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Flash Floods

Flash floods are the most dangerous kind of floods, they combine the destructive power of a flood with incredible speed. Flash floods occur when heavy rainfall exceeds the ability of the ground to absorb it. In fact, flash floods in the U.S. kill more people each year than tornadoes, hurricanes or lightning. Devastating floods have recently swept across Germany and Belgium, causing unparalleled damage and accruing a death toll of over 200 with hundreds of other residents being unaccounted for. It is essential to be knowledgeable of floods and take the following precautions in order to protect yourself and your company in the event of flooding.

What Causes Floods?

- Flooding occurs in known floodplains when prolonged rainfall over several days, intense rainfall over a short period of time, or a debris jam causes a river or stream to overflow
- Severe thunderstorms can bring heavy rain in the spring and summer; or tropical cyclones can bring intense rainfall to the coastal and inland states in the summer and fall and cause flooding.
- Flash floods occur within six hours of a rain event, or after a dam or levee failure, or following a sudden release of water held by an ice or debris jam, often catching people unprepared. You will not always have a warning that these sudden floods are coming.
- As land is converted from fields or woodlands to roads and parking lots, it loses its ability to absorb rainfall. Urbanization increases runoff two to six times over what would occur on natural terrain. During periods of urban flooding, streets can become swift moving rivers, while basements and viaducts can become death traps as they fill with water.
- Several factors contribute to flooding. Two key elements are rainfall intensity and duration. Intensity is the rate of rainfall, and duration is how long the rain lasts. Topography, soil conditions, and ground cover also play important roles. Most flash flooding is caused by slow- moving thunderstorms, thunderstorms repeatedly moving over the same area, or heavy rains from hurricanes and tropical storms. Floods, on the other hand, can be slow- or fast-rising, but generally develop over a period of hours or days.
- Floods can overwhelm communities in just a matter of minutes. By being proactive, your community can reduce flood risks.



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Flash Flood Safety Tips:

- Nearly 50 percent of all flash flood fatalities nationwide involve vehicles. Saving your life can be as easy as turning your car around when you see water on the road. Never attempt to drive through flooded roadways.
- Even in relatively shallow water, tires can act as flotation devices, lifting big vehicles and sending them downstream. It takes only two feet of water to float a 3,000-pound car.
- Beware that water covering roadways may hide washed-out bridges or gouged-out roadbeds. If you attempt to drive across, you may not be driving on a road.
- In rainy weather, be alert and stay tuned to local radio or TV.
- If you are in a low-lying area when flooding is occurring, get to higher ground quickly. And be sure to avoid canyons and washes that can channel swift water.
- Do not attempt to cross flooded roads or streams on foot. It can take as little as six inches of water to knock an adult off his or her feet. Furthermore, water may be flowing more rapidly than it appears.
- During stormy weather, do not camp or park vehicles along streams or washes.
- Be especially cautious at night when it is harder to see flood dangers.

Advice For Flooding Preparation and Mitigating Risk:

- Have an emergency plan that outlines procedures for every department and agency during a flood: Establish a chain of command for management operations. In high risk areas, it's a good idea to practice for emergency operations before a real flood occurs.
- Maintain infrastructure that presents flood risks. Take care of small stream crossing or culverts where floods might be more common. Watch for changes in the course of water in the community.
- Watch water flow during rainfall, especially on hard surfaces, roads, and parking lots. Make sure water can flow into drainage systems adequately without causing damage.
- Develop a mitigation plan to take steps now to prevent future floods. One key element of this plan can be a weather tracking system to alert employees to the potential of heavy rainfall and damaging winds to allow them to prepare and get to safer ground.
- Purchase flood insurance, especially if you find you are in or near a high-risk flood zone (Special Flood Hazard Area). Flood insurance is provided through the federal National Flood Insurance Program (NFIP), and can be purchased through private insurance agents and companies.
- Hire a licensed electrician to raise electric components (switches, sockets, circuit breakers, and wiring) at least 12 inches above the BFE for your area. This will help prevent damage to the electrical system and reduce the chance of fire from short circuits in flooded systems.
- Use flood-resistant materials where possible, including floor coverings, wall coverings, and wall insulation. Most flood-resistant materials can withstand direct contact with water for at least 72 hours without being significantly damaged.
- Backup electrical power can be critical for reducing recovery time. Plan in advance for backup power needs for vital equipment needed to resume operations. Consider power for mechanical equipment such as your air conditioning systems too, since this can reduce humidity and moisture levels, which will help dry materials and inhibit mold growth. Ensure backup power and related equipment is elevated and/or protected from flood waters.