

Disaster Prep

Post-flood safety and security

In this installment of **Disaster Prep**, we focus on how to mitigate potential injuries in post-flood conditions, including safety precautions for employees entering flood areas and proper maintenance of idle and/or partially operating facilities.

Immediate post-flood response

Keep the following guidelines in mind should floodwater result from an active storm or hurricane:

- During and immediately after active flooding, employees should be directed to stay in a safe location. Await word from local authorities that it is safe to re-enter the work area.
- Contact a doctor or medical specialist, or consult government guidelines to determine if any vaccines or health precautions are appropriate for your region, as floodwaters could carry hazardous substances.
- Never attempt to drive a vehicle through floodwater, no matter how shallow it appears or how well you know the road. Such attempts are a leading cause of flood-related injury and death.

- Do not bypass road barricades or drive on roadways that show evidence of damage or roadside erosion.

We've created this Disaster Prep series to help you prepare for, protect against and respond to the effects of a natural disaster, such as a hurricane, flood or tornado.



For more information, please review the resources in our [Disaster Response Center](#) or contact your local Willis Towers Watson client relationship director or risk control consultant.

See our other reports in this series:

- **Disaster Prep: Hurricane preparedness and action plan (for your business)**
- **Disaster Prep: Flood evaluation and recovery plan**
- **Disaster Prep: Tornado preparedness and safety**
- **Disaster Prep: Business continuity management**

Protection from contaminated floodwaters

Every effort should be made to limit contact with floodwater due to the potential for elevated levels of contamination from raw sewage and other hazardous substances. Practicing basic hygiene during the emergency period is crucial:

- Always wash hands with soap and use water that has been boiled or disinfected, or use hand sanitizing products.
- If you have any open cuts or sores that will be exposed to floodwater, keep them as clean as possible by washing well with soap after every contact. If a wound develops redness, swelling or oozing, seek immediate medical attention.
- Wash all clothes worn during the cleanup in hot water and detergent, and wash them separately from uncontaminated clothes and linens.

Cleanup concerns

All individuals involved in the cleanup should wear appropriate personal protective equipment, such as gloves, eye protection, N-95 respirator (face mask) and rubber boots. Other protective clothing or equipment should be worn as needed depending on the cleanup task. Everyone involved in the cleanup should have current tetanus shots.

Cleanup work will involve varying degrees of physical effort. Some employees might not be suited for heavy manual tasks. Exercise judgment when assigning tasks to employees to help avoid injuries.

Adherence to country and local codes, safety practices and programs must be followed during all aspects of the cleanup process. Shortcuts should not be allowed. Only trained employees should operate equipment such as forklifts and power tools. Follow all rules associated with confined spaces. Safety is your top priority.

Re-entering buildings and structures

Before entering any flood-damaged structure, a qualified individual should determine that it is safe to do so. Qualified professionals should also determine the need to, and the safest means of, turning on the electric, gas and water utilities in the building. They must ensure that the utilities pose no threat before employees enter the building to begin cleanup. Cleanup teams should be aware that during power outages, a sudden restoration of power could create electrical hazards in the building. Never power up equipment that was exposed to water until it has been inspected.

Do not allow smoking or other ignition sources in the building. Use flashlights instead of lights; never use fueled camping lanterns. If a gas leak is suspected, leave the building, get to a safe distance away and contact the gas company.

Generators and gasoline-powered portable lighting

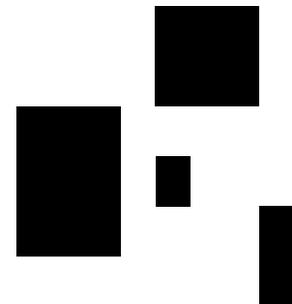
Exhaust from generators and gasoline-powered portable lights can be toxic. Always set up generators/lighting outside, well away from doors, windows and vents. Never use this equipment inside buildings, homes, garages, crawl spaces, sheds or other enclosed areas. Any fuel-burning device, such as a pressure washer, can produce carbon monoxide and should not be used indoors. Carbon monoxide (CO) is deadly. It can build up quickly and linger for hours.

Also, it is important to store fuel away from fuel-fired equipment or any ignition sources. Never refuel generators while hot. When using a generator to provide temporary electrical power, use only properly-rated heavy duty electrical extension cords protected by a ground fault circuit interrupter. Be sure not to run extension cords through water or potential areas where water can collect or be exposed to mechanical damage.

Hazardous chemical safety

Disinfectants, sanitizers and other cleaning solutions can become toxic and potentially hazardous during a flood event. Mixing certain types of cleaners and disinfectants can produce toxic fumes and result in injury, or even death. Always wear appropriate personal protective equipment and follow the recommendations on the product's Safety Data Sheet (SDS).

Where necessary, provide fresh air by opening windows and doors and limit time that employees are exposed to cleaning chemicals inside of buildings. Provide a safe means for disposal of chemicals.



Other safety concerns

Where floodwater stands for an extended length of time, contamination with infectious agents is a concern. Remove standing water as quickly as possible and limit exposure to areas with static contaminated water. If mosquitoes are present, use personal protective clothing and insect repellent. Mosquitoes can spread such diseases as West Nile virus and encephalitis.

Bacteria and mold development is a concern for workers with breathing ailments or allergies. Microorganisms containing bacteria and mold can become airborne and be inhaled. Provide approved protective masks and clothing, and monitor employee health issues continuously.

Security considerations

In the wake of any crisis situation, including flooding, ensuring both worksite and personnel security is key. Protect employees and property by proactively designing and managing physical security programs and systems security technologies.

Ensure any security guard program remains staffed. Communicate with the service provider to avoid coverage lapses. Ensure that security systems include burglar alarms and cameras, are operational, and have maintained battery or UPS backup power. Some security exposures may only be evident post-flood, in which case effective remediation will be required immediately after the storm surge or other flood-related damage has been sustained.

Post-flood, assess all exterior doors to be certain that locks and “card readers” are working and that no emergency egress doors (emergency exits) are propped or blocked. Communicate with local authorities.

When severe weather and natural disasters take place, aggravated crime, civil unrest and looting may occur. Should you experience high-valuation loss/theft or a substantial negative impact to your organization’s security posture due to post-flood or similar events, consider pursuing robust asset recovery efforts.

Resources:

CDC - Floods

www.cdc.gov/disasters/floods/index.html

New Solutions to Strengthen Hurricane Resilience

<https://www.dhs.gov/science-and-technology/blog/2018/09/27/new-solutions-strengthen-hurricane-resilience>

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