

Calgary floods spotlight cities' costly failure to plan for climate change

Municipalities not ready for rising number of severe weather events

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Many Canadian cities and towns are ill-prepared for the rising frequency of catastrophic weather events like the southern Alberta floods, and it's a problem that taxpayers will ultimately end up paying for, climate change experts say.

"There are other disasters waiting to happen in other parts of Canada, but Calgary is a good poster child for inaction on warnings they received not too long ago," said James P. Bruce, former Environment Canada assistant deputy minister.

Many have heaped praise on southern Alberta's emergency response after extremely heavy rain pummelled communities, with several months' worth of rain falling in the span of hours for some areas.

- [Read the thank-you notes Calgary children sent to volunteers](#)

"From a disaster response point of view, the Calgary mayor did a fantastic job in running the whole show," said Kaz Higuchi, a York University professor in environmental studies and former Environment Canada scientist.



But a community's ability to react during a disaster is one thing. Minimizing the impact of a flood is another. Now, the province faces a potentially decade-long cleanup effort that could cost \$5 billion by BMO Nesbitt Burns estimates.

Disaster risk management experts say the Alberta situation should serve as a wake-up call to municipalities across the country of the need to spend money and time mitigating the risks before disaster strikes, especially as climate change is predicted to bring bigger and more frequent severe weather events.

"We go from disaster to disaster ... being sure that we protect a life so people are protected and then finding the best way how we pay for that," said Slobodan Simonovic, author of *Floods in a Changing Climate: Risk Management*. "But what we are doing is we are simply reacting to that, paying for that. We are not investing in the reduction or minimization of the future."

'Tremendous increase'

On average, Canada gets 20 more days of rain now than it did in the 1950s. While flooding – the costliest natural disaster for Canadians – was once mainly a spring event due to the combination of frozen ground and rainfall, it's now increasingly happening in the summer.

"The climate change community is predicting that we will be seeing a tremendous increase in these heavy and extreme rainfall events," said Simonovic. "They're going to be much more frequent."

'The climate change community is predicting that we will be seeing a tremendous increase in these heavy and extreme rainfall events.'

—Slobodan Simonovic, risk management report author

Since the 1950s, the cost of natural disasters has also risen 14-fold, according to the Centre for Research in the Epidemiology of Disasters.

Before 1990, only three Canadian disasters exceeded \$500 million in damages. In the past decade alone, nine surpassed that amount.

Simonovic notes that it's not only in the federal government's interest to help communities minimize the risks of disasters because of the amount of money it forks over for relief, but also because there are economic benefits to prevention.

Studies around the world show that the economic benefits of disaster mitigation can range from \$3 to \$10 dollars for each dollar spent on prevention.

Feds active in past

Bruce says decades ago the Canadian government took a more active role in trying to reduce the risks to life and property from floods, ensuring municipalities weren't building on vulnerable flood plains.

The Flood Damage Reduction Program, which ran from 1975 until 1990, saw the federal and provincial governments share costs of mapping all the floodplains and creating standard flood risk evaluations.

The federally initiated program also got provinces and territories, with the exception of the Yukon, to agree to inhibit development in the floodplain areas. Alberta didn't join until 1989, a year before the program began to disintegrate.

- [See the aftermath on the floods on the Calgary Zoo](#)
- [Read Albertans' first-hand accounts of the Calgary floods](#)
- [See before-and-after photos of the floods](#)

"I think they were worried about what that would mean, designating all of downtown as floodplain," said Bruce.

But the federal government hasn't sought a similar approach to helping communities prepare for the increased risk of disasters expected from climate change.

Bruce helped write a 2010 guide for municipalities that helps them figure out specifically how climate change could affect them and then design a way to minimize the risks of future damages. The voluntary guide saw uptake in several provinces across the country and aims to help municipalities wade through an area where there's dire need for long-term planning but currently little financial impetus.

"Many municipalities have risk management framework, applied to investments and structural problems. None of them had a risk management frameworks that they applied to climate change," said Bruce.

U.S. helping municipalities

In the United States, the federal government has clearly signaled that it will help the local governments mitigate the risks that come with climate change.

On Tuesday, U.S. President Barack Obama outlined a sweeping climate change plan. Part of the plan includes new standards for roads to ensure they are built above flood levels. It also states that local governments will get assistance to help them plan for extreme weather.

A new Climate Data Initiative will also provide climate preparedness tools and information for state and local governments, plus the private sector.

'We all agree that there is a new reality now, which is climate change. Unfortunately, those that have to pay the bills are taxpayers or property owners.'

—Claude Dauphin, Canadian Federation of Municipalities president

The news came after a study by the Federal Emergency Management Agency that predicted the risk of flooding in the U.S. would increase by 45 per cent by 2100, largely due to climate change. Ultimately, it's in the government's interest to reduce risk since it funds a flood insurance program that's already draining its budget with payouts.

Canada is currently the only G8 country where people cannot buy insurance for overland flooding. Private insurers cover sewage backup, but won't offer flood protection because the small population base of Canada means it's difficult for the companies to cover the cost of their risk. As a result, provincial and federal governments foot the bill for large-scale floods, meaning all taxpayers are on the hook.

"We all agree that there is a new reality now, which is climate change," said Canadian Federation of Municipalities president Claude Dauphin. "Unfortunately, those that have to pay the bills are taxpayers or property owners."

A 2010 report by the insurance industry's Institute for Catastrophic Loss Reduction recommended that Canada adopt the United Kingdom model — where the private sector offers flood insurance on the condition that the federal government take steps to mitigate disaster.

As an example, insurers offer coverage to residents in flood plains if the government builds a dyke to try to prevent flooding.

Simonovic, who is director of engineering for the Institute for Catastrophic Loss Reduction, says the federal government never responded to the report. "We didn't succeed at all," he lamented.

As climate change brings increased frequency of flooding events, the likelihood that Canada's insurance companies would want to partake in a joint federal government initiative looks dismal.

"With more frequent floods and with more higher damage, I think we're getting further and further from the involvement of the private sector," said Simonovic.

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Old Cynic

The City Center of Calgary and several built up areas near the two rivers were built on known flood plains. You can't blame the stupidity of city planners on climate change.

Besides attributing every storm and bad weather event on climate change discredits the fact that the world is warming and the weather events are becoming more extreme. To see the effects of a changing climate you have to look at large areas, longer times and you need to carefully evaluate measured data and trends within that » more

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The government want us to live in fear and for us to believe the bull crap. Then they control us.

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northernproven
@MasterG]

There remains the pervasive myth that money will fix it. That is the part I am really afraid of.

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There are facts to prove climate change is not real.

There are fabrications to make Climate Change look real.

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Old Cynic

@MasterG Do you get paid by an oil company or by the Harper government?

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Malthusian

Insurance companies would say they can't cover the damage because it was an act of God. But can they prove it was an act of God and not an act of anthropogenic induced climate change?

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Euhippus

The Harper government's denial of global warming makes their policy a target for every weather disaster that now occurs.

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truckspa

Climate change in the few days after 911, was obvious. Strange how nobody uses this as proof of human induced climate change. With no jets in the air, there were no clouds. The change was dramatic, but only lasted a few days, until airports re-opened. In our northern parts of this country, 20+ years ago, few jets would be seen overhead, usually military. Now there are several at any given moment. The exhaust becomes clouds, creating humidity and eventually rain. This lowers crop production, increases adverse weather

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Old Cynic

@truckspa I get your point, but there certainly were clouds after 9/11, just the contrails from commercial jets were missing.

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Valjoux7750

Calgary never built houses along the flood plains until the last 40 years or so. That was when the City Fathers got greedy or stupid and the Land Developers persuaded them to sell flood plain land for development. Same in Canmore. That is why the million dollar houses are the ones that got hit for the best part.

This has to do with poor planning not with climate change, these were always flood plains and always will be, have been under water quite a few times in Calgary's history.

This » more

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jdham

@Valjoux7750 the houses in Canmore that got hit dramatically are older than about 50-70% of those in town. And as far as detached homes go, they generally had median values (with at least one notable exception.) This doesn't take away from your greater point, but then it didn't really add to your point in the first place. Basements in many of the oldest homes in town flood every spring from the higher water table, which they do consider in new developments.

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STAR FIRE WHEEL

"Municipalities not ready for rising number of severe weather events"

Municipalities are not ready for a sewer line break, and electrical failure, nor a sink hole developing. How on earth would they ever be ready for any weather event, no matter how minor? All they are interested in is raising tax rates, not in maintaining, nor replacing over stressed, and quite frankly, worn out infra-structure, water, sewer, roads, rail, and electrical services. Moving city centers off » more

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TDWfromTPM

@STAR FIRE WHEEL Tax payers. You know how they are. They want it all and they want it for free.

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Dan Truong

Why do people cities on flood plains? Water, water, water... without it there is no city.

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