

EHS NATURAL DISASTER GUIDE

Weather the storm with a disaster recovery & business continuity plan

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NATURAL DISASTERS IN THE U.S. ARE INCREASING — AND GETTING MORE EXPENSIVE.

In 2019, the country suffered the fifth consecutive year (2015-2019) in which 10 or more weather or climate-related disasters occurred. There were 14 weather and climate disaster events with losses exceeding \$1 billion each, with losses from hurricanes alone estimated at \$22 billion for 2019. Hurricane Dorian, Tropical Storm Imelda, and historic flooding in the Midwest were all significant contributors to natural disaster losses.

Globally, total losses from natural and human-made disasters were tied with 2018 as the fourth most expensive year on record. But, insurance companies, which paid out \$56 billion, paid less than the annual average over the past decade.¹



¹ “Global catastrophes caused USD 56 billion insured losses in 2019.” Swiss Re, December 19, 2019.

U.S BILLION-DOLLAR NATURAL DISASTERS IN 2019



247 DEATHS DUE TO NATURAL DISASTERS IN 2018

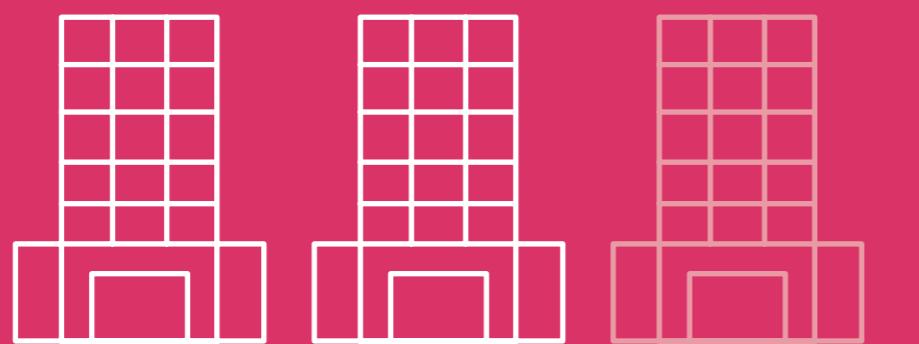


One way to protect businesses and improve the odds of reopening after such situations is to have a natural disaster and business continuity plan. Unfortunately, this is a precaution that many businesses overlook. A recent Nationwide Insurance study found that two in three businesses don't have a written disaster plan, even though most think disaster recovery would take more than three months.²

WHEN DISASTER STRIKES

Natural disasters and their consequences come in a variety of forms, each with potentially deadly and devastating outcomes. Here are some of the most common and dangerous.

TWO THIRDS OF COMPANIES DON'T HAVE A NATURAL DISASTER & BUSINESS CONTINUITY PLAN



² "2 in 3 Small Businesses Lack a Written Disaster Recovery Plan." Nationwide Insurance, February 28, 2017.





HURRICANES

Few who have experienced a hurricane can forget the intense winds, driving rain, and destructive force. In 2017, Hurricane Maria killed nearly 3,000 people and is still hobbling Puerto Rico's infrastructure. More than a decade after Hurricane Katrina killed more than 1,800 people, New Orleans shows lingering signs of the storm's wrath. Many people lost everything and never returned to the city.³

Coastal areas are most at risk, but a hurricane can wreak havoc inland, too. In 2018, Hurricane Michael caused billions of dollars in damages to agriculture and forestry, as high winds hit during harvest season across several states.

Also called “tropical cyclones,” the intensity of these rotating, low-pressure storms — with wind speeds up to 74 mph or higher — has risen noticeably over the past two decades, making proper preparation more important than ever.⁴



³ “More than 12 years after Hurricane Katrina, scientists are learning what makes some survivors more resilient than others.” Kelly Servik, Science, February 27, 2018.

⁴ “Climate Change Indicators: Tropical Cyclone Activity.” U.S. Environmental Protection Agency, August 2016.



PREPARATION ESSENTIALS:

Monitor storm forecasts regularly, especially during hurricane season. The Atlantic hurricane season lasts from June to November and peaks between August and October, according to the Occupational Safety and Health Administration (OSHA). The Eastern Pacific hurricane season starts in mid-May and ends in November.

Map evacuation routes and timelines to help employees and other stakeholders avoid the storm and its impact.

Identify safe shelter options in case evacuation is not possible. Consider that hurricanes may cause major flooding and wind damage, so shelter areas must protect from both.





WILDFIRES



California experienced a damaging wildfire season in 2019, largely resulting from the Kincade and Saddle Ridge wildfires. During this, a California electrical utility provider turned off power to millions of homes and businesses several times during days with forecasted high winds and extremely dry conditions. This step was designed to minimize the wildfires, but it also caused billions of dollars in losses to those affected.

Alaska also suffered a significant wildfire season with more than 2.5 million acres burned. These wildfire conditions were primed due to Alaska's record-breaking heat and dry conditions during the summer months. July 2019 was the warmest month ever recorded in Alaska.

THE CALIFORNIA CAMP FIRE CAUSED OVER 80 DEATHS AND \$16.5 BILLION OF DAMAGE.



\$16.5 BILLION





PREPARATION ESSENTIALS:

Create a vegetation management plan for your site, including topography, building locations, and zones where combustible material should be removed around buildings, warehouses, and property edges to prevent the spread of a fire.

Ensure that your company's security lead monitors alerts from state and local warning systems, and also knows your community's evacuation plans. Map several routes to leave the area and identify shelter locations.

Consider keeping appropriate respirator masks and air purifiers on hand to help protect against smoky conditions. Even long after a wildfire has been extinguished, low air quality can persist.





EXTREME WINTER WEATHER

Over the past couple of years, the world became more familiar with the phrases “bombogenesis,” “bomb cyclone,” and “polar vortex.” In 2018, a massive winter storm hit the east coast of the U.S., crippling the Northeast with snow, and delivering wintry conditions as far south as Georgia and Florida. The storm caused 22 deaths and 300,000 lost power.⁵ In 2019, a record-breaking cold caused at least 21 deaths and brought cities to a standstill, as even the U.S. Postal Service cancelled mail delivery in some locations.⁶

THE VOCABULARY OF EXTREME WINTER WEATHER

Bombogenesis occurs when a midlatitude cyclone rapidly intensifies — such as when a cold air mass hits a warm air mass — and creates a **Bomb Cyclone**.

The Polar Vortex is a large low-pressure area on the North or South Pole that flows counterclockwise. Often, during northern winters, the Polar Vortex becomes less stable and sends cold Arctic air southward.

Winter weather can paralyze an area for days as snow and ice are removed, power is restored, and extreme cold causes injury risk. Fortunately, these risks are usually seasonal, allowing for more targeted preparation.



⁵ “Brutal cold follows massive East Coast winter storm.” CBS News, January 7, 2018.

⁶ “Polar vortex death toll rises to 21 as US cold snap continues.” The Guardian, February 1, 2019.



PREPARATION ESSENTIALS:

Have a plan to remove snow and ice. If you have contractors to handle these aspects, define expectations and timelines clearly.

Whenever possible, **limit the need for employees to drive** during storm conditions or when roads are icy or snow-covered. If appropriate, allow employees to work from home, reschedule deliveries, and take other measures to keep your stakeholders off the roads.

Special consideration needs to be given to employees who work outdoors and are exposed to dangerous cold, slippery surfaces, and other risks. Ensure that these workers have proper clothing and equipment to stay warm and safe. Educate them about cold stress, how to prevent frostbite and other cold-related injuries, and allow them to seek relief from the cold at regular intervals.





EARTHQUAKES

Terrifying in their potential to destroy buildings and infrastructure and render roadways impassable, earthquakes can be one of nature's most devastating disasters. In 2018, two earthquakes topping 7.0 on the Richter scale hit parts of Alaska. The November Anchorage earthquake destroyed roads and buildings, prompted tsunami warnings, and knocked out power to more than 32,000 people in the city.

These episodes of sudden and vigorous shaking ground can strike with little or no warning. In addition to the danger they pose to building stability, falling objects could injure employees and customers. It's also not uncommon for earthquakes to trigger tsunamis, flash floods, fires, landslides, or avalanches.





PREPARATION ESSENTIALS:

Don't assume that earthquakes are not a threat in your area.

In addition to California, the Pacific Northwest, and Alaska, significant earthquakes have also happened in New York, Tennessee, Virginia, and Missouri. Consult the Earthquakes section of the U.S. Geological Survey's website (<https://earthquake.usgs.gov/>) to learn more about your risk.

Train employees to respond to an earthquake and identify safe spaces to take shelter. Practice “drop, cover, and hold on” drills at least twice per year. Emphasize covering eyes to prevent eye injuries.

Identify multiple evacuation routes if an earthquake has caused damage to roadways.

Incorporate response plans for floods, fires, and other related disasters that may occur as a result of the earthquake.



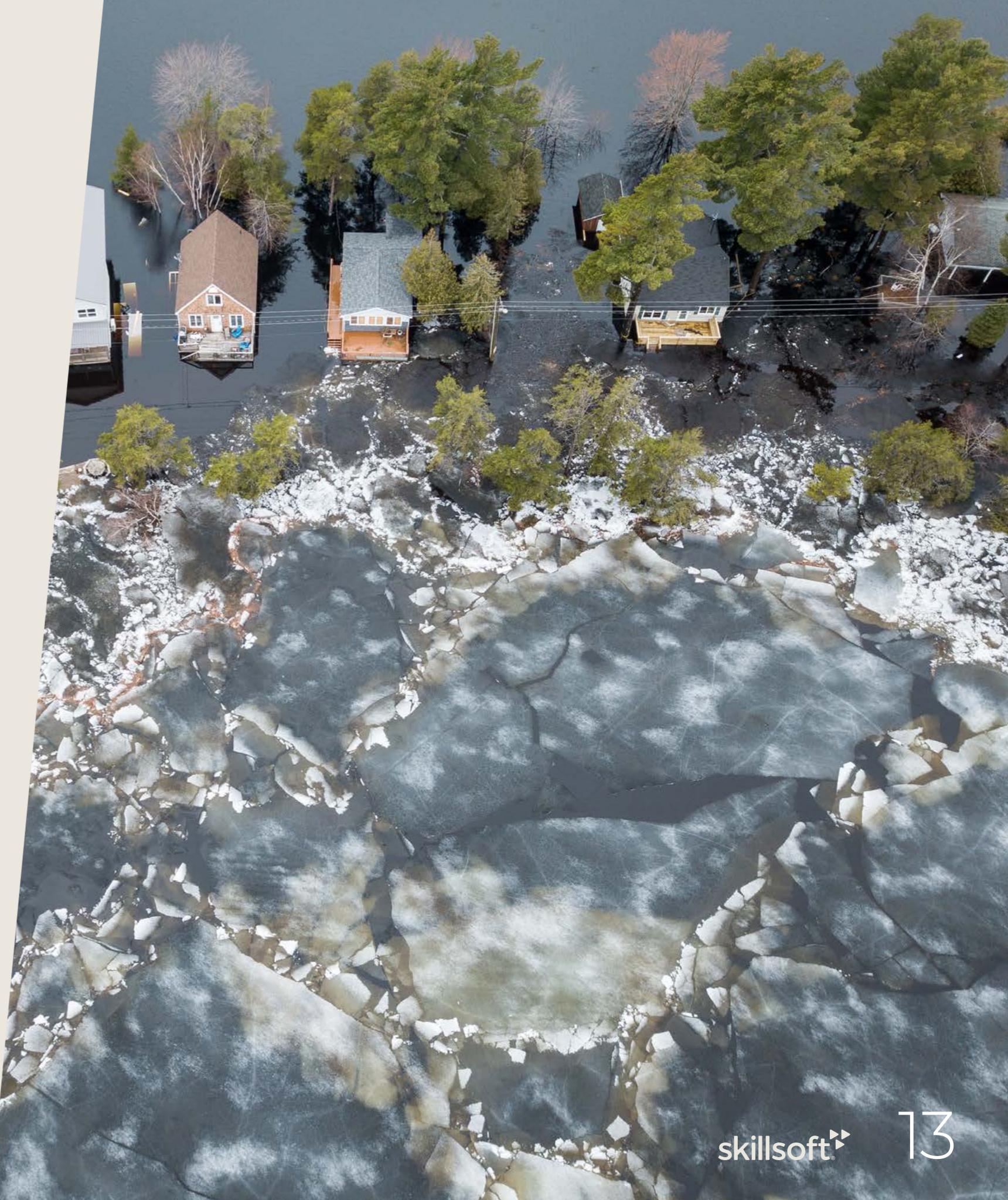


FLOODS

Flooding can strike virtually anywhere with devastating consequences. In the aftermath of Hurricane Katrina, flooding caused by levee failures kept most of New Orleans under water for days. Flash floods can even affect desert areas, making roads impassable and buildings inaccessible. Floods can be caused by tidal surges, rising river levels, ice jams, and dam failures.

The Midwestern U.S. has been experiencing major floods since mid-March 2019, primarily along the Missouri River and its tributaries in Nebraska, Missouri, South Dakota, Iowa, and Kansas. The Mississippi River has also seen flooding, although starting later and ending earlier.

The 2019 January-to-May period was the wettest on record for the U.S., with multiple severe weather outbreaks through May in the Midwest, High Plains, and South exacerbating the flooding and causing additional damage.





PREPARATION ESSENTIALS:

Determine if your business is located in a flood zone. Consult the Federal Emergency Management Association's (FEMA's) Flood Map Service Center. Monitor storm activity and precipitation predictions, especially in flood-prone areas.

Be particularly careful driving in flooded areas, as roughly half of all flood fatalities are vehicle-related. According to OSHA's website, "Six inches of standing water is enough to stall some cars, a foot of water can float a vehicle, and two feet of moving water is enough to sweep a car away."⁷

Store or move toxic or hazardous substances above anticipated floodwater levels to avoid contaminating flood waters. Work with local authorities on a flood response plan if your business has a large quantity of hazardous material or waste on-site.

Map evacuation routes and allow sufficient time for employees and others on the premises to reach safety.

Educate yourself about the best flood-prevention tools and tactics.

In some cases, the use of sandbags and other water barriers can be effective in mitigating damage.

Resources like [Ready.gov](#) and [OSHA's Disaster Preparedness website](#) can give you additional planning information and resources.

⁷ "Response and Recovery." OSHA.gov.



CREATE YOUR RESPONSE PLAN

The first step to crafting an effective emergency response plan is to assess your risks. The biggest natural disaster risks to your business may vary depending on your region or type of business. For example, a business that houses toxic chemicals in a region prone to fires may have a different plan than a medical center that is in a flood zone or area prone to extreme winter weather. Your risk assessment should include a list of stakeholders, ranging from employees and customers to suppliers and the surrounding community, as well as how they may be affected by a natural disaster.

Evaluate each of the potential risks and create protocols and processes to address the safety of your stakeholders. Include facility-specific details, such as how to evacuate and where to assemble to account for everyone, as well as when and where to shelter in place, depending on the type of disaster.



4 ESSENTIAL ELEMENTS TO YOUR RESPONSE PLAN

- 1** **If/then scenarios and actions based on your company's risk profile.** Examples of this include: "If an earthquake happens, then take these actions" or "If a flood threatens to release toxic chemicals into the environment, then take these actions."
- 2** **Provisions for company-specific circumstances,** such as assisting individuals with disabilities or protecting equipment in a storm.
- 3** **Personnel responsible** for overseeing and carrying out each step in the plan.
- 4** **Communication instructions,** including how to notify key stakeholders, such as employees, customers, community members, and local media.

Your plan should address specific safety issues and protocols. For example, share relevant advice or warnings about the use of personal protective equipment, such as hazardous materials suits, goggles, helmets, gloves, or other clothing or gear that employees should use to help protect against injury. Include information about appropriate power tools or hand tools in case of emergency, such as pumps to eliminate water, hoses, and water sources for fires, etc.

Finally, be sure to remind employees how to prevent injuries while engaging in manual labor, such as how to protect against back injury. Each of these components should be specific to your company and its unique risk profile.



DEVELOPING THE BUSINESS CONTINUITY COMPONENT

During recovery, your place of business may not be accessible as damage is remediated. In such cases, how and where will your employees do their jobs? The business continuity component of your recovery plan will outline such provisions, including:

- **Work location**, whether it's from home or at a secondary site.
- **Useful equipment** — if employees use their own devices, ensure that they are equipped with proper virus protection and that they adhere to cybersecurity measures that are typically used in your office to keep sensitive data safe.
- **Communication** and how to provide regular updates to employees, customers, suppliers, community members, and others.



Cloud-based platforms can be particularly useful in keeping your business running after a disaster because they can be accessed remotely and allow employees to work outside of the office. Discuss such options with your IT team. Your disaster recovery and business continuity plan should be kept in the cloud and on premises in case of power failure. Clearly communicate to your team how to access the plan.

Once the plan is completed, hold periodic “**table exercises**” during which your teams gather and talk through disaster responses. This will allow you to think through the steps and identify any issues or gaps. It’s also a good idea to consult first responders and the local healthcare center about your plan.

As your business grows, changes, acquires new customers, suppliers, or employees, the strategy needs to be updated. Plan to revisit the content quarterly or twice each year to confirm that it’s as current as possible.



GET THE SAFETY SUPPORT YOU NEED

Skillsoft provides a wealth of resources, including online classes and eBooks, to help you create your natural disaster and business recovery plan and offer a healthy, safe work environment for your associates. We partner with experienced industry experts who provide the latest insights into how to create a safer workplace overall and mitigate the specific risks your business faces.

Being prepared will help you minimize damage to your business, community, and environment if the worst does happen.



ABOUT THE AUTHOR



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Donna McEntee manages Skillsoft's global library of more than 800 Workplace Safety and Health courses. As the Workplace Safety and Health Solution Manager, she works with Skillsoft's stakeholders and customers to design effective compliance training programs. She provides subject matter support for workplace safety, health, environmental, and best practices. Donna holds a Master's degree in Safety, Security, and Emergency Management from Eastern Kentucky University.

ABOUT SKILLSOFT

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