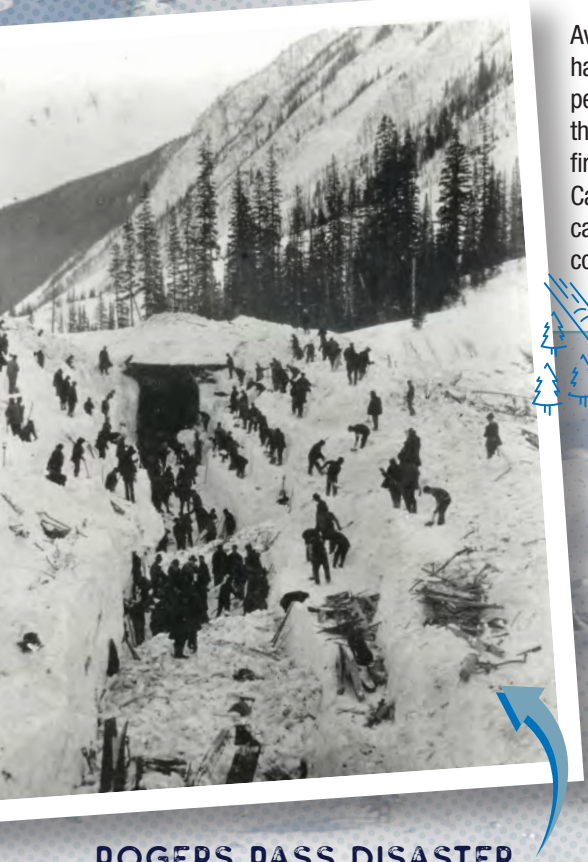
AVALANCHE!

Layers of snow on a steep slope can turn into a thundering avalanche. That hasn't changed over the history of the land, but now we have better ways to cope when a snowslide threatens.



Avalanches are natural and have happened for thousands of years. As people move into avalanche territory, they move closer to the danger. The first recorded deaths in what is now Canada because of an avalanche came in 1782 in an Indigenous community in Nain in Labrador.

Canadian Pacific started observing snow conditions near its railways through the mountains in 1885. It built snow sheds — roofed tunnels to keep snow off the tracks. Snow sheds also protect highways through the mountains.

ROGERS PASS DISASTER

The deadliest avalanche in Canada's history happened in March 1910. A crew clearing the railway tracks near Rogers Pass from a previous slide was buried under nine metres of snow. Fifty-eight people died, including 32 Japanese workers hired to help.

Library and Archives Canada, istockphoto

In 1948, Canadian George Klein invented tools to study things like the shape and size of snowflakes as well as the depth, hardness and temperature of layers of snow. Some parts of the Klein Kit are still used today.

SCIENCE AND SAFETY

By the 1950s, there were better ways to measure what was happening with layers of snow that could end up sliding. Weather forecasts also improved. This information meant that authorities had a clearer picture of whether conditions made an avalanche more likely. In the 1960s, it became possible to trigger an avalanche on purpose using something called the Avalauncher. In some places in Canada, if an avalanche looks likely, members of the Armed Forces fire shells from a cannon-like gun to set off a slide when there's no one around. Sometimes helicopters drop explosives, and in some cases, trained people throw them by hand. All of these techniques trigger an avalanche at a safer time to keep one from happening when people would be endangered.

In early 2003, 14 people died in two avalanches near Revelstoke, B.C., including seven high school students on a ski trip. Investigations into those terrible tragedies led to the creation of the national safety organization Avalanche Canada.

A 2010 model of an avalanche beacon.

SURVIVING A SLIDE

Since the late 1960s, people venturing into the backcountry have carried a small device called a transceiver. It can send out a signal when someone has been caught in an avalanche, or help to detect other signals. Other important tools are a shovel that comes apart to fit in a backpack, and a probe made of rods that snap together. It allows rescuers to poke around to find someone before they start digging.

Avalanche Canada's advice for people going into snowy backcountry:

-get the gear

-get the training

-get the forecast

Visit avalanche.ca to learn more.

Parks Canada, Alamy