

URGENT ACTION TO ADAPT TO CLIMATE CHANGE

INTACT CENTRE
ON CLIMATE ADAPTATION



**“Climate change widespread, rapid, and intensifying” –
Canada can adapt faster**

Rotary Club of Kitchener

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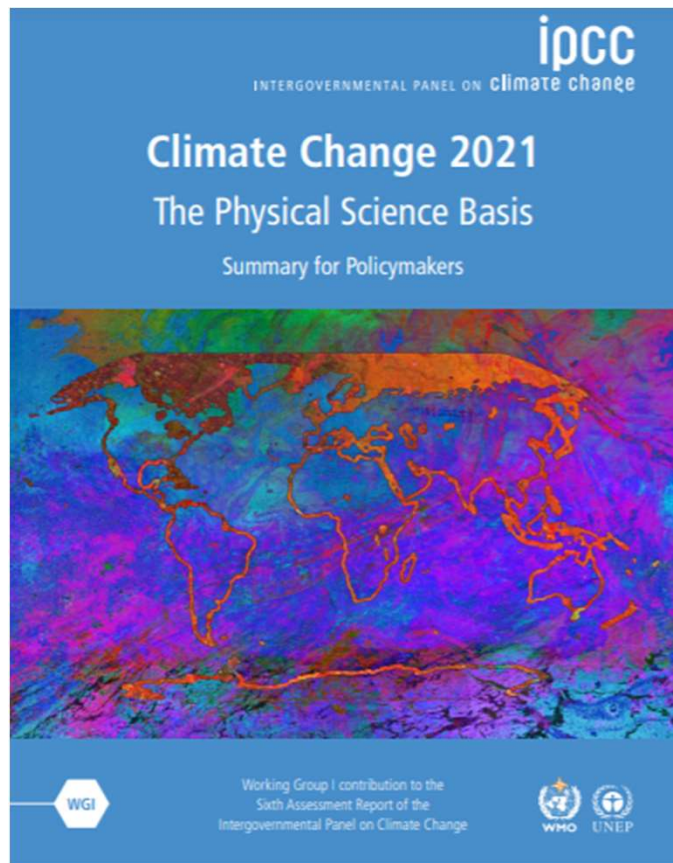
Agenda

1. Climate Change:
Global and
Canadian
Perspective
2. Economic Costs
3. Urgent Action to
Reduce Risk



Climate Change: The Global Context

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*“It is unequivocal that human influence has warmed the atmosphere, ocean and land. Widespread and rapid changes in the atmosphere, ocean, cryosphere and biosphere **have occurred.**”*

- Climate Change is happening now
- This report contains no surprises – confirms what has previously been stated.
- **Urgent action needed to BOTH:**
 - Reduce Greenhouse Gases
 - Prepare for foreseen climate risks

Climate Change: The Canadian Context

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1. Canada's climate **has warmed and will warm further** in the future, driven by human influence.
2. Both past and future warming is on average **about double** the magnitude of global warming.
3. Warming is **effectively irreversible**.

Climate Impacts

- More extreme heat / less extreme cold
 - Shorter seasonal coverage of snow and ice
 - Melting of glaciers and permafrost
 - Rise in sea level
- **+ Intensification of certain extremes:**
 - Intense rainfall and urban flooding
 - Coastal flooding
 - Severity of heat waves
 - Risk of drought and forest fire

Climate Risk.... a key economic and social issue

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- Increase largely due to water damage and extreme weather
- Uninsured losses of governments and householders estimated at **3 to 4 times** these costs

Insured Catastrophic Losses in Canada

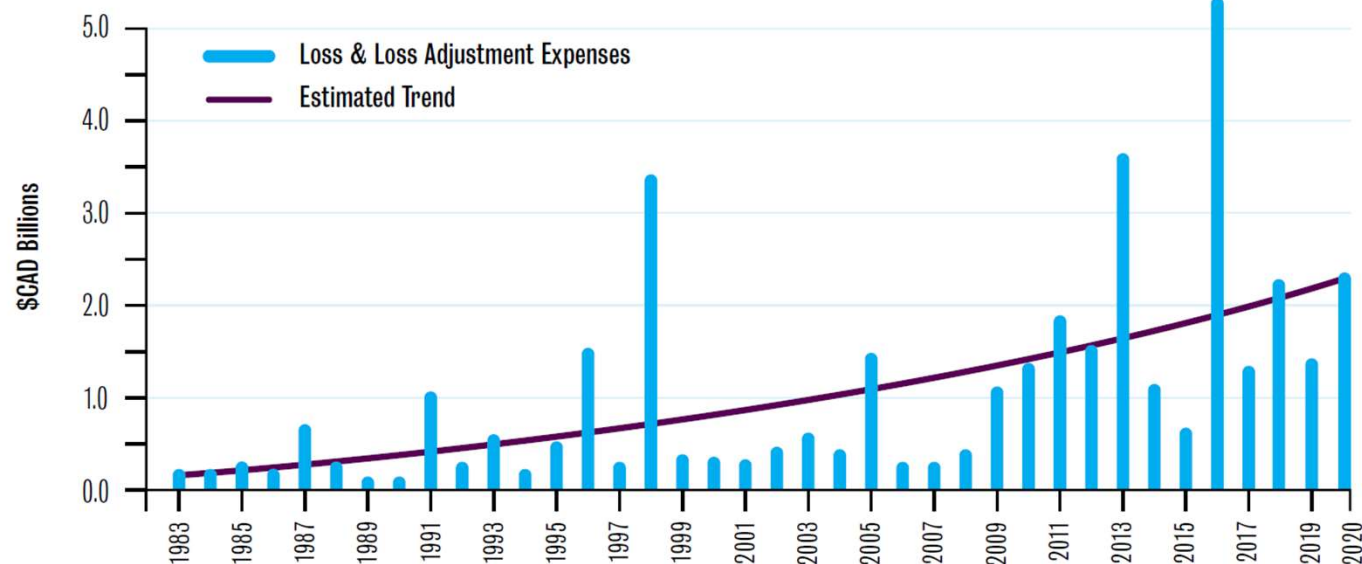
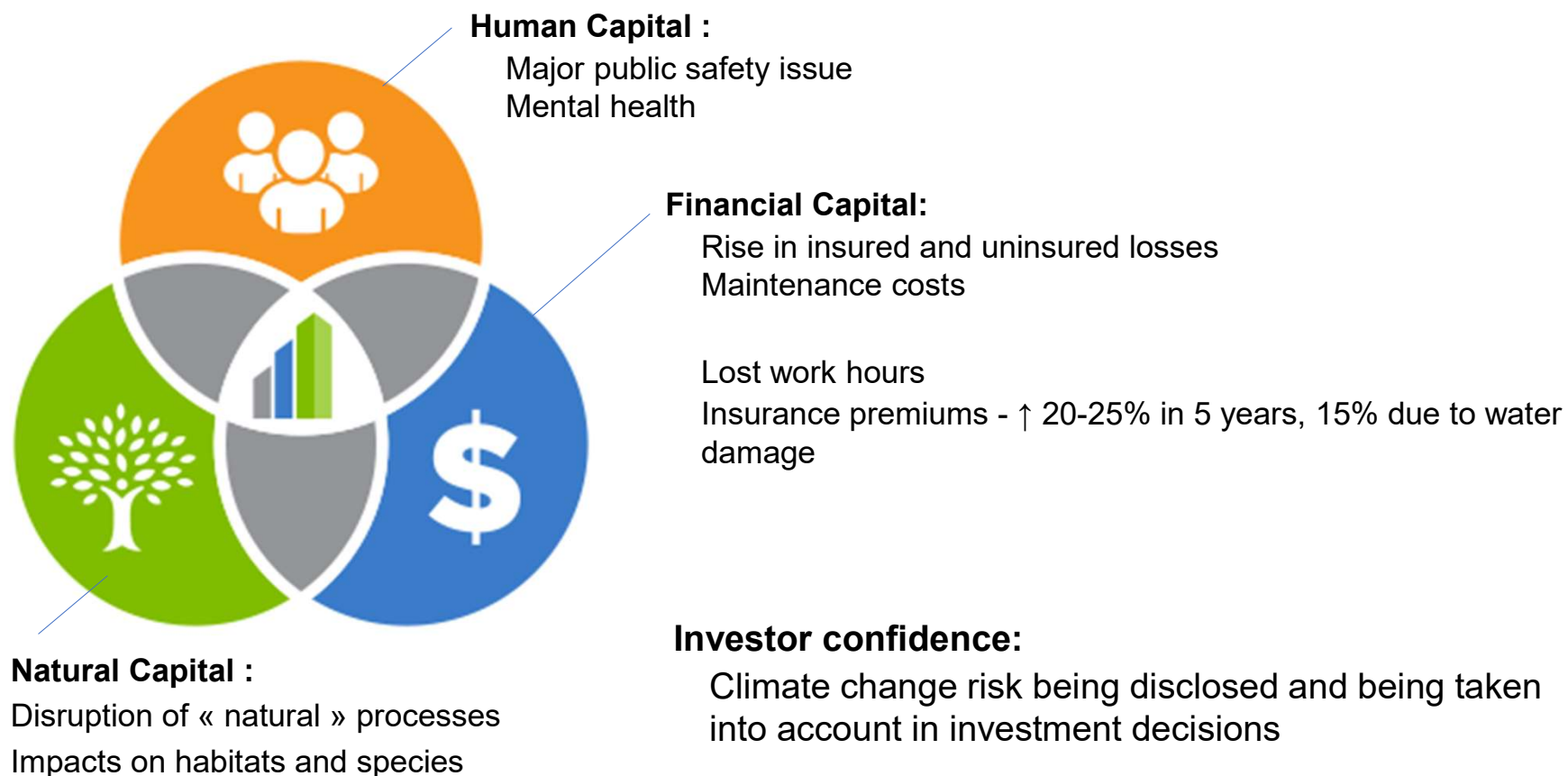


Figure 1: Catastrophic insured loss payments, Canada, 1983 – 2020. Total losses are normalized for inflation (\$2020 CAN) and per-capita wealth accumulation, as of November 2020. Source: CatIQ, PCS, IBC Facts Book.

Climate Risk.... a key economic and social issue

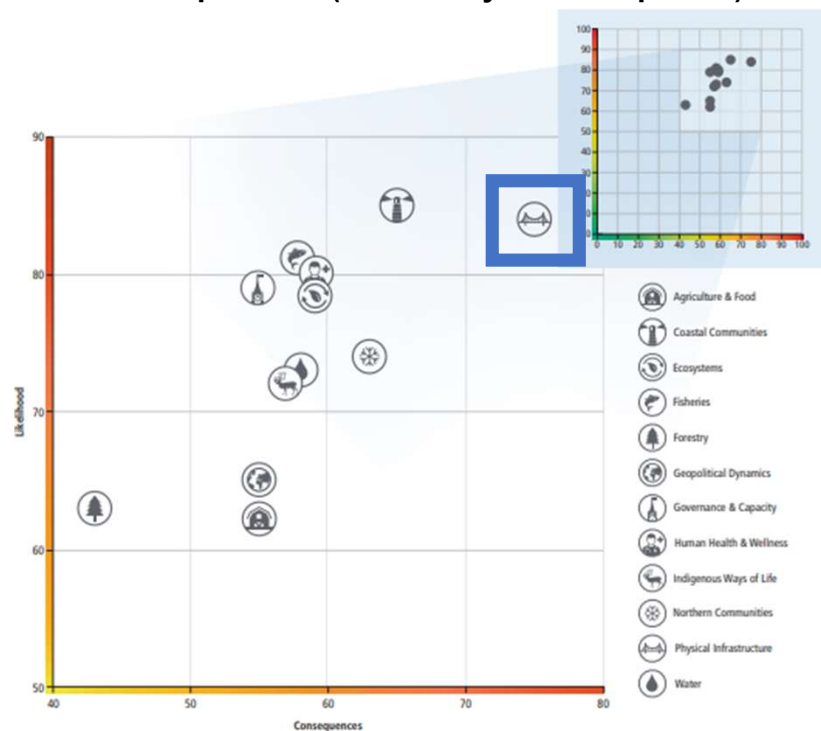
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The Necessity and the Potential for Adaptation

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Principal risks (Probability x Consequence)



Physical Infrastructure

Potential for Adaptation

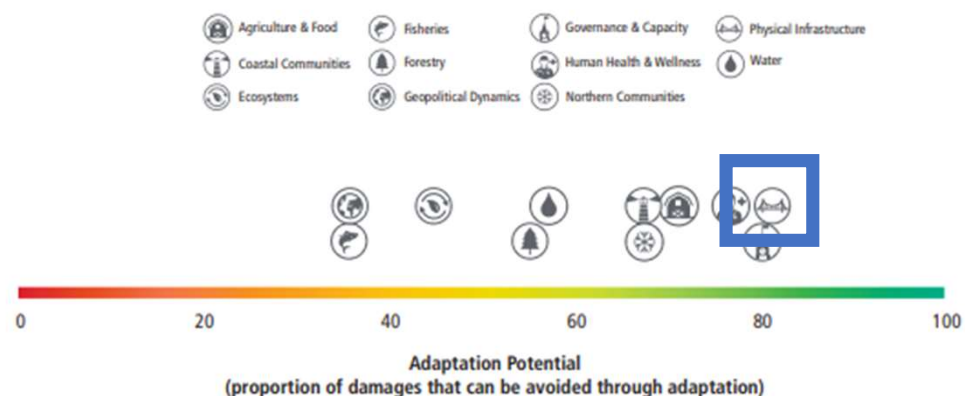


Figure 3.1

Panel Assessment of Adaptation Potential by Risk Area

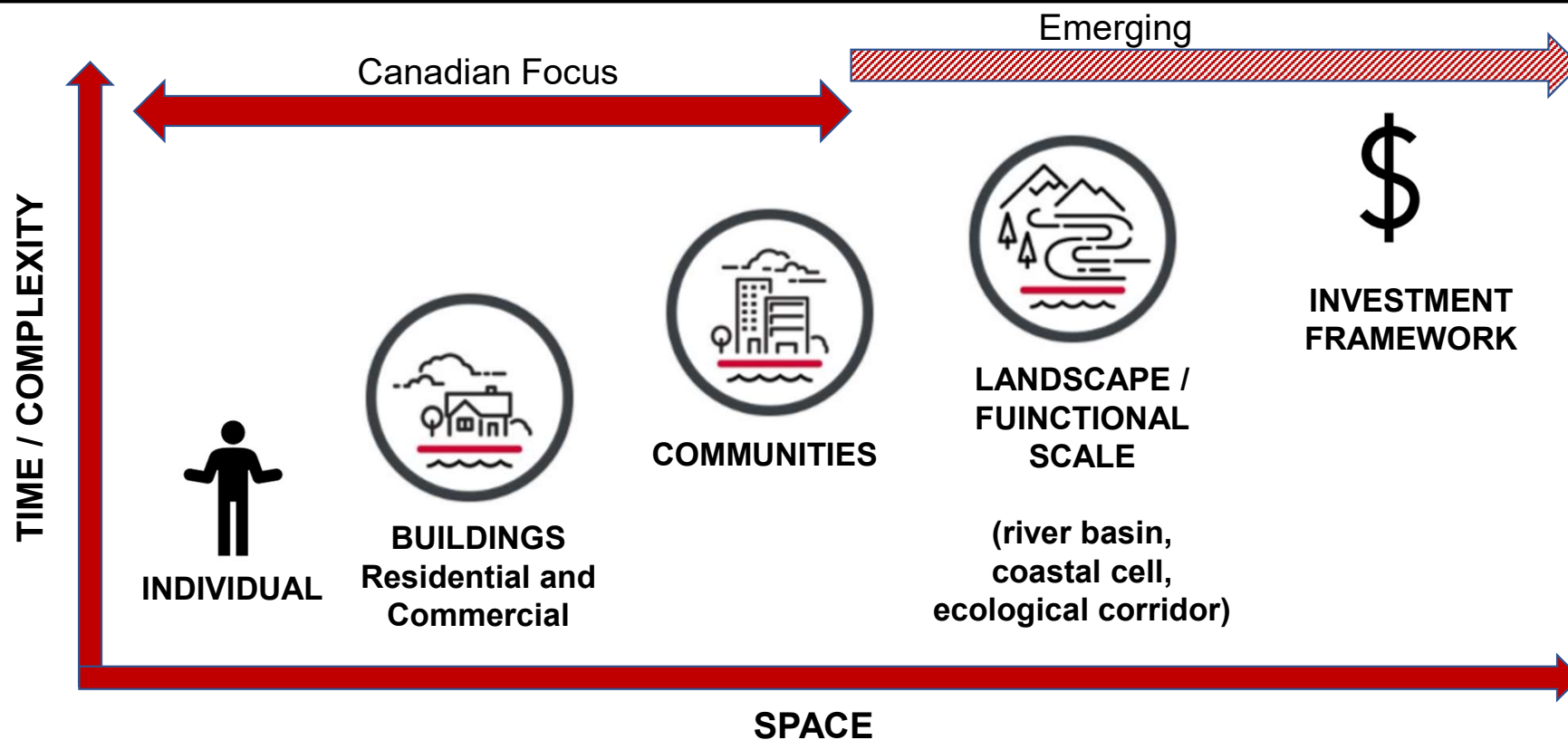
This graph illustrates the ascribed results of the adaptation potential assessment by risk area. The Panel could not produce a defensible evaluation of the adaptation potential of Indigenous ways of life due to the lack of Indigenous members on the Panel and limited inclusion of Indigenous knowledge in the assessment.



Source: Council of Canadian Academies, 2019

Adapt-action is required at different scales

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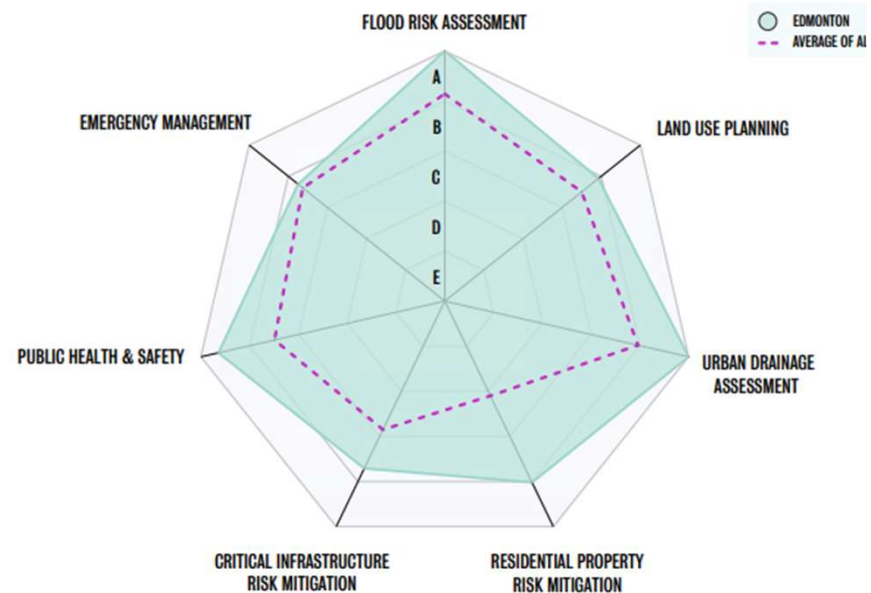
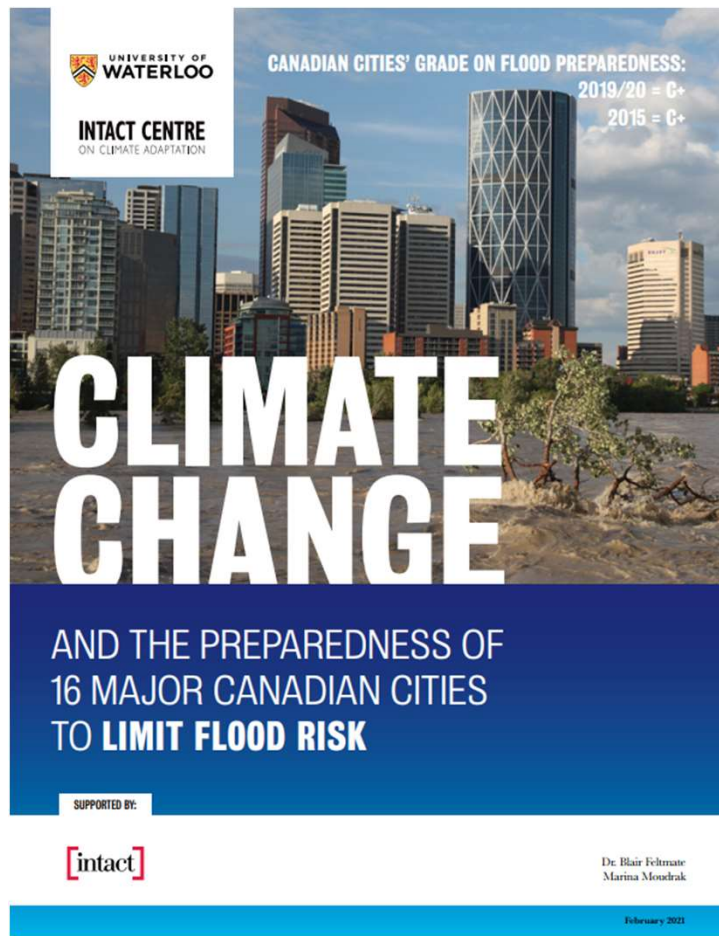
*Icons from "Calgary – Flood Resilience Plan"

Source: <https://www.calgary.ca/uep/water/flood-info/mitigation-and-resilience/flood-projects.html>

Practical Action: Municipalities and Provinces

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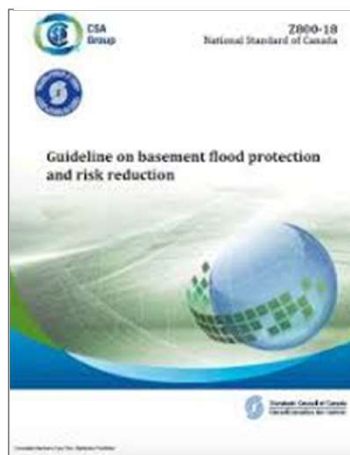
We are making progress but not fast enough

Practical Action: Residential buildings

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CHERYL EVANS AND DR. BLAIR FELTMATE | INTACT CENTRE ON CLIMATE ADAPTATION | APRIL 2019



2016-2019
Actions residents can take themselves to reduce their risk of basement flooding

→ Canadian Standard

Z800-F18
Guideline on basement flood protection and risk reduction

Published by CSA Group in 2018, 69 pages

Step 1: Maintain What You've Got at Least Twice per Year

Do-It-Yourself for \$0

- Remove debris from nearest storm drain or ditch & clean
- Clean out your backwater valve

Do-It-Yourself for Under \$250

- Install well cap (where fire requires permit)
- Install and maintain flood alarms

Work with a Contractor for Over \$250

- Install windbreak that sits 10-15 feet from ground and to water to reduce wind
- Install backup sump pump and battery*

Home Flood Protection Check-Up

Home flood protection is just a click away!

Take a few minutes to find out how to reduce flood risk at your home and get a free, confidential report that summarizes what you are already doing well and what else you can do to protect your home!

Note: Following the flood risk reduction best practices outlined in this Check-Up does not guarantee the prevention of basement flooding.

Get Started

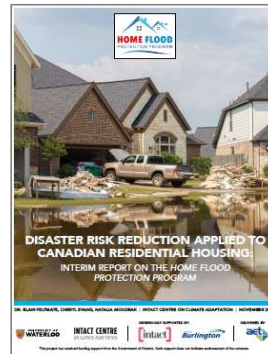
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Key Takeaways

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- We know the problem
- We have developed several solutions
- **NOW is the time to act**
- **EVERYONE** has a role to play

<https://www.intactcentrecclimateadaptation.ca/>



Homes



Commerical Real-Estate



Existing Communities



New Communities



Wildfires



Natural Infrastructure



Financial Markets