



*Photo description: Strong waves flood a coastal road with water.*

# PROTECT YOUR PROPERTY FROM **STORM SURGE**



**FEMA**





*Photo description: A house sits on a beach front.*

Owning a house is one of the most important investments most people make. Rent is a large expense for many households. We work hard to provide a home and a future for ourselves and our loved ones. If you live near the coast, where storm surge is possible, take the time to protect yourself, your family and your belongings.

Storm surge is the most dangerous and destructive part of coastal flooding. It can turn a peaceful waterfront into a rushing wall of water that floods homes, erodes beaches and damages roadways.

While you can't prevent a storm surge, you can minimize damage to keep your home and those who live there safe.

**First, determine the Base Flood Elevation (BFE) for your home.** The BFE is how high floodwater is likely to rise during a 1%-annual-chance event. BFEs are used to manage floodplains in your community. The regulations about BFEs could affect your home. To find your BFE, you can look up your address on the [National Flood Hazard Layer](#). If you need help accessing or understanding your BFE, contact FEMA's Flood Mapping and Insurance eXchange. You can send an email to [FEMA-FMIX@fema.dhs.gov](mailto:FEMA-FMIX@fema.dhs.gov) or call 877 FEMA MAP (877-336-2627). Your local floodplain manager can help you find this information.

Here's how you can help protect your home from a storm surge.



## OUTSIDE YOUR HOME

### ELEVATE YOUR HOME

While it is an investment, elevating your home is one of the most effective ways to mitigate storm surge effects. Elevation may also lower your flood insurance premium. When a home is properly elevated, the lowest floor should be above the BFE. Areas below the BFE can be used for parking, storage, or access to the house. Work with your local officials and licensed professionals on the right design options.



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### REINFORCE YOUR GARAGE DOOR

Conventional garage doors are not meant to withstand the force of water or high winds from hurricanes and strong storms. Purchase a reinforced garage door or install bracing kits to help keep water out of your home.



Check with state and local building codes before implementing any mitigation. Many coastal areas vulnerable to storm surge have strict requirements for what is allowed below the BFE. These restrictions will impact which mitigation options are possible. For example, garages may not be allowed in the highest-risk areas.

### PROTECT WINDOWS AND DOORS

Doors and windows are common points of failure during a storm. When they break open, wind, water, and debris can seriously damage your house and belongings. Storm shutters and high-impact glass can prevent glass from breaking.



*Photo description: Coastal town sits between the beach and mountains.*

### SECURE MANUFACTURED HOMES

Do you have a manufactured home and want flood insurance from the National Flood Insurance Program? If so, your home must be affixed to a permanent foundation, so that the wheels and axles do not support its weight. This will help the home resist flotation, collapse, or side-to-side movement. Your local floodplain manager can explain the requirements. A professional engineer or architect can make sure the anchoring system is designed and installed correctly.

### SECURE OBJECTS OUTSIDE THE HOME

Lawn furniture, potted plants, and even children's toys can pose risks when carried off by storm surges and wind. Secure outdoor objects or bring them inside, to keep them from causing damage.

### TRIM OR REMOVE DEAD, DAMAGED, OR ROTTING TREES AND LIMBS

The high winds that often come with a storm surge can cause trees and branches to fall. Make sure to trim or remove any damaged trees regularly. Ideally, your home should be at least a full-grown tree's height away from the base of any tree.

### SEAL CRACKS AND GAPS

Prevent wind or water from coming in your home. Make sure the caulking around windows and doors is complete and in good shape. Use a waterproof sealant to fill any holes or gaps around pipes or wires that enter your building.

### ANCHOR ANY FUEL TANKS AND EXTERNAL UTILITY LINKS

Do you have an exterior fuel tank, or are any of your utilities outside? Anchor or tie them down according to the ground anchor instructions. This will reduce their risk of overturning and sliding.

# INSIDE YOUR HOME

## HAVE A PLAN

Create an emergency plan for your family and practice it regularly. When a storm is approaching, evacuate and move your car to higher ground. According to the [National Weather Service](#), just two feet of water can move a vehicle. Visit [Ready.gov/plan](#) to learn more.

## GET FLOOD INSURANCE

Most homeowners insurance policies don't cover flood damage. Protect your investment by purchasing flood insurance for your home and its contents. Do so even if you do not live in a high-risk flood zone.

For more information on purchasing flood insurance through the National Flood Insurance Program, visit [FloodSmart.gov](#) or finding an insurance agent visit [FloodSmart.gov/flood-insurance-provider](#).



## PREPARE OR UPDATE A LIST OF YOUR HOME'S CONTENTS

Document your belongings. This will give you peace of mind and help with the insurance process if you need to file a claim. Consider documenting your home's contents visually. You can either take photos of high-value items or walk through your home and videotape each room's belongings.

## STORE VALUABLES

Store valuables and important documents above the BFE (preferably on an upper floor). Place them in waterproof or water-resistant containers. Also, make copies and store them online or offsite.



## ELEVATE APPLIANCES AND UTILITIES ABOVE THE BFE

Keep appliances and utilities such as water heaters, washers, dryers, and electric panels on higher floors. It can prevent them from getting damaged or ruined by flood water.

Talk to your floodplain manager about how high to elevate your utilities. Many coastal communities have codes that require utilities to be elevated 12 inches or more above the BFE, called freeboard.

## USE FLOOD-RESISTANT MATERIALS

Flood-resistant insulation, drywall, and floor coverings like tile will help minimize damage and are easier to clean and sanitize.

## KNOW YOUR PROPERTY AND NEIGHBORHOOD

If you are moving near a large lake or the ocean, talk with neighbors. Find out about any issues they've had, or any mitigation measures they have taken. Take the time to look up flood information. You can find flood maps for coastal areas on the [National Flood Hazard Layer](#).

**REMEMBER:**



Some of these tips may work better than others. Tailor any mitigation measures to meet your property's needs.

Always consult professionals, such as your insurance agent, architects, engineers, contractors, or other experts in design and construction, before making changes to your home. Your local planning and zoning office or building department is a good place to start for advice.



*Photo description: Woman reads on a tablet at home.*

## ADDITIONAL RESOURCES

### FEMA, HOMEBUILDER'S GUIDE TO COASTAL CONSTRUCTION

Learn about best practices for coastal construction.

[https://www.fema.gov/sites/default/files/2020-07/p-499\\_homebuilders-guide-coastal-construction.pdf](https://www.fema.gov/sites/default/files/2020-07/p-499_homebuilders-guide-coastal-construction.pdf)

### FEMA, HOMEOWNER'S GUIDE TO RETROFITTING

Learn more about six ways to protect your home from flooding.

[https://www.fema.gov/sites/default/files/2020-07/fema\\_nfip\\_homeowners-guide-retrofitting\\_2014.pdf](https://www.fema.gov/sites/default/files/2020-07/fema_nfip_homeowners-guide-retrofitting_2014.pdf)

### FEMA, P-550

Find out about recommended residential construction for coastal areas.

[https://www.fema.gov/sites/default/files/2020-07/fema550\\_flyer\\_052219.pdf](https://www.fema.gov/sites/default/files/2020-07/fema550_flyer_052219.pdf)

### NATIONAL HURRICANE CENTER,

View storm surge information, maps, and resources.

<https://www.nhc.noaa.gov/surge/>

### NATIONAL HURRICANE CENTER,

<https://www.experience.arcgis.com/experience/203f772571cb48b1b8b50fdcc3272e2c>







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