

Coping With a Flood

Floods are one of the most common hazards in the United States. Flood effects can be local, impacting a neighborhood or community, or very large, affecting entire river basins and multiple states.

All floods are not alike. Some floods develop slowly, sometimes over a period of days. But flash floods can develop quickly, sometimes in just a few minutes and without any visible signs of rain. Flash floods often have a dangerous wall of roaring water that carries rocks, mud, and other debris and can sweep away most things in its path. Overland flooding occurs outside a defined river or stream, such as when a levee is breached, but still can be destructive. Flooding can also occur when a dam breaks, producing effects similar to flash floods.

Be aware of flood hazards no matter where you live, but especially if you live in a low-lying area, near water or downstream from a dam. Even very small streams, gullies, creeks, culverts, dry streambeds, or low-lying ground that appears harmless in dry weather can flood. Every state is at risk from this hazard. To help you protect yourself and your family members, this guide offers tips and strategies on how to prepare for and cope with a flood.

Know Your Terms

Familiarize yourself with these terms to help identify a flood hazard:

- **Flood Watch:** Flooding is possible. Tune in to NOAA Weather Radio, commercial radio, or television for information.
- **Flash Flood Watch:** Flash flooding is possible. Be prepared to move to higher ground; listen to NOAA Weather Radio, commercial radio, or television for information.
- **Flood Warning:** Flooding is occurring or will occur soon; if advised to evacuate, do so immediately.
- **Flash Flood Warning:** A flash flood is occurring; seek higher ground on foot immediately.

Preparing for a Flood

There are some basic steps you can take to prepare for a flood:

- Contact your county geologist or county planning department to find out if your home is located in a flash-flood-prone area or landslide-prone area.
- Avoid building in a floodplain unless you elevate and reinforce your home.
- Learn about your community's emergency plans, warning signals, evacuation routes, and locations of emergency shelters.
- If you must evacuate, plan to take your pets with you if possible. However, if you are going to a public shelter, it is important to understand that animals may not be allowed inside. Plan in advance for shelter alternatives that will work for both you and your pets. Make a back-up emergency plan in case you can't care for your animals yourself. Develop a buddy system with neighbors, friends and relatives to make sure that someone is available to care for or evacuate your pets if you are unable to do so. Be prepared to improvise and use what you have on hand to make it on your own for at least three days, maybe longer.

- Plan and practice a flood evacuation route with your family. Ask an out-of-state relative or friend to be the “family contact” in case your family is separated during a flood. Make sure everyone in your family knows the name, address, and phone number of this contact person.
- Post emergency phone numbers at every phone.
- Inform local authorities about any special needs, e.g., elderly or bedridden people, or anyone with a disability.
- Construct barriers (levees, beams, floodwalls) to stop floodwater from entering your home.
- Seal walls in basements with waterproofing compounds to avoid seepage.
- Identify potential home hazards and know how to secure or protect them before a flood strikes. Be prepared to turn off electrical power when there is standing water, fallen power lines, or before you evacuate. Turn off gas and water supplies before you evacuate. Secure structurally unstable building materials.
- Buy a fire extinguisher and make sure your family knows where it is and how to use it.
- Buy and install sump pumps with back-up power.
- Have a licensed electrician raise electric components (switches, sockets, circuit breakers and wiring) at least 12 inches above your home’s projected flood elevation.
- For drains, toilets, and other sewer connections, install backflow valves or plugs to prevent floodwaters from entering.
- Anchor fuel tanks which can contaminate your basement if torn free. An unanchored tank outside can be swept downstream and damage other houses.
- Fill bathtubs, sinks and plastic soda bottles with clean water. Sanitize the sinks and tubs first by using bleach. Rinse and fill with clean water.
- Bring outdoor possessions, such as lawn furniture, grills and trash cans inside or tie them down securely.
- Have your immunization records handy or be aware of your last tetanus shot, in case you should receive a puncture wound or a wound becomes contaminated during or after the flood.

Emergency Supplies You Will Need

You should stock your home with supplies that may be needed during the emergency period. At a minimum, these supplies should include:

- Several clean containers for water, large enough for a three to five day supply of water (about five gallons for each person).
- A three to five day supply of non-perishable food and a non-electric can opener.
- A first aid kit and manual and prescription medicines and special medical needs.
- A battery-powered radio, flashlights, and extra batteries.
- Sleeping bags or extra blankets.
- Water-purifying supplies, such as chlorine or iodine tablets or unscented, ordinary household chlorine bleach.
- Baby food and/or prepared formula, diapers, and other baby supplies.
- Disposable cleaning cloths, such as “baby wipes” for the whole family to use in case bathing facilities are not available.
- Personal hygiene supplies, such as soap, toothpaste, sanitary napkins, etc.
- An emergency kit for your car with food, flares, booster cables, maps, tools, a first aid kit, fire extinguisher, sleeping bags, etc.
- Rubber boots, sturdy shoes, and waterproof gloves.
- Insect repellent containing DEET or Picaridin, screens, or long-sleeved and long-legged clothing for protection from mosquitoes which may gather in pooled water remaining after the flood.

If you are under a flood watch or warning:

- Gather the emergency supplies you previously stocked in your home and stay tuned to local radio or television station for updates.
- Turn off all utilities at the main power switch and close the main gas valve if evacuation appears necessary.

Preparing to Evacuate

Expect the need to evacuate and prepare for it. When a flood watch is issued, you should:

- Fill your vehicle's gas tank and make sure the emergency kit for your car is ready.
- If no vehicle is available, make arrangements with friends or family for transportation.
- Fill your clean water containers.
- Take your pets if possible. Implement your alternative plan if you cannot take your pets.
- Review your emergency plans and supplies, checking to see if any items are missing.
- Tune in the radio or television for weather updates.
- Listen for disaster sirens and warning signals.
- Adjust the thermostat on refrigerators and freezers to the coolest possible temperature.

Additional Tips/Precautions for Seniors and People with Disabilities

If you are elderly or disabled, you may need to take additional precautions. If you live alone, seek help from trusted neighbors, community members or professionals (police, health care workers, etc.) If you live in an assisted living facility or retirement community, listen to directions from directors of the facility and speak up about your needs. Plus, consider the following:

- Plan emergency procedures with trusted friends, home health care agencies or workers. Make sure at least one of them has a key to your home.
- Find out about emergency shelters set up in the area; often shelters are set up exclusively for people with special needs.
- Contact your city or county government's emergency information management office. Many local offices keep lists of people with disabilities so they can be located quickly in a sudden emergency.
- Plan how you will evacuate or signal for help.
- Tell others where you keep your emergency supplies. (See supplies list that follows).

- Label equipment like wheelchairs, canes or walkers. Plus, know the size and weight of your wheelchair, in addition to whether or not it is collapsible.
- Teach others how to operate necessary equipment.
- Wear medical alert tags or bracelets to help identify your disability.
- If you are dependent on dialysis or other life sustaining treatment, know the location and availability of more than one facility.

Make sure you pack the following supplies:

- List of prescription medications including dosage and any allergies.
- Extra eyeglasses and hearing-aid batteries.
- Extra wheelchair batteries or other special equipment.
- A list of the style and serial numbers of medical devices, such as pacemakers.
- Copies of medical insurance and Medicare cards.
- List of doctors and emergency contacts
- Extra wheelchair batteries, oxygen

During a Flood

If a flood is likely in your area, you should:

- Listen to the radio or television for information.
- Be aware that flash flooding can occur. If there is any possibility of a flash flood, move immediately to higher ground. Do not wait for instructions to move.
- Be aware of streams, drainage channels, canyons, and other areas known to flood suddenly. Flash floods can occur in these areas with or without such typical warnings as rain clouds or heavy rain.

If you are ordered to evacuate:

You should never ignore an evacuation order. Authorities will direct you to leave if you are in a low-lying area, or within the greatest potential path of the rising waters. If a flood warning is issued for your area or you are directed by authorities to evacuate the area:

- Take only essential items with you.
- If you have time, turn off the gas, electricity, and water at the main switches or valves if instructed to do so.
- Disconnect appliances to prevent electrical shock when power is restored. Do not touch electrical equipment if you are wet or standing in water.
- Secure your home. If you have time, bring in outdoor furniture. Move essential items to an upper floor.
- Follow the designated evacuation routes and expect heavy traffic.
- Do not attempt to drive or walk across creeks or flooded roads.

Driving Flood Facts

The following are important points to remember when driving in flood conditions:

- Six inches of water will reach the bottom of most passenger cars causing loss of control and possible stalling.
- A foot of water will float many vehicles.
- Two feet of rushing water can carry away most vehicles including sport utility vehicles (SUV's) and pick-ups.

If you have to leave your home, remember these evacuation tips:

- Do not walk through moving water. Six inches of moving water can make you fall. If you have to walk in water, walk where the water is not moving. Use a stick to check the firmness of the ground in front of you.
- Do not drive into flooded areas. If floodwaters rise around your car, abandon the car and move to higher ground if you can do so safely. You and the vehicle can be quickly swept away.

If you are ordered NOT to evacuate:

To get through the storm as safely as possible:

- Monitor radio or television for weather updates.
- Prepare to evacuate to a shelter or to a neighbor's home if your home is damaged, or if you are instructed to do so by emergency personnel.

After a Flood

- Seek necessary medical care at the nearest hospital or clinic. Contaminated flood waters lead to a greater possibility of infection. Severe injuries will require medical attention.
- Help a neighbor who may require special assistance—infants, elderly people, and people with disabilities. Elderly people and people with disabilities may require additional assistance. People who care for them or who have large families may need additional assistance in emergency situations.
- Avoid disaster areas. Roads may still be closed because they have been damaged or are covered by water. Barricades have been placed for your protection. If you come upon a barricade or a flooded road, go another way. Emergency workers will be assisting people in flooded areas. Your presence might hamper rescue and other emergency operations, and put you at further risk from the residual effects of floods, such as contaminated waters, crumbled roads, landslides, mudflows, and other hazards.

If you must walk or drive in areas that have been flooded:

- **Stay on firm ground. Moving water only six inches deep can sweep you off your feet. Standing water may be electrically charged from underground or downed power lines.**
- **Flooding may have caused familiar places to change. Floodwaters oftenerode roads and walkways. Flood debris may hide animals and broken bottles, and it's also slippery. Avoid walking or driving through it.**

- Continue to listen to a NOAA Weather Radio or local radio or television stations and return home only when authorities indicate it is safe to do so. Flood dangers do not end when the water begins to recede; there may be flood-related hazards within your community, which you could hear about from local broadcasts. Keep listening to the radio for news about what to do, where to go, or places to avoid.
- Stay out of any building if flood waters remain around the building. Flood waters often undermine foundations, causing sinking, floors can crack or break and buildings can collapse.
- Avoid entering ANY building (home, business, or other) before local officials have said it is safe to do so. Buildings may have hidden damage that makes them unsafe. Gas leaks or electric or waterline damage can create additional problems.
- Report broken utility lines to the appropriate authorities. Reporting potential hazards will get the utilities turned off as quickly as possible, preventing further hazard and injury. Check with your utility company now about where broken lines should be reported.
- Avoid smoking inside buildings. Smoking in confined areas can cause fires.
- Look for fire hazards. There may be broken or leaking gas lines, flooded electrical circuits, or submerged furnaces or electrical appliances. Flammable or explosive materials may travel from upstream. Fire is the most frequent hazard following floods.
- Check for gas leaks. If you smell gas or hear a 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 burning 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 first for advice. Electrical equipment should be checked and dried before being returned to service.
- Check for sewage and waterline 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 using water from the tap. You can obtain safe water from undamaged water heaters or by melting ice cubes.

When entering buildings, use extreme caution. Building damage may have occurred where you least expect it. Watch carefully every step you take and remember to:

- Wear sturdy shoes. The most common injury following a disaster is cut feet.
- Use battery-powered lanterns or flashlights when examining buildings. Battery-powered lighting is the safest and easiest, preventing fire hazard for the user, occupants, and building.
- Examine walls, floors, doors, staircases, and windows to make sure that the building is not in danger of collapsing.
- Inspect foundations for cracks or other damage. Cracks and damage to a foundation can render a building uninhabitable.
- Watch out for animals, especially poisonous snakes, which may have come into buildings with the flood waters. Use a stick to poke through debris. Flood waters flush snakes and many animals out of their homes.
- Watch for loose plaster, drywall, and ceilings that could fall.
- Take pictures of the damage, both of the building and its contents, for insurance claims.

Disaster Relief

In the aftermath of a flood, it is essential that your first priority be your own safety and that of your loved ones. If you are in need of emergency services (shelter, clothing, food, money, etc.) contact one of the emergency hotlines listed in the "Emergency Resources" section at the end of this guide.

Caring for Yourself

Disasters such as a flood can result in extreme emotions including stress, helplessness, fear, irritability, anger and depression. You may also suffer from nightmares, shock, loss of appetite and the inability to concentrate.

All of these reactions and feelings are normal; but if you do not address them, you can jeopardize your health. If you or a loved one are unable to cope, do not hesitate to get help. Many temporary shelters offer free counseling services to victims, or referrals to professionals who can provide further assistance.

In addition, consider the following tips:

- Have realistic expectations and goals, and be patient with yourself.
- Reach out to supportive friends and family for comfort and guidance.
- Give yourself plenty of time to recover and rest.
- Try to maintain a nutritious diet to keep your energy up.
- Focus on your breathing—deep, slow breaths will help calm you.
- Join a support group. You can find support groups through your doctor, listed in your local newspaper or through local Red Cross chapters.
- If you work, ask your employer if it offers an EAP (Employee Assistance Program). An EAP counselor can provide counseling on a wide range of issues, including stress, anxiety, dealing with a tragedy and more.
- If you are elderly or have special needs, you may require additional help and coping skills. Rely on trusted friends or neighbors for support or seek help from health care workers, professionals or city management emergency workers.

Helping Children Cope

Natural disasters are stressful for everyone, but children may need extra help coping. A child's reaction will vary depending on his or her personality and age.

Infants may become more irritable or fearful. Toddlers and preschoolers will probably feel frightened, insecure or helpless, and may display regressive behavior such as clinginess or separation anxiety. School-aged children may become preoccupied or fearful and experience stress related physical symptoms such as headaches or stomachaches. Preteens and teenagers may feel invincible; display reckless behavior; withdraw; or become hostile. Since children do not have the same coping skills as adults, they will need your love, support, guidance and reassurance.

The following tips may help you help children affected by a flood:

- Answer any questions with simple, honest, accurate answers. If you don't know the answer, say you will try to find out.
- Talk about your own fears and stresses so children understand, but do not unnecessarily scare them with too many details. Don't make false promises; instead, set realistic goals.
- Make time for children and pay extra attention to their needs.
- If you are in a shelter, reassure children that your situation is temporary.
- Encourage your children to play (in safe areas).
- Maintain regular routines if at all possible. For example, even in a shelter, you can still have a bedtime routine such as reading or story-telling before children go to sleep.

Returning Home

General Tips

Returning home can be both physically and mentally challenging. Above all, use caution.

- **Check for injuries.** Do not attempt to move seriously injured persons unless they are in immediate danger of death or further injury. If you must move an unconscious person, first stabilize the neck and back, then call for help immediately.
- **Keep a battery-powered radio with you** so you can listen for emergency updates and news reports.

- **Use a battery-powered flash light to inspect a damaged home.** *Note*—The flashlight should be turned on outside before entering—the battery may produce a spark that could ignite leaking gas, if present.
- **Watch out for an increased number of snakes and other predators.** These animals will try to feed on the carcasses of animals that have been killed during the flood. Use a stick to poke through debris.
- **Be wary of wildlife and other animals.** Do not approach wild animals or try to rescue them. Do not attempt to move a dead animal. Animal carcasses can present serious health risks. Call your local animal control office or wildlife resource office.
- **Use the phone only to report life-threatening emergencies.**
- **Stay off the streets.** If you must go out, watch for fallen objects; downed electrical wires; and weakened walls, bridges, roads, and sidewalks.

Before You Enter Your Home

Walk carefully around the outside and check for loose power lines, gas leaks, and structural damage. If you have any doubts about safety, have your residence inspected by a qualified building inspector or structural engineer before entering.

Do not enter if:

- You smell gas.
- Floodwaters remain around the building.
- Your home was damaged by fire and the authorities have not declared it safe.

Going Inside Your Home

When you go inside your home, there are certain things you should and should not do. Enter the home carefully and check for damage. Be aware of loose boards and slippery floors.

The following items are other things to check inside your home:

- **Natural gas.** If you smell gas or hear a hissing or blowing sound, open a window and leave immediately. Turn off the main gas valve from the outside, if you can. Call the gas company from a neighbor's residence. If you shut off the gas supply at the main valve, you will need a professional to turn it back on. Do not smoke or use oil, gas lanterns, candles, or torches for lighting inside a damaged home until you are sure there is no leaking gas or other flammable materials present.
- **Sparks, broken or frayed wires.** Check the electrical system unless you are wet, standing in water, or unsure of your safety. If possible, turn off the electricity at the main fuse box or circuit breaker. If the situation is unsafe, leave the building and call for help. Do not turn on the lights until you are sure they're safe to use. You may want to have an electrician inspect your wiring.
- **Roof, foundation, and chimney cracks.** If it looks like the building may collapse, leave immediately.
- **Appliances.** If appliances are wet, turn off the electricity at the main fuse box or circuit breaker. Then, unplug appliances and let them dry out. Have appliances checked by a professional before using them again. Also, have the electrical system checked by an electrician before turning the power back on.
- **Water and sewage systems.** If pipes are damaged, turn off the main water valve. Check with local authorities before using any water; the water could be contaminated. If water is of questionable purity, boil or add bleach, and distill drinking water before using. Pump out wells and have the water tested by authorities before drinking. Do not flush toilets until you know that sewage lines are intact. Service damaged septic tanks, cesspools, pits, and leaching systems as soon as possible. Damaged sewage systems are health hazards
- **Food and other supplies.** Throw out all food and other supplies that you suspect may have become contaminated or come in to contact with floodwater.

- **Your basement.** If your basement has flooded, pump it out gradually (about one third of the water per day) to avoid damage. The walls may collapse and the floor may buckle if the basement is pumped out while the surrounding ground is still waterlogged.
- **Open cabinets.** Be alert for objects that may fall.
- **Clean up household chemical spills.** Disinfect items that may have been contaminated by raw sewage, bacteria, or chemicals. Also clean salvageable items.
- **Call your insurance agent.** Take pictures of damages. Keep good records of repair and cleaning costs.
- Listen to your radio for information on assistance that may be provided by the state or federal government or other organizations.
- If you hire cleanup or repair contractors, be sure they are qualified to do the job. Be wary of frauds who prey on disaster victims. Your best bet is to get a reference from friends, neighbors or co-workers who have had improvement work done. Get written estimates from several firms. Ask for explanations for price variations. Don't automatically choose the lowest bidder. Be sure to get a signed contract from any contractor you agree to work with.
- If you live in an assisted living facility or retirement facility, the director should advise you of any damage and what steps, if any, you will need to take.

Cleaning Up and Repairing Your Home

Turn off the electricity at the main breaker or fuse box, even if the power is off in your community. That way, you can decide when your home is dry enough to turn it back on.

Getting Help

- The American Red Cross can help you by providing you with a voucher to purchase new clothing, groceries, essential medications, bedding, essential furnishings, a cleanup kit and other items to meet emergency needs. Listen to the radio to find out where to go for assistance.
- If you have insurance, make a detailed list of the damages and contact your insurance representative as soon as possible. If you aren't able to call from home, tell your agent where you can be reached—and try to be patient. Where there is extensive and widespread damage, insurance representatives usually handle claims on an as-needed basis, beginning with the most serious situations.
- Property insurance typically protects against the financial loss due to damages incurred to real and/or personal property, but policies vary, and many have exclusions. For example, many policies do not cover damage caused by flooding, unless you have purchased additional flood coverage. Therefore, read your policy carefully and contact your agent with specific questions about coverage or the claims process.

Removing Mold from Your Home

Following a flood, conditions in your home may be ripe for an outbreak of mold, one of the most serious sources of damage to your family possessions. The following information from the Federal Emergency Management Agency (FEMA) may help.

- **What is Mold?** Mold, a common term for fungus, attacks organic materials such as paper, books, cloth, photographs, and leather. Mold grows from spores, which are everywhere in our environment. Usually these spores are inactive, but they will germinate when the relative humidity exceeds 70 percent. Temperatures above 65 degrees increase the likelihood of mold growth.
- **What does it look like?** Active mold growth is slimy or fuzzy and is usually green, black, orange or purple. Inactive mold is dry and powdery and may be white. In early stages, the mold may look like a fine web; in full bloom it looks bushy. Mold spores spread easily; they are carried by air currents, pets and people.
- **What harm can it do?** Active mold "digests" organic materials such as cloth book covers or the cellulose that composes paper. It can also make permanent stains.

- **Is mold dangerous to humans?** It can be hazardous to people with respiratory problems. Only a few species are toxic, but many can cause allergic reactions or irritate skin. If you handle moldy materials, work outdoors when possible and wear protective clothing: respirator mask with filter, disposable plastic gloves and clothing you can wash in very hot water or discard. If you are concerned about the toxicity of the mold, your local hospital can refer you to a mycologist.
- **How can I remove mold from my home?** FEMA and the Environmental Protection Agency (EPA) offer information on mold cleanup and remediation in homes, schools and other large commercial buildings. In addition, the Centers for Disease Control and Prevention (CDC) provides general background information about mold health hazards, as well as mold safety recommendations.
- **How can I save moldy possessions?** Air dry them away from other objects. Spread out papers, stand books on end and fan the pages open. Use blotting materials like clean towels or absorbent paper between layers of cloth or paper. Increase air circulation with a fan, but don't aim the fan directly at the objects.
 - If you can't dry the objects quickly or you have a large quantity, you can freeze books, documents and small textiles until conditions are right to dry them. Do not freeze moldy photographs.
 - Although ultraviolet light can be damaging, brief exposure to sunlight can stop mold growth and aid drying. Exposure should not exceed 30 minutes.
 - Clean the mold only after it is dry and inactive. Very gently wipe or brush away the mold residue. Work outdoors if possible and always wear protective clothing and a respirator.
- Avoid harsh cleaning products and bleach; they can ruin objects. Never vacuum fragile items. Use a household vacuum cleaner outdoors, since the exhaust will spread mold spores.
- Be sure display and storage areas are free of mold before you return any clean object to its proper place. Reinspect the objects from time to time for any new mold growth.
- Valuable artifacts and photographs should be handled by a professional conservator.

Emergency Resources

Numerous shelters are typically set up in the event of a natural disaster. To find the shelter nearest you, check your local newspaper, contact your local Red Cross chapter or emergency management service, or call one of the hotlines below. In addition, some of these organizations may be able to provide temporary housing or financial aid to families who have lost their homes.

Federal Emergency Management Agency (FEMA)

800-621-FEMA (800-621-3362)
www.fema.gov

Red Cross Hotline

800-RED-CROSS (800-733-2767)
www.redcross.org

The Salvation Army

615 Slaters Lane
 P.O. Box 269
 Alexandria, VA 22313
 703-684-5500
www.salvationarmyusa.org

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