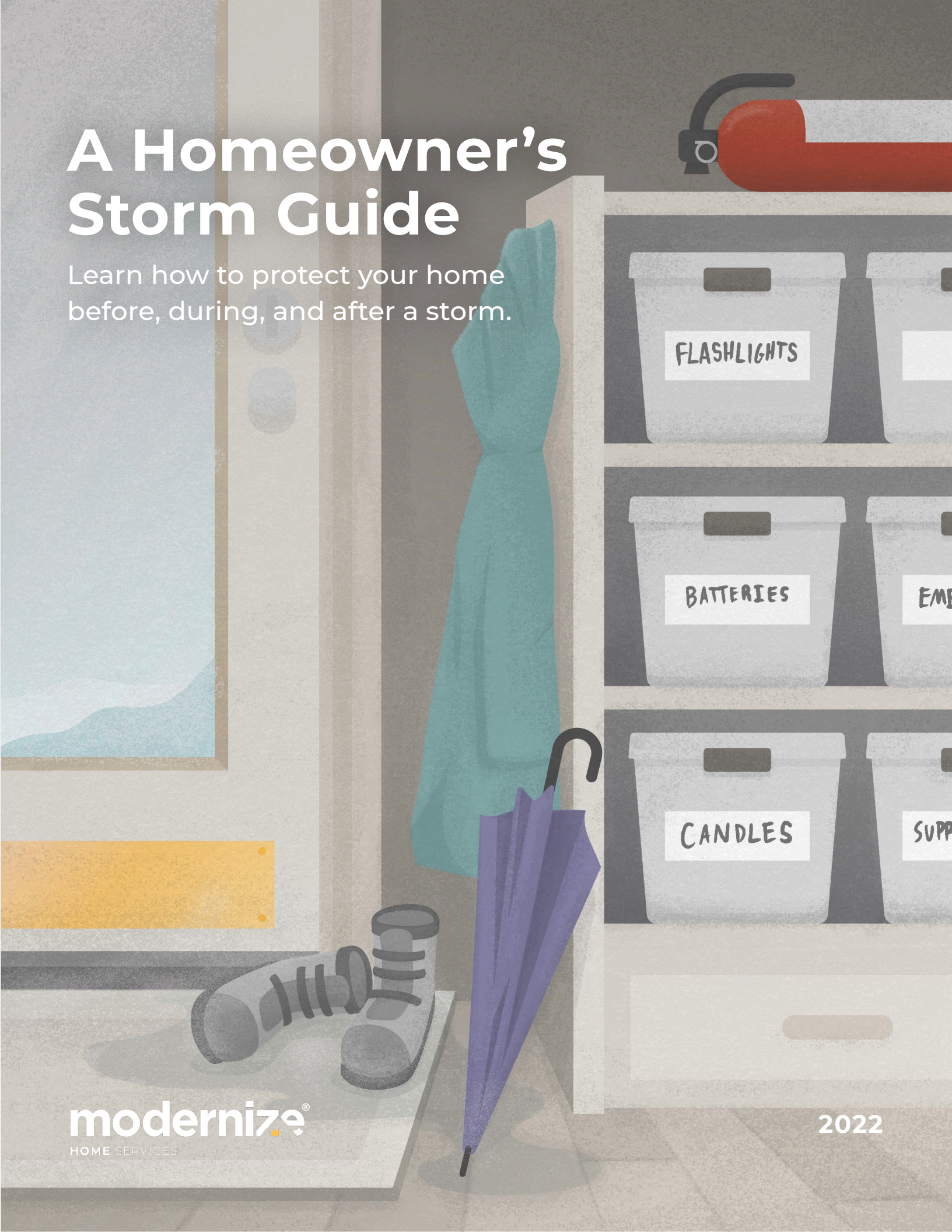


# A Homeowner's Storm Guide

Learn how to protect your home before, during, and after a storm.



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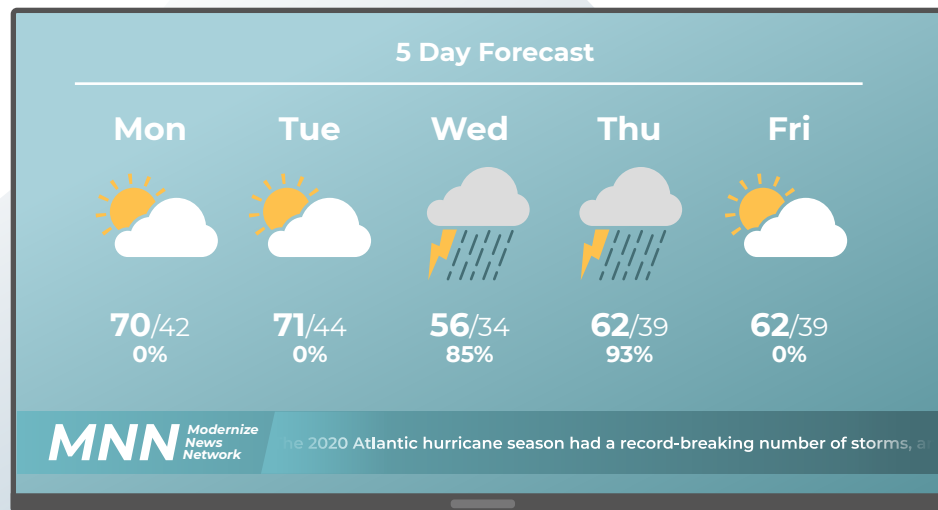
# Dealing with Storms

## Outfitting Your Home Against Inclement Weather

Inclement weather is more common than it once was. The 2020 Atlantic hurricane season had a record-breaking number of storms, and 2021 wrapped up as the third most active on record, with [the National Oceanic and Atmospheric Administration \(NOAA\)](#) recording 21 named storms (winds of 39 mph or higher). Seven of those were hurricanes, four of which were major hurricanes. Not only that, but it was the sixth consecutive year with an above-normal hurricane season. NOAA will issue its initial outlook for the 2022 storm season in May. So, now is a good time to start preparing your home for what next year has in store.

Hurricanes were not the only extreme weather experienced in the last couple years. 2020 was the second-hottest year on record, and [2020's fire season was also historic](#), ravaging much of the western U.S. In fact, ten of the warmest years on record have occurred since 2005. June 2021 was [the hottest June on record](#) for the U.S., and [July 2021 was the hottest month](#) on Earth.

With so much record-making inclement weather, being prepared is more important than ever, and we're here to help. This guide was created to help you deal with storms, from before they hit to after they've passed.



# Before the Storm

An ounce of prevention is worth a pound of cure when it comes to storm preparedness. Whether your area is impacted by hurricanes, tornadoes, or wildfires or your house needs to make it through harsh winter weather or large rain storms, there are lots of things you can do to ensure your home is in the best shape possible. Let's explore your home's best defenses against storms, piece by piece.

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## Roofing

### Your home's first line of defense

During storms, your roof might take the brunt of the weather, from supporting the weight of piled snow to enduring hailstones. Keeping all that water from leaking inside, where it can cause mold and rot, should be your top priority when you're preparing your roof for storms.

In order to prevent water damage to your home, make sure to:

- Replace missing shingles immediately.
- Fix any ponding on your roof.
- Regularly inspect any openings or joints in your roof.
- Inspect your attic ceiling for damaged or moldy insulation.

### Underlayment

For extra protection against the elements, peel and stick underlayment is a good investment. Peel and stick is more flexible than tar paper (currently the most common underlayment), making it a better choice for installation around hips and valleys. It's also harder to tear, making it both wind-resistant and more durable over time. If you can, rely on peel and stick underlayment to protect the entire roof from wind and ice. However, even saving on costs by using it in small sections at the roof edges is worth the added expense.

### Ice Dams

If you live in areas with frequent ice or snow, you might be in danger of ice dams. These occur when the heat from your house melts the snow on your roof. It then runs down until it hits the edge, where the low temperatures refreeze the snowmelt and cause ice dams that clog your gutters and stop runoffs. Making sure your attic is properly insulated should reduce the heat making it to the rooftop – it also decreases heat loss in your home in general, keeping you warmer. You could also install deicing cables. As the name suggests, they're used to deice your roof, and do so by heating up when plugged into an outlet. Installing them where ice builds up and then running them into your gutters allows them to melt the ice until it runs down your gutters and off your roof.



If you have a flat roof, be aware of high winds. Flat roofs are susceptible to wind lifts—the literal lifting of your roof off your home due to the wind. Make sure your roof has the right fasteners; staples are a definite no.

# Windows

## Ensure the outside weather stays outside

Windows are one of the most important – and fragile – parts of your home's outer shell. Here are some options to help protect them from the elements:

### Add on to Them

Security film, also known as safety window film, can be applied to the inside of windows to help protect you from debris. This option is fairly low-cost, and installation can be taken care of personally. However, though it offers some protection from shattered windows acting as sharp and dangerous projectiles in a storm, security film ultimately doesn't prevent the window from breaking entirely or even dislodging from its frame.

Hurricane fabric is another option. This flexible fabric is set up on the outside of the window and protects the glass by rebounding the debris away. It can be installed temporarily or left up year-round, making it an attractive option to many homeowners. However, its trampoline-like qualities do mean that the debris can hit other things, such as your car. Larger debris can also rip through it.

### Temporary Protection

Plywood is the most common and least expensive temporary solution, but it requires the most work. Boarding up windows with plywood offers protection from most forms of debris. Remember to purchase plywood that is at least eight inches longer on every side than the window it is protecting. It then has to be secured with either heavy-duty screws and anchors in wood or expansion bolts in masonry. It is possible for plywood to be stored for repeated use, and labelling each piece will certainly make reinstallation easier. However, plywood is a last-minute solution, and won't offer day-to-day protection. Also, when installed, it blocks out the light, which could become a problem if the power goes out.

### More Permanent Protection

Hurricane shutters are an effective, long-term solution to the damage caused by hurricanes and other storms. Hurricane shutters come in a variety of styles, each with their own advantages and disadvantages.

- Accordion hurricane shutters are the least expensive option, though they also have the least curb appeal. Like the accordions for which they are named, simply unfold them and lock them into place when a storm approaches.
- Colonial hurricane shutters are more attractive and less bulky than accordion shutters, made of two pieces that fold together over the window.
- Bahama hurricane shutters are single piece shutters that hang over your window like an awning, offering shade even when not in use.
- Roll-down hurricane shutters are the most expensive option. These shutters unroll either from a box installed above your windows in what can be either manual or automatic motion, though if the power goes out, the automatic option might not work.



A common myth is that taping a large X over your window will offer some protection. However, it is just that: a myth. Tape on your windows will not make them stronger or more likely to survive a storm.

## Siding

### How to weather-proof siding before storm season

Beneath your home's siding lies everything that keeps you warm and dry – wall sheathing, insulation, and the structure of the home itself. So it's important your siding is free of cracks, chips, or other faults that could allow water damage to seep inside.

#### Cleaning Your Siding

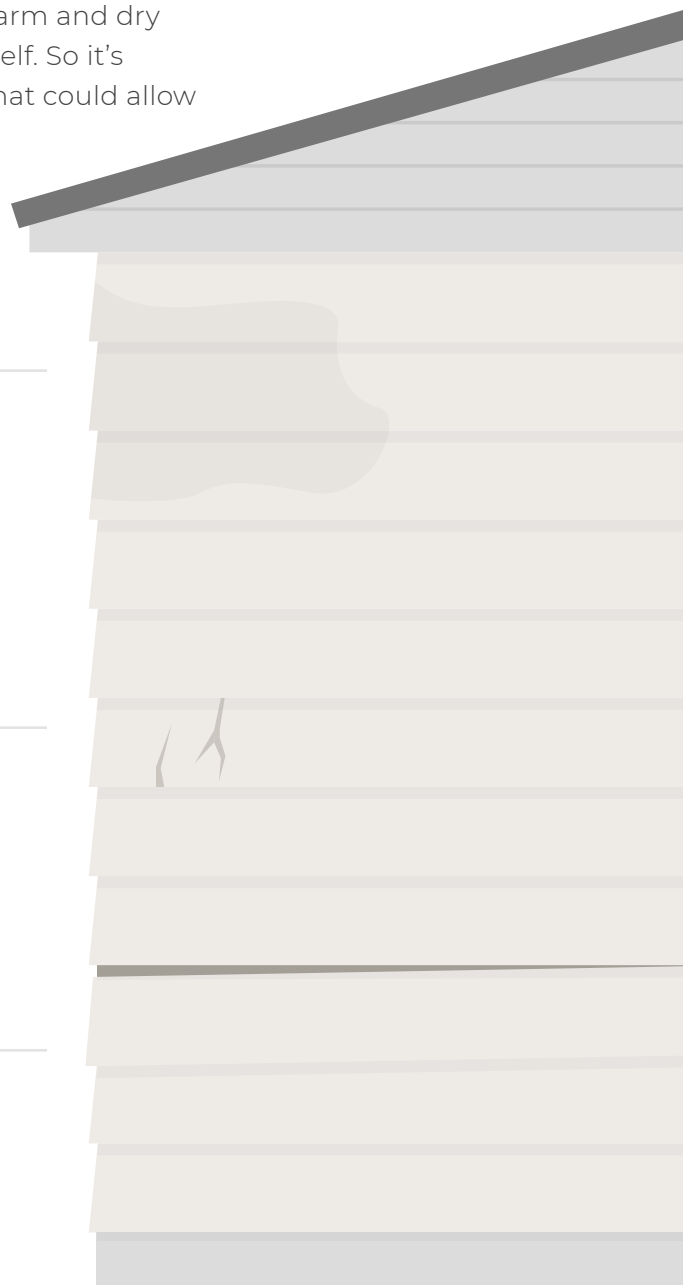
No matter what kind of siding you have, cleaning it will allow you to more easily spot any areas that may need fixing. All you need is a brush, a cleaning solution, and a ladder – or, if you're so inclined, a power washer. Just be sure to look up how much pressure to use on your particular siding type if you're going that route.

#### Repairing Cracks and Holes

With many types of siding, cracks and holes can be caulked or patched, then painted to match. Wood filler or epoxy may work for damage in wood siding, while a patch is sold pre-mixed for stucco siding, so be sure to research the right material for your siding.

#### Checking for Loose Boards

As you clean your siding and look for cracks, make sure to test the boards by holding the edge and shaking to see if you have any that have come loose. Keep in mind that every nail put into a board creates a potential new entry for water to seep in, so it may be best to have a contractor repair this problem.



It's not recommended you start any major housing projects (such as replacing your siding) a month or less before hurricane season starts in case a storm hits early.

## HVAC

### Keep Your Inside Temperature Steady

Heating, ventilation, and air conditioning (HVAC) are important parts of your day-to-day comforts, but they can be overlooked until something goes wrong. Here are some ways to keep everything humming along before you're in the thick of storm weather.

- Look into any accessible ducts with a flashlight. If you can reach an obstruction you see, you might be able to avoid calling a professional and remove it yourself.
- Replace your air filters. Dirty air filters can reduce air flow, causing uneven temperatures, and force your unit to work harder.
- Have your HVAC inspected regularly. Newer systems can be examined less often, but older systems should be inspected at least once a year. If your HVAC is used year-round as opposed to the more common four to eight months, maintenance should definitely happen annually.
- Move anything that may damage the condenser (that's the outdoor element of your HVAC unit that releases and collects heat). In strong winds, flying patio furniture or decor may damage the unit.
- If it's possible to turn off your HVAC prior to a storm, you can cover the condenser with a tarp, which can help prevent water damage. However, temperatures in your areas may not make that a realistic possibility.



If your unit is older than 15-25 years or needs repairs frequently, replacing it might be your best bet. [Here](#) is an HVAC cost calculator to help you budget that job.



## Solar

### Keep Utilities Worry-Free

After Hurricane Florence hit the Carolinas in 2018, [over 1 million people](#) lost power, thousands of whom continued having outages weeks after the storm. But those thousands of residents were not ones with solar panels. Half of those with solar installations reported having lost power during the storm, but the day after, they were back up and running.

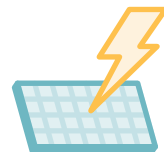
In addition to drastically lowering your energy bills, not having to worry about outages during storms may be one of the reasons you decided to get solar panels in the first place. The panels themselves are very low-maintenance, but before storm season hits, make sure there's nothing around that could damage them.

#### Clear Away Debris

Falling debris can be a problem for solar panels during hurricanes. Twigs and leaves can cause micro-scratches that reduce the amount of sunlight reaching the cells, and larger debris can break panels entirely. Allowing debris to build up will also reduce the efficiency of your solar panels. To cut down on these issues, make sure any trees nearby are regularly pruned, and clean your solar panels at least once a season with a microfiber cloth and your garden hose.

#### Seal Your Panels

As solar panels age, the sealant used to keep water out deteriorates. To prevent water damage from happening, take the time to reseal each panel when the seal starts to leak, either on your own or with help from a [licensed solar panel contractor](#). Check with them to see if any problems are covered under warranty, as often short-circuiting is caused by manufacturing defects that are then exacerbated by strong winds or rain.



#### Can I Install Solar Panels in a Storm-Prone Region?

Yes! They're built to last. In some hurricane-prone municipalities such as in Texas and Florida, their installation is required to be able to withstand heavy winds. They're also highly waterproof, even in very extreme circumstances such as heavy rains and hail.



If you live in an area with a lot of hail, installing smaller panels can reduce the damage caused by the storm. While a higher initial cost, replacing individual panels will cost less and the set-up means that damage to one panel will result in less energy output loss.



While most home insurance plans cover rooftop solar panels, some systems (such as solar carports and ground mount panels) are not covered. Speak with your insurance agent to make sure that your solar panel system is adequately covered before hurricane season arrives.



## Doors

### Lock Out Stormy Weather

Making sure doors into your home are well-protected helps them last longer and also makes sure water and debris stay outside. Here are a few things to check before storm season arrives:

- **Does the door sit straight?** If not, it may need to be re-hung. Replacing or resetting the hinges can help ensure your door is set properly in its frame.
- **Check for gaps.** From both sides of your door, look carefully to see if any light is leaking through. You can also feel all the edges to see if outside temperatures are finding their way inside, or vice versa. These gaps mean it's time to replace your weather-stripping.
- **Is the exterior finish peeling?** Wood doors that are either painted or finished with a clear coat will eventually peel. Sanding and refinishing the door will ensure the wood underneath stays safe, preventing it from warping or cracking during bad weather.

Depending on your region, you may also want to consider adding a storm door. Storm doors are a way to preserve the way your door looks while also keeping it safe from the weather. These exterior doors are installed over your existing doors, adding security and protection. See our guide to storm doors to help you pick the right type for your region.



## Gutters

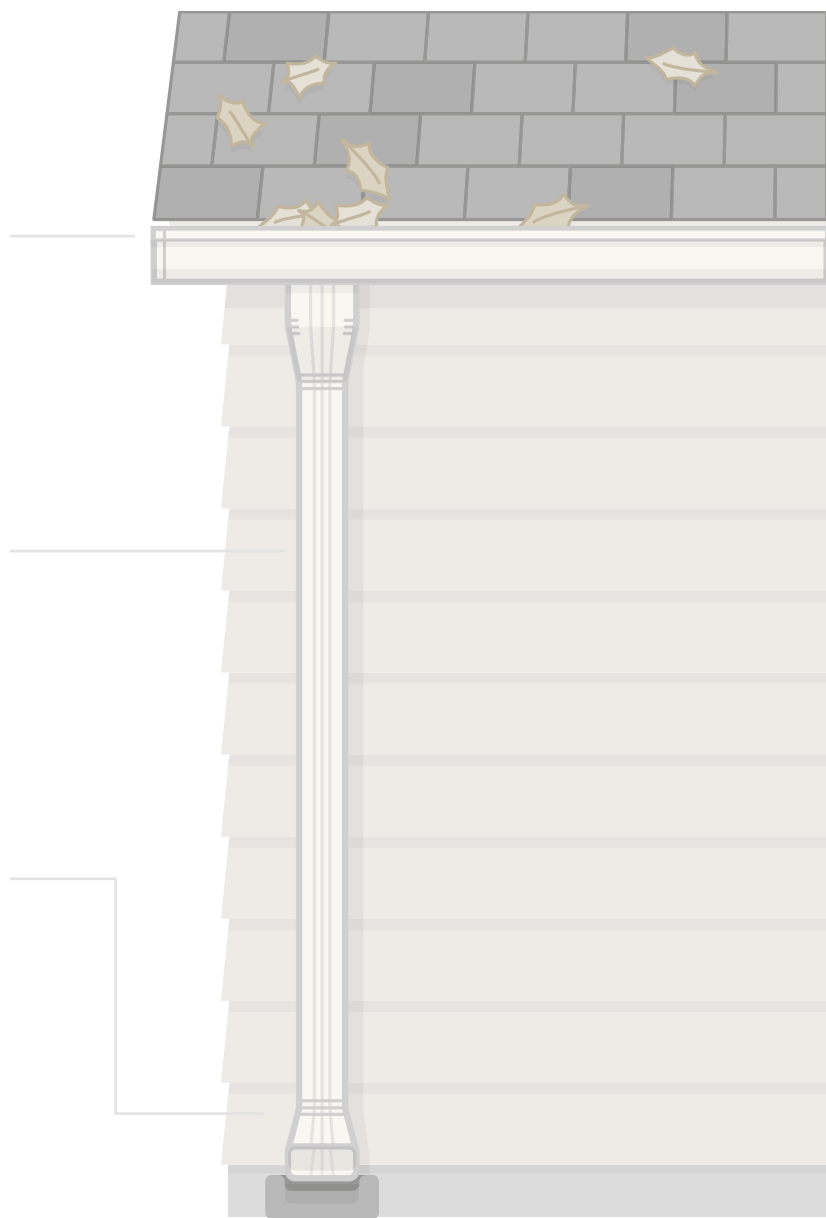
### How to Clean and Inspect Them

A cubic inch of water weighs about 0.036 pounds. Multiply that by the surface area of your roof, and you could easily have a thousand pounds of extra weight for each inch of water coming down during a storm. A good gutter system keeps all that water flowing smoothly off your home and away from its foundation.

- **Clean Out Gutters.** Gutters are there to redirect water so it doesn't pool in problematic places, which means clogs in your gutter could cause water damage to your foundation if it's no longer being moved away from your home. Hire a contractor (or get on a ladder yourself, if your home's height allows it) to ensure nothing is in your gutters that could cause a jam.
- **Clean Your Downspouts.** The downspouts are the long tubes connected to the gutters that run vertically down the side of your home. Water goes from the gutters, down the downspout, and out, away from your home. Putting a garden hose up the bottom end of your downspout and turning it on full-blast can help dislodge any debris stuck there.
- **Ensure Water is Draining Correctly.** Once water leaves your downspout, make sure it's not running back toward your home by ensuring the drain area is clean. If need be, you can purchase an extender that fits to the bottom of the downspout so water is drained further from your home.

If your home is on a lot with trees, installing gutter guards is a good idea. These guards sit at the very top of your gutter so leaves, branches, and other debris land there and are more likely to simply blow off the roof, all while allowing water to still easily flow through.

Clean out your gutters at least twice a year, and more often if you experience heavy storms.



Gutter guards are especially important for flat roofs. These roofs are more susceptible to pooling and leaking.

# During The Storm

## Countering the Cold

When Texas was hit with a sudden snowstorm in February 2021, many lost power and were unprepared to deal with the cold. Here are some tips on what to do to keep warm with or without power should you ever find yourself in a similar situation.

### To Keep Your House Warm...

- **Close your blinds and shades** to reduce heat loss through your windows. If you don't have either, you can cover them with a quilt or blanket instead. You can also cover doors to the outside.
- **Close off rooms to avoid wasting heat.** The fewer rooms that need to stay warm, the less power it will take to heat your home.
- **Stuff towels and rags underneath doors.** This will prevent heat leaking into rooms not in use.

### To Protect Yourself and Your Family...

- **Give heaters space.** Place it on a hard, level, nonflammable surface, and keep at least three feet between it and flammable objects, as well as children or pets. Don't use it while you're asleep or leave it unattended, and plug it directly into an outlet.
- **Wear layers** of loose-fitting, lightweight, warm clothing.
- If you still have gas, **boil a pot of water on the stove** to help with heat and humidity.
- **Fill bathtubs with water** before a storm hits. It can be used to flush toilets. Bring in snow to melt if you've already lost your water or run out of your water stores.
- If you've lost power, you may be able to **put food and drinks in containers and put them outside** to stay fresh if it's cold enough.
- **Keep your pets close.** Not only will they be warmer, but so will you.

### To Keep Pipes From Freezing...

- **Leave your tap on just slightly** so it drips. This keeps water running through the pipes, which can prevent them from freezing and breaking. Be aware this can affect water pressure and levels of supply, and follow your local government's directions.
- **Open cabinets under sinks** and taps so warmer air can circulate around the pipes.
- If the water goes out, **run your faucets to get rid of all of the water in your pipes and water heater**. Any water left in either could freeze and cause it to burst.
- **Disconnect your hoses and insulate outside faucets**. You can buy and install inexpensive foam faucet covers yourself.
- **Insulate your pipes**. Check areas of your home where pipes are prone to freezing, like bathrooms that have an outside wall, crawl spaces, attics, and garages. Use foam pipe insulation or insulating tape to cover the entire length of the exposed pipe.

### What to Avoid:

- **Do not drink alcohol**. While drinking alcohol might make you feel warm, in reality, it dilates the blood vessels under your skin, creating that artificial feeling of warmth while decreasing your core temperature and stealing heat from vital organs, an effect that only worsens in cold weather.
- **Do not bring a generator indoors**. The fumes they release contain carbon monoxide, an invisible and odorless gas that can kill you in minutes.

Finally, **learn the signs of frostbite and hypothermia** and how to treat both.

## How to Handle the Heat

With so many record highs in recent history, it makes good sense to learn how to deal with the heat. Here are some tips on staying cool in hot weather if you don't have AC or find yourself without power:

### To Keep Your House Cool...

- **Set up swamp coolers.** Also known as evaporative coolers, they cool off your home by evaporating water into the air. This only works in low-humidity areas, as otherwise it just adds to the humidity. A cheap and easy DIY swamp cooler can be constructed by placing a damp towel over a box fan. Soak the towel in ice water, wring it out so it doesn't drip, then lay it over the fan so the air will blow through it.
- **Turn off unnecessary heat sources.** Computers, lightbulbs, and stoves all generate heat when used. Try to eat meals that don't require a stove or oven.
- **Open your windows and doors during cooler evenings** to encourage air circulation, and close them and their blinds when the sun is out. Window reflectors, such as cardboard covered in aluminum foil, will help to reflect the heat off your home.



If you are unable to afford cooling costs, weatherization or other energy-related home repairs, you can contact the [Low Income Home Energy Assistance Program](#).





### To Keep Yourself and Your Family Cool...

- **Stay hydrated**, stay damp, and cool off your feet and hands. Fill containers with water to soak your feet in, wear damp towels and bandannas, take cool showers or baths, and spritz cool water on your face with a spray bottle. Make sure to replace your electrolytes by eating small amounts with your water or through electrolyte-enhanced drinks.
- **Stay downstairs.** Hot air rises, so the lower you are, the cooler you'll be.
- If possible, **visit public places with air conditioning** – like libraries, malls, and movie theaters – during the hottest hours of the day.
- **Wear** loose, lightweight, light-colored clothing.
- **Make sure pets have plenty of cool water** and comfortable shade if they're outside. Asphalt and dark pavement can be very uncomfortable on their bare feet.
- **Don't leave children or pets in enclosed vehicles.**

### What to Avoid:

- **If your indoor air temp is over 95°F, don't use an electric fan.** Since fans simply move air around, when the ambient temperature is higher than your body temperature, the fan may cause your body to gain heat instead of lose it.
- **Avoid drinking alcohol and caffeine.** These beverages can promote dehydration.

Finally, **know the signs of heat-related illnesses** and how to treat them.

## What to Do During Wildfires

Wildfires can be a major threat to life, land, and structures like your home. They can also impact your health. In 2021, smoke from wildfires along the West Coast traveled thousands of miles, tinging sunsets and views of the moon red all the way on the East Coast – so it's easy to imagine how smoke might impact your area when you're just a few miles away.

Most important of all? **Evacuate immediately upon being told to do so.** If you're outside the evacuation zone, read on for ways to keep yourself safe from the potential hazards of wildfires.



### To-Dos in and Around the House...

- **Create a fire-resistant zone** free of leaves, debris, or other flammable materials for a span of at least 30 feet from your home.
- **Make a go-bag.** This should be filled with medication, disinfectant supplies, masks, and pet supplies.
- Try to **maintain the air quality inside** by keeping doors and windows shut.
- **Don't** smoke, burn candles, vacuum, or use your oven inside—these activities worsen the air quality indoors.
- **Change the air filters** in your HVAC system. Doing so will better filter the particulate matter in the air.
- Turn on your air conditioning to filter the air, but **turn off the fresh air intake.** During a wildfire, the air outside is less fresh than the air inside.
- **Turn off bathroom fans and window units.** These often pull in outside air.
- **If you have a portable air filter or cleaner,** set it up within a room closed off from outside air.

### To-Dos Outside the House...

- **Check the EPA's Air Quality Index Forecast** for an idea of the air quality in your area.
- **Stay inside** as much as possible, especially if local advisories recommend it.
- **Wear protective gear outside.** If you have to leave your home, wear a protective N95 or P100 respirator mask—don't rely on paper or cloth masks, since these don't really filter out smoke. Due to COVID-19, N95 masks are in short supply. Limit your exposure to smoke rather than buy up respirators, as healthcare workers have a higher need for them.

# Safely Sheltering in Storms

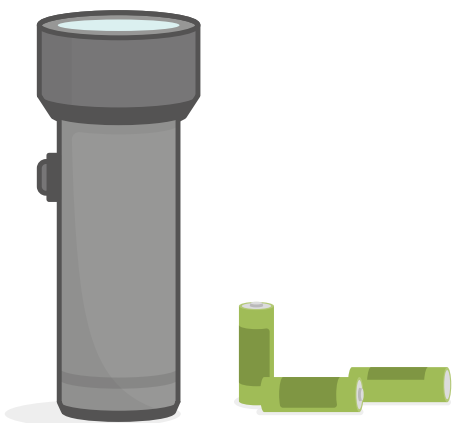
From thunderstorms to hurricanes to tornadoes, there are a variety of storms that can endanger people. Here's what to do to stay safe during a storm:

## Thunderstorms

- **Stay indoors** while it's thundering.
- **Don't** use electrical devices connected to an electrical outlet.
- **Don't** go through flooded areas. A foot of fast-moving water can carry a car away, and if you're on foot, just six inches of water can knock you down.

## Hurricanes

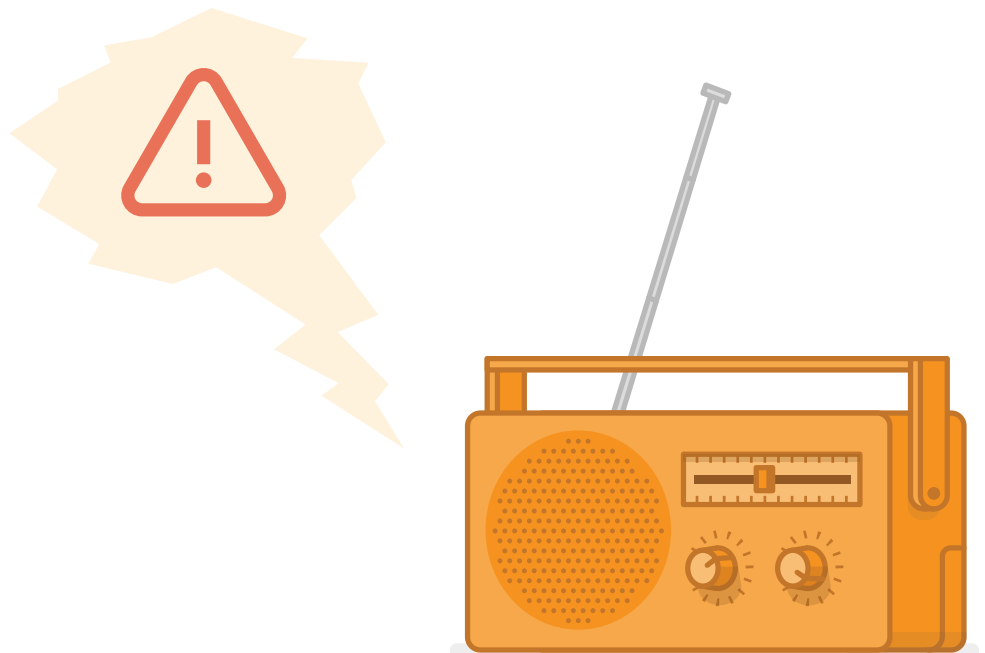
- **Prepare** emergency supplies beforehand, like food and water, medicine, power sources such as flashlights (with extra batteries), safety and personal items, important documents such as passports and IDs, and a fire extinguisher.
- **Stay connected.** Pay attention to any alerts and emergency information.
- Immediately **evacuate** when local officials tell you to.
- **Take refuge** in either a designated storm area or an interior room without windows.
- **Turn off your power** if you see flooding, downed power lines, or have to leave your home.
- **Stay inside** until you are told the hurricane is over, even if it looks calm outside.



If you are trapped by flooding, take refuge in higher levels of your home/building. However, do not go into an enclosed attic. You might become trapped by rising flood water.

## Tornados

- **Go to NOAA Weather Radio** and your local news or official social media accounts for updated emergency information. Follow the instructions of local officials.
- **Go to** a safe shelter immediately. This can be a basement, storm cellar, or small interior room on the lowest level of a sturdy building.
- **Keep away** from windows, doors, and outside walls.
- **Do not** go under an overpass or bridge. You're safer in a low, flat location than beneath an open structure.
- **Watch** out for flying debris.
- **Use your arms** to protect your head and neck. You can also put furniture and blankets around or on top of you.
- **Do not** try to outrun a tornado in a car. If you are in a car or outdoors and cannot go into a building, cover your head and neck with your arms and your body with a blanket or coat, if possible.



# After the Storm

Before you begin assessing any possible damage to your home, first, make sure the storm (as well as any potential hazards) has fully passed. Downed power lines, electrical hazards, and flooding are all dangers that should be avoided. If you see any of these hazards, call 911 and stay inside. But if it's safe to begin checking for damage, then here's how to go about doing so, piece by piece.



## Filing a Claim

If you find any damage to your home, one of the first things you'll want to do is consider filing a claim through your homeowners insurance. Storm damage will normally fall under dwelling insurance, though be aware that not all storms are covered equally. For example, floods and earthquakes are not usually part of the standard homeowners insurance policy. The best place to find out what your plan covers and how to file a claim is through your insurance company. Here's what you'll need to do:



Document any damage extensively. Take multiple pictures of both the inside and outside. Take meticulous notes, including the date and time of the storm.



Take steps to safe-proof your house from more damage, such as boarding up broken windows, removing loose siding boards, covering bare spots on your roof with weighted tarps, etc.



File a claim as possible after the actual event. You will need your policy number and an explanation or summary of the damages. Most insurance companies will have an easily navigable website for a homeowner to use, but you can also call the number listed on your policy.



### Understand your deductible.

Wondering whether or not to file a claim? If your deductible is \$1,000, that means that you will have to pay \$1,000 before receiving any reimbursement. If the cost to repair, say, a broken window is \$750, you do not reach the threshold, and will not receive any money back from your insurance company. On the other hand, if it costs \$3,000, then you will pay \$1,000 out of pocket after filing your claim, with your insurance company covering the remaining \$2,000.

If there are leftover costs after your claim is processed, check to see if you qualify for a home repair grant or rebate from the Federal Government. These are typically offered as need-based financial aid for low-income families.



## Roofing

Roofs are especially dangerous after storms; they are out of your line of sight and might have structural damage you can't see. Stay cautious and alert when inspecting for damage.

It is important to detect and repair roof damage quickly since, if left untreated, it can lead to structural issues. Here's how to identify potential damage from a variety of storms (and how to get started fixing it):

### Hail

Hail damage can tear off or damage shingles. To find any missing shingles, look for gaps in the pattern or pieces of exposed roof. You may also see shingles on the ground near your home. Shingles that have been damaged might be curled, buckling, dented, or cracked.

### Wind

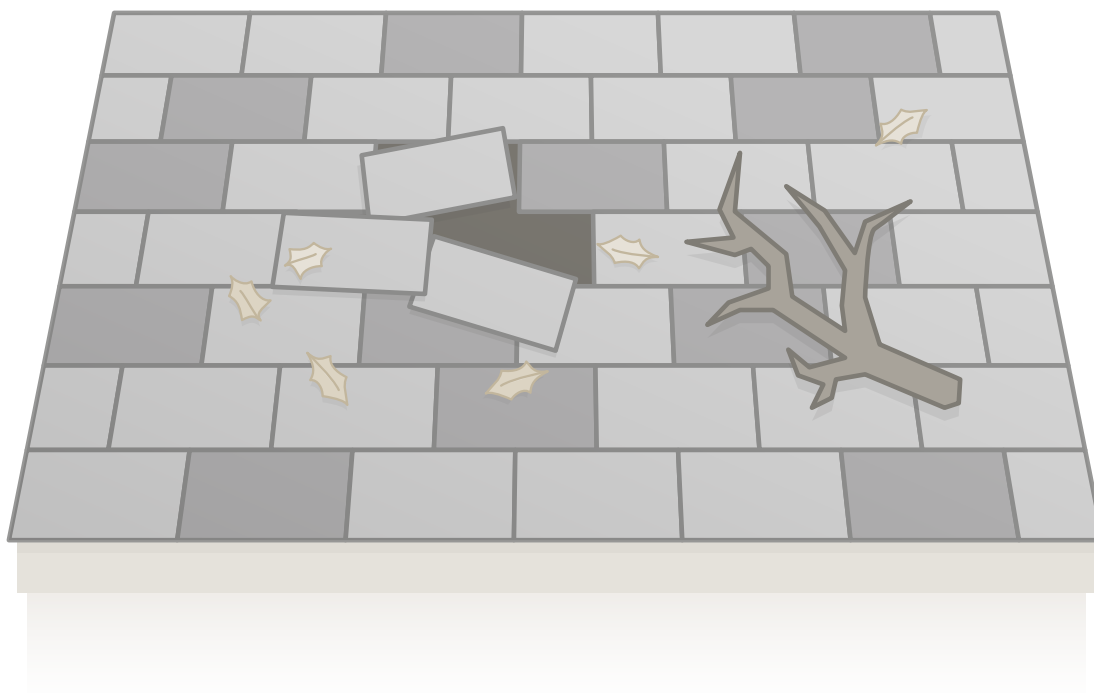
If shingles are blown off the roof, the deck and underlayment is left exposed to the elements, which leaves your home vulnerable to water damage. For flat roofs, check for cracks, tears, and surface bubbles/wrinkles. For shingled roofs, look for missing, cracked, or curling shingles.

### Snow

Signs of damage from snow include cracks in the walls, popping and cracking noises, doors and windows that fail to close properly, and sagging ceilings. Keep in mind that flat roofs are at higher risk for both snow damage as well as pooling that can occur when the snow melts. Having structures on the roof can also cause higher risk, as they allow for snow drifts to build up against them.

### A New Roof

If you need to replace your roof entirely, [our roofing calculator](#) can give you an estimate for how much you can expect it to cost.



# Windows

While some window damage is fairly obvious, such as broken panes, not all damage is apparent at first glance. Here are some tips on how to identify damage to your windows after a storm has passed.

## Hail

Usually, hail will damage your windows by cracking the glazing, breaking or shattering the glass, breaking, denting, or tearing the screens, or denting the flashing above the window or frame.

## Wind

High winds can damage your windows in a number of ways. With enough force, they can even shatter unsecured windows. After a storm with heavy winds, check for shattered or broken window panes, damaged or dented window frames, and cracks, holes, or dents in the glass..

## Water

Water damage is harder to detect if you don't know what you're looking for. For the window itself, you should look for a build-up of moisture between the panes. Generally, this will look like fog or condensed water droplets.

If only the glass has been damaged, it can likely be repaired, but damage to the window frame may mean the window needs to be replaced. If that's the case, consider getting impact-resistant ones. Also known as hurricane glass, high-impact windows, and storm windows, these heavy duty windows are designed for weather from hurricanes to hail. These windows often have laminated glass, which is made with double-paned glass that has an impact-resistant membrane between the two panels. This membrane allows for the windows to be struck with debris without shattering as easily. Generally, impact-resistant windows with laminated glazing for standard-sized window frames can average anywhere from \$400 to \$800 per window. Labor and installation can cost up to \$100 per hour, per window. It's also possible to add impact-resistant film to each pane of glass, strengthening it even more. One last thing to consider – if you live in Florida, [you'll need a permit](#) for these.



The government might subsidize the cost of replacing your windows with hurricane resistant windows. Check the [Database for State Incentives for Renewables & Efficiency](#) for your state's policies, or ask your contractor to explain local laws, regulations, and incentives in regards to your project.

# Siding

Once the storm has passed and you're inspecting damage to your siding, here are a few things to keep in mind as you prepare to repair or replace it:

## Repairing Your Siding

Many kinds of siding – like stucco – can be patched if you have a few dents or dings. If you have vinyl siding, which works best when the pieces are entirely intact, you'll want to completely remove damaged boards, color match them, and replace them with new ones. Keep in mind that new siding will be brighter since it won't have been weathered or faded in the sun. If the damaged boards are in highly-visible parts of your home, you may want to consider removing boards from less-visible areas of your home and using those to replace the damaged boards. That way, the newer, brighter boards can be installed where the contrast in color isn't as visible.



### Fire-Rated Siding

If you live in an area with wildfires, you should consider metal siding, brick and stone veneers, stucco, and fiber cement siding, all of which receive high fire ratings for their ability to withstand and/or slow the spread of fire. Avoid vinyl siding, which is made of manufactured plastic and quickly melts in the high temperatures of a wildfire.

## Replacing Your Siding

If the damage to your siding is extensive, you may need to replace it. Here are a few popular options and how they fare in storm-prone regions.

*Vinyl siding* is low-maintenance, relatively inexpensive, and easy to install. Though generally weather-resistant, vinyl siding can crack and tear during high winds. Heavier gauge vinyl is available for homes in high-wind areas, but make sure the cladding is secure so wind can't get under the siding and rip it off.

*Fiber cement siding*, also called Hardie board siding, is recommended for areas that deal with hurricanes. It is both water- and fire-proof, comes in a variety of colors, and lasts for a very long time. Unfortunately, it does come with a higher price point, but its protection and long life means it pays for itself in the long run.

*Brick and stone veneers* along with stucco are fairly impact-resistant as well as mold- and mildew-resistant, so if you live in a region with hurricanes or tornadoes, ask your contractor if one of these could be a good choice for you.

## HVAC

HVAC units are pretty hardy, but in especially brutal storms, they might ensure some damage. Here's what to check for:

- **Is there debris on the condenser?** Make sure it's removed, and inspect the unit for any visible damage.
- **Did anything hit the condenser?** If large branches, furniture, or other heavy objects made impact with it, you might want to consider calling an HVAC technician before you attempt to turn the unit on.
- When the unit is running, **is it making a weird sound?** That may mean debris like twigs or stones are trapped inside.
- **Is your unit not cooling your home** as well as it did before the storm? That's a sign the refrigerant lines may be leaking, and should be an immediate call to an HVAC contractor.
- **Is your unit not turning on?** If you lost power during the storm, you may need to flip the circuit breaker to get it running again.
- **Is there flooding around the unit?** This is often the most obvious indicator of damage. Whether the condenser itself is flooding or it's sitting in standing water, you'll want to turn the unit off at the circuit breaker and get help from an HVAC contractor.

Once you've ruled out or dealt with major damage, you should clean your air filters, and replace any as necessary. You should also check the evaporator coils of your AC unit and clean the exterior condenser coil, ensuring it's undamaged.

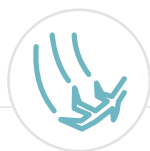


# Solar

## Assessing Damage

The most common damage to solar panels from storms comes from fallen debris. Unfortunately, there is no way to fully fix a damaged solar panel. If the glass has been cracked, you can waterproof it with polyurethane or any other waterproof resin, but the efficacy will still be reduced.

If the damage is internal, you will have to completely replace the panel. Contacting a solar panel professional is your best choice if you need to switch out a panel. Here are some questions to ask them, as well as a tool to help you find a solar panel contractor in your area.



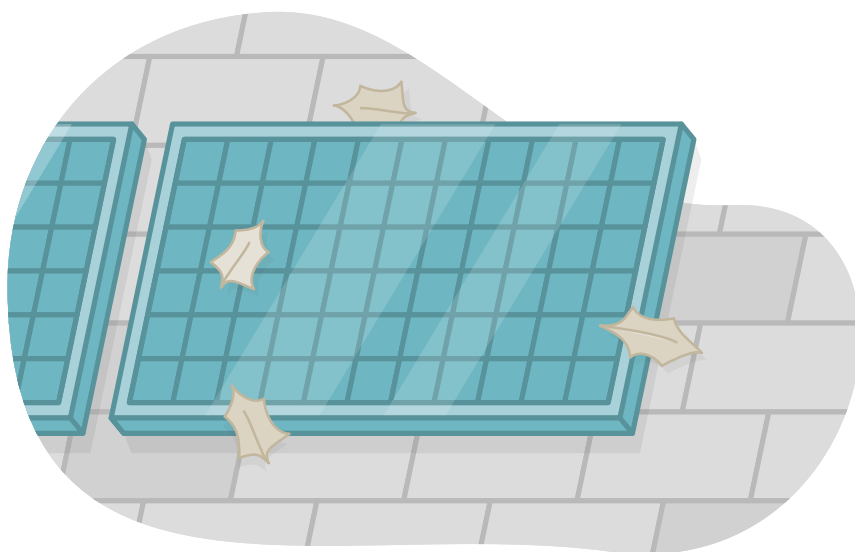
Make sure not to scrape anything hard against the panels, be it debris or just a hard plastic handle. Doing so can cause many micro scratches that will hurt the panel's efficiency.

## Maintaining Efficacy

Cleaning the solar panels so they're free of any debris or residue the storm left behind can both ensure they're back in top-working order as well as help you spot damage. You simply need a soft, non-abrasive cloth and a garden hose. Note that if it's particularly hot out, you'll want to use lukewarm water instead – otherwise, if the water is too cold and the panel is too hot, the glass can crack. If you spot any damaged panels, skip over washing them; you don't want any water getting into their cracks.

Once you've finished, use a squeegee to wipe off the water and make sure that the panel is streak-free.

If you can't reach your solar panels yourself, make use of a solar professional. Your solar company might offer free cleaning services, so make sure to check with them first.





## Doors

The exterior doors of your home should be promptly evaluated for water damage or damage from debris once the storm has passed. Some damage may be obvious, like broken lites, but other damage could be harder to spot.

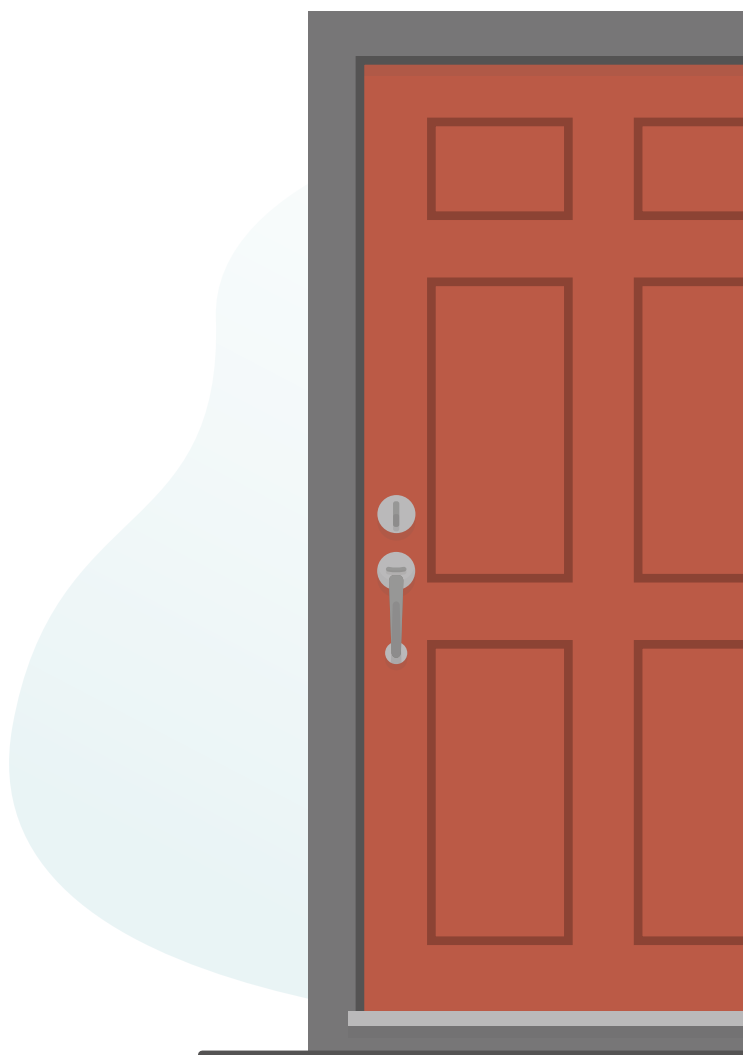
First, ensure that the door is still water-tight by checking the weather stripping and seeing if the door is still square in its frame. If any lites were broken, board over them so water doesn't leak into your house.

Any peeling or bubbling of the exterior paint/clear coating can likely be repaired, but some other damage could be a sign that your door may need to be replaced:

- Is there moisture between any glass components?
- Is it drafty near the door?
- Have any areas rusted?
- Are there large dents, scratches, or cracks?

If you do need to replace it, look for the U-factor and solar heat gain coefficient (SHGC) on the label of any new doors you're considering. The lower the U-factor, the better it keeps in heat. A low SHGC is better for climates that need cooling whereas a high SHGC is better when you need to heat the home.

Whatever you choose, make sure it's high quality. A good door is important for your home; well-installed doors of a high quality can last more than 20 years. If in doubt, find a good contractor.



## Gutters

Once a storm has passed, making sure your gutters are still efficiently draining water away from your home is an important task. Doing it just after the storm is gone will prevent any debris from congealing. Of course, make sure to be careful of hazards such as branches and debris, and do not go out before the storm is actually over.

Here is what you should do to keep your gutters clean and working efficiently:

- After snowstorms, keep an eye out for ice dams and leaks. These should be serviced by a professional.
- After hail, check for any build-up in the gutters or any loose asphalt granules that have collected. Also be sure to look for dented, hanging, or missing downspouts.
- Clean out the gutters by scooping out any debris you find into a bucket.
- Flush your gutters with a garden hose, keeping an eye out for any leaks or pools. Leaks indicate a hole or failed seal, while pooling indicates a blockage. If you find either of these issues, get in contact with a professional.
- If you find pooling at the top of a downspout, this indicates a clog in the downspout itself. Use a plumber's drain snake or auger to go through the downspout and break up the clog. Run it through multiple times and at different angles, wiggling the line. Turn the line at any places where you notice pressure, as that is likely the location of the clog.

**For leaks,** you need to seal them. If you find any pinholes, they can easily be sealed by roofing cement. Simply clean them off with a stiff wire brush then apply a small amount of roofing cement. Use a putty knife to smooth over the roofing cement to allow for smooth flow.

**For larger holes,** though, you'll want metal flashing. Using a stiff wire brush, clean out the area several inches around the hole. Then, cut a roll of flashing a couple of inches wider and longer than the hole itself. Preferably, the flashing will be made of the same metal as your gutter to prevent corrosion. Put roofing cement under the flashing and press it firmly in place. This will lock it in position and prevent debris from going under the patch. Second, apply the roofing cement over the outside seams of the flashing patch, using the putty knife to feather the cement. Use the cement to create a ramp that is flush with the gutter on one end, goes over the patch, and then goes back down flush with the gutter beneath the patch.

If the large hole is in a downspout or elbow connection, it is better to simply replace that specific part.

# Home Maintenance Checklists

Want to keep your home in tip-top shape so storms and other inclement weather don't send you hurrying to complete a dozen different tasks? Following a seasonal home maintenance routine can help make both storm prep and your day-to-day home life easier. Here are some checklists to get you started.



## Spring

- **AC** - Switch in a new filter, and get a professional to service it before you really need it.
- **Laundry Rooms** - Make sure your appliances are in good working order. Check your washing machine water hoses for cracks and your dryer's lint trap and lint vent for lint buildup (it can potentially cause a fire if left unchecked).
- **Safety Devices** - Check all the safety features in your house. Change the batteries in your smoke and carbon monoxide detectors and make sure the needle on your fire extinguisher is in the green zone. For any home security devices, review their settings, especially if you find yourself wanting to crack some windows for fresh air.
- **Attics and Basements** - Check the lower- and upper-most sections of your house for mold, moisture, and unwanted critters. These all like the dark and the damp, so make sure there's enough ventilation. Also, check for cracks in the foundation or walls, which can be caused by too much moisture.
- **Exterior Wood and Siding** - Check these areas for rot and damage the winter may have caused. They might simply need a little touch-up, or you might want to replace them entirely.
- **Termites** - Spring is peak termite season, so if you see insects flying out of a hole in your house, call up your exterminator for advice.
- **Roofs and Gutters** - Check your roofs for missing shingles or other damage and make sure your gutters are clean and uncracked.
- **Chimney** - Check your chimney for any cracks, missing pieces, or plants. Especially check for efflorescence, which looks like white, green, yellow, or brown residue, as it means water isn't being properly removed from your chimney and will have to be treated by a professional.
- **Landscaping** - Trim things back from the house, including trees, to ensure branches and limbs don't pose a risk to your home.
- **Sprinkler System** - Spring is the season of growth, and water is an essential part of that. Everything needs to be spraying in the right direction (with nothing in the way), with the right equipment (no cracked or broken sprinkler heads), and at the right time (not during mid-day, when the sun will evaporate the water).
- **Grills** - Check on the burner jets, gas hoses, and connections of your grill, as well as the propane. If you use a charcoal grill, clean out any ash and grease residue.
- **Outdoor Furniture** - For plastic furniture, wipe down any grime. For metal furniture, check for rust that could compromise the structural integrity, especially at joints.

## Summer

- **Ceiling Fans** - Clean, inspect, and rotate your ceiling fans (clockwise when it's hot out). The increase in use they see during the warmer months also increases the wear and tear they experience.
- **AC** - Switch out the air filter. If your air filter is too dirty, your AC simply won't work as well. Keeping it clean keeps you cool. You should also have it serviced by a professional if you didn't get it done during the spring; staying ahead of issues will prevent future discomfort.
- **Windows and Doors** - Inspect these for leaks. Resealing these and doing any other needed repairs will help keep the heat out, as well as keep your energy bill down.
- **Vents and Ducts** - Clean your vents and ducts. This will improve the air circulation and prevent them from overworking.
- **Smoke Detectors** - Home systems are more likely to overheat over the summer months, so making sure smoke detectors are in working order and have good batteries is a must. If the smoke detector is over ten years old, replace the system entirely.
- **Siding** - Inspect your siding to see if it needs any repairing or cleaning. Spring storms, pollen, bird droppings, and the like all are possible detriments to the health of your siding.
- **Fencing** - Just like siding, it's at risk, so do any spot repairs as needed.
- **Gutters** - Clean your gutters and make sure there is proper water flow. Storms increase the chance of clogging, which can cause problems for your home, so making sure your gutters are clear is important.
- **Exterior** - Pressure wash the exterior features of your home. Not only does this help your house look better, it can also help protect your investments. Wash your driveway, sidewalk, deck, porch, and siding.
- **Landscaping** - Cut your grass regularly and continue to prune your trees as needed. Mowing your lawn can actually keep pests away, and trimming your trees can help protect your home from storm damage.
- **Bugs** - The surge in heat comes with a surge in insects and wildlife, so make sure that your home is protected from any unwanted pests.



# Fall

- **HVAC** - Now is the time to make sure your heating works and your air ducts are well-sealed and insulated. A working heater will keep your family comfortable as the weather cools, and maintained air ducts will reduce heat loss. Get out ahead of the crowd and call your HVAC professional before demand rises.
- **Doors, Windows, and Siding** - Insulate and weatherproof these areas. Doors and windows are pretty easy to insulate with weatherstrips, a fairly simple and inexpensive way to keep energy-efficiency high for your windows and doors. If you find any surface cracks, a fresh coat of caulk will help. You should also caulk where your siding and masonry meet on the exterior of your house, as well as around any wires and pipes. This will keep the elements out of your home and make sure that moisture won't get trapped.
- **Roof and Gutters** - Check your roof for any storm damage or missing shingles and make sure to clean out your gutters. If you find yourself cleaning out leaves and the like fairly often, you may want to install a leaf guard or gutters that have a guard already built in.
- **Sprinkler System** - As you wind down on using your sprinkler system, now is a good time to start prepping for winter. To do so, you'll want to turn off your main water valve, then either set your automatic controller to rain mode or simply turn it off for the season. Open the outside faucets to drain the water that's already in the system, and twist the shutoff valve to close it off when you're done. You should also drain any hoses you have and store them inside.
- **Trees and Shrubs** - Removing dead limbs and the like from your plants and trees will prevent them from falling during a storm. A professional can also point out any potential issues.
- **Fireplaces** - Call a professional to inspect any fireplaces or wood stoves. Clogged chimneys are very dangerous and can lead to accidental fires. A professional will be able to check the seal on your fireplace's gasket, as well as remove any flammable residue. If you find yourself with birds in your chimney, consider installing a chimney cap.
- **Safety Devices** - Test your safety devices. Replace batteries, check expiration dates, and make sure everything is in working order, such as smoke detectors, home security systems, and fire extinguishers. You should also check your home for radon, as it is more likely to linger in a house when its windows and doors are shut.
- **Walkways and Driveways** - Check these areas for any needed repairs. As the weather grows cooler, any cracks or uneven pavement will only grow more dangerous. Get out ahead of the danger and keep your family safe.





## Winter

- **HVAC** - Schedule a furnace inspection if you didn't have one during the fall. Making sure your heating is in working order is important when the weather is cold. You should also switch out the air filters to make sure everything is working as efficiently as possible.
- **Windows and Doors** - Check your windows and doors for any gaps. These can be filled with caulk or weatherstripping, and doing so will prevent heat loss. You might also want to invest in heavier curtains to keep more heat in. And finally, depending on age, you may need to switch out any screens.
- **Roof and Gutters** - Make sure you don't have any missing or damaged shingles in your roof or clogs in your gutters. Leaks are a lot more costly to fix than a simple shingle replacement, and clogged gutters can lead to ice dams in the cold. Preventing water damage will go a long way to protecting your home.
- **Hose and Sprinkler System** - Clear out any water in your hose or sprinkler system if you used either during the fall. You can also disconnect your hoses and add a hose bib insulator. Don't forget to cover any open sprinklers to protect the system from debris and animals.
- **Ceiling Fans** - Make your ceiling fans spin clockwise. A clockwise spin will push hot air down and prevent it from collecting above your head. Keeping your rooms just a little warmer can go a long way in energy savings.



# Further Resources

## General Resources

- [Roofing](#)
- [Windows](#)
- [Siding](#)
- [HVAC](#)
- [Solar](#)
- [Doors](#)
- [Gutters](#)

## Filing Insurance Claims

- [Roofing Insurance](#)
- [Windows Insurance](#)

## Checklists for Contractors

- [Checklist for Finding Contractors](#)
- [Checklist for Roofing Contractors](#)
- [Checklist for Windows Contractors](#)
- [Checklist for Siding Contractors](#)
- [Checklist for HVAC Contractors](#)
- [Checklist for Solar Contractors](#)
- [Checklist for Door Contractors](#)
- [Checklist for Gutters Contractors](#)