

Climate Change

Climate Change: Extreme Weather - Preparing for Climate Related Emergencies

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What are climate related emergencies?

Due to climate change, there has been an increase in extreme weather events. Climate related emergencies refer to emergency situations caused by these extreme weather events, such as:

- [Extreme heat](#) and [cold events](#)
- [Forest Fires / Wildfires](#)
- [Floods](#) and heavy rain and snow
- [Severe winds, hurricanes, and tornadoes](#)
- Air pollution and smog
- Other extreme weather events

Why do workplaces need to plan for climate related emergencies?

The increased frequency of emergency situations due to extreme weather events has highlighted the importance for workplaces to include these situations in their [emergency planning](#).

During an emergency, the need to make important decisions quickly, and lack of resources or trained personnel can lead to panic and poor judgement resulting in severe consequences. Workplaces with well developed emergency response plans will reduce the risk of worker injuries and incidents. In addition, workplaces can also prevent or minimize damage to property, equipment, materials, and the environment.

It is important to develop specific emergency response plans for each potential type of climate emergency that could happen (e.g., wildfires, floods, extreme heat, severe wind, hurricanes). Normal channels of authority and communication cannot be relied upon to function normally.

See the OSH Answers on [Emergency Planning](#) for more information.

The specific legislative requirements vary depending on the [jurisdiction](#) the workplace is located, as well as the type and characteristics of the workplace.

How can a workplace plan for a climate related emergency?

The emergency response planning team should perform a vulnerability assessment to identify which extreme weather events could occur, and then determine what the [hazards](#) and [risks](#) would be to the workers and organization if those events were to happen. Specific hazards and risks will depend on many factors, including:

- Geographical location and climate
- Past and future weather trends
- Nature and severity of the climate emergency
- Size and type of workplace
- Internal capabilities of the workplace to respond to an emergency
- Immediacy of emergency services and other external aid during a region wide event, and
- Physical layout of the premises

To help identify potential extreme weather events, consult resources from the Canadian Federal Government, such as Canada's Changing Climate Report and Environment and Climate Change Canada (ECCC) (see the end of this document for links). Other sources include notices and alerts from your provincial, territorial, and municipal governments.

Even though an extreme weather event has never happened, or has not happened in a long time in your area, does not mean it will not happen. Examples of potential hazards associated with climate emergencies include:

- Fires and explosions
- Extreme temperatures and high winds

- Flooding from heavy rain or snow melt
- Poor air quality
- Reduced visibility outdoors, poor driving conditions and road closures
- Building collapse and structural failures
- Spills and unintentional release of chemicals
- Equipment malfunctions
- Loss of power, water supply, communication, and other utilities
- Workers being stranded at the office, a worksite or remote location

Risk Assessment

After all the hazards have been identified for each climate emergency, an assessment should be done to evaluate the risks that each of these hazards pose to workers, property, and the environment. To assess risk, consider the likelihood of harm or damage, as well as the severity of that harm or damage. This assessment will help with prioritization and resource allocation during emergency planning, and most importantly the development of proper emergency response procedures.

Areas where flammables, explosives, or chemicals are used or stored should be considered as a likely place for many of these hazards to occur during an emergency. The possibility of one event triggering others must be considered. For example, a fire caused by extreme weather (e.g., forest fire, tornado) may lead to an explosion, and cause structural failure and trigger many other possible events.

During the hazard identification and risk assessment process, gaps or deficiencies in current [hazard control measures](#) may be identified, as well as previously undetected hazardous conditions that could increase risk during emergency situations. These issues should be addressed appropriately.

Emergency Response Plans

Once the possible climate emergencies and potential risks and consequences of those emergencies have been identified, the actions required to protect workers, property and the environment can be determined.

When considering climate situations, the emergency response plans should also include:

- Written procedures to prevent and respond to each climate emergency, including the responsibilities of designated people.
- The required resources to safely execute emergency plans (e.g., trained personnel, fire fighting and rescue equipment, personal protective equipment, [first aid](#) supplies, communication equipment, power generators). Plan should also account for potential impacts on these resources.

- Detailed lists of emergency response personnel including their cell phone numbers, alternate contact details, and their duties and responsibilities.
- Large scale maps showing evacuation routes, service conduits (e.g., gas and water lines), first aid supplies, emergency equipment, and gathering areas or muster points.
- Designated safe areas for seeking shelter, and an inventory of emergency food and water.
- Process for checking the local weather forecast and air quality, and a communication plan for sending weather alerts to workers.
- Emergency procedures for workers, including those who:
 - Work outside
 - Travel and visit multiple work locations
 - Are located in remote areas
 - Work alone
 - Are responsible for overseeing critical processes and equipment
- Details on how plans will be initiated and communicated with workers in the event of an emergency
- Requirements for practicing the execution of the plans by performing drills and exercises.
- Process for regularly reviewing the plans and their effectiveness, and making revisions as needed

Plans should factor in how long it will take for emergency services to respond. In the event of climate emergencies, there could be a delay in response due to an increase in demand for these services by the community and other workplaces in the area. Alternatively, your organization may be able to offer services to others in an emergency. This further emphasizes the importance of emergency planning from both a workplace and community perspective when possible.

Plans also need incorporate procedures on how to safely monitor, shut down or to continually operate critical processes, equipment and other devices that may cause injuries or damage in the event of a power failure or malfunction. Since a sizable document will likely result, the plan should provide workers with separate written instructions about their particular emergency response duties.

As a best practice, plans should be reviewed annually or more often as needed. After a drill or an actual emergency, a thorough review of the effectiveness of the plan should also be done to identify areas of improvement. It is important that plans are reviewed and revised regularly.

Where can I find more information?

More information about climate can be found at:

- [Weather, climate and hazards - Canada.ca](#)
- [Canada in a Changing Climate](#)
- [Environment and Climate Change Canada](#) (ECCC)
- [Environmental Emergency Regulations \(E2 Plans\)](#) under the Canadian Environmental Protection Act.

(*We have mentioned these organizations as a means of providing a potentially useful referral. You should contact the organization(s) directly for more information about their services. Please note that mention of these organizations does not represent a recommendation or endorsement by CCOHS of these organizations over others of which you may be aware.)

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