

Flood Action Plan

Disaster Preparedness from Liberty Mutual Insurance



Organizations and individuals will likely face unexpected emergencies — both natural and man-made. It is vital to plan well in advance of possible catastrophic events in order to protect yourself and your business.

The illustrations, instructions and principles contained in the material are general in scope and, to the best of our knowledge, current at the time of publication. No attempt has been made to interpret any referenced codes, standards or regulations. Please refer to the appropriate code-, standard-, or regulation-making authority for interpretation or clarification. Provided that you always reproduce our copyright notice and any other notice of rights, disclaimers, and limitations, and provided that no copy in whole or in part is transferred, sold, lent, or leased to any third party, you may make and distribute copies of this publication for your internal use.

Floods can be devastating, causing those affected to lose their home, their property, their pets, and even their lives. Floods and flash floods are among the most common types of natural disasters, so preparedness must be considered a priority for responsible managers and business owners.

Pre-Flood Preparation

Learn more about the National Flood Insurance Program (NFIP). If you live in one of the more than 18,500 U.S. communities that participate in the NFIP, you can purchase flood insurance from Liberty Mutual Insurance. Visit floodsmart.gov, or call your local agent or broker.

Step 1: Secure Supplies and Information

Ensure that emergency supplies and equipment are on hand and ready for the on-site emergency action team. Obtain cash for post-flood needs such as buying food and supplies or paying employees and contractors.



Flood Emergency Kit

- First-aid kit: include prescription medications, over-the-counter painkillers, rubbing alcohol, eye wash kit, and vomit-inducing medicine (in case of accidental poisoning)
- Water and nonperishable food: three-day supply
- Emergency lighting: flashlights with extra batteries
- Whistles: can be used to signal and direct attention during and after a flood
- Emergency radio (battery, solar, or crank-powered)
- Two-way radios or cell phones (with spare batteries)
- Batteries
- Blankets and extra clothing
- Hand and power tools
- Portable pumps and hoses
- Plastic covers and tarpaulins
- Have all employee, vendor, and client contact information on hand
- Protect or relocate vital records off-site; include business and customer records, utility plans, etc.



Emergency Contacts

Fire Department _____
Police Department _____
Insurance Agent/Broker _____
Building Owner _____
HVAC Contractor _____
Electrician _____
Plumber _____
Other _____

Pre-Flood Preparation

Step 2: Inspection and Fortification of Facility

	Check your procedure for restoring electrical services on an item-by-item basis.
	Shut down all noncritical and nonessential electrical equipment.
	During a flood evacuation, consider your phone lines — redirection to cell phones or an answering service could be critical.
	Maintain an off-site inventory of all equipment and assets for your business in the event of structural damage.
	Maintain and test standby electric generator(s) for emergency power.
	Determine whether portable heaters or other emergency equipment are needed.
	Determine whether there are alternative ways to enter your premises if water prohibits access to your business.
	Make sure heating and heat-producing process equipment is in good condition and operating efficiently.
	Inspect and test all necessary backup equipment such as emergency generators, pumps, and communication systems, etc.
	Verify that all fire protection equipment is functional.
	Fill the fuel tanks of generators, fire pumps, and all company-owned vehicles.
	Maintain automatic sprinkler protection in idle buildings; promptly repair sprinkler system defects; notify the local fire department regarding any issues.
	Monitor building temperature, especially in hard-to-heat areas; keep temperature above 40°F.
	Identify which outside vendors and repair services you will need to restore your operation after a flood. It is often advisable to go outside your local area to find services that will not be affected by the same flood as your locality.
	Close and latch exterior doors, windows, and roof hatches.
	Install manually operated valves on sewage disposal lines and drainage lines to prevent reverse flow from entering the facility.
	Consult with local flood management authorities to determine what factors in the area are likely to produce flooding and how much warning you are likely to have.
	Consider providing flood barriers or shields for openings lower than the expected flood depth.
	Protect vital equipment that is located on the ground flood with low, watertight walls.
	Reinforce anchorage of all tanks so they will not float or be carried away by flood currents.
	Permanently move water-reactive chemicals that are stored below expected flood depths to a safe location.
	Ensure that pumps are in working condition.
	Ensure contingency plans are up to date in the event that flooding disrupts production or other business operations.

During the Flood Warning Period

	Move vital business records, equipment, and materials that might become hazardous when wet to a safe place — either to another location or to floors above the expected flood level, if possible.
	Coat stationary equipment that may be exposed to floodwaters with rust preventative to limit corrosion.
	Seal the building to keep water out if that is included in the pre-flood plan.
	Install flood barriers or place sandbags as indicated in the pre-flood plan.
	Close the main gas valve to prevent gas leakage.
	Close valves in piping carrying flammable or hazardous materials.
	Anchor or weigh down buoyant materials that cannot be moved to prevent them from floating and battering the building.
	Shut down boilers and furnaces in enough time for the fireboxes to cool. Water entering a hot firebox can cause damage to the refractory or other parts of the equipment that have elevated temperatures.
	Shut off electricity.
	Close valves in sewage disposal and drainage piping.
	Fill sandbags for emergency use at openings that may be overlooked.

Procedures During a Flood

Step 1: Immediate Actions



Keep names and phone numbers of your heating contractor, plumber, fire department, and building owner easily accessible.

If advised by authorities to evacuate, do so **immediately**. Take your safety kit and lock your business; choose a route away from the flood areas.

Evacuation Procedures

On foot

	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, and use a stick to check the firmness of the ground in front of you.
	Do not camp along streams, rivers, or creeks, particularly during threatening conditions.

In a vehicle

	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 swept away quickly.
	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 (SUVs) and pickups.
	Do not attempt to drive through a flooded road; the depth of water is not always obvious; the roadbed may be washed out under the water, and you could be stranded or trapped.
	Do not drive around a barricade; barricades are there for your protection.
	Do not try to take shortcuts, as they may be blocked. Stick to designated evacuation routes.
	Be especially cautious driving at night when it is harder to recognize flood dangers.
	Do not park your vehicle along streams, rivers, or creeks, particularly during threatening conditions.

Step 2: Ongoing Actions

	Continue ensuring employee and customer safety.
	Be mindful of indoor safety. If backup power supplies are needed, do not use an electric generator indoors, inside a garage, or near building air intakes because of the risk of carbon monoxide poisoning.
	Do not store gasoline indoors, where the fumes could ignite.
	Use individual heavy-duty, outdoor-rated cords to plug in other appliances.

Post-Flood Procedures

Immediate Actions

Do not move seriously injured individuals. If high-rise buildings are in the general area, falling debris may make open areas more dangerous than remaining inside buildings. Watch out for fallen power lines and broken gas lines.

	Provide search-and-rescue personnel with last known location of any missing people.
	Once outdoors, stay away from power lines, buildings, and any objects that might fall.
	Secure the site and provide watch service if necessary.
	Make sure heating systems and water pipes are working.
	Visually check for open bus bars, conductors, and exposed insulators before re-energizing electrical systems.
	Clear roof drains and debris from roofs.
	Determine how you will assist individuals who have special needs, such as disabled persons.
	Remove mud and silt from the building and from equipment to minimize further damage.
	Remove standing water so it will not add moisture to the building.
	Start fans and ventilation systems to begin the drying process.
	Replace building wiring that was submerged.
	Salvage computers, electronics, and mechanical equipment. Salvage potential is high if these items are cleaned promptly with fresh water and then carefully dried. This should be done by a professional salvage company.

 Survey facilities for damage. If damage has occurred, contact the Liberty Mutual Claims Service Center at 1-800-362-0000 as soon as possible. Take photographs of the damage.

	Look for safety hazards, such as live electrical wires, leaking gas, flammable liquids and corrosive or toxic materials, and damage to foundations or underground piping.
	Repair automatic sprinkler protection and water supplies to restore service as soon as possible. Use Liberty Mutual Fire Protection Impairment Procedures whenever sprinkler protection or water supplies are impaired. Contact Liberty Mutual at 1-800-541-5224 to report impairments to fire protection systems or for assistance restoring systems.
	Following the flood, assess damage and notify all critical people (management, contractors, etc.) of next steps.
	Restore fire protection systems if necessary.
	Conduct two-inch main drain and alarm tests on automatic fire protection sprinkler systems to verify public water supply availability.
	Control smoking and use Hot Work Permits where applicable. Maintain fire-safe conditions at all times.
	Cover broken windows and damaged roof coverings immediately.
	Separate damaged goods.
	If there has been a power failure, check refrigerated items for spoilage. Limit access to freezers and refrigerated areas during periods of interrupted electrical service to maintain the temperatures as long as possible.

Flood Information

Important Terms

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.

Determining and Defining Flood Risks (floodsmart.gov)

To identify a community's flood risk, FEMA conducts a flood insurance study. The study includes statistical data for river flow, storm tides, hydrologic/hydraulic analyses, and rainfall and topographic surveys. FEMA uses this data to create the flood hazard maps that outline your community's different flood risk areas.

Changing weather patterns, erosion, and development can affect floodplain boundaries. FEMA is currently updating and modernizing the nation's Flood Insurance Rate Maps (FIRMs). These digital flood hazard maps provide an official depiction of flood hazards for each community and for properties located within it. To learn about your risk and obtain the appropriate information, contact your agent or broker.

High-Risk Areas (Special Flood Hazard Area, or SFHA)

In high-risk areas, there is at least a one-in-four chance of flooding during a 30-year mortgage. All home and business owners in these areas with mortgages from federally regulated or insured lenders are required to buy flood insurance. These areas are shown on the flood maps as zones labeled with the letter A or V.

Moderate-to-Low-Risk Areas (Non-Special Flood Hazard Area, or NSFHA)

An NSFHA is not in any immediate danger from flooding caused by overflowing rivers or hard rains. However, it's important to note that structures within an NSFHA are still at risk. Historically, one-in-five claims come from these moderate-to-low-risk areas. These areas are labeled as zones B, C, and X pre- and post-FIRM.

Undetermined-Risk Areas

No flood hazard analysis has been conducted in these areas, but a flood risk still exists. Flood insurance rates reflect the uncertainty of the flood risk. These areas are labeled with the letter D on the flood maps.