

# **Adapting to Climate Change, Severe Weather, and a Call for a National Flood Strategy**

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# IBC

- Established in 1964
- National trade association: home, car & business insurance
- IBC members make up over 90% of the Canadian property and casualty (P&C) insurance market

# IBC's Role

- Forecast and respond to issues
- Anticipate opportunities to shape change
- Collaborate with government
- Educate consumers

# How Insurance Works



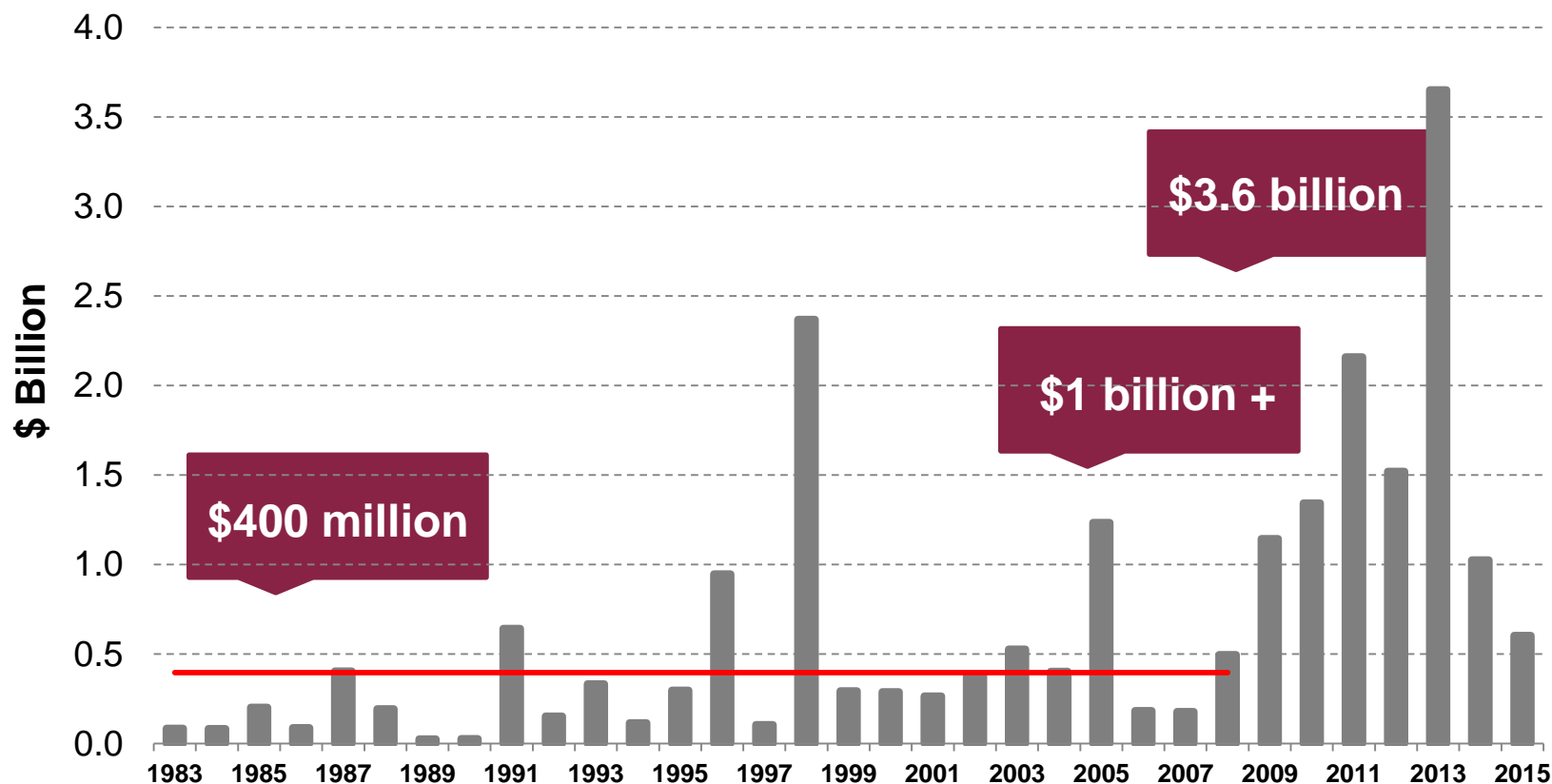
# The P&C Insurance Industry

- Employs 122,500 Canadians, with significant presence in New Brunswick:
  - \$103.8M in taxes and levies
  - \$753.1M in direct claims including:
    - \$396.2M auto
    - \$145.1M personal property
    - \$86.5M commercial property
    - \$125.3M liability and other claims

# Natural Catastrophes & Severe Weather



# Catastrophic Losses Since 1983



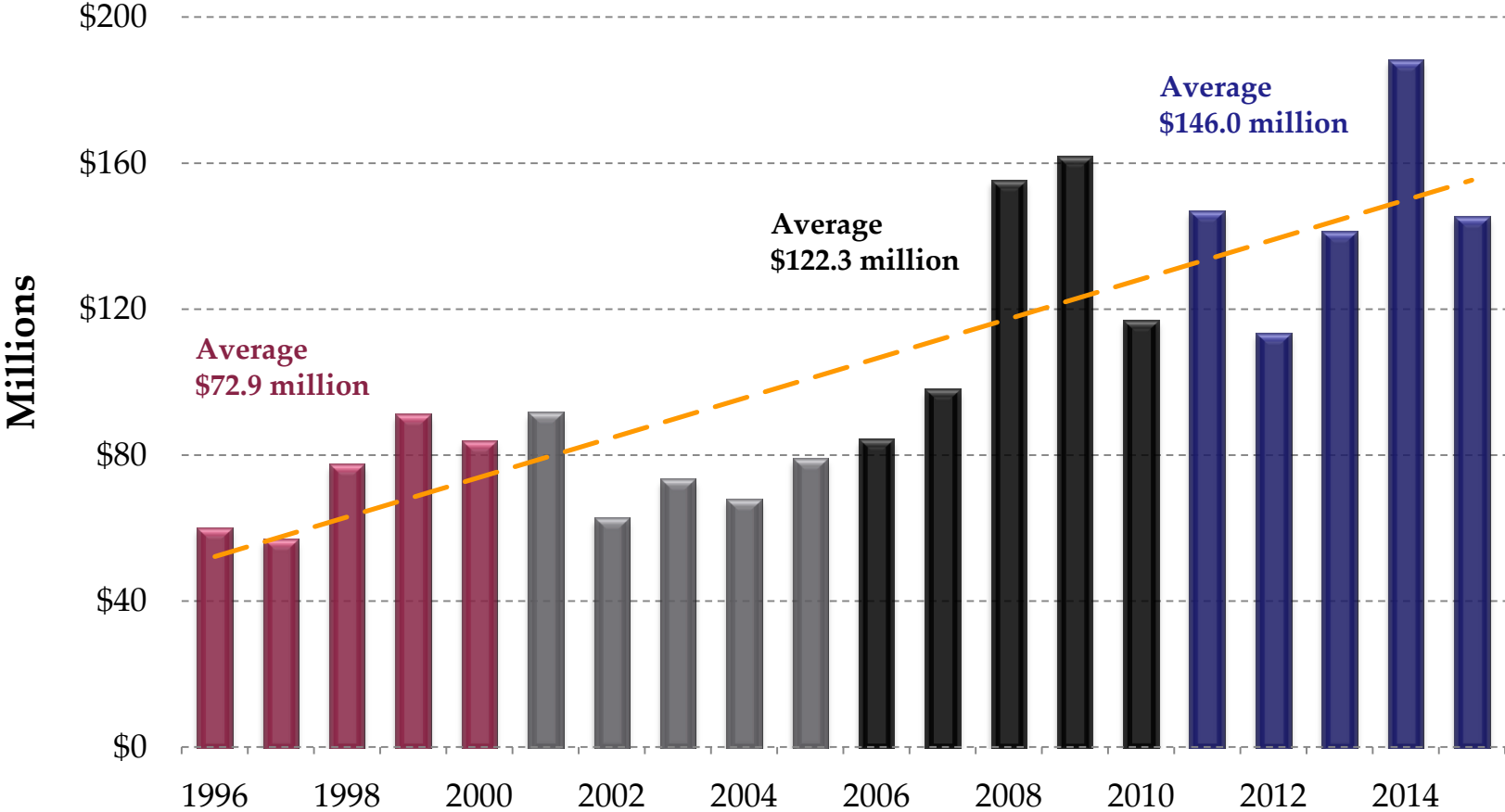
Loss & Loss Adjustment Expenses

Source: IBC Facts Book, PCS, Cat-IQ, Swiss Re, Munich Re & Deloitte

Values in 2015 \$ CAN

# Personal Property Claims

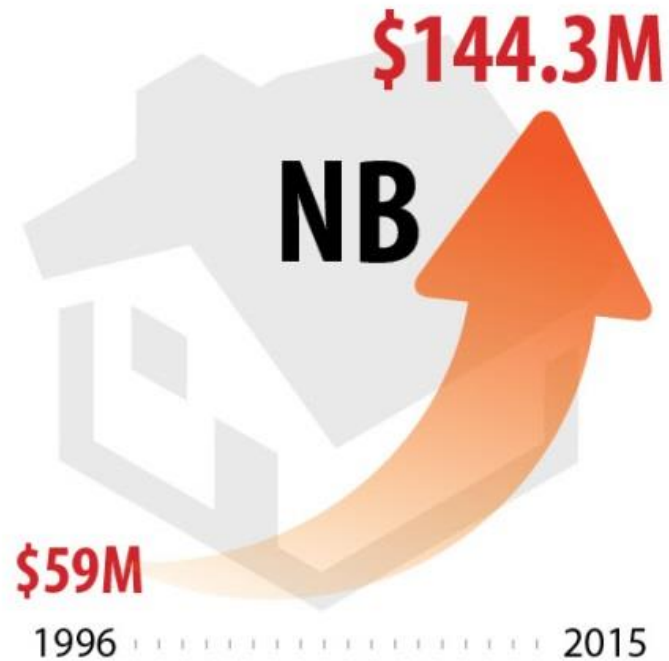
New Brunswick: Personal Property Direct Claims Incurred  
*(Adjusted for Inflation, 2015 dollars)*



Source: IBC with data from MSA.



# Personal Property Claims



# Failing Infrastructure

- 11% wastewater infrastructure in poor condition (\$26 billion)
- 24% in fair condition (\$56 billion)
- 7% stormwater infrastructure in poor condition (\$10 billion)
- 16% in fair condition (\$21 billion)



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# Municipal Risk Assessment Tool

## The Problem

A perfect storm of climate change and vulnerable infrastructure has resulted in an increase in sewer and storm water backups in Canadian communities.



Federal Disaster Financial Assistance Arrangement (DFAA) payments expected to reach



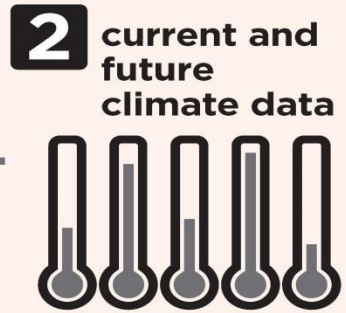
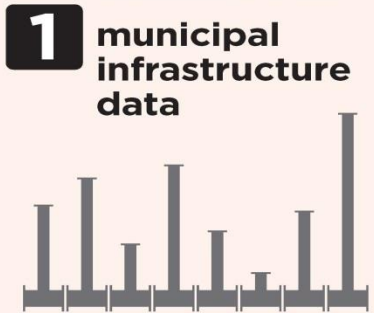
Sources: Swiss Re, Office of the Parliamentary Budget Officer

## The Solution

MRAT, a web-based assessment tool that calculates the probability of current and future municipal sewer and storm water infrastructure failures.

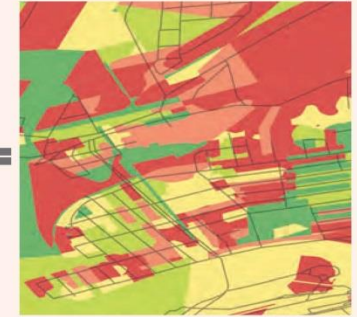
### How MRAT helps municipalities

MRAT uses three kinds of data:

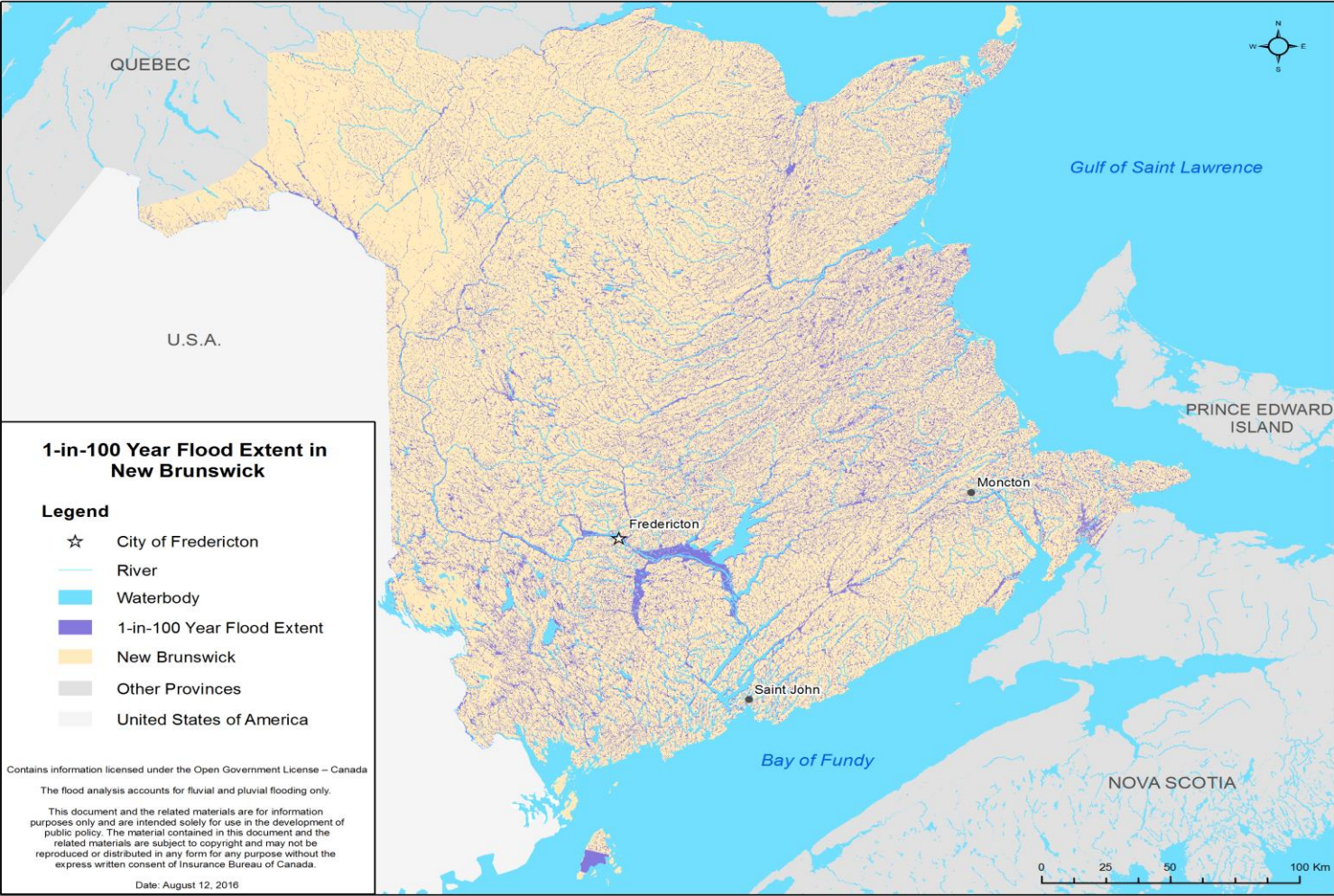


Risk formula placed into a GIS visualization tool to develop MRAT maps showing risk areas

**Red** means basement flooding is more likely  
**Green** means basement flooding is less likely



# Flood Mapping



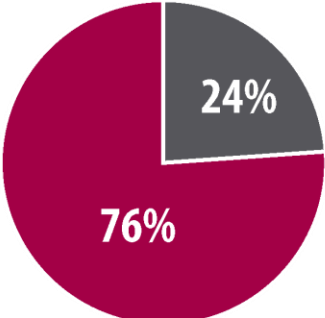
# Focus on Consumers



# Floods Behind Most Disaster Spending

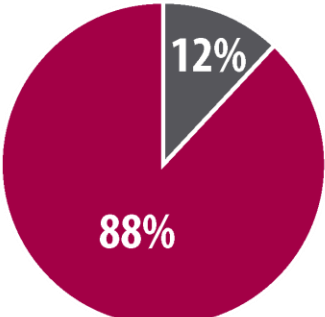
## FEDERAL DFAA SPENDING

1970-2014



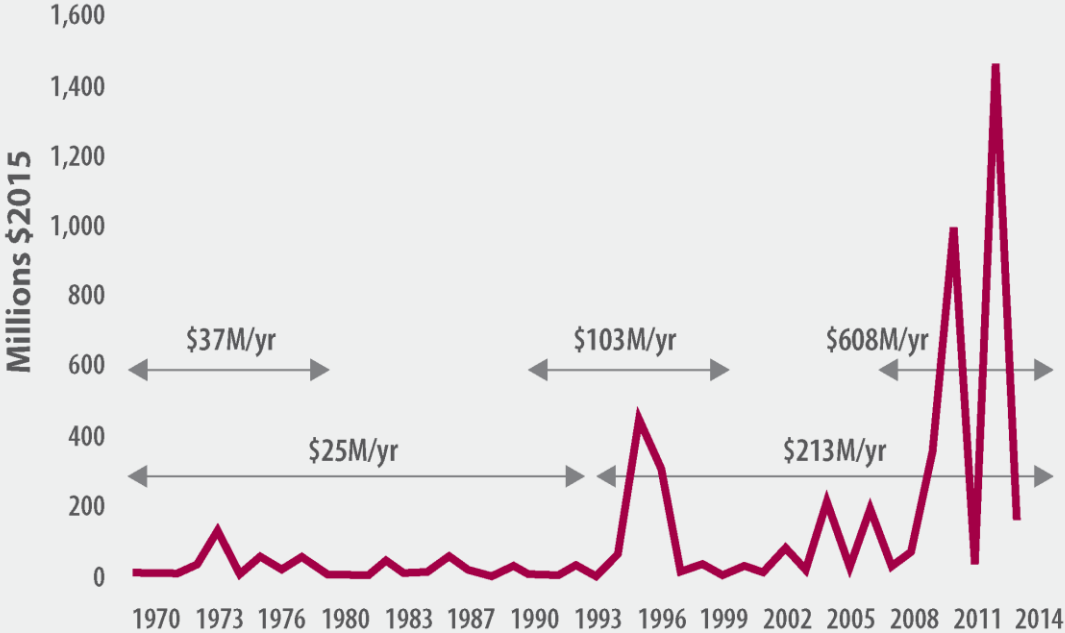
Other Flood-related

2000-2014



Other Flood-related

## ANNUAL FEDERAL DFAA SPENDING ON FLOOD



# The Problem

- Homes and businesses are in high-risk flood areas
- Governments, taxpayers, pay for damage
- Little incentive for communities/consumers to reduce risk

# The solution

- IBC is proposing a made-in-Canada framework for the financial management of flood risk – with coordinated shared responsibilities for the insurance industry, all tiers of government, and consumers



# Sendai Framework



www.preventionweb.net/go/sfdr  
www.unisdr.org  
isd@un.org

## Chart of the Sendai Framework for Disaster Risk Reduction 2015-2030

### Scope and purpose

The present framework will apply to the risk of small-scale and large-scale, frequent and infrequent, sudden and slow-onset disasters, caused by natural or manmade hazards as well as related environmental, technological and biological hazards and risks. It aims to guide the multi-hazard management of disaster risk in development at all levels as well as within and across all sectors.

### Expected outcome

The substantial reduction of disaster risk and losses in lives, livelihoods and health and in the economic, physical, social, cultural and environmental assets of persons, businesses, communities and countries

### Goal

Prevent new and reduce existing disaster risk through the implementation of integrated and inclusive economic, structural, legal, social, health, cultural, educational, environmental, technological, political and institutional measures that prevent and reduce hazard exposure and vulnerability to disaster, increase preparedness for response and recovery, and thus strengthen resilience

### Targets

Substantially reduce global disaster mortality by 2030, aiming to lower average per 100,000 global mortality between 2020-2030 compared to 2005-2015	Substantially reduce the number of affected people globally by 2030, aiming to lower the average global figure per 100,000 between 2020-2030 compared to 2005-2015	Reduce direct disaster economic loss in relation to global gross domestic product (GDP) by 2030	Substantially reduce disaster damage to critical infrastructure and disruption of basic services, among them health and educational facilities, including through developing their resilience by 2030	Substantially increase the number of countries with national and local disaster risk reduction strategies by 2020	Substantially enhance international cooperation to developing countries through adequate and sustainable support to complement their national actions for implementation of this framework by 2030	Substantially increase the availability of and access to multi-hazard early warning systems and disaster risk information and assessments to people by 2030
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### Priorities for Action

There is a need for focused action within and across sectors by States at local, national, regional and global levels in the following four priority areas.

**Priority 1**  
Understanding disaster risk

**Priority 2**  
Strengthening disaster risk governance to manage disaster risk

**Priority 3**  
Investing in disaster risk reduction for resilience

**Priority 4**  
Enhancing disaster preparedness for effective response, and to «Build Back Better» in recovery, rehabilitation and reconstruction



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**ISLAND**



**Institute for Catastrophic  
Loss Reduction**  
Building resilient communities

# Leveraging Sendai Framework Priorities

1. Risk identification: improved flood mapping and visualization
2. Risk governance: improved administration of floodplain development and risk transfer mechanisms
3. Risk reduction: improved mitigation including via natural systems
4. Disaster preparedness for recovery: adapting homes in advance

# Our Solution

A public-private partnership (PPP) includes:

- Insurance industry to assume most financial risk and offer coverage to all with premium incentives for mitigation
- Government support to make coverage available and affordable to high risk homeowners, particularly low-income Canadians AND strategic investments in mitigation;
- Both engage in consumer education

# Our Solution Cont'd

- Governments and industry collaborate to improve risk identification (mapping) and raise consumer awareness
- Consumers to improve own resilience with incentives from industry and government
- Industry to work with governments to help focus mitigation on areas that will yield ROI (for example, possible premium reductions)

# How New Flood Entity Would Work

- Not-for-profit PPP overseen by insurers and governments
- Premiums for high-risk policyholders balance affordability with incentives to reduce risk and minimize DFAA liabilities
- High-risk properties identified using evergreen flood mapping

# How New Flood Entity Would Work

- Flood risk database available to insurers and other public and private sector stakeholders to assess changes in risk, guide mitigation efforts and help insurers underwrite resulting premium reductions
- Open data principles followed to promote culture of risk awareness
- Risk assessments expanded to support coverage of further perils (example, coastal flooding)

# Summary Recommendations

Create National Flood Strategy that:

1. Transfers risk from taxpayers (DFAA) to policyholders (private industry)
2. Enhances risk identification and awareness by expanding National Disaster Mitigation Program



# Summary Recommendations Cont'd

3. Expands definition of green infrastructure to include natural systems (cf. DU)
4. Educates and empowers homeowners to mitigate risk (cf. INTACT Centre)
5. Amends National Model Construction Code to include climate and disaster resilience (cf. ICLR)

# Severe Weather in New Brunswick



# Severe Weather in New Brunswick



# Collaboration with Stakeholders

- Emergency Measures Organization
- Department of Public Safety Round Table on Emergency Preparedness and Resiliency
- Department of Environment and Local Government
- Union of Municipalities of New Brunswick
- Atlantic Climate Adaptation Solutions Association

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