live wires. Be vigilant because these, along with fires, can occur in the days following the hurricane.





## TEST YOUR KNOWLEDGE: TRUE OR FALSE?

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1

TRUE OR FALSE?

**You can outrun a storm surge in your car once it starts.**

False. Waiting too long is very dangerous. Even if the water is an inch high, odds are it'll be a foot high moments later. Chances are your car won't make it too far beyond your driveway.

2

TRUE OR FALSE?

**Only windows and doors facing the coast or direction of the storm need protection.**

False. Hurricane wind shift is unpredictable and can blow in any direction.

3

TRUE OR FALSE?

**The eye wall is the most dangerous part of the hurricane with the greatest speed winds.**

True. The eye wall is located just outside the eye of the storm and where the most intense winds and highest amount of rain occurs.

4

TRUE OR FALSE?

**The Saffir–Simpson Hurricane Scale has 5 storm ratings.**

True. Hurricanes receive a Category 1 to 5 rating based on their maximum sustained wind speeds. This doesn't, however, account for the threats associated with rainfall, storm surges, or tornadoes.

5

TRUE OR FALSE?

**A tropical storm becomes a hurricane when sustained winds reach 100 mph.**

False. A storm becomes a Category 1 hurricane when winds exceed 74 mph. Category 5 storms can see winds in excess of 157 mph.



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