



# Fulton County Guide to Weather-Ready Homes

Department of Real Estate and Asset Management  
July 2025  
\*Subject to change



# Overview of the Guide

Extreme weather events can put our homes and properties at serious risk of damage or loss, regardless of the financial or emotional investments we've made in them. As our planet continues to change, it's essential that we adapt to reduce our vulnerability. Just one major weather event can have lasting consequences if we're not prepared.

To support this effort, this guide is designed to help Fulton County residents prepare their homes for severe weather by exploring practical retrofit options, ranked by skill level, cost, and time required.




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# Background

The Fulton County Board of Commissioners adopted a Sustainability + Resilience Plan in 2019 with a vision to thrive as the premier county in Georgia for sustainability and resilience, protecting residents, visitors and environmental systems. The Sustainability Team within Fulton County's Department of Real Estate and Asset Management created this guide to help Fulton County homes become more weather-ready and resilient. More information about the county's sustainability and resilience initiatives can be found on the [Fulton County sustainability website](#) .





# Project Rating System



Category	Time	Skill	Cost
Low	1-2 hour	Beginner No Prior Experience	\$30-50
Medium	2-4 hours	Intermediate Basic skills and tools	\$60-90
High	4 hours	Advanced Specialized tools or knowledge	More than \$90

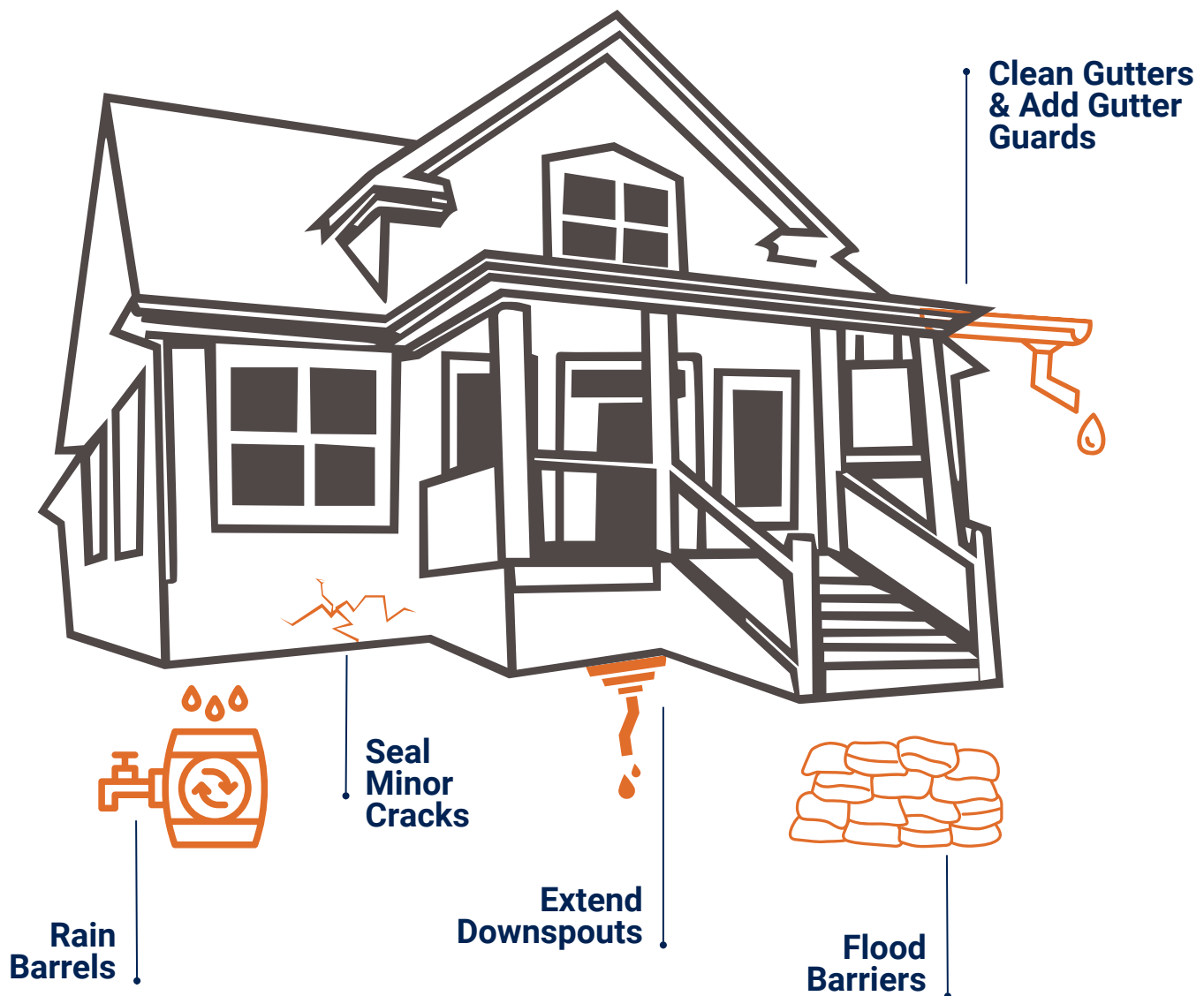
# Floods

*High Risk & Probability<sup>1</sup>*  
**Hurricane Season Jun - Nov**

## Flood Retrofits

### Home Projects To Prepare Your Home For Floods

Flooding happens when water covers normally dry land, whether from storms, heavy rain, or plumbing issues. It can damage homes and create safety risks. The retrofit projects outlined here offer simple, effective ways to reduce water damage and costly repairs. The following pages include step-by-step guides for **cleaning gutters, installing rain barrels, preparing sand flood barriers, extending downspouts, and sealing minor foundation cracks.**<sup>2</sup>




<sup>1</sup>James Dickey and Evie Lee, Fulton County Resilience Study (July 2024).

<sup>2</sup>Reduce Flood Risk, Protect Your Home with Low-Cost Projects You Can Do Yourself, accessed June 11, 2025, <https://www.reducefloodrisk.org/mitigation/protect-your-home-with-low-cost-projects-you-can-do-yourself/>.

# Floods

## Project Rating System

	Category	Skill Level	Average Cost	Time
<b><i>Sandbag Flood Barrier</i></b>	Low	minimal skill	\$50	1-2 hours
<b><i>Cleaning Gutters</i></b>	Low-Medium	basic skill	\$30	1-2 hours
<b><i>Rain Barrels</i></b>	Medium	basic tools	\$85	2-3 hours
<b><i>Extending Downspouts</i></b>	High	light labor	\$110	2-4 hours
<b><i>Sealing Minor Cracks</i></b>	High	advanced tools	\$200	1-2 hours

# Flood Retrofits Step-By-Step Guides

## Sandbag Flood Barriers Cleaning Gutters

\*If you're concerned about safety, it's best to hire a contractor.

### Important Notes

Before a storm, check that gutters are clean, the rain barrel is empty, sandbags are placed, downspouts work, and minor cracks are sealed.

Sandbag barriers block water from entering and flooding your property.<sup>1</sup>

### Sandbag Barriers

**Tools:** Long sand bags for flooding, Sand, Funnel

1. **Select Size** – Choose from sandbag sizes. Larger bags hold more sand for better flood barriers.
2. **Fill with Sand** – Use the funnel to add sand into the bag, leaving enough room to close it. An elastic band at the opening ensures a tight seal to prevent leaks.
3. **Position for Flood Control** – Place filled sandbags near flood-prone outdoor areas like doors, windows, driveways, basements, or in spots where water tends to pool.
4. **Reuse & Share** – Good sand bags resist tearing and fading for repeated use.

Clean gutters protect your house structure from water damage.<sup>2</sup>

### Cleaning Gutters

**Tools:** Garden gloves, 5-gallon bucket, step ladder, water hose & nozzle, shop towel

1. **Clear Debris** – Using garden gloves, scoop leaves, sticks, and dirt from gutters into 5-gallon bucket (hook it for hands-free use). Work from the roof or ladder.
2. **Rinse with Hose** – Hose remaining debris toward the downspout to flush it out completely.
3. **Wipe Down Gutters** – Use a shop towel to clean grime from overflow stains (optional).

<sup>1</sup>Biubee Store, "4Pcs 10'x 6" Long Sand Bags for Flooding," Amazon Product, June 26, 2025.

<sup>2</sup>Everyday Home Repairs, "Selecting and Installing Gutter Guards | \$35 Project!," YouTube Video, Oct 10, 2022, tutorial video, 2:10, <https://www.youtube.com/watch?v=rsCRNgEGsrk>. (Video explains how to clean gutters)

# Rain Barrels

## Underground Downspouts

*\*If you're concerned about safety, it's best to hire a contractor.*

**Rain barrels collect roof runoff for outdoor use.<sup>1</sup>**

### Rain Barrels

**Tools:** Barrel, Boiler shutoff valve (for spout), Thread-sealing tape (keeps it from leaking), 'Thirsty Earth' Rain diverter + hose + tap, Power drill + 1-inch hole saw bit, Hacksaw

1. **Obtain a Barrel** – Purchase a reclaimed Food-Rated Barrel in your local area.
2. **Make the Spout** – Drill a 1-inch hole near the barrel's bottom. Wrap the shutoff valve threads with tape, then screw it into the hole.
3. **Add the Top Hole** – Drill a 1-inch hole in the barrel lid. Insert the tap for water to enter.
4. **Cut & Attach the Diverter** – Use the hacksaw to cut your downspout where you want the water to split. Secure the diverter to the downspout with screws.
5. **Connect the Hose** – Attach one end to the diverter, the other to the tap in the barrel lid.
6. **Set It Up** – Place the barrel on a sturdy base (like cinder blocks). Test diverter to ensure water goes into the barrel.

**Underground downspouts prevent flooding, erosion, and basement damage.<sup>2</sup>**

### Underground Downspouts

**Tools:** 'WaterProof.com' Underground Downspout Kit, Steel round point shovel, gravel, 4" x 8' round PVC pipe, 4" inch round 90° elbow pipe, 4" inch round shorter connecting pipe

1. **Choose a Location** – Select a spot at least 8 feet from your downspout for the bubbler pot.
2. **Dig a Hole** – Dig a hole for the bubbler pot and fill the bottom with gravel for drainage. Ensure the lid is aligned with the ground.
3. **Create a Trench** – Dig a shallow, sloped, 4 ½ inch wide, 8 feet long trench from the downspout to the bubbler pot to direct water flow.
4. **Lay the Pipe** – Place a 4-inch round PVC pipe in the trench. Connect one end to the bubbler pot and the other to a 90° elbow near the downspout.
5. **Connect the Debris Filter** – Connect the open end of the elbow to the short pipe, then attach the other end of the pipe to the bottom of the debris filter. Finally, connect the top of the filter to the downspout to allow only water into the system.
6. **Backfill and Finish** – Fill in the trench, replace the sod or add grass seed, and you're done.

<sup>1</sup>Ask This Old House, "How to Build a Rain Barrel for \$40," YouTube video, November 22, 2015, tutorial video, 3:42, <https://www.youtube.com/watch?v=g0y0BmEFUcs>.

<sup>2</sup>Waterproof, "UnderGround Downspouts - How to install downspout extension kit," YouTube Video, May 14, 2024, tutorial video, 1:07, <https://www.youtube.com/watch?v=KXIKsPdHgpw>.

# Sealing Minor Cracks

*\*If you're concerned about safety, it's best to hire a contractor.*

Sealing minor foundation cracks stabilizes your home and prevents flooding.<sup>1</sup>

## Sealing Minor Cracks

**Tools:** 'Crack Stitch by Fortress' Repair Kit, Safety Glasses, pencil or marker, tape measure, nitrile gloves, dual caulk gun, electric circular saw, portable vacuum hose

1. **Mark Lines** – Draw 11–12 inch. lines perpendicular to the crack, spaced 8–12 inch. apart (wider cracks need closer stitches).
2. **Cut Slots** – Using safety glasses & electric circular saw, cut 1-inch deep along marked lines.
3. **Test Fit** – Vacuum excess dust and dry-fit the stitch to ensure the slot is deep/wide enough.
4. **Apply Epoxy** – Fill the slot with the epoxy adhesive.
5. **Insert Stitch** – Press the stitch into the epoxy and smooth out excess.

### Drainage Swells:

**Swales, Drains, and Site Grading for Stormwater Control** (Building America Solution Center) [🔗](#)



### Green Spaces:

**How Your Garden Can Help Manage Flood Risk** (The Flood Hub) [🔗](#)

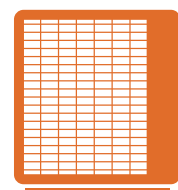


**Looking For More Ideas?  
Other Potential Flood Retrofits Include:**



**Root Barriers:**  
**Root Barrier Installation Tips & How They Work** (AmeriCover Protection From the Ground Up) [🔗](#)

**Elevating Electronics:**  
**Provide Flood Protection for Appliances** (FLASH Federal Alliance for Safe Homes) [🔗](#)



<sup>1</sup>Nash Distribution, "Fortress Grid Stitch | Concrete Crack Repair Kit | Carbon Fiber | Nash Distribution," YouTube video, May 6, 2025, tutorial video, 1:36, <https://www.youtube.com/watch?v=sBchUn2anR4>.

# Additional Resources

## Floods

### Retrofit Projects

**Everyday Home Repairs, “Selecting And Installing Gutter Guards | \$35 Project!”, YouTube** (Cleaning Gutters)

**Ask This Old House, “How to Build a Rain Barrel for \$40”, YouTube** (Installing a Rain Barrel)

**Waterproof, “Underground Downspouts - How to Install Downspout Extension Kit, YouTube** (Installing Underground Downspouts)

**Nash Distribution, “Fortress Grid Stitch | Concrete Crack Repair Kit”, YouTube** (Grid Stitch Tool Kit Tutorial)

**This Old House, “How to Fix a Concrete Foundation Crack”, YouTube** (Sealing Cracks)

### General Information

**floodsmart.gov** (Federal Emergency Management Agency FEMA)

**reducefloodrisk.org** (Association of State Floodplain Managers)

**epa.gov/climate-change-indicators-river-flooding** (Climate Change Indicators: River Flooding)

**epa.gov/mitigate-flooding** (Mitigate Flooding through Green Infrastructure)

### Funding

**gema.georgia.gov** (Georgia Emergency management and Homeland Security Agency)

**georgiawildlife.com/RainBarrelApp** (Wildlife Resource Division)

### Flood Insurance

**fema.gov/flood-insurance** (FEMA Flood Insurance)


**FEMA Flood Insurance Fact Sheet**

**FEMA Flood Map Service Center**

**Discounted Flood Insurance Premium Rates** (FEMA Community Rating System)



**Many Fulton County residents** reside in either Zone A or Zone AE, indicating a 1% annual risk of flooding during hurricane season. This signifies a substantial likelihood of flooding during your property's lifespan. FEMA mandates flood insurance for residents who live in these zones.<sup>1</sup>

**\*\*For detailed information for your community, check the FEMA Flood Map Service Center** 

**For more resources and guidance, please see the Appendix on the last pages of the guide**

<sup>1</sup>Georgia Department of Natural Resources, "Flood Risk Viewer," Georgia DFIRM, accessed June 11, 2025, <https://map.georgiadfirm.com/floodriskviewer/>.



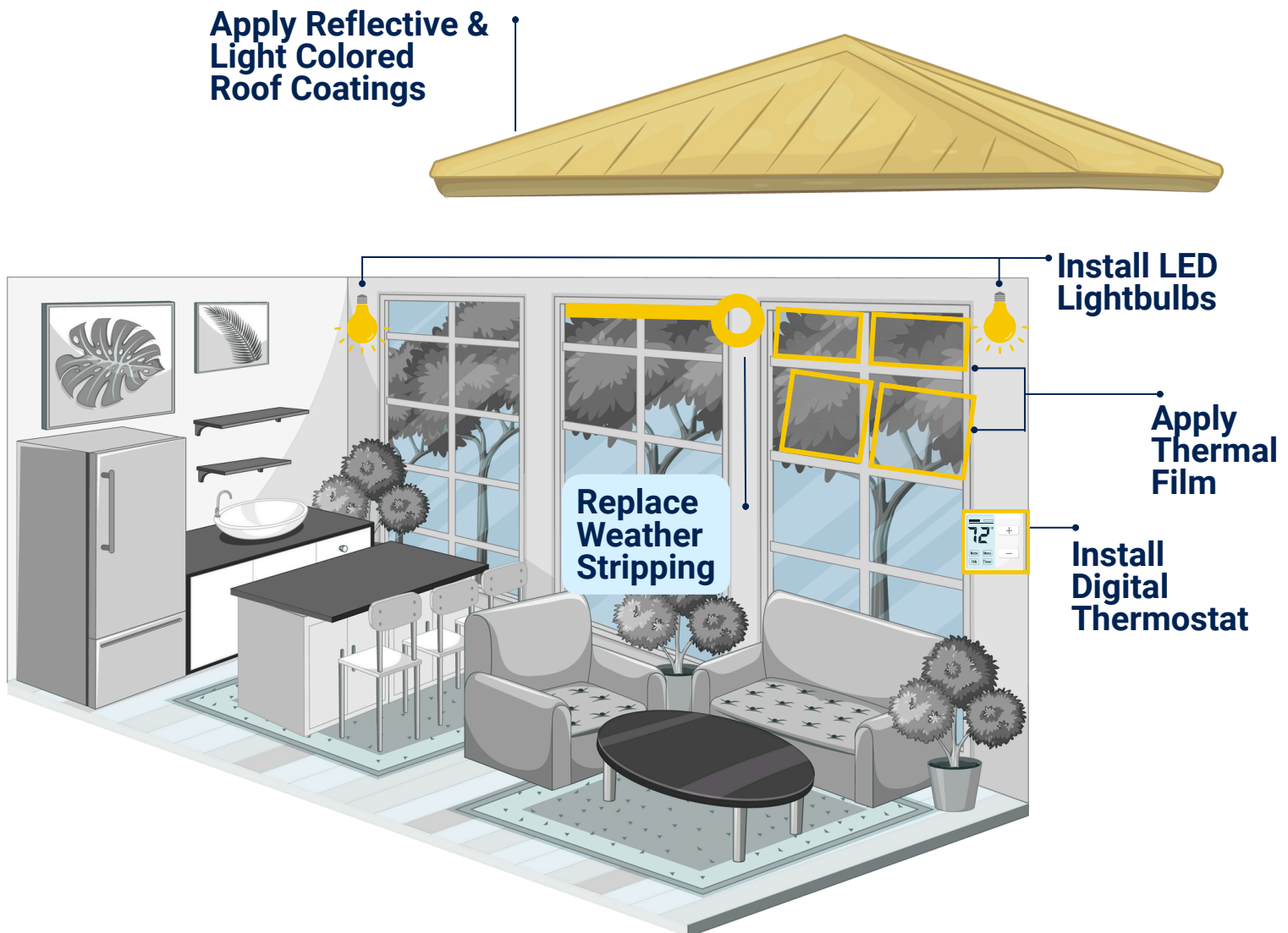
# Extreme Heat

*High Risk & Probability<sup>1</sup>*  
**Warm Season May - Oct**

## Extreme Heat Retrofits

### Home Projects To Prepare Your Home For Heat Waves

Heat waves are multi-day periods of unusually high temperatures relative to a location's normal range. Urban areas often get even hotter due to the heat island effect, where pavement and buildings absorb and trap heat more than greener surroundings. The following pages include step-by-step guides for **weathering stripping, installing LED bulbs, adding digital thermostats, using reflective & light-colored roof coatings, and applying thermal film to windows.**<sup>2</sup>




<sup>1</sup>James Dickey and Evie Lee, Fulton County Resilience Study (July 2024).

<sup>2</sup>U.S. Environmental Protection Agency, Disaster-Resilient Design Concepts, accessed June 11, 2025, [https://www.epa.gov/system/files/documents/2023-03/Disaster-ResilientDesignConcepts\\_Feb2023v-6\\_Final.pdf](https://www.epa.gov/system/files/documents/2023-03/Disaster-ResilientDesignConcepts_Feb2023v-6_Final.pdf).



# Extreme Heat

## Project Rating System

	Rating	Skill Level	Average Cost	Time
<b>Window Insulation Film</b>	Low-Medium	basic skill	\$65	1-2 hours
<b>LED Bulbs</b>	Low-Medium	basic skill	\$85 <small>*For 30 LED Bulbs</small>	1-2 hours
<b>Weather Stripping</b>	Medium-High	basic tools	\$100 <small>*For 15 Foam Strips</small>	1-2 hours
<b>Programmable Thermostats</b>	High	basic skill	\$90	2-3 hours
<b>Reflective Roof Coating</b>	High	advance tools	\$220	> 4 hours

# Extreme Heat Retrofits

## Step-By-Step Guides

### Window Insulation Film Weather Stripping

*\*If you're concerned about safety, it's best to hire a contractor.*

#### Important Notes

Routinely inspect weather stripping, roof coating, thermal film, and thermostat for wear or damage, and ensure all bulbs are LED and functioning.

Thermal films improve comfort and save energy through heat control.<sup>1</sup>

#### Applying Window Insulation Film

**Tools:** Thermal Window Insulation Film, Double Sided Tape, Scissors, Measuring Tape, Hair Dryer, Mild Soap, Shop Towel

1. **Clean the Window** – Clean the window and frame thoroughly.
2. **Outline the Film** – Measure & cut the film slightly larger than the window.
3. **Add Tape** – Apply double-sided tape around the frame.
4. **Attach Film** – Attach the film, starting from a top corner and smoothing it down.
5. **Shrink the Film** – Use a hair dryer to shrink the film and remove wrinkles.

LED bulbs produce significantly less heat, are safer, and more energy-efficient.<sup>2</sup>

#### Installing LED Bulbs

**Tools:** LED bulbs, Step ladder, Screwdriver

*\*If you aren't sure what type of bulb, wattage, or color temperature to choose, bring your old bulb to the hardware store and ask someone to assist you.*

1. **Turn Off the Power** – Turn off the light switch, and for added safety, shut off power at the circuit breaker.
2. **Remove the Old Bulb** – Let the old bulb cool, then twist it counterclockwise to remove.
3. **Insert the LED Bulb** – Hold the LED bulb by the base and twist it clockwise into the socket until snug.
4. **Turn the Power Back On** – Turn the power back on and test the light to ensure it works.

<sup>1</sup>Henry Parker, "Easy Upgrade for Home Comfort and Energy Savings," accessed June 20, 2025, <https://todayshomeowner.com/insulation/guides/window-insulation-film/>.

<sup>2</sup>Home of LED, "Step-by-Step Guide to Install LED Bulbs," accessed June 20, 2025, <https://home-of-led.com/step-by-step-guide-to-install-led-bulbs/>.

## Installing LED Bulbs Installing Digital Thermostats

**\*If you're concerned about safety, it's best to hire a contractor.**

**Weather sealing keeps indoor air in and outdoor air out.<sup>2</sup>**

### Weather Stripping

**Tools: Foam Weather Stripping, Measuring Tape, Utility Knife & Scissors, Mild Soap, Towel**

1. **Prepare the Surface** – *Clean and dry the surface where you'll apply the weather stripping. Remove any old material or residue first, then wipe with mild soap and water. Make sure the area is completely dry so the new adhesive sticks well.*
2. **Measure and Cut** – *Measure the gap, cut the foam strip a bit longer for a snug fit, and test it to ensure it seals properly without bunching or coming up short.*
3. **Apply the Foam Strip** – *Peel a small section of the backing, press the foam in place, and continue peeling and pressing in small sections. Press firmly to ensure it sticks well.*
4. **Test the Seal** – *Open and close the door or window to check for smooth movement. Press down any loose spots to ensure the foam stays in place.*

**Programmable thermostats regulate temperature by maintaining a preset range.<sup>2</sup>**

### Installing Programmable Thermostats

**Tools: New digital thermostat, Screwdriver, Wire strippers, Wire connectors, Voltage tester, Level, Pencil**

1. **Turn Off the Power** – *Turn off power at the circuit breaker and verify it's off with a voltage tester before handling wires.*
2. **Remove the Old Thermostat** – *Remove the old thermostat cover, label the wires (e.g., R to R, G to G), then unscrew and detach the thermostat from the wall.*
3. **Prepare the New Thermostat** – *Match the labeled wires to the corresponding terminals on the new thermostat. (e.g., R to R, G to G).*
4. **Connect the Wires** – *Strip wire ends if needed, connect each wire to its matching terminal, and secure with wire connectors.*
5. **Mount the Thermostat** – *Pick a spot away from windows or vents, level it, mark with a pencil, and screw the thermostat in place.*
6. **Turn the Power Back On** – *Go back to the breaker and turn the power on. Wait a few minutes for the thermostat to start up.*
7. **Test It** – *Change the temperature setting to see if your heater or AC responds.*
8. **Preset the Schedule** – *Set the temperature on your thermostat for morning, afternoon, and evening hours.*

<sup>1</sup>Window Hardware Direct, "The Ultimate Guide to Weather Stripping for Your Home," accessed June 20, 2025, <https://windowhardwaredirect.com/blogs/news/the-ultimate-guide-to-weather-stripping-for-your-home>.

<sup>2</sup>Greenway Kitchen, "Insider Secrets: How to Install Digital Thermostat in House," accessed June 20, 2025, <https://greenwaykitchen.com/how-to-install-digital-thermostat-in-house/>.

\*If you're concerned about safety, it's best to hire a contractor.

Reflective roof coatings cut heat, save energy, and protect your roof.<sup>1</sup>

### Reflective Roof Coating

**Tools:** Reflective Roof Coating, Measuring Tape, Utility Knife & Scissors, Mild Soap, Towel

1. **Prep the Roof** – Sweep or pressure wash to remove dirt and debris. Fix any cracks using caulk or patching compound. Let the surface dry completely.
2. **Mix the Coating** – Use a stick or mechanical mixer to blend the coating evenly.
3. **Apply the Coating** – Apply using a roller, brush, or sprayer. For best results, apply a second coat at a right angle to the first
4. **Let It Dry** – Follow the manufacturer's drying times between coats.

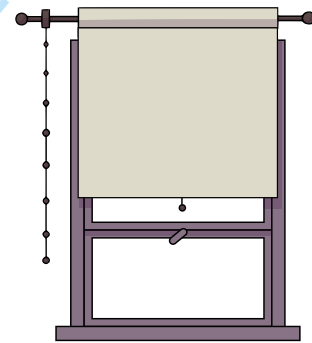
#### HVAC Maintenance:

**How to Keep Your HVAC  
System Working Efficiently**  
(EnergySTAR) [↗](#)



#### Window Shades:

**Cover Your Windows to Keep  
Cool in Extreme Heat** (Flash) [↗](#)

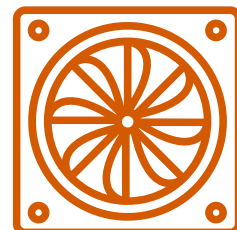


**Looking For More  
Ideas?  
Other Potential  
Extreme Heat  
Retrofits Include:**



**Planting Greenery:**  
**How to Plant Trees to  
Conserve Energy for Summer  
Shade** (Arbor Day  
Foundation) [↗](#)

**Indoor Fans:**  
**Fans for Cooling** (U.S. Dept.  
of Energy) [↗](#)



<sup>1</sup>IMP, "DIY-Friendly Roof Coating to Cool Down Your Home in Summer," accessed June 20, 2025, <https://imp.news/how-to/how-to-use-reflective-roof-coatings-to-keep-your-home-cool-and-save-energy-47872/>.

# Additional Resources

## Extreme Heat

### Retrofit Projects

Home Performance, "How to Weatherstrip Doors- DIY Home Improvement", YouTube (Weather Stripping)

BDF BuyDecorativeFilm, "Self Adhesive Window Film Installation Guide by BDF BuyDecorativeFilm", YouTube (Thermal Film)

### Retrofitting Resources

[gefa.georgia.gov/weatherization-assistance-program](https://gefa.georgia.gov/weatherization-assistance-program) (Weatherization Assistance Program)

[georgiapower.com/rebates-and-discounts](https://georgiapower.com/rebates-and-discounts) (Rebates and Incentives)

[georgiapower.com/ease](https://georgiapower.com/ease) (EASE Energy Assistance for Savings & Efficiency)

[energyrebates.georgia.gov](https://energyrebates.georgia.gov) (Georgia's HER & HEAR Program)

[georgiapower.com/home-energy-improvementprogram](https://georgiapower.com/home-energy-improvementprogram) (Home Energy Improvement Program)

### Educational, Safety, & Awareness Resources

[heat.gov](https://heat.gov) (National Heat Health Information System)

[epa.gov/adapting-heat](https://epa.gov/adapting-heat) (Adapting to Heat)

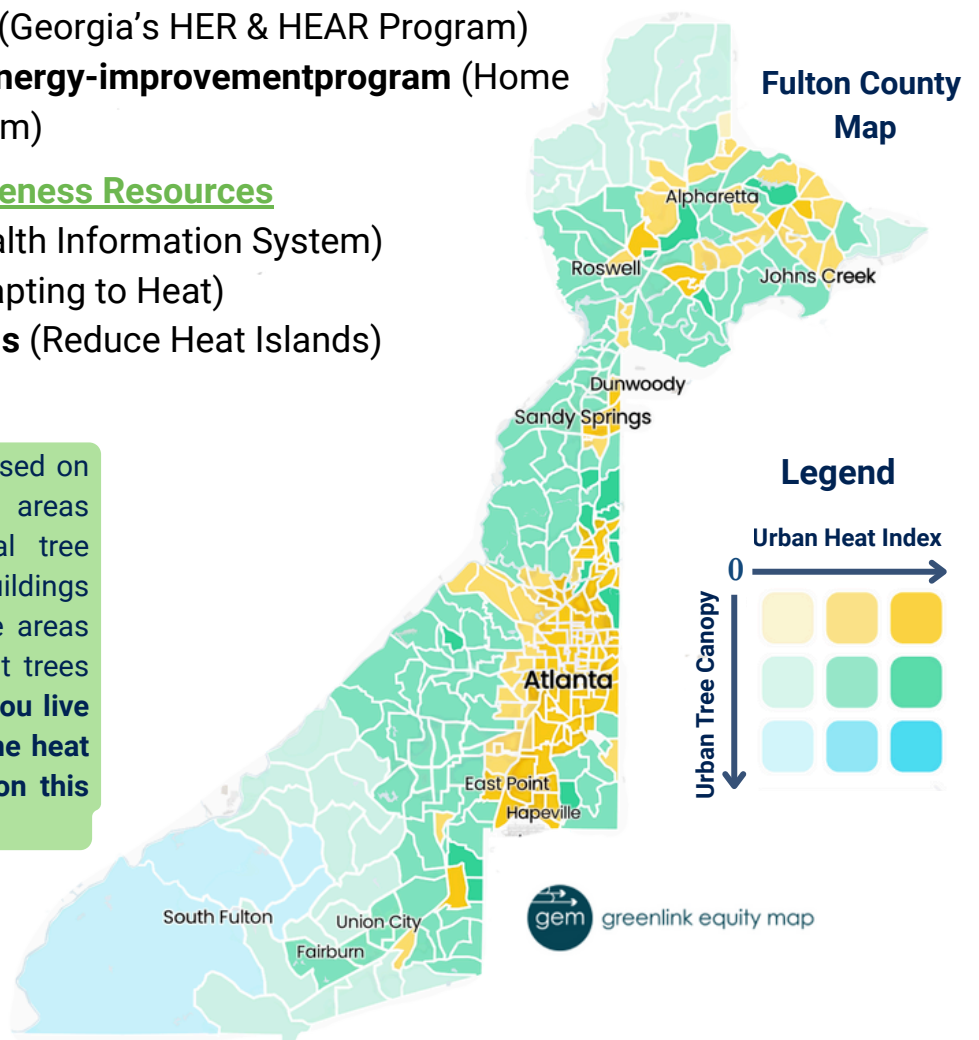
[epa.gov/reduce-heat-islands](https://epa.gov/reduce-heat-islands) (Reduce Heat Islands)

The map colors Fulton County based on heat and trees. Dark yellow areas indicate high heat and minimal tree canopy, where pavement and buildings absorb and trap heat.<sup>2</sup> Light blue areas show cooler zones with abundant trees that help lower temperatures. **If you live in a yellow zone, consider extreme heat retrofits and use the resources on this page to stay safe and cool.**



### Extreme Heat Outdoor Tips

- **Limit sun exposure:** Wear light clothes, sunscreen, a hat, and take shady breaks.
- **Hose Down:** Cool down with wet clothes, cool showers, or soaking hands and feet at pulse points.
- **Stay Hydrated:** Drink water or sports drinks and avoid caffeine to prevent dehydration and heat exhaustion.<sup>1</sup>



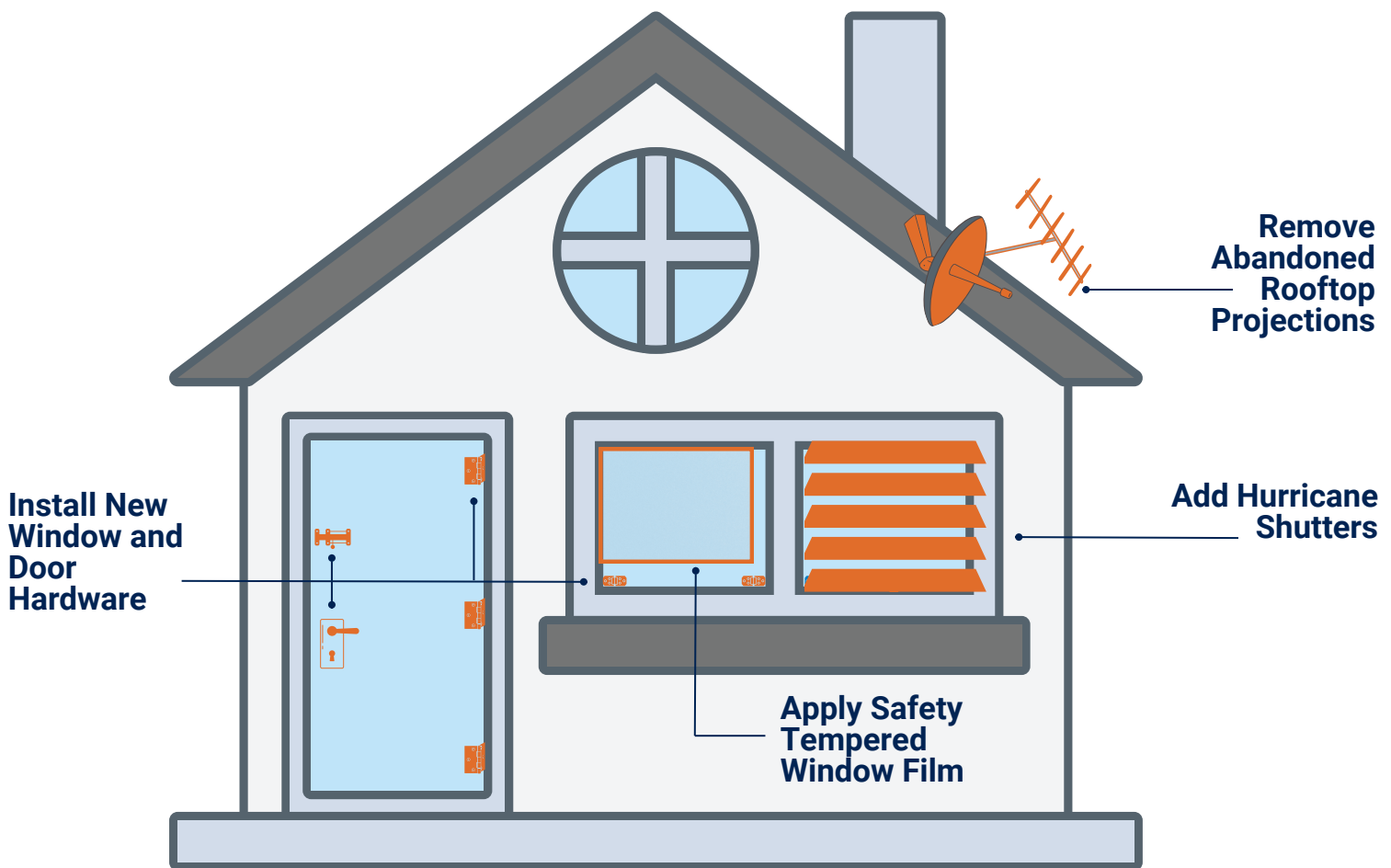
<sup>1</sup>British Red Cross, "Staying cool in summer: Top tips to keep cool in hot weather," accessed July 22, 2025, <https://www.redcross.org.uk/stories/health-and-social-care/first-aid/beat-the-hot-weather-top-tips-for-staying-cool>.

<sup>2</sup>Greenlink Analytics, "Fulton County Urban Heat Index and Urban Tree Canopy", accessed June 4, 2025, <https://www.greenlinkanalytics.org/>.

## Extreme Storm Retrofits

### Home Projects To Prepare Your Home For Heavy Rain and Wind


Severe storms like thunderstorms and hurricanes bring damaging winds, debris, and heavy rain that can impact buildings and down trees or power lines. While their intensity varies, all pose similar threats to homes and infrastructure. The following section includes step-by-step guides for **installing new window and door hardware, applying tempered safety window films, removing abandoned rooftop projections, and installing hurricane rated shutters on windows.**<sup>1</sup>



<sup>1</sup>Preservation Society of Charleston, Resilience Guidance for Charleston, accessed May 15, 2025, <https://www.preservationsociety.org/wp-content/uploads/2024/07/GuidanceFullReduced.pdf>.

# Wind Thunderstorms & Hurricanes

## Project Rating System

	Difficulty	Effort	Average Cost	Time
<b><i>Safety Window Film</i></b>	Low	Basic skills	\$30	1-2 hours
<b><i>Replacing Door Hinges</i></b>	Low-Medium	Basic skills	\$60	1-2 hours
<b><i>Window Latches</i></b>	Medium	Basic tools	\$65	1-2 hours
<b><i>Satellite Dish Removal</i></b>	Medium-High	Specialized Tools	\$70	2-3 hours
<b><i>Hurricane Shutter</i></b>	Medium-High	Specialized Tools	\$100	2-4 hours



# Wind, Thunderstorm & Hurricane Retrofits Step-By-Step Guides

## Applying Safety Window Film

\*If you're concerned about safety, it's best to hire a contractor.

### Important Notes

Before a storm, remove yard debris (leaves, trash, scattered objects), trim tree branches, stabilize fences, close storm shutters, and store outdoor items and propane tanks inside.

Protective window films prevent glass breakage during storms.<sup>1</sup>

### Applying Safety Window Film

**Tools:** Tape Measure, Spray Bottle, Soap, Squeegee, Paper towels, Razor Blade, Masking tape

1. **Mix the Soapy Solution** – Mix 16 oz water with 6-10 drops of soap in a spray bottle.
2. **Clean the Window** – Spray the indoor glass with the solution, wipe clean with a lint-free towel, scrape off dirt and grease, and clean edges and gaskets.
3. **Cut the Film** – Measure your window, then cut the film 2 inches larger in both width and height.
4. **Remove the Backing** – Put masking tape on both sides of a corner, pull them to peel the backing off, and spray the sticky side with soapy water as you peel.
5. **Apply the Film** – Spray the window well with the soapy water, then place the wet film on it starting at the top, and slide it into position.
6. **Squeegee into Place** – Lightly spray the top of the film, then use a squeegee to press it down –start across the top and middle to form a "T," then push from the center outward to remove bubbles.
7. **Trim the Edges** – Use a sharp knife and squeegee edge as a guide to trim the excess film.
8. **Final Squeegee & Drying** – Wrap the squeegee in a paper towel and push out any water from the center to the edges. Small bubbles will fade as the film dries.
9. **Let it Cure** – Wait 72 hours before cleaning the film.

\*For more guidance see the resource page

<sup>1</sup>McMellands Roofing, "Safety Window Film Installation Guide," accessed July 5, 2025, <https://buydecorativefilm.com/pages/installation-2?srltid=AfmB0orm2fGmYlJQUkT6Qwjea6jttoUs79vuYEAvoI4PabXH353xvv0t>.



## Replacing Door Hinges

## Replacing Window Latches

*\*If you're concerned about safety, it's best to hire a contractor.*

Replacing old hinges keeps doors secure in storms.<sup>1</sup>

### Replacing Door Hinges

**Tools:** 3 Door Hinges, Screwdriver, Drill, Chisel, Tape Measure, Pencil, Carpenter's Square

1. **Choose the Right Hinges** – Pick the correct type and size for your door (e.g., butt, T, flag, or pivot hinges). Most doors use 3 hinges—especially if taller or heavier.
2. **Mark the Hinge Positions** – Measure and mark where the hinges go: top hinge ~5-7 in. from top, bottom hinge ~10 in. from the bottom, middle hinge centered between top and bottom (if needed). Mark on both the door and the frame.
3. **Cut Out the Mortises** – Put the hinge where you want it and trace around it with a pencil. Use a chisel to carefully remove a thin layer of wood inside the traced area. Repeat for the other hinges.
4. **Attach Hinges to the Door** – Fit the hinge into the mortise, drill small pilot holes, then screw it in place. Use a self-centering bit if needed.
5. **Hang the Door** – Line up the hinges with the cutouts on the door frame, have someone hold the door steady, and screw the other hinges into place.
6. **Test and Adjust** – Open and close the door to see if it moves smoothly. If it sticks or hangs unevenly, try tightening or loosening the screws a little, or check if it's straight using a carpenter's square.

Attaching sturdy window latches protect from wind and water storm damage.<sup>2</sup>

### Replacing Window Latch

**Tools:** Screwdriver, Measuring Tape, Power Drill, pencil, Window Latch, Safety Glasses, gloves, Dust Mask

1. **Prepare the Surface** – Clean the window area where attaching latch and remove old parts.
2. **Mark the Position** – Use a measure tape and pencil to mark where the latch should be placed. Hold the latch in position to confirm placement.
3. **Drill Pilot Holes** – Mark where the screws go, then drill small starter holes to make screwing easier and prevent cracks.
4. **Screw in the Latch** – Align the latch and screw it into place using a screwdriver or drill.
5. **Test the Latch** – Open and close the window to make sure the latch aligns and locks properly.

<sup>1</sup>Emerald Doors, "How To Fit Door Hinges: 6 Easy Steps," accessed July 5, 2025, <https://www.emeralddoors.co.uk/blogs/news/how-to-fit-door-hinges>.

<sup>2</sup>Window Hardware Direct, "A Comprehensive Guide to Installing a Window Latch," accessed July 5, 2025, <https://windowhardwaredirect.com/blogs/news/a-comprehensive-guide-to-installing-a-window-latch>.

# Satellite Dish Removal Installing Hurricane Shutters

**\*If you're concerned about safety, it's best to hire a contractor.**

**Removing old roof projections prevents storm debris and roof damage.<sup>1</sup>**

## Satellite Dish Removal

**Tools:** Ladder, Wire Cutters, Socket Wrench, Screwdrivers, Putty knife, Utility Knife, Rope, Gloves, Safety Glasses, Roofing Sealant, Shop Towel

1. **Prepare & Stay Safe** – Choose a clear and dry day, set a stable ladder, have a helper for safety, inspect and photograph the dish and roof, and clear a safe path for tools and debris.
2. **Disconnect Power & Cables** – Unplug the receiver, label cables if needed, cut cables safely, remove clips, and secure loose cables.
3. **Remove the Dish Assembly** – Remove covers, check and loosen bolts while supporting the dish, then carefully detach and lower it. Keep bolts if you'll reuse them.
4. **Remove the Mount & Footplate** – Check the bracket and footplate, remove old sealant, loosen bolts while holding the bracket. If bolts are stuck, use oil or cut the bracket carefully. Avoid damaging shingles; leave the footplate if needed.
5. **Seal the Holes** – Clean holes and roof area, check for damage, apply sealant into holes, smooth with a putty knife to form a dome, let it dry fully, and add a second coat for extra protection.

**Window shutters shield glass from wind and debris during storms.<sup>2</sup>**

## Installing Hurricane Shutters

**Tools:** Hurricane Shutters, Measuring Tape, Drill with Bits, Screws and Anchors, Screwdriver, Level, Gloves, Safety Glasses

1. **Measure and Mark** – Measure each window and mark drill holes where the brackets will go, using a level to keep everything straight. Double-check your measurements before drilling, and reinforce the window frames if necessary.
2. **Install the Shutters** – Drill pilot holes and attach the brackets, then line up the shutters and screw them in without overtightening. Test that they open and close smoothly, and double-check that everything is tight and flush.
3. **Final Checks & Maintenance** – Regularly inspect shutters for gaps or loose parts, tighten fasteners, clean with mild soap, lubricate moving parts, check them each storm season, and store removable panels flat and dry.

<sup>1</sup>BDF, "How To Remove A Satellite Dish From The Roof Safely," accessed July 5, 2025, <https://mcclellandsroofing.com/blogs/remove-satellite-dish-from-roof/>.

<sup>2</sup>Hurricane Shutter Co., "Step-by-Step Guide to Installing Hurricane Shutters," accessed July 5, 2025, <https://hurricanes shutterco.com/guide-to-installing-hurricane-shutters>.

## Additional Storm Retrofits

**Tree Pruning:**  
**How to Make Trees Storm Resistant**  
(Tree City USA) [🔗](#)



**Looking For More  
Ideas?  
Other Potential Storm  
Retrofits Include:**

**Replace Gravel with Mulch:**  
**How to Prepare Your Yard for High  
Winds: Trees and Landscaping** (Flash) [🔗](#)



**Secure Outdoor Items:**  
**Protect Your Home from Severe Weather**  
(National Association of Home Builders) [🔗](#)



# Additional Resources

## Wind, Thunderstorms, and Hurricanes

### Retrofitting Resources

**[rd.usda.gov/single-family-housing-repair-loans-grants-17](https://rd.usda.gov/single-family-housing-repair-loans-grants-17)**

(U.S. Department of Agriculture Rural Development)

**[thespruce.com/home-updates-for-extreme-weather](https://thespruce.com/home-updates-for-extreme-weather)**

(19 Home Updates You Need to Make Before Extreme Weather Hits)

### Educational, Safety, & Awareness Resources

**[gema.georgia.gov/hurricane-evacuation-zone](https://gema.georgia.gov/hurricane-evacuation-zone)** (Hurricane Evacuation Zone)

**[gema.georgia.gov/hurricanes](https://gema.georgia.gov/hurricanes)** (Hurricanes)

**[firststreet.org](https://firststreet.org)** (Property Climate Risk)

**[epa.gov/social-vulnerability-report](https://epa.gov/social-vulnerability-report)** (Climate Change and Social Vulnerability)

### Emergency Preparedness

**[fema.gov](https://fema.gov)** (Federal Emergency Management Agency)

**[ready.gov/hurricanes](https://ready.gov/hurricanes)** (Hurricane Preparedness)

**[nhc.noaa.gov](https://nhc.noaa.gov)** (NOAA National Hurricane Center)

**[fema.gov/wireless-emergency-alerts](https://fema.gov/wireless-emergency-alerts)** (Wireless Emergency Alerts (WEA))

Loan Programs serve best for large expensive projects such as connecting a backup generator, insulating your home, or repairing your roof.



Contact your insurance provider before ordering replacement windows or doors to check for potential premium reductions.

# **Appendix A:**

## **Flood Section**

### **Retrofit Projects Additional Information**



# Project Costs

## Flood Section

\*Calculations are averages gathered from the market

### Sandbag Flood Barriers

Funnel (\$4) Sand (\$15) Sandbag (\$30)

**\$50**

### Cleaning Gutters

Garden Gloves (\$5) 5-Gallon Bucket (\$3)  
Step Ladder (\$14) Water Hose (\$5) Water  
Hose Nozzle (\$5) Shop Towel (\$5)

**\$30**

### Rain Barrels

Reclaimed Food-Rated Barrel (\$20) Boiler Shutoff  
Valve (\$8) Thread Sealing Tape (\$1.50) *Thirsty  
Earth* Rain Diverter, Hose, & Tap (\$18) Power Drill  
(\$23) 1-Inch Hole Saw Bit (\$4) Hacksaw (\$11)

**\$85**

### Extending Downspouts

Steel Round Shovel (\$23) Gravel (\$8) 4-Inch PVC  
Pipe (\$1.50) 4"inch 90° Elbow Pipe (\$9) 4"inch  
PVC Pipe Coupling (\$23) Waterproof.com  
Underground Downspout Kit (\$45)

**\$100**

### Sealing Minor Cracks

Safety Glasses (\$8) Tape Measure (\$8) Nitrile  
Safety Gloves (\$8) Dual Calk Gun (\$30) Electric  
Circular Saw (\$20) Portable Vacuum (\$25) Crack  
Stitch by Fortress Repair Kit (\$100)

**\$200**

**Total Retrofit Costs: \$480**

# Costs in Damages & Repairs Return On Investment (ROI)

## Flood Section

### Potential Flood Damage Costs

	Lower End	Higher End	Average
Mold Remediation <sup>1</sup>	\$500	\$5,000	\$2,750
Foundation Cracks <sup>2</sup>	\$4,500	\$5,500	\$5,000
Water Leaks <sup>3</sup>	\$150	\$400	\$280
Wood Rot <sup>4</sup>	\$4,500	\$12,000	\$8,250
Water Damage <sup>5</sup>	\$500	\$10,000	\$5,250
Total Average: \$21,500			

### The Return On Investment (ROI)

**Save \$44 /  
\$1 Invested**

If a homeowner were to experience all of these damages, the flood retrofits offer a 4,400% ROI. Saving \$44 in damages for every \$1 invested in flood protection.

## **Appendix B:**

# **Extreme Heat Section Retrofit Projects Additional Information**





# Project Costs

\*Calculations are averages gathered from the market

## Extreme Heat Section

### Window Insulation Film

Window Insulation Film (\$13) Double-Sided Tape (\$6) Utility Scissors (\$4) Tape Measure (\$8) Hair Dryer (\$25) Mild Soap (\$5) Shop Towel (\$5)

**\$65**

### LED Bulbs

LED Bulbs x1 (\$3) Step Ladder (\$14) Screwdriver (\$7)

\*The estimated average is for 30 LED Bulbs

**\$85**

### Weather Stripping

Tape Measure (\$5) Foam Weather Stripping x1 (\$4) Utility Knife (\$4) Mild Soap (\$3) Shop Towel (\$5)

\*The estimated average is for 15 Foam Weather Strips

**\$100**

### Programmable Thermostats

New Compatible Digital Thermostat (\$30) Screwdriver (\$7) Wire Strippers (\$25) Wire Connectors (\$6) Voltage Tester (\$13) Level (\$12)

**\$90**

### Reflective Roof Coating

Reflective Roof Coating (\$50) Electric Pressure Washer (\$48) Patching Compound (\$15) Airless Sprayer (\$80) Nitrile Safety Gloves (\$8) Safety Glasses (\$8) Step Ladder (\$15)

**\$220**

**Total Retrofit Costs: \$580**

# Annual Energy Costs Saved Return On Investment (ROI)

## Extreme Heat Section

### Energy Cost Savings

	Average
LED Lightbulbs <sup>6</sup>	\$1,810
Reflective Roof Coating <sup>7</sup>	\$370
Digital Thermostats <sup>8</sup>	\$180
Window Insulation Film <sup>9</sup>	\$740
Weather Stripping <sup>10</sup>	\$250
Total Average: \$2,470	

### The Return On Investment (ROI)

**Save \$3 /  
\$1 Invested**

Collectively, the featured extreme heat retrofits offer a 370% ROI. Saving \$3 in energy costs for every \$1 invested in heat protection.

## Appendix C:

# Wind, Thunderstorms, & Hurricanes Section Retrofit Projects Additional Information



# Project Costs

\*Calculations are averages gathered from the market

## Winds Thunderstorms & Hurricanes

Safety Window Film	Tape Measure (\$8) Spray Bottle (\$4) Double-Sided Tape (\$6) Mild Soap (\$5) Squeegee (\$4) Paper Towels (\$5) Razor Blade (\$4)	\$30
Replacing Door Hinges	3 Door Hinges (\$9) Screwdriver (\$7) Power Drill (\$25) Chisel (\$6) Tape Measure (\$8) Carpenter's Square (\$7)	\$60
Window Latches	Window Latch (\$5) Screwdriver (\$7) Power Drill (\$25) Screws (\$2) Tape Measure (\$8) Safety Glasses (\$8) Nitrile Safety Gloves (\$8) Dust Mask (\$7)	\$65
Satellite Dish Removal	Step Ladder (\$15) Wire Cutters (\$5) Wire Connectors (\$6) Socket Wrench (\$12) Screwdriver (\$7) Putty Knife (\$2) Utility Knife (\$5) Rope (\$3) Nitrile Safety Gloves (\$8) Safety Glasses (\$8) Roofing Sealant (\$4) Shop Towel (\$5)	\$70
Hurricane Shutter	Hurricane Shutter (\$25) Tape Measure (\$8) Drill with Bits (\$33) Screws & Anchors (\$6) Screwdriver (\$7) Nitrile Safety Gloves (\$8) Safety Glasses (\$8) Level (\$12)	\$100
Total Retrofit Costs: \$390		

## Costs in Hurricane and Storm Damage Return On Investment (ROI)

## Winds Thunderstorms & Hurricanes

### Potential Storm Damage Costs

	Lower End	Higher End	Average
Window <sup>11</sup> Replacement	\$500	\$1,500	\$1,000
Door Replacement <sup>12</sup>	\$500	\$1,900	\$1,200
Roof Repair & <sup>13</sup> Replacement	\$2,130	\$14,000	\$8,070
Bowing Walls <sup>14</sup>	\$4,000	\$12,800	\$8,400
Gutter Replacement & Repair <sup>15</sup>	\$450	\$900	\$675
Roof & Wall <sup>16</sup> Insulation	\$14,917	\$25,572	\$20,240
Total Average: \$39,590			

### The Return On Investment (ROI)

**Save \$100/  
\$1 Invested**

If a homeowner were to need all of these storm damage repairs, the featured storm retrofits offer a 10,050% ROI. Saving \$100 in storm damages for every \$1 invested in hurricane protection.

# Weather Resilience Supporting Resources

## Home Improvement Aid

**Weatherization Assistance Program** *Financing Energy Efficiency*

<https://gefa.georgia.gov/weatherization-assistance-program>

**Georgia Power Home Energy Improvement Program** *Energy Efficiency Rebates*

<https://www.georgiapower.com/residential/save-money-and-energy/products-programs/home-energy-efficiency-programs/home-energy-improvementprogram>

**Georgia's Home Energy Rebates** *FAQs*

<https://energyrebates.georgia.gov/faqs>

## Disaster Relief

**Georgia Department of Community Affairs** *Disaster Relief*

<https://dca.georgia.gov/financing-tools/disaster-relief>

**Supplemental Disaster Relief Program (SDRP)** *Farmer Disaster Relief*

<https://www.fsa.usda.gov/supplemental-disaster-relief-program-sdrp>

**Individuals and Households Program**

*Financial Services*

<https://www.fema.gov/assistance/individual/program>

**FEMA Transitional Sheltering Assistance** *Disaster Aid*

<https://www.femaemergencyhotels.com/>

**Atlanta-Fulton County Emergency**

**Management Agency** *Disaster Assistance*

<https://www.fultoncountyga.gov/inside-fulton-county/fulton-county-departments/atlanta-fulton-emergency-management-agency/disaster-assistance>

<https://www.fultoncountyga.gov/inside-fulton-county/fulton-county-departments/atlanta-fulton-emergency-management-agency/disaster-assistance>

**Disaster Assistance.gov** *Disaster Assistance*

<https://www.disasterassistance.gov/>

## Programs & Grants

**The Individuals and Households Program** *Housing Assistance for Damaged Homes*

<https://gema.georgia.gov/assistance/individual-assistance>

**Georgia Homeowner Rehabilitation and Reconstruction Program** *Funding for Home Reconstruction*

<https://www.georgiahrrp.com/>

**Georgia Dream Homeownership Program** *Financing Homes*

<https://georgia.gov/apply-georgia-dream-homeownership-program>

**Community HOME Investment Program (CHIP)** *Affordable Housing*

<https://dca.georgia.gov/community-home>

**Community Development Block Grants (CDBG)** *Economically Empowered Neighborhoods*

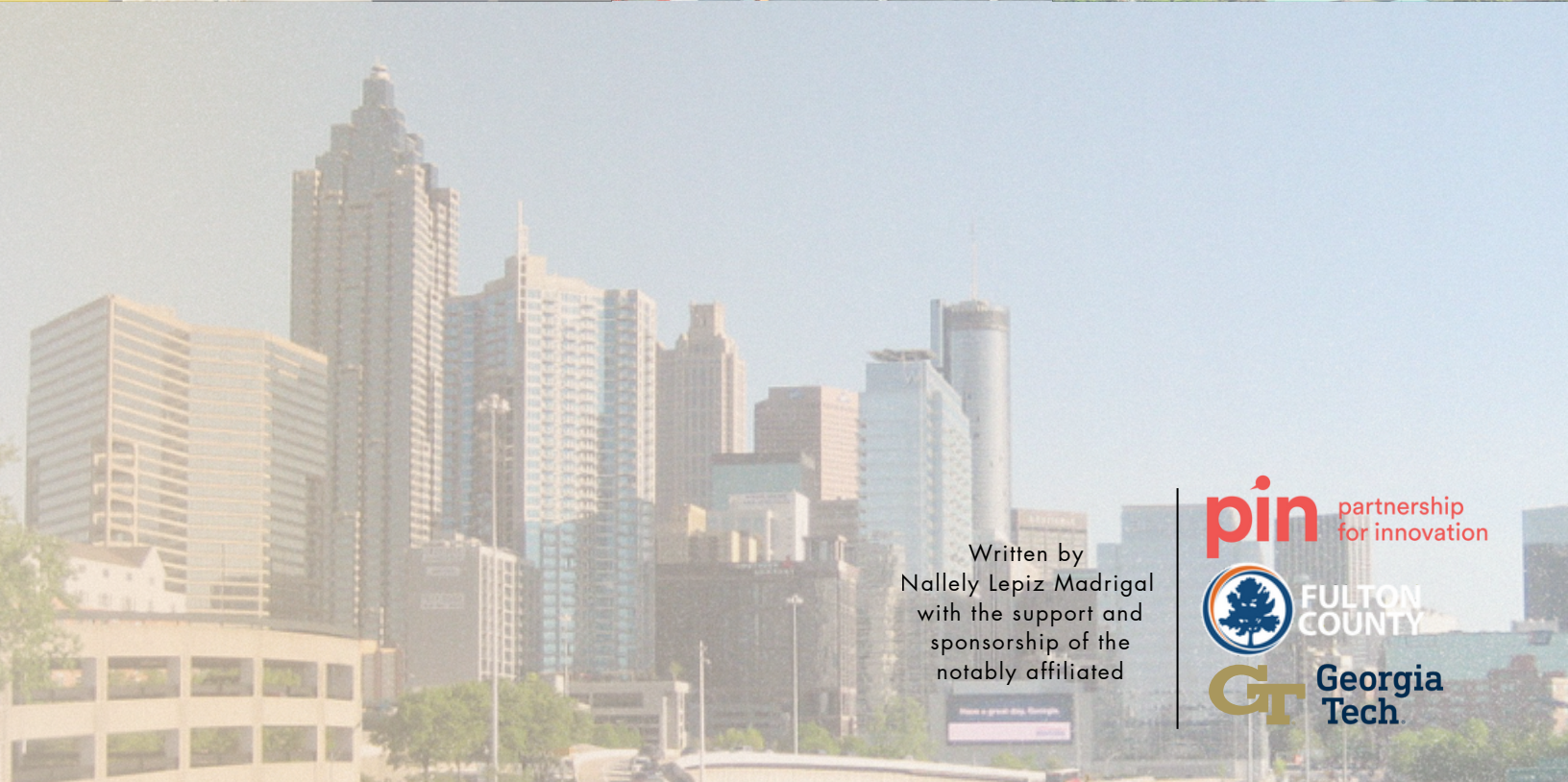
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## Footnotes

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- <sup>3</sup>Rhino Restoration, "What is the Average Price to Patch a Roof in Marietta, GA?," accessed July 1, 2025, <https://rhino-roofs.com/roof-repair/what-is-the-average-price-to-patch-a-roof-in-marietta-ga/>.
- <sup>4</sup>SFW Construction, "Why Is It Hard To Scope The Cost Of Dry Rot Repair?," accessed July 11, 2025, <https://sfwconstruction.com/dry-rot-repair-estimate/>.
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- <sup>6</sup>LED Lighting Info, "How Much Do LED Lights Save On Electricity Bills?," accessed July 11, 2025, <https://ledlightinginfo.com/how-much-does-led-lighting-save-in-energy-bills>.
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