



DISASTER RESPONSE

RESOURCES

Flood Cleanup Lists and Procedures for Recovery Teams and Property Owners

*Toolkit for CBF Congregations
and Disaster Recovery Teams*

Have a question?
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 Cooperative
Baptist Fellowship
Disaster Response

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Tools, Equipment and Supplies

- Biocides for mold removal (i.e., chlorine bleach, Quat or other registered biocides) *
- Protective boots and gloves
- Safety goggles
- N-95 respirator masks
- Box cutters (for removing carpet)
- Buckets
- Measuring cups and spoons
- Generators and fuel (operate only in ventilated locations)
- Box fans
- Heavy-duty cleaners
- Pressure pump sprayers
- Power washers
- Handheld vacuum cleaners
- Water hoses with sprayer attachments
- Absorbent rags or sponges
- Disinfecting carpet cleaners
- Reciprocating saw to cut out damaged drywall
- Shovels
- Floor tile removal tools

*According to the EPA, professional judgement is needed regarding the use of bleach and other biocides (substances that kill living organisms) for mold removal and remediation. In most cases, it is not possible, or desirable, to completely sterilize an area. Use disinfectants and biocides only in ventilated areas where the air is exhausted away to the outdoors. Never mix chlorine bleach solution with other cleaning solutions or detergents that contain ammonia as toxic fumes can be produced.

For more information about the use of bleach, consult the CDC guide Mold Clean-Up After Disasters: When to Use Bleach, <https://www.cdc.gov/mold/mold-cleanup-bleach.html>.

Cleanup Tasks

Removal of mud

- Shovel out as much mud as possible and then spray with water (using a garden hose and sprayer) to wash mud from hard surfaces.

Cleaning and disinfecting every surface

- Scrub surfaces with hot water and a heavy-duty cleaner and then disinfect with a solution of 1/4 cup chlorine bleach per gallon of water or a product that is labeled as a disinfectant to kill germs. It is recommended that a mold-killing product (such as Quat or Moldex) be applied to sole plates and studs as soon as possible after removing obstructions. Remember to also clean exterior surfaces affected by flood water by spraying with chlorine bleach, power washing and then spraying with mold-killing solution.

Kitchen clean-up

- Immerse glass, porcelain, china, plastic dinnerware and enamelware for 10 minutes in a disinfecting solution of two tablespoons of chlorine bleach per gallon of hot water and allow to air-dry (do not use a towel to dry).
- Disinfect silverware, metal utensils, and pots and pans by boiling in water for 10 minutes. Chlorine bleach should not be used in this case as it reacts with many metals, causing them to darken.
- Cupboards and counters should be cleaned and rinsed with a chlorine bleach solution before storing dishes.

Addressing affected furniture and household items

- Take furniture, rugs, bedding and clothing outside to dry as soon as possible. If electricity is available, use an air conditioner or dehumidifier to remove moisture or open at least two windows to ventilate with outdoor air. Use fans to circulate air in the house. If mold and mildew have already developed, brush off items outdoors to prevent scattering spores in the house. Vacuum floors, ceilings and walls to remove mildew and then wash with disinfectant. Wear a two-strap protective mask to prevent breathing mold spores.
- Mattresses should be thrown away.
- Upholstered furniture soaks up contaminants from floodwaters and should be cleaned only by a professional.
- Wood veneer furniture is usually not worth the cost and effort to repair.
- Solid wood furniture can usually be restored, unless damage is severe.
- Toys and stuffed animals may have to be thrown away if contaminated by floodwater.
- Photographs, books and important papers can be frozen and cleaned later. Over the short-term, they should be dried carefully and slowly and then wiped off before being stored in plastic bags and placed in a frost-free freezer. This will protect the items from mildew and further damage until they can later be thawed and cleaned or taken to a professional.
- When disposing of doors and cabinets, be sure to remove and save the doorknobs, latches, and strikes. New doors don't come with those items, so saving them will negate looking for matching hardware. The same goes for cabinet pulls, knobs and hinges. Clean these items and spray with LPS#1 or WD 40.

Dealing with ceilings and walls

- As wallboard acts like a sponge when wet, remove damaged wallboard, plaster and paneling to at least flood level. If soaked by contaminated floodwater, these materials can be a permanent health hazard and should be removed. If most of the wallboard was soaked by clean rainwater, consider cutting a 4- to 12-inch high section from the bottom and the top of the walls. This creates a "chimney effect" of air

movement to enable faster drying. A reciprocating saw with a metal cutting blade works well for this task. Use only the tip of the blade and watch out for pipes, ductwork and wiring.

- Plaster and paneling can often be saved, but air must be circulated in the wall cavities to dry the studs and sills.
- The three standard types of insulation (e.g., Styrofoam, fiberglass, cellulose) must each be treated differently. Styrofoam might need only to be hosed off. Fiberglass batts should be thrown out if contaminated with muddy water but may be reused if dried thoroughly. Loose or blown-in cellulose should be replaced since it retains water for a long time and can lose its antifungal and fire-retardant abilities.
- Exterior vapor protection (Tyvek, Dow Blue Board, asphalt felt, gypsum board, or other barriers) should be left intact. Simply spray the interior side of the barrier and allow to dry.

Electrical system considerations

- The system must be shut off and repaired and inspected by an electrician before it can be turned back on. Wiring must be completely dried out even behind walls. Remember that switches, convenience outlets, light outlets, entrance panel, and junction boxes that have been under water may be filled with mud. If plugs and/or switches were underwater, cover plates may be cleaned and kept, but the plugs and switches must be replaced.

Attention to heating/cooling systems and ducts

- Heating and cooling systems and ducts will need inspection and cleaning with flood-soaked insulation replaced. If the A/C is being used as a dehumidifier, the filters should be changed every day for the first week and every three days thereafter until your house or facility is back in shape.

Recovery of appliances

- Flood contaminated appliances will get stains, odors, silt deposits, and gritty deposits and should be serviced, cleaned and sanitized.
- Running electrical equipment before proper cleaning can seriously damage appliances and/or cause shock. Professional cleaning is recommended for electronics, TVs and radios, washing machines, dryers, dishwashers, and vacuum cleaners. Hard exteriors may be hand cleaned.
- All metallic appliances that have been flooded should be properly grounded to prevent electric shock as mud or dirt in a grounded outlet or adapter may prevent the grounding system from working and cause electrocution.

Drying floors

- With wood subflooring, the floor covering (vinyl, linoleum, carpet) must be removed so that the subflooring can dry thoroughly; this may require several months. Be sure to open windows and doors to expose the boards to as much air as possible.

Handling carpets and rugs

- Clean and dry carpets and rugs as quickly as possible.
- If sewage-contaminated floodwater covered the carpeting, discard for health safety reasons. Also dispose of any carpet that was under water for 24 hours or more.
- To clean, drape carpets and rugs outdoors and hose them down, working a disinfecting carpet cleaner into soiled spots with a broom. To discourage mildew and odors, rinse with a solution of two tablespoons of bleach to one gallon of water (this solution should not be used on wool or nylon carpets).
- Dry the carpet and floor thoroughly before replacing the carpet.
- Carpet padding is nearly impossible to clean so it should be replaced. If the carpet can't be removed, dry it as quickly as possible using a wet/dry vacuum and dehumidifier. Also, use a fan to circulate air above the carpet, and if possible, lift the carpet and ventilate with fans underneath.

Vinyl covering and other materials

- Flooring and floor tile may need to be removed to allow the subfloor to dry.

Recommendations for wood floors

- Wooden floors should be dried gradually as sudden drying could cause cracking or splitting. Some restoration companies can accelerate drying time by forcing air through the fluted underside of hardwood floorboards. To prevent buckling of hardwood floors caused by swelling, remove a board every few feet. Clean and dry wood before attempting repairs.

Inspection and Repair of Roof Damage and Leaks

Defective flashing

- Flashing is the sheet metal used in waterproofing roof valleys, hips and the angle between a chimney and a roof. Wet spots near a chimney or outside wall may mean the leak is caused by defective flashing, narrow flashing or loose mortar joints. Look for corroded, loose, or displaced flashing on sloping roof valleys and at the junctions of dormers and the roof.

Clogged downspouts or eaves

- Check for choked downspouts. Accumulated water or snow on the roof above the flashing may cause a leak. Ice accumulations on eaves sometimes form ridges, which cause melting snow to back up under the shingles.

Cracks and deterioration

- Roofing (especially wood or composition shingles) usually deteriorates first on southern exposures. Check southern slopes for cracking or other deterioration.

Holes

- Missing shingles or holes in the roofing may be causing wet spots. To find holes, check for a drip trail or spot of light coming through in the attic. Stick a nail, straw or wire that's visible from the outside through the hole to mark the spot.

Risks Related to Private Sewage Systems

- Flooding of a private sewage system can be a hazardous situation for homeowners, possibly leading to a back-up of sewage in the home as well as contaminated drinking water and a lack of sanitation.
- When flooding or saturated soil conditions persist, a private sewage system cannot function properly. Soil treatment systems for wastewater rely on aerobic (with oxygen) regions to reduce the amounts of chemicals and living organisms (i.e., viruses, bacteria, protozoa). When the soil is saturated or flooded, such hazardous materials can enter the groundwater and the drinking water supply.

Additional Resources

For more information, consult the online EPA guide – Flood Cleanup: Protecting Indoor Air Quality

<https://www.epa.gov/sites/production/files/2015-09/documents/floods.pdf>

Based on Flood Cleanup Guide, an instructional document developed and shared with permission by Steve Rader at South Main Baptist Church, Houston, Texas