

# CATTALES

e-newsletter of the Institute for Catastrophic Loss Reduction



Institute for Catastrophic Loss Reduction

Building resilient communities

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## Want to understand Canada’s wildfire crisis? Read this book

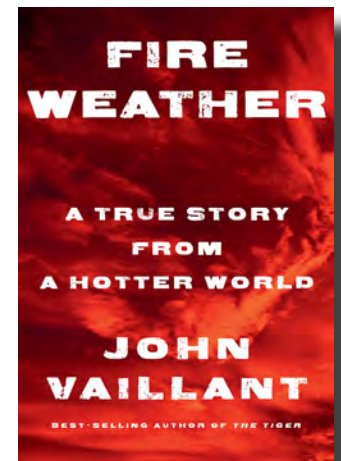
**John Vaillant’s *Fire Weather: A True Story From a Hotter World* is a tortuously timely examination of the effects of climate change.**

**By Kate Knibbs**

The day John Vaillant’s new book about Canadian wildfires, *Fire Weather: A True Story From a Hotter World*, came out in the US, Canadian wildfires became a temporary American obsession.

Skies in the northeastern United States turned orange, hazy, and hazardous as the result of more than 400 infernos in Canada’s vast boreal forests in early June. New York City’s air quality became the worst in the world, choked with smoke blown down from Quebec. Philadelphia urged residents to stay indoors. Fire weather, indeed. Great publicity for Vaillant, but so bleak – like releasing a book about pandemics in March 2020 or a history of terrorist attacks in September 2001.

*Fire Weather* is an account of an earlier Canadian wildfire, one that started burning in May 2016 and didn’t fully stop until a year later. Originally dubbed Fire 009 but eventually known as the Fort McMurray Fire, it was named for the city it ravaged in northern Alberta. It prompted 100,000 people to flee in a



single-day evacuation. And although there was a miraculous lack of casualties, damage to the land was still catastrophic. “Entire neighborhoods burned to their foundations beneath a towering pyrocumulus cloud typically found over erupting volcanoes,” Vaillant writes. Altogether, the fire burned more than 2,500 structures 2,300 square miles of forest.

It is the costliest disaster in Canadian history. Although the specific fires that created the smoke that blew into the United States are not as clearly directly linked to the climate crisis as those that frequently occur in Western Canada (or California, for that matter), they still ignited at a time when the warming planet is increasing the frequency and intensity of wildfires. >

Vaillant's book offers vital context for how the world's forests became more flammable. *Fire Weather* zooms way out, folding in quick histories of white settlement in northern Alberta, bitumen production, and climate denialism to explain not only what happened when Fort McMurray burned ("hundredth-percentile fire weather conditions during the hottest, driest May in recorded history, following a two-year drought in a sudden city filled with twenty-five thousand petroleum-infused boxes") but also why this exact set of conditions arose in the first place.

Understanding this particular fire requires understanding the city it burned. Almost all of its residents work in oil. Like similar boomtowns in North Dakota and Texas, Fort McMurray attracts hard-nosed workers willing to tolerate long hours, a grinding pace, and an isolated lifestyle in exchange for high wages. The median household income is nearly US\$200,000. One resident tells Vaillant the city almost never has any funerals, since people leave before they get old. Fort McMurray is located in the middle of the Athabasca Tar Sands, a sprawling natural reservoir of bitumen – the sticky, semisolid form of petroleum also known as asphalt – that now doubles as a nexus of Canada's lucrative oil and gas industry.

Bitumen extraction is a complicated, resource-heavy process, but huge corporations like Syncrude, Suncor, ExxonMobil, Chevron, and Sinopec have all set up extremely costly operations to wring profit from this tarry, rocky land. "Fort McMurray has become the center of the largest, most expensive, most energy-intensive hydrocarbon recovery project on Earth. A rough estimate of investment to date is half a trillion dollars," Vaillant writes. And when the fire hit in May 2016, all of these extraction projects had to stop abruptly.

I should note: This isn't a straightforward disaster yarn, nor is it a character-driven narrative. Vaillant introduces Fort McMurray residents and describes how they survived the fire, but in fairly surface-level sketches – after finishing the book, there's not a sense of really knowing them. There's about as much depth in the characterization as one might get from watching a brief television interview. Instead, there's an entire chapter devoted to the essential nature of fire. Sample line: "It is in fire's nature to strive upward – in other words, to aspire, which means, literally, 'to breathe desire into,' and also 'to rise.'" *Paradise Lost* and *Macbeth* get quoted.

Vaillant's narrative eddies and literary flourishes are largely charming, although I could've done without a bizarre footnote linking national obesity rates and gas usage. I did find myself wishing he went deeper describing some of the individual residents he sketches out, especially since Fort McMurray attracts such a specific, intense, frequently fascinating type of person.

In my twenties, I worked in the forestry industry in northern British Columbia; many of my coworkers had done stints at "Fort McMurray," as it is known. (Another nickname, Vaillant points out, comes from the high rate of substance use: "Fort Crack." Heard that one, too.) My pals had no shortage of stories about this neo-frontier and its rowdy inhabitants, and it's striking that a story set in such a colorful place doesn't spend much time shading in its characters.

When Vaillant does linger on individuals, it enlivens the book more than any Shakespeare quote. A section on an obstinate welder and millwright named Wayne McGrath stands out for the way it rounds McGrath out. When he refuses to evacuate and screams "\*\*\*\* you!



I'm saving my \*\*\*\*\* house!" at firefighters trying to get him to leave, it's a gut-punch. He ultimately listens to the firefighters and sees his home go up in flames through the rearview mirror of his truck.

In the book's final section, "Reckoning," Vaillant situates the Fort McMurray fire within the larger ongoing climate crisis. He writes about how each degree of warming causes an uptick in lightning strikes, one of the main causes of wildfires, and how drier and hotter climates create more intense fires, which are harder to put out and which are powerful enough generate their own weather – including lightning strikes – that then create more fires, a positive feedback loop from hell. "This is not planet Earth as we found it," he writes. "This is a new place – a fire planet we have made, with an atmosphere more conducive to combustion than at any time in the past 3 million years."

It would've been a sobering read even if the next round of calamity hadn't begun so close to *Fire Weather's* release date. But right now, it's difficult to read Vaillant's closing chapters without immediately opening a bunch of tabs on your laptop to solar-panel DIY installation forums, electric vehicle rankings, and Extinction Rebellion's website.

*This review originally appeared in [Wired](#) and is reprinted here with permission and our thanks. Opinions expressed in this review do not necessarily represent those of ICLR.*

# A new age of wildfire requires new approaches – we gotta get on those now

By Glenn McGillivray, Managing Director, ICLR

Parts of Canada have seen bad fire seasons in the past, but absolutely nothing compares to what was experienced in 2023. The 18.5 million hectares burned countrywide absolutely obliterated the previous record of 7.6 million hectares set in 1989.

And it begs the question: Will the 2023 fire season change our approach to fire management in Canada?

Typically, when we talk of a “bad fire season”, the discussion is often limited to British Columbia and/or Alberta, where active fire seasons are common. But this year crews were also exceptionally busy in the Yukon, Northwest Territories, Saskatchewan, Ontario, Quebec, New Brunswick, Nova Scotia and elsewhere.

Along with area-burned records being set in several places, the 2023 season saw Canadian wildfire smoke blanketing major cities like Vancouver, Seattle, Edmonton, Calgary, Chicago, Toronto and New York, wildfire evacuations numbering in the tens of thousands with Yellowknife being cleared for three weeks, and a significant number of structures lost in places not normally deemed to be high risk, like the Tantallon suburb of Halifax.

Currently, insured losses from Canadian wildfires this year sit at over \$1 billion. Suppression costs exceed \$1 billion for B.C. alone.

So can we look forward to some big changes in how we will manage wildfires in Canada going forward?

You may not want to hold your breath.

Unfortunately, it seems as though “the system” is designed to get us over the hump so we can move on, and nothing more.



Wildfire response in the B.C. Central Okanagan this year. Photo: BC Ministry of Emergency Management and Climate Readiness/Flickr.

But experts have been warning of a fire season like this year’s for at least a couple of decades. For one thing, we pointed out that Canada’s system of sharing fire suppression resources between provinces and territories would work as long as everyone wasn’t busy at the same time. But what would happen when everyone was too busy and scanty resources were already stretched to the limit?

As climate change continues to bite down, this problem is going to become more and more acute.

The same holds true with relying on the United States and other countries for assistance – it works as long as they aren’t busy too. We were lucky that the U.S. fire season began later this year, allowing the Americans to help us with our early season start. This became trickier further on in the season when they got busy at home, and some of our later requests for aid were denied.

We tend to rely a fair bit on crews from countries in the southern hemisphere, which has a fire season opposite to ours.

Again, though, this can get tricky when many northern hemisphere countries are having bad fire seasons and competition for help is fiercer.

This year, ideas like creating a national wildland firefighting force and a national airtanker fleet have been knocked around. We must ask if these are worthy of a closer look.

Can we continue to lean on the Canadian Armed Forces as “backup muscle”, particularly as global political tensions indicate that using our army as a domestic disaster response force may not be tenable?

The overall problem of wildfire and personnel is a big one and, again, will become more and more problematic as climate change worsens.

In Canada, we rely quite heavily on summer students to fight wildfires. But what happens when fire seasons start earlier and earlier, when students are still in classes, and end later, after they are due back to college and university in early September?



## We have to ask the hard question: Can our system of reliance on mutual aid be sustained and what are the alternatives?

A similar question must be asked of the volunteer wildland firefighters that are also relied on across the country, many of whom were stretched to the limits this year. How far can we push these assets and what happens when they reach their limits? Does it even make sense for a rich G7 country to rely on volunteers as much as we do?

Due to climate change, fires are more commonly raging through the overnight hours when, traditionally, they used to ease up, allowing fire crews to rest and regroup. Couple this with labour laws that limit the number of hours that crews can work in a day. Does climate change mean we will soon need to essentially double the crews we have now?

The same holds for air crews. With fires not easing up in the overnight as much anymore, and with Transport Canada restrictions on the number of hours crews

can fly, will we need to double the number of air crews we have so that we can launch air operations in the overnight? How do we deal with pilot shortages? Do we need what we don't have now to launch air attack in the overnight?

What about the big-picture issue of exhaustion and PTSD for all the above?

These are just a few of the essential questions that must be hashed out in Canada, sooner rather than later.

Other issues include the desperate need for a Canadian wildland fire building code, nationalization of FireSmart as the country's premier wildfire mitigation program, and proper implementation of the Canada Wildland Fire Strategy, a still relevant and vital plan which has largely been left to languish since its signing by Canadian forest ministers more than 18 years ago.

We must enter into an open and honest multidisciplinary/multijurisdictional national dialogue about what the future state of wildfire management will look like if we don't make bold changes now, and what those changes need to be for a sustainable desired future state.

We can't keep cobbling together temporary solutions that just get us by.

We know what's coming down the line, we've already been through a few dress rehearsals.

In many ways, 2023 was a test. And while we did manage to get over the hump again, there are going to be humps we may not be able to get over.

If we get on it now, we can still get our act together in time.

*This article originally appeared in Avert, November 2, 2023*

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## Realtors' role in reducing risk in Canada: Natural hazards affect us all

**By Chris Chopik, Director, Resilient Homes Canada, ICLR**

On September 24, 2022, as Hurricane Fiona barrelled toward the east coast of Canada, the full cost of damage to homes and properties up and down the Atlantic coast could not have been anticipated. In the end, the actual losses exceeded the insured losses, which are estimated to be \$800 million. Significant numbers of people fled their homes, and in Port au Basques 100 homes were lost.

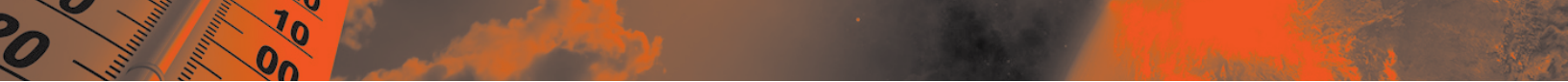
We know extreme weather events like hurricanes are becoming more destructive, and more frequent. It's also significantly impacting real estate markets across Canada.

### **At some point everyone feels the impact**

From the 2023 wildfires in British Columbia's interior, Alberta, Quebec and



Nova Scotia (5 per cent of Canada's forest burned), to the Ontario and Quebec derecho of 2022 (\$875 million in insured losses), B.C.'s atmospheric river of 2021 (\$450 million in insured losses) to



headline-grabbing flooding in Ottawa-Gatineau, Muskoka and New Brunswick in 2019, Canada is reeling from unprecedented losses from natural hazards. The impact to liveability, insurability and saleability are connected to the protection of assets through resiliency investments.

Properties across the country are feeling the heat of changing weather patterns. On Canada's famously vast ocean coastlines, storm surges, sea level rise and stronger wind speeds are impacting communities through both shoreline erosion and direct property damage. The reliability of winter ice in the Arctic is impacting quality of life while thawing permafrost creates new challenges to existing and new buildings in Canada's north. The impacts from changing weather patterns are affecting all of society, including homeowners, farmers, insurers, municipalities and other levels of government.

As weather becomes more erratic, property owners may bear the most risk (and loss) but every stakeholder in the housing supply chain – from realtors to insurers to lenders to municipalities – will feel the impact. The good news is that in many cases we know how to reduce the risk to property and community.

### **Consider the risks**

Whether you're working in commercial real estate, residential investment property or homeowner marketplaces, a growing number of investors are considering natural hazard risks before they buy. Understanding the risk allows for investment in asset protection.

While hazard mapping in Canada is only emerging, the ability to match peril to resiliency intervention is well established. Programs such as FireSmart™ reduce wildfire risk and interventions to reduce basement flooding including sump-pump backup and backflow prevention are increasingly common investments in

property protection which are often accompanied by municipal government incentives.

### **Location risk-stigma**

Following catastrophic weather events, location stigma has meant that property values may plummet and dampen value in local markets. In 2014, one year after the Bow River flood, Calgary's housing market was still working to recover. Some of the affected houses had price drops from 10 to 25 per cent, with an average loss of \$208,870 in assessed value for each home damaged. When communities are in the news for natural hazard events it can have a lasting effect based on market memory and stigma, depending on the severity of the event, the amount of news coverage and the visibility of damage.

### **Climate gentrification**

A recent Harvard University report coined the term "climate gentrification" to describe how wealthier investors in coastal, flood and wildfire zones are fleeing and pushing prices up in climate-resilient neighbourhoods that were once less desirable. The outcome for some property owners, particularly those with fewer means, are that they're stuck with stranded assets and homes in flood and wildfire zones.

The Urban Land Institute examined real estate asset exposure to climate risk and concluded that markets such as New York and San Francisco (much like Toronto and Vancouver) face intense climate risk because of the high concentration of high-value assets. When these locations are hit with catastrophic events such as flooding, the marketplace experiences a sizeable value loss, significant disruption to economic productivity and large-scale insurance payouts.

### **Market disruption indicators**

Insurability will be the first indicator of a marketplace disruption – insured and uninsured losses are already impacting the personal wealth of Canadian families.

According to Catastrophe Indices and Quantification Inc., insured damage for severe weather events across the country reached \$3.1 billion in 2022.

Beyond increased insurance costs, property value impacts from natural hazard risk can also mean a loss in value, loss of use and rent, increased costs for maintenance and repair, increases in property taxes related to municipal resilience and recovery investments, as well as increased costs for higher-risk mortgages. Overall, real estate with a higher risk has increasing potential for higher TMI (taxes, maintenance and insurance) than low-risk properties.

### **Impact on asset valuation: An opportunity for realtors**

One of the big problems for the real estate market is that natural hazard risk isn't currently integrated into asset valuation. As a result, two homes might appear to have similar value, but the risk of value loss and loss of use often isn't factored in.

For realtors, this represents an opportunity. Many of the realtors that I have had the pleasure to work with are experts in their marketplaces and, as a result, have a strong understanding of all aspects of civil society in the communities in which they practice. The opportunity to utilize this marketplace knowledge to build brand equity through the provision of good advice related to historical natural hazard events is increasingly important to homeowners. Until reliable predictive risk mapping is available in markets everywhere, there is dependency on the knowledge of local market experts. They can give good advice because they have personal experience and memory.

### **Provide client solutions to save money and boost property value**

Building on realtors' expertise with knowledge of municipal incentives for risk reduction such as subsidies for backflow

valves offers a touchpoint for connecting with clients and delivers an important reminder of their customer-centric service model. Similarly in rural and urban contexts in Saskatchewan, Manitoba and Alberta, where hail is a seasonal risk, providing clients with solutions that increase property resiliency, such as hail-resilient shingles, demonstrates expertise and know-how that is increasingly valued by Canadians.

The changing weather patterns that are increasing annual insured losses from natural hazards require participation of everyone in protecting our properties and preserving our hard-earned home equity. For members of our society who are aging in place or are housing-vulnerable, this conversation is also important.

Natural hazards are not directly influenced by government policies or economic performance. With increasing risk comes increasing cost for recovery, no matter who is governing. Protection through

investment in asset resiliency is an important piece of a total-society approach to reducing losses from catastrophic events. Protection begins at home, where property value, wealth, health and quality of life begin.

Helping your clients reduce their risk to natural hazards is good for realtors and good for their community. Get involved, get in the know and bring resiliency solutions to your clients' real estate investments.

*This article originally appeared in Real Estate Magazine (December 8, 2023)*

## New additions to ICLR's commercial loss control series

ICLR has added three new bulletins to its 'Mind your business' series of commercial loss control bulletins with all available for download [here](#).

From left to right, *Protect your business from heavy rain*, *Warehouse rack storage and seismic risk*, and *Standing seam metal roofs under extreme winds*.



## Institute for Catastrophic Loss Reduction

### Mission

To reduce the loss of life and property caused by severe weather and earthquakes through the identification and support of sustained actions that improve society's capacity to adapt to, anticipate, mitigate, withstand and recover from natural disasters.

30-34 Duncan Street  
Toronto, Ontario  
M5V 2C3  
T 416-364-8677  
[www.iclr.org](http://www.iclr.org)  
[www.PIEVC.ca](http://www.PIEVC.ca)

Western University  
Amit Chakma Building, Suite 4405  
1151 Richmond Street  
London, Ontario, Canada  
N6A 5B9  
T 519-661-3234  
F 519-661-4273  
[www.iclr.org](http://www.iclr.org)