

## “Flooding”



Floods kill people and destroy homes in many parts of the United States every year. Federal agencies estimate that an average of over 125 people die every year in the United States because of flooding, although losses vary widely from year to year. Property damage ranges into the billions each year, and has been rising in recent decades.

Of course the live video of a family clinging to their car in a swollen river as rescuers winch down from a helicopter is so compelling that few viewers can change channels. But flooding is also worth covering because if people are informed, they can make decisions which will save lives and reduce property loss.

### General Precautions

- ✓ Use a wooden stick or pole to check flooded areas for pits, holes, and protruding objects before entering.
- ✓ Ensure that all ladders and scaffolds are properly secured prior to use.
- ✓ Conduct a preliminary worksite inspection to verify stability before entering a flooded or formerly flooded building or before operating vehicles over roadways or surfaces. Don't work in or around any flood-damaged building until it has been examined and certified as safe for work by a registered professional engineer or architect.
- ✓ Washouts, trenches, excavations, and gullies must be supported or their stability verified prior to worker entry. All trenches should be supported (e.g., with a trench box); if no support is available, the trench must be sloped at no less than a 1:1 (45 degree) angle for cohesive soil and angular gravel and a 1 1/2:1 (34 degree) angle for granular soils including gravel, sand, and loamy sand or submerged soil or soil from which water is freely seeping.
- ✓ Establish a plan for contacting medical personnel in the event of an emergency.
- ✓ Report any obvious hazards (downed power lines, frayed electric wires, gas leaks or snakes) to appropriate authorities.
- ✓ Use fuel-powered generators outdoors. Do not bring them indoors, as they may pose a carbon monoxide (CO) hazard.
- ✓ Use life vests when engaged in activities that could result in deep water exposure.
- ✓ Use extreme caution when handling containers holding unknown substances or known toxic substances (for example, floating containers of household or industrial chemicals). Contact the EPA (Environmental Protection Agency) for information on disposal at the National Response Center (800) 424-8802.
- ✓ Do not use improvised surfaces (e.g., refrigerator racks) for cooking food or for boiling water to avoid exposure to heavy metals.

### Health Tips

- ✓ Take frequent rest breaks when lifting heavy, water-laden objects. Avoid overexertion and practice good lifting techniques. To help prevent injury, use teams of two or more to move bulky objects: avoid lifting any materials that weigh more than 50 pounds per person, if possible, and use proper automated lifting assistance devices if practical.
- ✓ When working in hot environments, have plenty of drinking water available, use sun screen, and take frequent rest breaks. Wear light-colored, loose-fitting clothing.
- ✓ Be sure that a first aid kit is available to disinfect any cuts or abrasions. Protect open cuts and abrasions with waterproof gloves or dressings.
- ✓ Wash your hands often during the day, especially before eating, drinking, or applying cosmetics.

## Clothing and Personal Protective Equipment

- ✓ Always wear watertight boots with a steel toe and insole, gloves, long pants, and safety glasses during cleanup operations; sneakers should NOT be worn because they will not prevent punctures, bites or crush injuries. Wear a hard hat if there is any danger of falling debris.
- ✓ Wear a NIOSH-approved (National Institute of Occupational Safety and Health) dust respirator if working with moldy building materials or vegetable matter (hay, stored grain, or compost).
- ✓ When handling bleach or other chemicals, follow the directions on the package; wear eye, hand, and face protection as appropriate; and have plenty of clean water available for eyewash and other first aid treatments.



## Electrical Hazards

- ✓ Do NOT touch downed power lines or any object or water that is in contact with such lines.
- ✓ Treat all power lines as energized until you are certain that the lines have been de-energized.
- ✓ Beware of overhead and underground power lines when clearing debris. Extreme caution is necessary when moving ladders and other equipment near overhead power lines to avoid inadvertent contact.
- ✓ If damage to an electrical system is suspected (for example, if the wiring has been under water, you can smell burning insulation, wires are visibly frayed, or you see sparks), turn off the electrical system in the building and follow lockout/tagout procedures before beginning work. Do not turn the power back on until electrical equipment has been inspected by a qualified electrician.
- ✓ When using a generator, be sure that the main circuit breaker is OFF and locked out prior to starting the generator. This will prevent inadvertent energization of power lines from backfeed electrical energy from generators and help protect utility line workers from possible electrocution.
- ✓ Be aware that de-energized power lines may become energized by a secondary power source such as a portable backup generator.
- ✓ Any electrical equipment, including extension cords, used in wet environments must be marked, as appropriate, for use in wet locations and must be undamaged. Be sure that all connections are out of water.
- ✓ All cord-connected, electrically operated tools and equipment must be grounded or be double insulated.
- ✓ Ground-fault circuit interrupters (GFCIs) must be used in all wet locations. Portable GFCIs can be purchased at hardware stores.

## Fire Protection

- ✓ Immediately evacuate any building that has a gas leak until the leak is controlled and the area ventilated.
- ✓ Be sure that an adequate number of fire extinguishers are available and re-evaluate the fire evacuation plan.
- ✓ Be sure that all fire exits are clear of debris and sandbags.

**Cleanup work of any kind is hazardous, but flood conditions make it even more so. Following the procedures listed above will help to keep you safe and healthy while cleaning up after natural disasters that involve flooding.**