

# **AFTER FLOOD CONCERNS AND CLEAN-UP**

**Provided by**

**The Fulton County Office for Aging  
Andrea Fettinger, Director**

**Compiled by  
Julie Oare, Caseworker  
Hurricane Katrina Volunteer**

---

**Telephone: (518) 736-5650 • Fax: (518) 762-0698 • E-mail :[fcofa@co.fulton.ny.us](mailto:fcofa@co.fulton.ny.us) • [fcofa.org/](http://fcofa.org/)**

# Coping With Floods

Information For Dealing With Floods

---

## Dealing with Stress after a Disaster

A natural disaster leaves a trail of property destruction, and many times it leaves thousands of its victims with a damaged sense of balance. In addition to restoring buildings and replacing material possessions, victims may need to devote time to restoring their own emotional equilibrium during the recovery period. This can be especially important for children who do not have years of life experience to guide them.

## Recognizing Symptoms of Family Stress

According to Family Information Services, families experiencing stress may have symptoms that include:

- ?? little time to spend together
- ?? sense of frustration -- too much to do
- ?? desire for the simpler life
- ?? never time to relax
- ?? infrequent opportunities for conversation
- ?? explosive arguments
- ?? bickering
- ?? conversations centered on time and tasks rather than people and feelings
- ?? meals eaten in haste
- ?? constant rushing from place to place, task to task
- ?? escaping into work or other activities
- ?? isolation in a room
- ?? insufficient one-on-one contact
- ?? sense of guilt

Focusing on the present can help people work through many of life's setbacks, both big and small. Spending time wondering "what could have been" or thinking about "if only" will cause more stress because the situation is in the past and out of their control.

## Tips

- ?? Be extra patient.
- ?? Determine what's really important, keeping in mind that your spouse's viewpoint on what should be considered top priority may be different from yours.
- ?? Don't expect things to instantly restore themselves. Accept that restoration (both physical and emotional) takes time.
- ?? Realize that disaster victims have suffered losses and it's natural for them to express disbelief, anger, sadness, anxiety and depression afterwards.
- ?? Realize that the emotions of victims will roller-coaster and moods can change unexpectedly.
- ?? Don't overlook the feelings of children as you deal with the situation. They need to feel that they can count on you for the extra attention, love and support needed to get through.
- ?? Reassure them, making sure they understand they are not responsible for the problems you face.
- ?? Try to keep your family diet as nourishing as possible under the circumstances.
- ?? Refocusing on the big picture, instead of the little details and the little problems, will give you a sense of competency.
- ?? Talk with friends, family, counselors or members of the clergy. In crisis situations, a supportive network is essential.
- ?? Be aware of the tendency to resort to bad habits when you are under stress.
- ?? Get enough sleep. Being a "sleep cheat" ultimately will backfire. Try to get 7 to 8 hours of sleep every night. Avoid sleeping pills since these pills negatively alter normal sleep patterns.
- ?? Make a list. List the things that need to be done first, second, third and so on. By ranking what needs to be done, the tasks that cannot be put off are taken care of first. Too often, we try to do everything at once with the result that nothing gets done the right way.
- ?? Learn acceptance. So often, we worry about things that we cannot control. Face that fact. If you cannot control a situation or occurrence, then learn to accept that as a reality. Conserve your energies for the things you can control.

# Floodwater has Nasties in It

## Health & Safety Alert:

Molds can pose a health hazard, especially for infants, the elderly and those with asthma, allergies or illnesses. If mold is present, or materials have not been cleaned and dried within two or three days of the floodwater receding, then vulnerable people should stay away during restoration and precautions should be taken to protect workers. Well-fitting respirators with toxic particle (purple) cartridges are recommended; dust masks are not adequate.

---

## Use Caution with Flood Water

- ?? If your home has been damaged by water from a leaky roof, you are in a much safer condition than someone whose home or business flooded from ditch, bayou or stream overflow.
- ?? If you are not certain about the source of your flood water, you should treat the area as though it has germs, toxic chemicals and particles of hazardous materials in it.
- ?? In many cases, flood water will have flowed through the local sewage system before reaching your property. If it has come from upriver, it may contain runoff from industrial and agricultural areas. Such water may have elevated levels of fecal coliform and chemicals.
- ?? Flood waters may have picked up pesticides, herbicides, fertilizers, gasoline and other chemicals commonly held in household storage areas.
- ?? Some of the debris the flood deposited on your property may contain asbestos or be painted with lead-based paint. Generally these are harmless as long as they're wet, but they need to be bagged while wet.
- ?? The fruits and vegetables you did not harvest before the flood should be discarded. This applies to any food product which was maturing or mature at the time of the flood, both above and below ground.
- ?? Examples include squash, cabbage, broccoli, tomatoes, potatoes and carrots.
- ?? Most home garden plants will die from the flood. In the absence of specific research on the safety of produce from a plant which was exposed to flood water before fruit set, Extension recommends pulling up a flooded garden and replanting it.

## For your safety

- ?? Wear protective clothes, sturdy shoes and gloves while handling debris.
- ?? Wear substantial waterproof gloves while cleaning flood-damaged areas and items.
- ?? Keep your hands away from your face while cleaning.
- ?? Allow plenty of ventilation through a flooded building.
- ?? Keep children, pregnant women and people with special health problems away from flooded areas.

## **Priorities for Clean-Up and Repair**

Priorities will vary with kind and seriousness of damage. Buildings may not be habitable during repair. Before purchasing cleaners and disinfectants take inventory of what needs to be cleaned -- walls, floors, appliances, etc. Buy only cleaning products for type of work to be done.

1. Take photos of flood damage for insurance claims and tax deductions. Keep record of all expenses.
2. Assemble a "bare essentials" first aid kit for minor injuries that may occur while cleaning.
3. Examine building structure. Check foundations for settling, cracking, or undermining. Examine walls, floors, and windows to determine what repairs are necessary. You may want to repair only temporarily until extensive work can be done.
4. If basement is flooded, start pumping the water in stages. Pump about a third of the water each day.
5. Get electrical system in operation. If switch box is in a flooded basement, do not turn electricity back on until water has been pumped out. Take electrical appliances to a serviceman as soon as possible.
6. Get water system in operation. Disinfect wells and water system.
7. Shovel out mud and silt before it dries.
8. Before they dry, wash down flooded walls and floors with a hose. Start at bottom and work upward.
9. Scrub and disinfect walls and floors.
10. Start heating system, if possible, to speed up drying. Before operating it, heating system may need to be cleaned, dried, and reconditioned. Make sure chimneys are clean before starting system.
11. Dry out walls and floors. If necessary for proper drying, strip walls open up to water level. Drill holes in exterior siding. Complete drying may take months.
12. Repair buckled walls and floors.
13. Make decisions about saving or discarding household contents. Clean and dry household items, furniture, carpets, clothing, dishes, bedding. Disinfect when necessary.
14. Treat items for mildew as needed.
15. Care for damaged trees, shrubs, and lawn.
16. Repaint, repair, refinish as necessary.

# Determining Structural Damage and Preparing for Repairs After a Storm

*When calm returns after the storm, it's time to assess the damage and begin repairs. A number of factors should be considered, and the following information may be helpful.*

*Please review the [safety information](#).*

## Damage to structures

*Storm damage to structures in many cases is obvious; it's the damage that is not clearly seen that may cause problems.*

- ?? Look for wood structural members that are cracked, and remember that these can be hard to detect. Structural bracing may not be secured as tightly as originally.
- ?? If doors or windows do not open as they did before the storm, this may indicate the structure has shifted. In case of severe shifting, water lines, gas lines and electrical circuits may have been damaged.
- ?? If wetness occurred because of flood or leaking roofs, look for wet electrical circuits, wet insulation and other water damage to the interior of the structure. Once insulation becomes wet in a wall or attic, it must be replaced. Wall insulation that is sealed within the structure will not dry out.
- ?? Structures that use a roof truss system should be inspected. In many cases, truss systems are constructed of 2 X 4s and metal fasteners. Any crack or break in the truss will greatly affect the strength of the truss system.

## Checking your home for structural damage

*Winds and water may cause structural damage to homes and buildings. Here are some steps homeowners can take to determine whether structural damage has occurred.*

- ?? Check roofs. The roof is a good indicator of the presence of structural damage. Look at the ridge of the roof and assess whether it is straight. This can be viewed from a distance better than close up. If the ridge sags either on the end or in the middle, the load-bearing walls have shifted.
- ?? Check the walls to verify that they are vertical and straight. This normally can be done by eye or with a carpenter's level.
- ?? Check where the structure meets the foundation. If the house is on piers, look at the individual piers and see that they remain in place and level. Whether it is on a slab or on piers, check to see that the building has not shifted on its foundation. Flooded wooden floors, if they do not buckle, will sometimes push walls outward at the base.
- ?? Check for cracks in masonry exteriors of the building. Look near the corners of the structures and under and around doors and windows of the facility for masonry cracks.
- ?? If any of these indicators of structural damage are observed:
- ?? Call a building contractor, architect or engineer. A professional needs to assess the building for its safety and determine the required repairs.
- ?? Point out these indicators to the insurance adjusters.

## **Options - restoration or removal**

Damaged structures can range from homes to equipment storage buildings to barns and other outbuildings. Care and consideration should be given to their restoration. Appropriate measures vary with the type, age and condition of the structure. Often, the structure should be removed rather than rebuilt.

In some communities, repair of damaged buildings may require a building permit. Even in communities without general permitting, permits may be required in special flood hazard areas. Check with your local building official or permit office before beginning or contracting for repairs.

The structural integrity of the building should be assessed, and if the decision is made to repair, additional bracing may be required before repairs begin. The American Red Cross publication "Against the Wind" details simple methods of strengthening buildings to withstand high winds.

There are also a number of ways to repair homes so they will be less susceptible to flood damage. These include elevation of utility systems and appliances, as well as the use of flood-resistant materials at levels in the structure that are likely to flood. There are flood-resistant materials for flooring, walls, wall coverings and insulation. There are also materials for sealing the building itself, when floodwaters do not exceed 30 inches.

# After the Flood - Private Water Well Safety

## WARNINGS!

- ?? **IF THE PUMP OR CONTROL BOX WENT UNDER WATER, do not turn on the pump.**
  - ?? **IF YOU SUSPECT CONTAMINATION, do not pump contaminated well water into the house.**
  - ?? **Do not use the well water for drinking or personal washing, until you are satisfied that the water is not contaminated.**
- 

## Better Safe Than Sorry

After a flood, you'll be eager to use your normal water supply – your private well. But, when floodwater covers your well or neighboring wells, there's a possibility the water in your well will become contaminated. The effects of contaminated water can be serious, so make sure the water is safe before you use it for personal hygiene or drinking.

## Checking for flood damage

Inspect the well for physical damage or signs of leakage. The force of flowing water and water-borne debris can damage a well, which increases the chance of polluted water entering the well. If you see damage, consult a licensed water well contractor to find out if repairs are needed.

## Inspect the Pump and Control Box (With the Electricity Turned Off)

Floodwater can damage the pump and electrical system and pollute the well. The chances of pump damage and personal injury are higher if you attempt to use the well before the pump and electrical system have been cleaned and dried. If a well pump or control box flooded, clean and dry these components before using them. For more information, see LSU AgCenter publication "Restoring Your Water Well Pump and Electrical System. "

See if the well water runs clean.

If the well's electrical and mechanical systems are undamaged, or have been restored, pump well water through the outlet nearest the pump to see if it is cloudy. If it is, keep pumping until the water runs clear. If the water will not run clear after several hours, call a professionally licensed water well contractor.

## Decide Whether to Disinfect or Test for Contamination

If the water has run clear since the flood, and if the well was constructed in accordance with Department of Transportation and Development (DOTD) regulations and was not physically damaged by the flood, further action may not be needed. If the water ran cloudy after the flood, the well should be disinfected and tested. Even when you see no signs of contamination, there is possibility undetected damage has allowed contaminants

to enter or that your water supply has been contaminated by flooding of a neighboring well. These contaminants may not affect how the water looks. Some people choose to disinfect their well for bacterial contamination – just to be safe. Testing is a way to confirm that the disinfection process has been successful. Others choose to test, then disinfect if necessary. The most immediate health risk from a contaminated well is from bacterial contamination. A good dose of chlorine bleach can eliminate bacterial contaminants, but it does not reduce the risk of chemical contaminants.

### **Get Professional Help**

A licensed water well contractor should clean out Wells that are damaged, or continue to deliver muddy water after several hours of pumping. The contractor can determine if other repairs are necessary. A licensed water well contractor in accordance with DOTD regulations should close Wells that are no longer needed, or have been determined to be damaged beyond repair.

# Coping With Floods

Information For Dealing With Floods

---

## **FLOODING, EXCESS RAIN AND BASEMENTS**

Water in basements is always a problem with large amounts of rain and flooding. Water seeping through basement walls and floors is a common sight. This is because water seeks its own level. When the soil surrounding a basement foundation wall is saturated or flooded with water, the pressure exerted against the soil side of the basement wall is increased. The pressure provides the force to encourage leakage through cracks, splices or at the connection of the foundation wall to the footing. The method of basement wall construction, whether a reinforced poured concrete or block construction, has a large effect on how to handle basement water. An unreinforced block basement cannot stand very much pressure and will collapse quite easily. If a lot of water is seeping in, it may be better to let the basement flood. Remove or elevate any items that can be damaged.

### **A Flooded Basement**

If it is possible, shut off electricity in the basement, but don't do it standing in water! The electrical service panel is commonly in the basement and any shorted out receptacles should trip the breakers. To shut off the electricity, use a dry, wooden stool which is higher than the water, wear rubber boots that aren't wet on the inside, and wear rubber gloves. If this is not possible, have the power company cut the power if there is no shut off outside of the house.

No matter the type of basement wall construction, if the basement is flooded with more than 6 inches of water, don't be in a big hurry to pump it out. Pumping the water out too soon than by letting it remain could cause more damage. Water in the basement helps brace the walls against the extra pressure. If pumped too soon, floors may push up and walls cave in. Don't pump until water around the house recedes. Then pump out about one-third of the water each day, make sure it is well away from the house. Use a gasoline powered pump or one connected to an outside line, not the house electrical system. While pumping out the dirty water, wash off the walls with clean water and remove any mud while it is wet.

### **A Leaking Basement**

If water is leaking into the basement and the sump pump can keep up with it, then some additional precautions may be warranted. If the basement walls are cracked or weakened (out of plumb or bulging), it is recommended that braces or shoring be installed temporarily to reduce the possibility of collapse. Unbraced block basements are particularly susceptible. Long poles, 6 inches or more in diameter, can be used horizontally to hold walls apart. A screw jack between one wall and the end of the pole can be used to put equal pressure on both walls. Depending on the length and condition of the wall, several such braces may be necessary. One every 10 feet or so of wall length and about 4 feet up on the wall from the floor are suggested. Use a continuous large timber piece or other such device to spread the pressure from the pole to the wall. Otherwise, the pole could puncture the wall and cause more cracking.

Tom Scherer, Agricultural Engineer-Water Quality/Irrigation

# Cleaning & Repairing Flooded Basements

## Entering

Before you enter a flooded basement:

1. Turn off the electricity, preferably at the meter.
2. Check outside cellar walls for possible cave-ins, evidence of structural damage, or other hazards.
3. Turn off gas or fuel service valves.
4. Open doors and windows, or use blowers to force fresh air into the basement.

## Pumping

Do not use an electrical pump powered by your own electrical system. Use a gas-powered pump, or one connected to an outside line. Fire departments in some communities may help with such services.

More damage may be done by pumping water from the basement too soon or too quickly, than from letting the floodwater remain. Water in the basement helps brace the walls against the extra pressure of water-logged soil outside. If water is pumped out too soon, walls may be pushed up.

To help prevent such structural damage, pump the water from the basement in stages. Remove about a third of the water each day. Watch walls for signs of failing. If the outside water level rises again after the day's pumping, start with a new water line. The soil may be very slow to drain, but do not hurry the pumping. Whatever is submerged in the flooded basement will not be damaged further by delaying the pumping; serious structural damage may be prevented.

## Cleaning

After water has been pumped from the basement, shovel out the mud and debris while it is still moist. Hose down walls to remove as much silt as possible before it dries. Floors and walls may need sanitizing, particularly if sewage has entered the basement. Scrub walls and floors with one of these sanitizing solutions:

1. **Chloride of lime** (25% available chlorine). Dissolve a 12 ounce can in 2 gallons of water.
2. **High test hypochlorite** (65% available chlorine). Stir 5 ounces into 2 gallons of water.

*Oil stains in basements* caused by overturned or damaged oil tanks may also be a problem following flooding. Commercial products (such as Neutroda) will help neutralize fuel oil. Products are available in powder form or an aerosol spray for hard to reach places. To remove oil stains and destroy odor, wipe up excess oil, shake or spray product on the spot according to manufacturer's directions, and let it set.

## Repairing

Check supporting columns, beams, walls, and floors. Structural damage to flooded basements usually includes buckled walls, settled walls, or heaved floors.

1. ***Buckled walls*** are evidenced by horizontal cracking and walls moving out of plumb. When this condition is minor, you need not repair the wall immediately. However, any noticeably buckled wall will eventually collapse from normal ground pressures and seasonal temperature changes. When buckling has seriously weakened the wall, rebuild the damaged parts immediately. Build pilasters into walls over 15 feet long for reinforcement. Pilaster spacing should be 12 - 15 feet.
2. ***Settled walls and footings*** are indicated by vertical cracks either in small areas or throughout the structure. Repairs are difficult without special equipment. Contact a reliable contractor for this work.
3. ***Heaved floors*** are those that have not returned to their original level or have cracked badly. You may need to construct a new floor.
  - a. Remove old, broken concrete.
  - b. Place 6 inches of gravel fill on the basement floor surface.
  - c. Cover area with a polyethylene vapor barrier.
  - d. Lay a 4-inch concrete floor with mastic joints between the floor and walls. The floor should be reinforced with steel. Welded wire reinforcement placed at mid-height in the slab is a minimum reinforcement.

If a floor is badly cracked but has returned to its original level, and if there is sufficient headroom, place a new floor over the old one. Add a vapor barrier between the two floors. The new floor should be at least 2 inches thick.

***In houses without basements***, the area below the floor may be completely filled with mud. Remove the mud as soon as possible to avoid rotting joists or foundation wood.

# Saving Wet Walls and Floors

If your home was flooded, it must be disinfected and dried thoroughly to prevent mildew and future damage by wood rot. Areas wetted by clean rainwater, for instance from a leaking roof, may not need to be disinfected; however, all wet areas must be allowed to dry thoroughly. Please review the safety information.

## Safety

- ?? For safety, wear protective clothing on legs, arms, feet and hands while cleaning up debris.
- ?? Wear rubber gloves while scrubbing flood-damaged interiors and furniture.
- ?? Beware of lead paint. Buildings constructed in the '70s and earlier may have lead-based paint. Sanding or scraping this paint creates a serious health hazard. Read Extension Publication # 2564 before working with suspected lead-based paint.

**Disinfecting solution** is 1 cup of household chlorine bleach in a gallon of water. Apply with a garden sprayer.

## Tips

- ?? Remove wet carpets, carpet pads and rugs within 24 hours. Disinfect the slab. You may be able to clean the carpets and rugs, but replace carpet pads.
- ?? Remove vinyl flooring over wood subfloors if there appear to be water bubbles between the vinyl and subfloor immediately after the flood has receded. Disinfect the subfloor. Drying may take several weeks. If the subfloor is buckled, it may flatten out on drying; be patient.
- ?? For wood floors, carefully remove a board every few feet to reduce buckling. Leave open until the flooring is dry.
- ?? Check inside exterior walls for wet insulation. Remove all wet insulation, even if it means cutting into walls. Fiberglass and cellulose insulation should be replaced with new material other than fiberglass or cellulose. Using foam sheets will eliminate the need to replace insulation in the next flood. Wash the insides of walls with mild soap and rinse with clean water. Spray on disinfecting solution. Allow wetted areas to dry thoroughly before installing the new insulation. This may take four to six weeks.
- ?? Pry paneling loose at the bottom. Remove any wet insulation; wash and disinfect the wall cavity. Hold the bottom of the paneling away from the sill until the sill, studs and paneling have dried - about four to six weeks.
- ?? Remove loose plaster wallboard and wet ceiling tiles. Badly damaged plaster walls can be resurfaced with sheet rock or plywood. Repair damaged walls and ceilings only after the house is completely dry.
- ?? Remove vinyl wallpaper to allow supporting sheet rock or paneling to dry.
- ?? Open closet and cabinet doors.
- ?? Remove drawers from furniture for drying and to let air circulate. With care in drying, these may be reused, depending on the materials.
- ?? An air conditioner is the best dehumidifier. If you don't have one, open as many doors and windows as possible and use fans to circulate the air.

## **Cleaning Walls**

Cleaning flood-damaged walls is a challenge. Not all surfaces can be adequately cleaned to avoid remodeling, but many can.

- ?? Cleaning should begin at the bottom. If you start at the top, cleaning solution will run down across the soiled area at the bottom, making streaks that are impossible to remove. The ceiling should be done last.
- ?? For most walls, when the floodwater deposited a layer of dirt on the wall, allow the dirt to dry and brush it off before starting to wash the wall. For the cleaning itself, use sponges - separate ones for washing and rinsing. Have separate buckets for wash water and rinse water.
- ?? If you decide to finish the wall (with paint, plaster, paper or paneling), be sure to disinfect the wall with a dilute chlorine solution or a commercial disinfectant and let the wall dry thoroughly. Drying may take up to two months. When planning permanent repairs, consider using flood-resistant materials or flood proofing your house.

## **Disposing of Sewage and Garbage**

Damaged sewer systems are health hazards. It is important to get damaged septic tanks, cesspools, pits, and leaching systems into service as soon as possible. If the area has been flooded, wait until the water level recedes before using the sewage system.

Trained personnel in local environmental regulatory agencies will help with these problems. They will be able to advise you about cleaning, repairing, and relocating installations if necessary. Problems with water purity, waste disposal, or pest control should also be referred to them.

Many states require approval before septic systems are altered or repaired.

## **Septic Tanks**

Do not use the sewage system until water in the disposal or absorption field is lower than the water level around the house.

If the drain lines in the disposal field are dislocated, broken, or filled with silt, install new drain pipe in new trenches. Detailed information and instructions for installing a new system may be available from County Extension offices. If you have to dig new trenches alongside the old tile lines, it may be better to use polyvinyl chloride pipe.

Do not use the sewer system until the flood has subsided and the ground water in the absorption area has returned to normal.

## **Temporary Sanitation**

Until sewage absorption systems are back in normal working order, use any large container with a tight-fitting lid for a temporary toilet. Line the container with a plastic bag. After each use, add chlorine bleach or disinfectant to stop odor and kill germs.

A chemical camper's toilet will be quite useful in disaster situations.

## Garbage

Try to remove garbage as soon as possible to prevent rat infestations and other health problems. Some garbage can be burned. Bury garbage that will not burn. Dig a hole 4 or 5 feet deep, and cover garbage with at least 2 feet of soil.

The following precautions are suggestions that residents in flooded areas may want to implement:

1. If floodwaters have covered the wellhead of your home water system, that system will need to be cleaned and disinfected before the water will be safe for drinking again. Contact your local county environmental health office for well clean-up information. If you are on a public water system, listen to news from public health departments to find out if your water is contaminated.
2. If water is contaminated, bottled water is the best choice. Plan for one gallon per person per day. If the water from your tap is clear, boil it for 3 minutes to disinfect or add 1/8 teaspoon household bleach per gallon of water. Let it sit for 1/2 hour.
3. If water is cloudy, filter it by pouring it thru a coffee filter and then boil it for 3 minutes. If you can't boil it, filter it and add 1/4 teaspoon of household bleach per gallon of water. Let it sit for 1 hour.
4. Use bleach to disinfect a well. Contact your local health department for instructions on amounts and procedures.
5. After you disinfect your well, have a sample of your tap water tested at your local health department. Before you drink the water, make sure two samples are rated satisfactory to ensure it is safe and free of contamination.
6. Wash your hands frequently with soap and disinfected water to prevent spread of disease. This should be done before preparing or eating food, after toilet use, and after flood clean up when your hands may have touched articles contaminated from water or sewage.
7. When in doubt, throw out fresh, frozen or dry food, such as cereal, that may have been in contact with contaminated water.
8. Wear gloves and boots at all times to avoid touching anything with bare hands or feet. Parents should not allow children to play in flooded areas, and should ensure that their children wash hands often.

# Resources

<http://www.cdc.gov>

Centers for Disease Control

<http://www.epa.gov>

Environmental Protection Agency

<http://www.fema.gov>

Federal Emergency Management Agency

<http://www.health.state.ny.us>

NYS Department of Health

<http://www.usda.gov>

United States Department of Agriculture