

# CATTALES

e-newsletter of the Institute for Catastrophic Loss Reduction.



**Institute for Catastrophic Loss Reduction**

Building resilient communities

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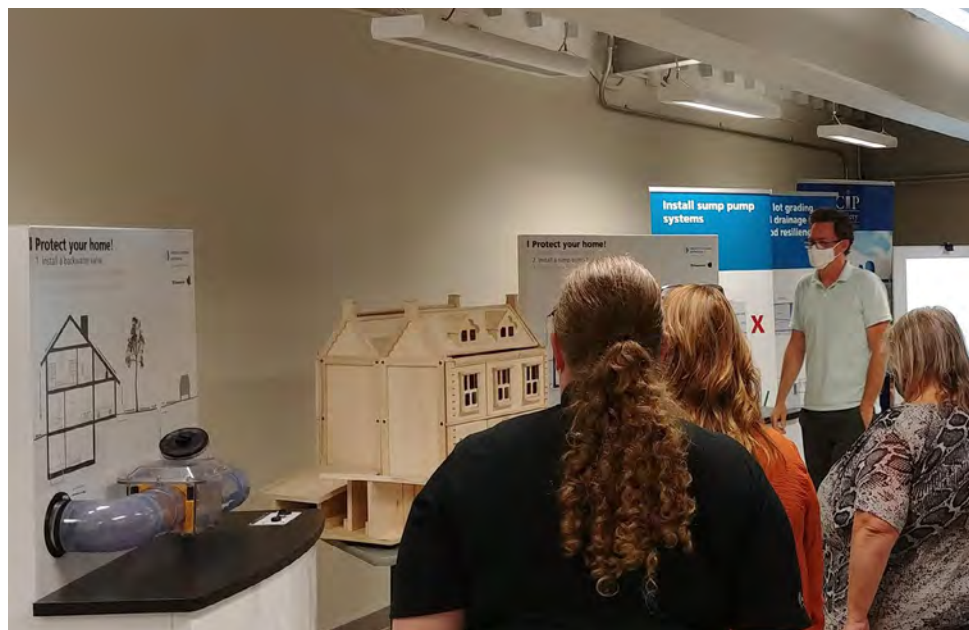
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## New home for ICLR Climate Resilience Centre

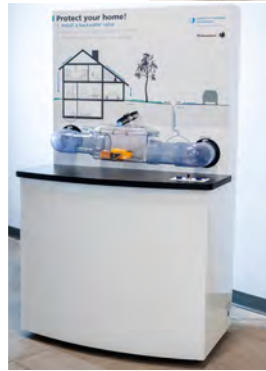
ICLR has signed a lease with Western University to house the Institute's Climate Resilience Centre. The facility will be located in the NRC Centre in the 50 acre Western Discovery Park, located adjacent to Western University in the heart of London. ICLR has been affiliated with Western almost since inception of the Institute more than 25 years ago. The Institute aims to take possession of the new space on August 1 and the Centre will be up and running shortly thereafter.

ICLR's Climate Resilience Centre at Western University teaches practical, cost-effective, consensus-based methods to become resilient to climate related disasters. Using hands-on exhibits, displays, videos, interactive kiosks and other features, the Centre demonstrates resilience to insurance professionals, builders and code officials, homeowners, journalists, and others. Hazards currently profiled in the Centre include basement flooding/sewer backup, wildfire, extreme wind and hail. >



The Institute will make the Centre available for use by ICLR member insurers for board meetings and AGMs, management offsites, and training sessions for staff and brokers. The Centre can also be made available for other groups.

Climate Resilience Centre exhibits were first introduced at the Institute's 25<sup>th</sup> anniversary celebration at Western's WindEEE Research Institute in October 2022.



## Gregory Kopp wins Davenport Medal for contributions to wind engineering

[Gregory Kopp](#), Western Engineering professor in the department of civil and environmental engineering, has been awarded the International Association for Wind Engineering (IAWE) Senior Award with the Davenport Medal for his outstanding contributions to the field of wind engineering.

Kopp, the ImpactWX Chair in Severe Storms Engineering, is only the second researcher from Western Engineering to be recognized with the Davenport Medal, after Barry Vickery received the honour in 2011. The Davenport Medal is named after Alan Davenport, the Western Engineering professor who defined the modern field of wind engineering, making building structures safer and more economical.

"I am absolutely thrilled for Greg," says Western Engineering Dean Ken Coley. "The Davenport Medal is the highest honour in wind engineering. Greg has made many important contributions to this field, in particular the work he's doing

to better understand extreme weather. He is incredibly well-deserving of this recognition."

Kopp is the lead researcher for the [Northern Tornadoes Project](#), bringing his expertise in mitigating damage to structures during extreme windstorms such as tornadoes and hurricanes.

He works actively to implement research findings into practice, currently serving as Chair of the ASCE 49 Standards Committee on Wind Tunnel Testing For Buildings and other Structures, and as a member of various other Building Code committees.

"It is truly a great honour to receive this recognition," says Kopp. "This was only possible because of the many great colleagues and students I have had the



privilege to work with, together with the numerous opportunities that have arisen at Western."

Kopp will be presented with the award at the International Conference on Wind Engineering in Florence, Italy in September. The IAWE, formally established in 1975, promotes international co-operation among scientists, engineers and other professionals for advancement of knowledge in the broad field of wind engineering.

# Disasters worsen housing crises, but they don't have to

By Glenn McGillivray, Managing Director, ICLR

## Thousands of homes are being taken offline either permanently or temporarily by severe weather events

There are several uncomfortable truths about “natural” disasters, at least two of which are directly relevant to a discussion about the impact of storms, floods and such on housing.

First, disasters very commonly take pre-existing socioeconomic/sociopolitical problems in affected communities and make them worse. Disasters sometimes cause these problems outright. But, more often than not, the problems existed before the storm and the disaster simply made them more pronounced.

Second, disasters increase the competition for resources between population sub-groups (i.e. those considered to be “socially vulnerable” due to age, income, health/physical ability, ethnicity, gender or some combination thereof). Some sub-groups are well organized, well connected into government and better at vying for resources. But others may not enjoy the same level of influence and success at getting such things as disaster assistance, better housing or the big public infrastructure project aimed at lessening their disaster risk.

Almost nowhere are these two central tenets more evident than in the area of housing. Disasters take what are usually pre-existing housing problems (i.e. issues of availability and affordability) and worsen them – often exponentially.

Almost every community of any size in Canada is currently experiencing a housing crisis, or so it seems. These crises tend to centre around housing shortages and, consequently, high home prices/rents due to simple matters of supply and demand.



Flooding on B.C. Highway 11 in November 2021. Photo: BC Ministry of Transportation and Infrastructure/Flickr.

When the disaster comes along, both of these are impacted. First, the storm/flood/wildfire/earthquake can take a large number of homes offline (as a result of either total losses or severe damage). This puts huge pressure on availability and, thus, real estate/rent prices for remaining housing due to increased competition among those vying for new temporary or permanent places to live. Price gouging often also takes place, as landlords see an opportunity to earn greater returns.

A recent article in The Washington Post noted that wildfires in California are leading to “fire-driven gentrification” as people with discount or no insurance and no funds to repair their homes are being forced to leave while those who can afford to stay and those who can afford to buy are driving property values up.

The impact of disasters on gentrification was also identified in a study published in Nature Sustainability (“Building back bigger in hurricane strike zones,” December 2018) where an analysis of five coastal communities in the U.S. showed that larger, less affordable residential buildings were being constructed in place

of smaller homes that were destroyed by hurricanes.

Another recent disaster-driven housing trend has corporations and land speculators buying flood- and storm-damaged properties – often at cut rate prices – from people who can’t afford to repair them, and renting them out or flipping them for profit. This trend was spotted in Houston after Hurricane Harvey in August 2017.

Canada is not untouched by the impact of disasters on housing.

The 2016 wildfire in Fort McMurray, Alta., destroyed around 2,400 structures, the lion’s share being housing units. Almost 25,000 personal property insurance claims for physical damage were filled as a result of the wildfire, indicating that many more homes suffered varying degrees of harm.

Then there was the atmospheric river flooding in southwestern B.C. in November 2021. According to Linda Brown, the then Mayor of Merritt, B.C., of 574 homes assessed after the flood, 427 were in need of some kind of repair. >

More than a year after the flood, 120 of these homes were still uninhabitable. Speaking at CatIQ Connect, a disaster conference recently held in Toronto, Brown said that homelessness in the city went from 11 before the flood to well over 70 at last count and was increasing. She noted that at least 26 low-income rentals would not be rebuilt.

Merritt was just one of several B.C. communities impacted by flooding. Almost 6,000 personal property insurance claims for physical damage were filled province-wide as a result of the atmospheric river.

In 2022, tens of thousands of personal property insurance claims were filed with

insurers Canada-wide due to severe weather, contributing to \$3.1 billion in total insured losses for “natural” disasters of a certain minimum size. This put the year in the top three costliest ever for disaster losses. Huge storms like the May 2022 derecho in Ontario and Quebec and post-tropical storm Fiona in Atlantic Canada in September together saw thousands of homes left uninhabitable, many permanently.

While the reasons for Canada’s numerous housing crises are varied and complex, one common denominator is that each year thousands of homes are being taken offline either permanently or temporarily by severe weather events.

We can prevent housing crises from getting worse due to severe weather, and this is yet another good reason why we need to get better information on where the risk is, and communicate that to various players, like governments at all levels, building code officials, home builders and home buyers. We need to build new homes more resiliently, retrofit existing homes, and get the riskiest of the risky permanently out of harm’s way.

This is increasingly important in a world where a full quarter of Canadians are unable to cover an unexpected expense of \$500.

*This article originally appeared in avert, March 10, 2023*

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## **A federal fleet of water bombers could help control forest fires**

**By Glenn McGillivray, Managing Director, ICLR**

This year’s wildfire season is already the most severe one this century, with 449 fires burning across Canada as of June 12, and roughly half of them deemed out of control. More than [five million hectares](#) have been scorched to date – almost 15 times the annual average amount of the last decade – and it’s only mid-June.

By all measures, from number of [fires](#) (including the number of out-of-control fires) and provinces affected to the area burned and the number of evacuees, records haven’t just been broken – they have been obliterated. And Canada’s system of sharing wildfire-fighting resources is being put to the test.

Many have commented how this is just a preview of what’s to come more often, as the effects from [climate change](#) continue to grow.

In Canada, it is the Canadian Interagency Forest Fire Centre (CIFFC) (pronounced SIFF-CEE) that works to co-ordinate the sharing and movement of provincial and territorial wildfire suppression resources to where they are needed most.

It also arranges for the use of out-of-country resources, both in terms of equipment and people. And while it most often looks south of the border for help, from time to time it needs to bring in boots on the ground from other places. This year, along with at least 600 “hot shots” and “smoke jumpers” and hardware from the U.S., CIFFC has brought in assistance from South Africa, New Zealand, Australia, France, Spain and, soon, Mexico.

In general, the system works well – although this year, it is strained.

In recent days, there has been a suggestion from several observers that Canada could use a fleet of federally owned air tankers (water bombers), which drop water or fire retardant from above. This fleet could be used as a reserve force for when things really hit the fan, and it’s an idea worth considering, particularly as Canada’s existing provincial fleet continues to age.

Canada’s 38 national parks and 10 national park reserves – most of them forested – cover almost 350,000 square kilometres. Yet, Parks Canada – the federal agency that is responsible for managing that land, including fires, does not own its own fleet of air attack hardware. Instead, allowing for the remote location of much of the land and considering the important role that fire plays in ecosystem health, many fires are left to run their course. ➤

Parks Canada does have access to aerial attack hardware (namely helicopters), but this is through contracts with private companies.

The suggestion is that the federal government purchase its own air tankers (more specifically, water-scooping skimmers that scoop water and retardant aircraft, which are loaded on the ground) and house these within Parks Canada. These could be used in federal parks in lieu of contracts with private suppliers, but also be made available to the provinces and territories in times of crisis.

The suggestion is also that these aircraft, or at least some of them, be made available year-round to provide support to other countries, just as we are benefiting from international help during this present crisis. Currently, the provinces and territories tend to stow their fleets and have no access to crews in our off-season, when out-of-country demand is highest.

This system works quite well in Australia, where the National Aerial Firefighting Centre – the Aussie equivalent of CIFFC – has co-ordinated the procurement of a fleet of firefighting aircraft that are readily available to complement those owned and operated by state and territorial fire agencies.

The national fleet was funded by Australia’s federal, state and territorial governments, and the daily costs of



operating the federal aircraft are paid for by whichever state or territory is using them at the time. The arrangement has been calculated to deliver \$6.4-million in net benefits every year through procurement staff and service-provider cost savings.

Much of the inner workings of the Australian system can be implemented here, though the Aussies have chosen to house their fleet within a CIFFC-like organization. That is an option here, but industry advocates believe such hardware would best sit with Parks Canada.

In a year with fires raging across the country, the rare loss of a large number of homes in the east, and smoke blanketing Canadian and American urban centres while affecting millions of people (most of whom do not live anywhere near a forested area), we are being not-so-gently reminded that the future is now. Federal, provincial and territorial officials need to have urgent conversations about strengthening our firefighting capacities, and beefing up the strength of our air tanker fleets will be key.

*This article originally appeared in The Globe and Mail, June 16, 2023, updated June 17, 2023*

## 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.

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