

Worst-case storm-nario

British Columbians feel extreme weather becoming increasingly tough to predict and prepare for



Worst-case storm-nario: British Columbians feel extreme weather becoming increasingly tough to predict and prepare for

In November 2021, significant rainfall events known as atmospheric rivers caused flooding and extensive damage in many areas of B.C. One year later, B.C. has already experienced back-to-back smaller scale atmospheric river storms, and more are on the way. That combined with the drought weakened vegetation that is more susceptible to coming down in windy and rainy conditions, means that British Columbians could be faced with more power outages this year. Extreme weather has become somewhat of a norm in B.C. in recent years, due in part to climate change. However, as what was once traditional ‘storm season’ kicks off, many are left feeling underprepared as they are now left expecting the unexpected when it comes to storms and weather-related power outages.

Highlights

- One year ago, several atmospheric river storms swept through B.C. – the worst of which hit November 14 and 15, causing unprecedented flooding and damage.
- BC Hydro infrastructure damage was extensive—especially in flood and mudslide areas—with a total of 258,000 BC Hydro customers without power during the storms.
- This year, B.C. is facing potentially critical storm conditions again due to drought weakened vegetation from unusual weather – a rainy early summer that turned into an extended dry fall.
- A new survey¹ conducted on behalf of BC Hydro finds since last year’s atmospheric river storms, almost half of British Columbians feel concerned heading into storm season – and nearly two-thirds think it is impossible to be fully prepared for a storm.
- For over one-third, feelings of perpetual under-preparedness stem directly from the unpredictability of the weather over the past 12 months.
- In fact, about half said they do not think there is a way to predict storm events with accuracy.
- At the same time, 42% said they are more worried about storm-related damage and power outages affecting their community than they were at this time last year.
- This is likely because a quarter were affected in some way by an atmospheric river storm last year – of those, 28% experienced a power outage, 22% experienced multiple power outages, 12% had damage from flooding, and 50% had trouble getting goods or services due to the storms.
- Despite increasing concern over storms, 64% said they have not taken any steps this year to prepare for storm-related power outages, likely because they do not feel they can fully prepare.
- This means only about a third of British Columbians have taken steps to be prepared since last storm season.
 - Of this group, those over the age of 55 are about a third more likely to be prepared than 18–34-year-olds and women are about a third more likely to be prepared than men.
- Preparation for storm-related outages is vital this year, as BC Hydro is predicting potential for more weather-related power outages than a typical year because of an unprecedented number of drought-weakened or dead trees – particularly on the South Coast.

¹ Online survey conducted by Majid Khoury of 800 (gen pop) British Columbians, from Oct 13–17, 2022. Margin of Error of 3.46%.

Solutions

An increase in extreme weather due to climate change is something BC Hydro has been preparing for. To improve power outage response times, BC Hydro is using its smart meter network along with advanced technology and processes, including:

- Enhanced prediction logic: using an algorithm and the smart meter network, BC Hydro's system can confirm an outage and mark its location on a map, which a dispatcher can then analyze and dispatch a crew to investigate and make necessary repairs.
- BC Hydro also uses the smart meters to confirm that its restoration efforts have been 100% completed by sending signal to the meter to see if the location has power. This allows BC Hydro to confirm all restoration is complete before crews leave the area.
- Remote services apps: tools that allow field crews to communicate restoration progress more efficiently and accurately, including mobile apps and satellite communication devices for use when out of cell range.
- Improved meteorology models: this information provides greater insight into where and when a storm might hit so BC Hydro can ensure crews are ready to respond quickly.
- Increased vegetation management year-round: Identifying and removing trees and vegetation that could pose a problem during storm season.

A little preparation can go a long way, even if it may seem like weather events are unpredictable. BC Hydro encourages customers to be prepared for storm-related power outages. This includes having a well-stocked emergency kit with supplies for each member of the household for at least 72 hours.

An emergency kit should include basic supplies, such as:

- A flashlight and extra batteries
- First aid kit
- Required medications
- Non-perishable food and bottled water

For more information on power outage preparation visit bchydro.com/staysafe

BC Hydro's **outage checklist** provides guidance on preparing your home for an outage and ensuring you know what to do before during and after a power outage.

A new weather norm

Extreme weather caused in part by climate change is becoming the norm in British Columbia. About one year ago, significant rainfall events known as atmospheric rivers caused flooding and extensive damage in many areas of B.C.

This year BC Hydro is predicting potential for more weather-related power outages than a typical year because of an unprecedented number of drought-weakened or dead trees – particularly on the South Coast, and B.C. has already experience back-to-back smaller scale atmospheric river storms this fall so far.

As traditional storm season begins, a new survey conducted on behalf of BC Hydro finds since last year's atmospheric river storms, almost half of British Columbians feel more concerned heading into storm season – and nearly two-thirds think it is impossible to be fully prepared for a storm. Perhaps because of this, many have not prepared at all as we head into a difficult storm season.

A wave of extreme weather

In fall 2021, several atmospheric river storms swept through B.C. – the worst of which hit November 14 and 15, causing unprecedented flooding and damage.

BC Hydro infrastructure damage was extensive—especially in flood and mudslide areas—with a total of 258,000 BC Hydro customers without power during the storms. In the areas around Abbotsford, Chilliwack, Hope, Merritt, Cache Creek and Lillooet, BC Hydro logged 125 unique trouble calls. Some of the worst damage was experienced on Highway 8 and the Nicola River, which runs parallel. Most residents in the area were displaced, as flooding and rain impacted homes and infrastructure, including washing out most of the highway. BC Hydro damage in that area included the loss of 87 power poles and 14 transformers. A portion of the Coquihalla Highway was also destroyed, cutting off critical supply chains for much of B.C.



Destruction on the Highway 8 corridor in November 2021

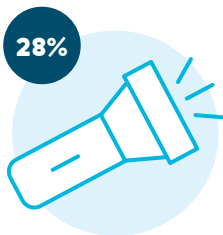
These atmospheric river storms were just a few of the extreme weather events that happened in 2021–2022. In summer 2021 for example, B.C. experienced a heat dome event that challenged summer weather norms and had devastating consequences, including loss of life and a wildfire that destroyed the town of Lytton, B.C. Following the atmospheric river storms came a particularly cold winter and late start to the summer, culminating in more drought weather in early fall 2022.

With such challenging back-to-back extreme weather events, it is understandable that many British Columbians are feeling a lot more worried about what is in store on the storm front this season.

For example, 42% said they are more worried about storm-related damage and power outages affecting their community than they were at this time last year. This is likely because a quarter were affected in some way by an atmospheric river storm last year—of those, 28% experienced a power outage, 22% experienced multiple power outages, 12% had damage from flooding, and 50% had trouble getting goods or services due to the storms.

This year, B.C. is facing another potentially difficult storm season, and an increase in power outages due to drought weakened vegetation, and B.C. has already experience back-to-back smaller scale atmospheric river storms this fall so far.

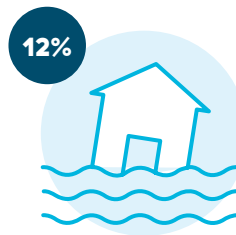
How British Columbians were affected by 2021 atmospheric river storms



Power outage



Multiple power outages



Damage from flooding



Trouble getting goods or services

Preparedness fatigue

While almost half of British Columbians said they feel more concerned heading into storm season, what is even more concerning, is nearly two-thirds think it is impossible to be fully prepared for a storm. For over one-third, feelings of perpetual under-preparedness stem directly from the unpredictability of the weather over the past 12 months.

In fact, about half said they do not trust the weather forecast, and half also said they do not think there is a way to predict storm events with accuracy. This forecast distrust seems to have led to preparedness fatigue as well. For example, 64% said they have not taken any steps this year to prepare for storm-related power outages.



Flooding and BC Hydro infrastructure damage in Merritt, B.C., November 2022.

64%



of British Columbians have not taken any steps to prepare for storm season.

This means only about a third of British Columbians have taken steps to be prepared since last storm season. Of this group, those over the age of 55 are about a third more likely to be prepared than 18–34-year-olds and women are about a third more likely to be prepared than men.

2018 THE WORST STORM IN BC HYDRO HISTORY

The December 2018 windstorm was the worst in BC Hydro's history. It impacted more customers and did more damage than any other storm before it. In total, over 750,000 customers lost power. It also required the biggest mobilization of people, equipment, and materials in BC Hydro's history to respond to it. The storm was so damaging because winds came from three different directions, topping 100 km per hour in some areas. Also, more than 400 millimetres of rain fell in some areas in the week before the storm hit, which destabilized healthy trees. During this storm, BC Hydro restored power to 75% of customers within 24 hours.

A little preparation goes a long way

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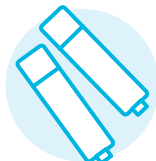
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- Increased vegetation management year-round: Identifying and removing trees and vegetation that could pose a problem during storm season.
- A little preparation can go a long way, even if it may seem like weather events are unpredictable. BC Hydro encourages customers to be prepared for storm-related power outages. This includes having a well-stocked emergency kit with supplies for each member of the household for at least 72 hours.

AN EMERGENCY KIT SHOULD INCLUDE BASIC SUPPLIES, SUCH AS:



Flashlight



Extra batteries



First aid kit



Required medications



Non-perishable foods



Bottled water

BC Hydro's outage checklist provides guidance on preparing your home for an outage and ensuring you know what to do before during and after a power outage.

For information on power outages and estimated restoration times please visit [bchydro.com/outages](https://www.bchydro.com/outages).

For more information on power outage preparation visit [bchydro.com/staysafe](https://www.bchydro.com/staysafe)

