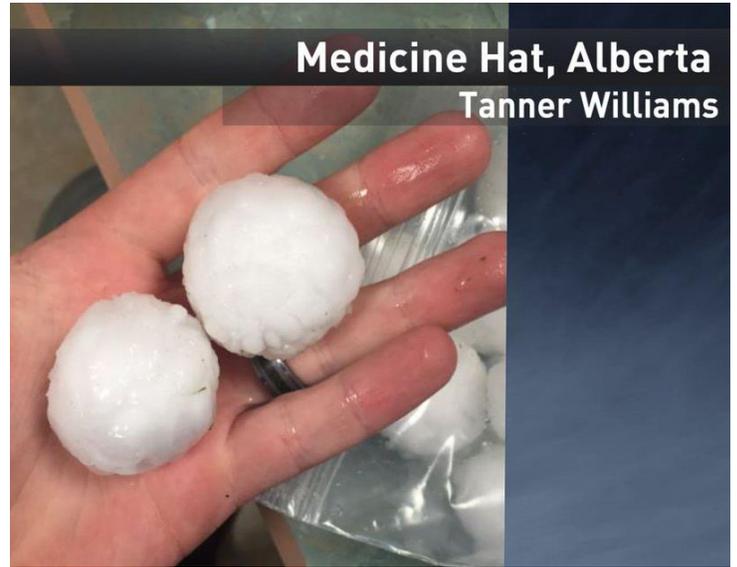


# LIGHTNING/HAIL

ARE YOU PREPARED?

SAFETY BULLETIN

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Lightning and hail are examples of the extreme weather faced across Western Canada

## BACKGROUND

Weather across Canada can be challenging even during the summer months. From June to September, operations may encounter torrential downpours with lightning, or golf-ball size hail. To mitigate the risks, it is important to be aware of weather conditions and have a plan.

A study by the Institute of Catastrophic Loss and Reduction says Alberta is on track to see a 10% increase in severe weather events by 2050.

In Alberta severe storms resulted in more than \$700 million in insured losses in 2012. In recent years, severe storms with crop-damaging hail have also significantly affected Saskatchewan and Manitoba.

## LIGHTNING

Lightning is an electrostatic discharge during a thunderstorm. Canada has about 2.34 million lightning flashes a year, and about once every three seconds during the summer months. A lightning strike is when lightning hits an object. Each year in Canada, lightning strikes kill up to 10 people, seriously injure up to 164 others, and ignite some 4,000 forest fires.

## HAIL

Hailstones are produced in thunderstorms. They typically have a diameter of approximately 5 mm, but can be as large as 15 cm and weigh more than half a kilogram. The speed of falling hail is estimated at 32 km/h for a 1 cm hailstone, and 173 km/h for an 8 cm hailstone!

The Meteorological Service of Canada issues severe thunderstorm warnings when hailstones are greater than 2 cm.

## LIGHTNING/HAIL AWARENESS

- Typically conditions for severe weather take time to develop; be aware of changing conditions
- If severe weather is forecasted, delay safety critical tasks that might be adversely affected by loss of power
- Lightning detector devices are available for facilities and personnel, employers should consider these devices for workers in high-risk environments
- Have a plan to wait-out severe weather, and limit exposure by staying indoors
- When indoors during a storm, stand clear of windows, doors and electrical equipment
- When indoor shelter is not available, avoid higher elevation areas, stay away from metal objects or equipment, and never use a tree or tall object as shelter
- If outdoors, do not group up or cluster – spread out
- If you feel a tingling sensation or your hair stands on end, lightning may be about to strike! Immediately crouch down and cover your ears; do not lie down or place your hands on the ground
- CPR may need to be administered to victims of lightning strikes

## RESOURCES

- [Canadian Lightning Danger Map](#)
- [Canadian Public Weather Alerts](#)
- [Canadian Electrical Code STANDATA, Section 10 – Grounding and Bonding CEC-10](#)
- [OSHA Lightning Safety Fact Sheet](#)
- [Environment and Climate Change Canada Lightning Information](#)

## PRESENT LIKE A PRO

### Before you begin:

Review this material, make sure you understand it and how the topic can be applied.

Research your own company's experience so you can provide examples that pertain to your work areas.

Anticipate questions and be prepared to answer/discuss them.

If you're not able to answer a question, let the person know you will find the information and make sure you follow up.

Consider the audience and their experience with the topic (i.e. how familiar are they with the topic or the terms being used?).

### Challenge the group:

Check that hazard assessments include severe weather and loss of power as potential hazards.

Ensure all portable power equipment and facilities are grounded with a rod driven in to the ground. Requirements to be met are in the Canadian Electrical Code.

Check portable buildings or structures are bonded, or connected with a conductive cable or strap.

Ask workers where they would go in the case of severe weather.