

OVERCOME THE FLOOD NIGHTMARE



Reduce your flash flood risks – Fast tips

- ✓ Clear drains, gutters and downspouts of debris.
- ✓ Move furniture and electronics off the floor, particularly in basements and first floor levels.
- ✓ Roll up area rugs, where possible, and store these on higher floors or elevations. This will reduce the chances of rugs getting wet and growing mold.
- ✓ Prepare an evacuation kit with important papers, insurance documents, medications and other things you may need if you are forced to be away from your home or business for several days.
- ✓ Inspect sump pumps and drains to ensure proper operation. If a sump pump has a battery backup, make sure the batteries are fresh or replace the batteries.
- ✓ Shut off electrical service at the main breaker if the electrical system and outlets will be under water.



- ✓ Place all appliances, including stove, washer and dryer on masonry blocks or concrete at least 12 inches above the projected flood elevation.

Did you know?

Flooding and flash flooding are a leading cause of weather-related fatalities in the United States, according to the National Weather Service. It is also the most common weather-related cause of property damage in the nation.

During Sandy last year, many property owners were caught off guard by the risk that flooding posed as the storm came ashore, leading to deaths and injuries, homes washed away, and businesses heavily damaged by flood waters. Sandy resulted in \$6.7 billion in National Flood Insurance Program (NFIP) payouts as of July 2013, second only to Hurricane Katrina's \$16.3 billion in payouts in August 2005, according to the Insurance Information Institute.

Winter Water Damage and Flooding

First there was snow, then there was the Polar Vortex and then there will be flood. Warmer weather can bring flooding to some areas of the country because of rapidly melting snows and ice jams on local rivers. Melting snow piled up along roadways will also

cause the water to pool on the highway creating a driving hazard. Additionally, colder temperatures at night will create ice on the highways.

Winters always create hazards to life and limb but it appears that this year the hazards are compounded by heavier snows, colder than normal temperature and then rapid changes in the temperature.

You may not have received a significant amount of snow in your area but local rivers and waterways are affected by events miles upstream. Even if the local rivers are not frozen over, they can be frozen upstream.

The ice can jam at any point along its journey as it thaws and breaks up and begins floating loose. Ice jams at narrower points in the river can cause significant overland flooding in some areas. It is important to stay informed so you can react before rising floodwaters reach your community. Flooding can of course wash away bridges and highways leaving you stranded in your own neighborhood.

Things You Can Do Now

Make sure any storm drains or culverts that you have access to or are on your property are kept free of debris. Piled up leaves, sticks

and gravel can cause storm drains/culverts to back up and flood the surrounding area.

Make sure your sump pumps are in working order because even if the local rivers do not rise the ground water can rise from melting snow and rains and this can flood your basement.

Be careful of accumulated snow on your roof. Accumulation of snow over the season can cause a roof to collapse and then there is the danger of snow and ice sliding off the roof and striking people or damaging vehicles. Snow guards designed to prevent snow/ice slides can easily be overwhelmed by heavier than expected snowfalls.

Use caution when using snow racks to remove snow from roofs because of overhead power lines. It is not recommend that you climb onto your roof to remove snow because of the additional weight and the possibility of falling.

Melting snow will cause water runoff and if gutters and drain spouts are clogged the water can backup under the roofing material and cause damage to your roof decking and ultimately the interior of your home. Water backed up in gutters that freezes can cause damage to your roof that may not be evident until the ice thaws.

Rising Rivers

Have a plan before you need one. Once you see water rising along the streets is not the time to begin planning for evacuation or to begin preparing your home.

Water can rise rapidly with little warning, especially if ice and water overwhelms a levee or dam causing either one to rupture. Slowly rising water is of course easier to deal with than a burst dam or levee. In either scenario however, thinking ahead can save your life.

If you live near a dam or levee, know what is happening upstream so you can make informed decisions and evacuate early. It is better to evacuate and not have anything happen than to stay and face an onslaught of rushing water.

Make sure you have emergency supplies packed and ready. If you evacuate you should take your supplies with you because it may be several days before emergency shelters and disaster relief are operational. Local shelters may not have any supplies at the ready and because of the flooding; they may not be operational at all.

Your supplies must be packed so they can be easily carried and you can even place them in your vehicle well before the thought of

evacuation arises. Water, food, medicines, blankets and clothing will be priorities as well as a means of communication.

Have all your important paper work packed so it can be easily carried with you. You will need this paperwork to file for any disaster relief or even to re-enter your neighborhood because of curfews. The local authorities in some cases verify the identity of people before allowing them back into certain areas to help prevent looting.

A life jacket for each family member is also recommended. If you have pets make sure, you have prepared an evacuation kit for them as well, that includes food, blankets/bedding, medicines and water.

Learn Your Flood Risk

The best place to start is by finding out what flood zone, from high to low risk, your property is in. You can look up your property on the local flood map by visiting [FEMA Map Service Center's website](#) or contacting your city or county government. Your insurance agent or mortgage lender also may be able to assist.

It also is important to note that there are many times when a building can experience flood damage even if it is not located within a high risk flood area on the flood map. Therefore, it is best to get an

understanding of the flood zone of your entire surrounding area to fully understand your risk.

Updated Flood Maps

Floods maps are redrawn by FEMA to reflect new information and recommendations. In fact, many communities are currently receiving new, more detailed flood maps, as part of an ongoing [flood map modernization effort](#) by FEMA. Consult your city or county building department to determine if your local maps have been or soon will be updated, and how the redrawing may affect your property. If an update has recently been completed or is on-going, it is recommended that you look at the maps to see if it has affected the flood zone for your property.

Know Your Base Flood Elevation

Once you know what flood zone your property is in, it is important to find out what the Base Flood Elevation (BFE) is for your property. The BFE is the elevation at which your building has a one percent chance of flooding annually. You can find the BFE for your property listed on many flood maps, especially newer ones, or by contacting your local building department, or you can hire a licensed surveyor. After identifying the BFE for your property, you need to

determine whether the elevation of your building's lowest floor is above or below the published BFE for your property.

If your building is below the BFE for the area, you should consider elevating your structure, to reduce the chances that it will flood. IBHS recommends that buildings be at least 3 feet above the BFE, to account for wave action, flash flooding or higher than expected flooding levels.

Flood Insurance

Once you know what your risk is, you also should consider purchasing flood insurance, especially if you find you are in, or near, a high-risk flood zone (Special Flood Hazard Area). Flood insurance is provided through the federal [National Flood Insurance Program \(NFIP\)](#), and can be purchased through private insurance agents and companies. If you have a federally-backed mortgage, be aware that your lender may require you to purchase flood insurance if you are in or near a high-risk flood zone.

If you live in a high risk flood zone or your property has had repetitive losses due to floods, you also should become familiar with recent changes in the NFIP approved by the U.S. Congress last year, as part of the [Biggert-Waters Flood Insurance Reform Act of 2012](#). The law requires that flood insurance rates now accurately reflect

true risk, especially in areas of high flood risk, which have been previously subsidized at lower rates. These changes mean that some, but not all, property owners will see an increase in their flood insurance premiums. Learn more about the [Biggert-Waters Flood Insurance Act](#).

Before the Disaster

Did you know that floods are the most common natural disaster in America? The Red Cross reports that, every year, floods take more than 100 lives and cause more than \$4 billion in damages.

Here are some tips everyone should know to prepare for that inevitable flood:

Anticipate the Expected

You should know what impacts a flood could have on your home and property. The flow of water is easy to predict, and local terrain is a known factor. Try to estimate the damages if a tree was ripped from the ground and into your house or if debris should slide down the hill into your yard.

Ask Questions

Local planning agencies have very good information about the location of flood plains and water flows throughout the community. Be sure to find out where your property is located relative to flood areas, and find out if there is a history of flooding where you live.

Educate Yourself

Know the signs of imminent flooding and learn what type of alerts your community uses to warn citizens of impending floods.

Get with the Plan

It's critical that you know what your community plans do to in case evacuation becomes necessary. Know how they will provide transportation and local emergency travel routes. Find out if there is a step-by-step plan you can follow to best cooperate with the community's effort.

Insure your Property

Especially for people in flood-prone areas, normal home insurance will probably not cover flooding. But finding and having individual private flood insurance has many benefits:

- It covers specific losses

- It's usually relatively inexpensive
- It covers you even when your area is not declared a formal "disaster area"
- You may not have to repay property or reconstruction loans
- You know you will be paid because the National Flood Insurance Program backs all approved policies
- You may be able to get a partial payment very quickly after the event to begin repairs

Protect Important Documents

Make sure your passports, birth certificates, insurance policies, deeds, stock certificates, and other important documents are in a secure, waterproof location and container. Also be sure it's in a place where you can get to it easily.

Consider a Home Reconfiguration

If your fireplace, furnace, electric panel, or water heater is now in your basement or ground floor, consider having them moved to your attic. While this may be costly, it will save you in the long run, especially if you live in flood-prone area.

You should also find out about local building codes and requirements to find out whether you can build retaining walls and barriers to protect your home.

Plug It Up

Check trap sewers in your house with check valves to be sure flood water can't leak into your house from the community's sewer system. During flood emergencies, you may want to use stoppers or corks to plug your tubs and sinks as well.

Protect by Waterproofing

Be sure the walls of your basement and lower floors are watertight. Use waterproof compounds to seal cracks so that water can't get in.

Keep Necessities at Hand

Be sure you have a flood kit by assuring there are a battery-operated radio and other supplies readily available. Set aside some fresh drinking water, canned goods, extra clothing, and blankets in a dry area that won't be flooded. Most important, keep a first aid kit updated and well-supplied.

Careful preparation is the best way to prevent damage and injury from floods. Especially if you live in at low altitudes or in coastal

areas, you are likely to have this experience at least once in your life. You'll be much happier if you know what to do and take the proper precautions before a flood washes through your life.

What to do when the flood comes

Listen to a battery-operated radio for the latest storm information. Fill bathtubs, sinks, and jugs with clean water in case water becomes contaminated. Bring outdoor belongings, such as patio furniture, indoors. Move valuable household possessions to the upper floors or to safe ground if time permits. If local authorities instruct you to do so, turn off all utilities at the main switch and close the main gas valve. Be prepared to evacuate.

If Indoors: Turn on battery-operated radio or television to get the latest emergency information. Get your preassembled emergency supplies. If told to leave, do so immediately.

If Outdoors: Climb to high ground and stay there. Avoid walking through any floodwaters. If it is moving swiftly, even water 6 inches deep can sweep you off your feet.

If in A Car: If you come to a flooded area, turn around and go another way. If your car stalls, abandon it immediately and climb to

higher ground. Many deaths have resulted from attempts to move stalled vehicles.

During an evacuation

If advised to evacuate, do so immediately. Evacuation is much simpler and safer before flood waters become too deep for ordinary vehicles to drive through. Listen to a battery-operated radio for evacuation instructions. Follow recommended evacuation routes. Shortcuts may be blocked. Leave early enough to avoid being marooned by flooded roads.

After the flood

Flood dangers do not end when the water begins to recede. Listen to a radio or television and don't return home until authorities indicate that doing it so is safe. Remember to help your neighbors who may require special assistance--infants, elderly people, and people with disabilities.

Inspect foundations for cracks or other damage. Stay out of buildings if flood waters remain around the building. When entering buildings, use extreme caution. Wear sturdy shoes and use battery-powered lanterns or flashlights when examining buildings. Examine

walls, floors, doors, and windows to make sure that the building is not in danger of collapsing.

Watch out for animals, especially poisonous snakes, that may have come into your home with the flood waters. Use a stick to poke through debris. Watch for loose plaster and ceilings that could fall. Take pictures of the damage--both to the house and its contents for insurance claims. Look for fire hazards.

Broken or leaking gas lines flooded electrical circuits submerged furnaces or electrical appliances flammable or explosive materials coming from upstream throw away food--including canned goods--that has come in contact with flood waters.

Pump out flooded basements gradually (about one-third of the water per day) to avoid structural damage. Service damaged septic tanks, cesspools, pits, and leaching systems as soon as possible. Damaged sewage systems are health hazards.

Inspecting utilities in a damaged home

Check for gas leaks--If you smell gas or hear blowing or hissing noise, open a window and quickly leave the building. Turn off the gas at the outside main valve if you can and call the gas company from a neighbor's home. If you turn off the gas for any reason, it

must be turned back on by a professional. Look for electrical system damage--If you see sparks or broken or frayed wires, or if you smell hot insulation, turn off the electricity at the main fuse box or circuit breaker. If you have to step in water to get to the fuse box or circuit breaker, call an electrician for advice.

Check for sewage and water lines damage--If you suspect sewage lines are damaged avoid using the toilets and call a plumber. If water pipes are damaged, contact the water company and avoid the water from the tap. You can obtain safe water by melting ice cubes.

Reducing Property Damage from Floods

Follow these guidelines

Build with water-resistant materials

Water-resistant materials can withstand direct contact with flood waters for at least 72 hours without being significantly damaged and sustaining little more than low cost or cosmetic repair, such as re-painting.

Dry flood-proof your property

- Dry flood-proofing protects the building by “sealing” the building so flood waters can’t enter:

- Applying a waterproof coating or membrane to exterior walls.
- Installing watertight shields over all openings, including windows and doors.
- Anchoring the building to resist flotation.
- Strengthening walls to withstand flood water pressures and flood debris.
- Install a sump pump and foundation drain system.

Add a waterproof veneer to exterior walls

Protect your property from shallow flooding by adding a waterproof veneer, a brick backed by a waterproof membrane is one example, and sealing all the openings.

Raise electrical system components

Raising electrical system components above the anticipated flood level will help prevent damage to the electrical system and helps avoid the potential for fire from short circuits in flooded systems. All components should be raised at least 1 ft. above the 100-year flood level.

Anchor fuel tanks

Unanchored fuel tanks outside your property can damage your building or be swept downstream, damaging other properties. The

supply line to an unanchored tank in your basement can tear free and fuel can contaminate your basement. Make sure that fuel tanks are properly anchored.

Raise or floodproof hvac equipment

Floodwaters can extensively damage heating, ventilation, and cooling (HVAC) equipment. The extent of the damage depends upon the depth of flooding and how long the equipment is underwater. A good way to protect the HVAC equipment is to move it to an upper floor or build a flood proof wall around the equipment.

Install sewer backflow valves

Flooding in some areas can cause sewage from sanitary sewer lines to back up through drain pipes. Backflow valves are designed to block drain pipes temporarily and prevent return flow into the house.

Protect wells from contamination by flooding

Floodwater that enters a well can contaminate it and make the water unsafe to drink. A licensed well drilling contractor can inspect your well and suggest improvements.

Using Sump Pumps

A sump pump is an effective tool to keep water out of your home or business:

Install a sump pump with a battery backup system:

This may require demolition of a portion of the basement floor to install the pump.

To be effective, the sump pump needs to be away from the basement walls and have positive drainage away from the building.

Sump pumps should be tested at least once a year, preferably in the early spring, prior to the “wet season.”

Test the system if a storm is approaching, and make sure the sump pit does not contain any debris that will clog the sump’s inlet pipe.

Ensure the outlet pipe is clear and the water flows freely to the designated area.

If the sump does not operate properly, check the power source for the pump.

If you cannot determine the problem yourself, contact a professional to diagnose the problem.