

California's drought offers Canada lessons in crisis prevention

Parts of Alberta, B.C., Yukon, Saskatchewan experiencing drought fears

By Aleksandra Sagan, [CBC News](#) Posted: Jun 16, 2015 11:00 AM ET Last Updated: Jun 16, 2015 1:46 PM ET

California's struggle to ration water as it grapples with nearly four years of drought could be a glimpse into Western Canada's future.

The state recently ordered cities and towns to slash their water use by 25 per cent as its reservoirs fell to dangerously low levels, and some Canadian areas are bracing for possible water shortages this summer as well.

Parts of [southern Alberta](#) and [B.C.'s Fraser Valley](#) have gone weeks without rain. Vancouver Island and northern coastal islands of Haida Gwaii are at [the second-highest level on the province's drought levels](#) gauge system.

This drought is "very extensive," and arguably an extension of the conditions causing California's dry spell, says John Pomeroy, the Canada Research Chair in Water Resources and Climate Change and the director of the University of Saskatchewan's Centre for Hydrology.

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- [California drought's newest battlefield is bottled water](#)
- [Almond backlash tied to California drought](#)

While it is impossible to prevent a drought, hydrologists and other experts say that governments, farmers and ordinary water users can avoid being in California's predicament when Canada's next lengthy drought arrives, an event some say is almost a certainty.

It's incredibly difficult to predict a drought's lifespan, says Hans Schreier, a University of British Columbia watershed management instructor and soil science professor.

But sometime in the future, he says, because of climate change and the way Canadians overuse water, Western Canada may find itself in a hopefully less severe version of what's happening in California.

'Multi-part disaster'

According to Pomeroy, a drought is always a multi-part disaster created by several events piling up.

"There's a general public impression that we have plenty of water. We don't have to worry about [it]."- *Hans Schreier, University of British Columbia professor*

Today's drought-like conditions in Alberta, B.C., Yukon and Saskatchewan are the result of "a bad combination" of natural events, he says.

First, an abnormally warm winter meant less snowfall, with snow packs measuring at about 25 per cent below normal. These "very, very low" snow packs then melted about four to six weeks earlier than expected, while river levels peaked early as well .

That leaves the area dependant on rain, which has been "exceptionally low" since the beginning of April.

Another factor in all this is the fact that Canadians are among some of the world's worst water guzzlers, Schrier says.

The average Canadian uses 251 litres of water a day, according to Environment Canada's most recent data. Canadians are the fourth-largest consumers of freshwater from the 28 countries studied in a 2013 Organization for Economic Co-operation and Development report. (Only people in Finland, New Zealand and Estonia use more freshwater each year than the average Canadian.)

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- [Drought crisis could come to B.C., professor says](#)
- [Alberta's dry weather sparks fears of drought for farmers](#)

"There's a general public impression that we have plenty of water, [that] we don't have to worry about [it]," he says. But people need to be better prepared for variable weather creating more droughts.

Better loos

Schreier believes there are two simple ways citizens can help reduce water use: stop watering their lawns and invest in environmentally friendly toilets.

California has already [prohibited its residents](#) from allowing runoff when watering their lawns with drinkable water, among other irrigation restrictions.

Some Californians have ripped up their lush lawns and [opted for drought-tolerant plants](#) instead. But others have [balked at these restrictions](#).



A field of dead almond trees is seen next to growing almond trees in Coalinga in the Central Valley, Calif., on May 6, 2015. Almonds, a major component of farming in California, use up some 10 per cent of the state's water reserves, according to some estimates. California water regulators on May 5 adopted the state's first rules for mandatory cutbacks in urban water use as the region's catastrophic drought enters its fourth year. (Lucy Nicholson/Reuters)

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If people stopped watering their lawns it could reduce water consumption "quite dramatically," says Schreier.

So could a ban on traditional toilets, which require about 21 litres of water per flush.

Schreier suggests all new builds should be required to have low-flush toilets, which only use about six

litres per flush. Existing homes and businesses could be given a 10-year term to make the switch.

The government could further encourage lower water consumption by charging more for any litres consumed past a certain amount, he says, referring to the fee system known as metering.

Farmers, meanwhile, could grow high-yield crops that don't consume exorbitant amounts of water, he suggests.

In California, a movement has sprung up [discouraging people from buying locally grown almonds](#). Each nut requires about four litres of water to grow, according to the Almond Hullers and Processors Association.

Alfalfa grown in the state requires even more water, says Schreier.

"Why do we grow alfalfa in a desert when we could be growing much more high value crops, which use less water?"

Groundwater management laws

Canadian policy makers might also want to take some cues on how to manage scarcer groundwater from California's recent law reforms, according to [a report released this month](#) by the University of Victoria's POLIS project on ecological governance and the organization known as Ecojustice.

Last year, California passed the Sustainable Groundwater Management Act, which requires public agencies to develop groundwater sustainability plans that meet specific criteria.

The B.C. legislature passed a similar act last year as well. The Water Sustainability Act will incorporate groundwater regulations and is expected to be implemented next year.

"By employing a precautionary and proactive approach, [B.C.] can avoid the situation that California is currently facing," the report reads.

Its authors caution, though, that the province must ensure the legislation allows for testing local plans before implementing them broadly. Otherwise, the province could be in a situation like California's, where sustainability targets won't be met for at least two decades.

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