

Weather

Weather - Tornado

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What is a tornado?

A tornado is a powerful, spinning column of air that can stretch from a thunderstorm cloud to the ground. It can cause damage by picking up debris and tossing it around at high speeds. In extreme conditions, wind speeds can range from 105 to 332km/h (65 to 206 mph). Tornadoes form under specific conditions, often during severe thunderstorms. However, not all severe thunderstorms result in tornadoes.

Are tornadoes a concern in Canada?

Canada, second to the United States, experiences more tornadoes than any other country. The areas most often struck and affected are Southern Ontario and the Southern Prairies, which include Alberta, Saskatchewan, and Manitoba.

Tornado season in Canada lasts from April to September and reaches its peak in June and July. Tornadoes most often develop in the mid-afternoon to early evening.

What is the difference between a tornado watch and a warning?

A tornado **watch** means a tornado is possible in your area. Stay alert for more information

A tornado **warning** means a tornado is already occurring or will occur soon in your area. Seek shelter if told to do so.

How are tornadoes categorized?

Tornadoes are categorized using the Enhanced Fujita (EF) Scale, which rates them based on the damage they cause, this helps estimate the wind speeds involved. The scale has six levels - EF0 (weakest) to EF5 (strongest).

EF-Scale Wind Speeds

F/EF Rating	EF-Scale Wind Speed Rounded to 5 km/h
0	90-130 km/h
1	135-175 km/h
2	180-220 km/h
3	225-265 km/h
4	270-310 km/h
5	315 km/h or more

Source: [Enhanced Fujita scale for wind damage - Canada.ca](https://www2.gov.bc.ca/gov2/serv/bc/efscale/)

Are tornadoes a workplace Issue?

Tornadoes can be a significant workplace hazard in the spring and summer as they can strike during work hours, directly impacting workplaces. Tornadoes may injure workers, damage the workplace, and impact work after the tornado has passed.

Tornadoes are a hazard, particularly for those working outdoors, due to wind speed and the potential for objects to fall or become airborne.

For related information, please see our OSH Answers document on [Weather - High Winds](#).

What can the workplace do to be prepared for tornadoes?

Being prepared and taking precautions ahead of a tornado can help workplaces be equipped for a storm, stay safe, and reduce the impact of the tornado. Paying attention to weather conditions and forecasts allows time to plan for threatening weather and to react appropriately.

- Include tornadoes in your workplace's [emergency preparedness plan](#).
- Include site-specific considerations for tornadoes.
- Select and identify safe places for workers to take shelter. The safest place during a tornado is a basement or storm cellar.
- Conduct regularly scheduled tornado safety drills.
- Be aware of the weather. Check the weather forecast for the work area ahead of time, at the beginning of each shift, and continue to check the weather regularly throughout the shift.
- Prepare emergency kits that contain essentials like water, non-perishable foods, flashlights, batteries, and a first aid kit.
- Train workers on tornado preparedness.
- Do not seek shelter in large, long-span buildings (such as malls, theatres, or gyms) with wide-span roofs as they are more likely to collapse during a tornado.

What steps can workplaces take to protect workers during a tornado watch or warning?

- Stay informed and pay attention to weather watches and warnings. Use a reliable weather service for up-to-date information on tornado conditions, storm maps, and weather warnings.
- Check the weather throughout the workday - do not assume it will remain the same.
- Prepare the space where you will shelter.

If it is safe to do so, inspect the area. Secure items that are loose and can become airborne, where possible.

What should a worker do during a tornado?

If you encounter a tornado while in an office or building, follow your workplace's emergency response procedures.

- Find a safe place to seek shelter.

- Get as close to the ground as possible, protect your head and neck, and watch for flying debris.
 - If you encounter a tornado while in a multi-level office or building:
 - Take shelter in an inner hallway or room, ideally in the basement or on the ground floor.
 - Do not use the elevator.
 - Stay away from windows.
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What should be done if a worker is outside during a tornado?

If you encounter a tornado while working outside, follow your workplace's emergency response procedures.

- Monitor the weather and news before your workday. Be aware of the weather forecast and plan accordingly.
 - Continue to check the weather forecast periodically throughout the day, especially in mid-afternoon and mid-evening when tornadoes tend to strike.
 - Do not wait until you see a tornado to seek shelter.
 - Make your way to your designated shelter or safe zone as outlined in your workplace's emergency response plan or find a safe place to shelter, such as a sturdy building.
 - Stay away from trees and vehicles, as flying debris is a hazard.
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What should a person do when they are driving during a tornado?

If you encounter a tornado while driving, follow your workplace's emergency response procedures.

- If you spot a tornado in the distance, go to the nearest solid shelter.
 - Avoid overpasses. Do not park under a bridge or overpass as they can become wind tunnels and increase the risk of injury.
 - Note that some sources suggest that if the tornado is close, get out of your car and take cover in a low-lying area, such as a ditch. Other sources, however, suggest remaining in your vehicle. If you're unable to make it to a safe place and remain in your vehicle, get low in your vehicle (below window level) and cover your head and neck.
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What should a person working from a house do during a tornado?

If you encounter a tornado while at home or working from home, follow your personal or workplace's emergency response procedures.

- Seek shelter in the basement.
 - If you don't have a basement, go to a small room on the ground floor such as a bathroom, closet, or hallway. You can also protect yourself by taking shelter under a heavy table or desk.
 - Protect yourself from flying or falling debris by using what is available - a table, desk, mattress, pillow, blankets, etc.
 - Stay away from windows, outside walls, and doors.
 - Do not stay in a mobile home during a tornado, find shelter elsewhere.
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What should a person do if they cannot find shelter?

If there is no time to get to a shelter or basement:

- Be in a door frame or against something that will support or deflect falling debris. For instance, crouch against heavy shelving or counters. In a theatre, hide under the seats.
 - Protect your head. Use what is available, including a heavy desk, workbench, pillows, blankets, or your arms.
 - If outside, go to a low-lying area such as a ditch or ravine and lie flat. Protect your head and neck with an object or your arms. If possible, move away from areas with many trees.
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Where can I find more information*?

Learn more about [summer hazards](#) on the Environment Canada website and about [tornadoes](#) from Public Safety Canada.

More information about tornadoes and safety is also available from the [National Weather Service](#) and the [Centers for Disease Control and Prevention](#) in the United States.

*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 information and/or services. Please note that mention of these organizations does not represent a recommendation or endorsement by CCOHS of these organizations over others that you may know.

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