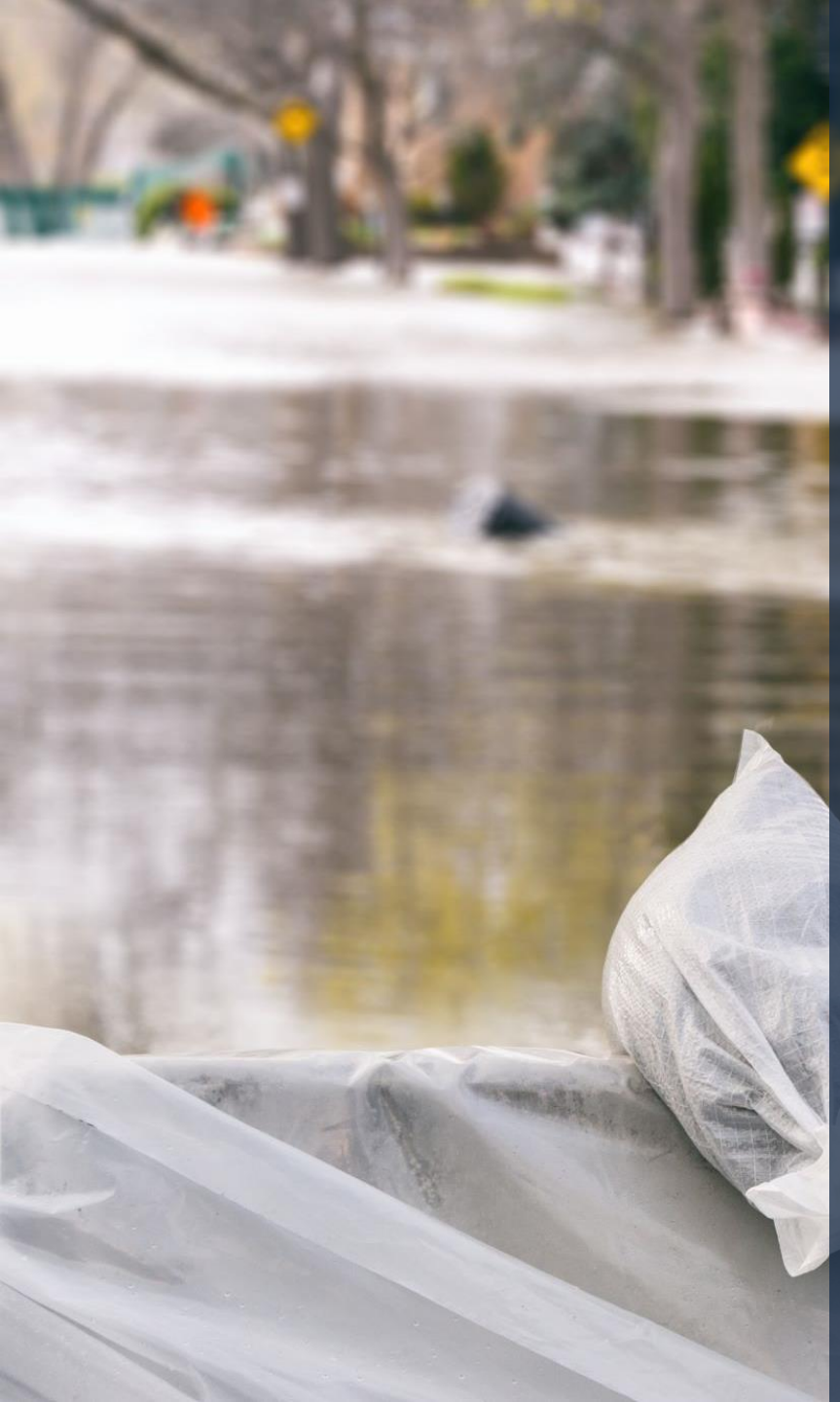


Case Study Series

Using Better Data to Identify Climate Change-Related Infrastructure Vulnerabilities in Canadian Communities

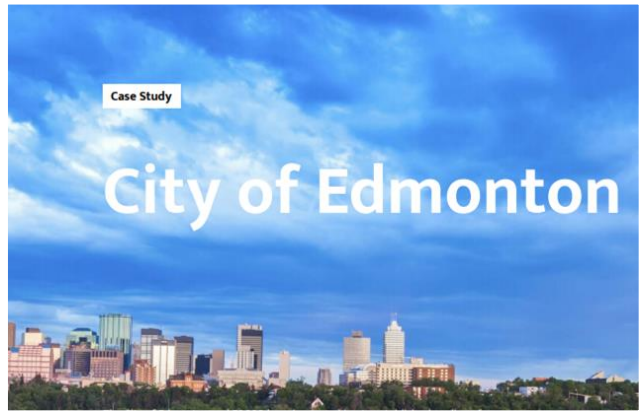
PSD RESEARCH CONSULTING SOFTWARE

Canadian Water Network

FCM FEDERATION OF CANADIAN MUNICIPALITIES | FÉDÉRATION CANADIENNE DES MUNICIPALITÉS


Canadian municipalities/utilities are lacking the data required to accurately identify climate change-related infrastructure vulnerabilities.

Share. Learn. Improve.



Moncton

Flood Mitigation and Neighbourhood Vulnerability Assessment

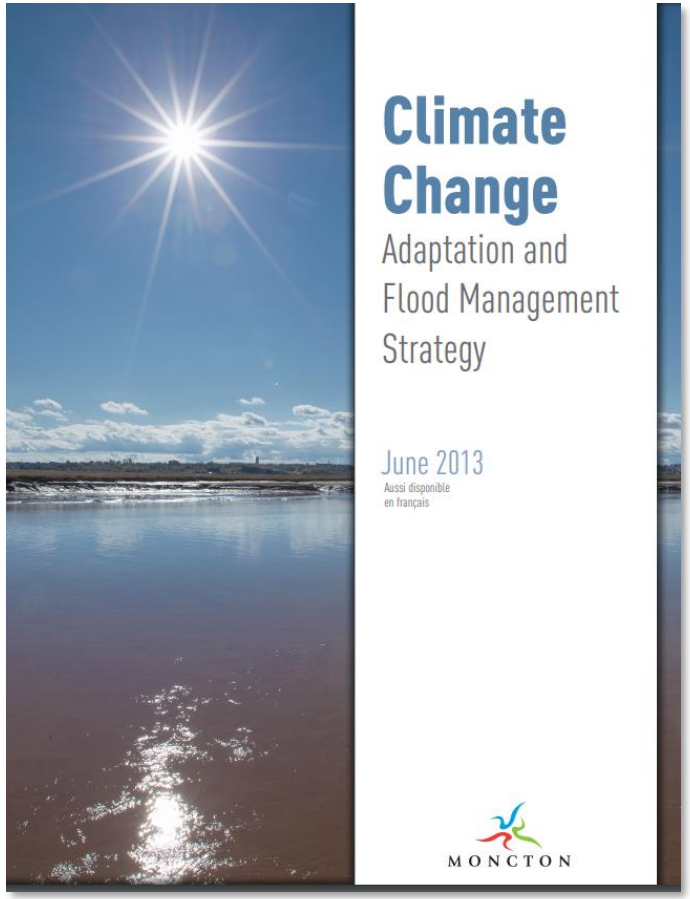
Climate Change Impacts

- Storm surges
- More frequent extreme maritime weather events
- Increased flooding caused by an increased tidal range and coastal erosion

Moncton

Climate Change Adaptation and Flood Management Strategy

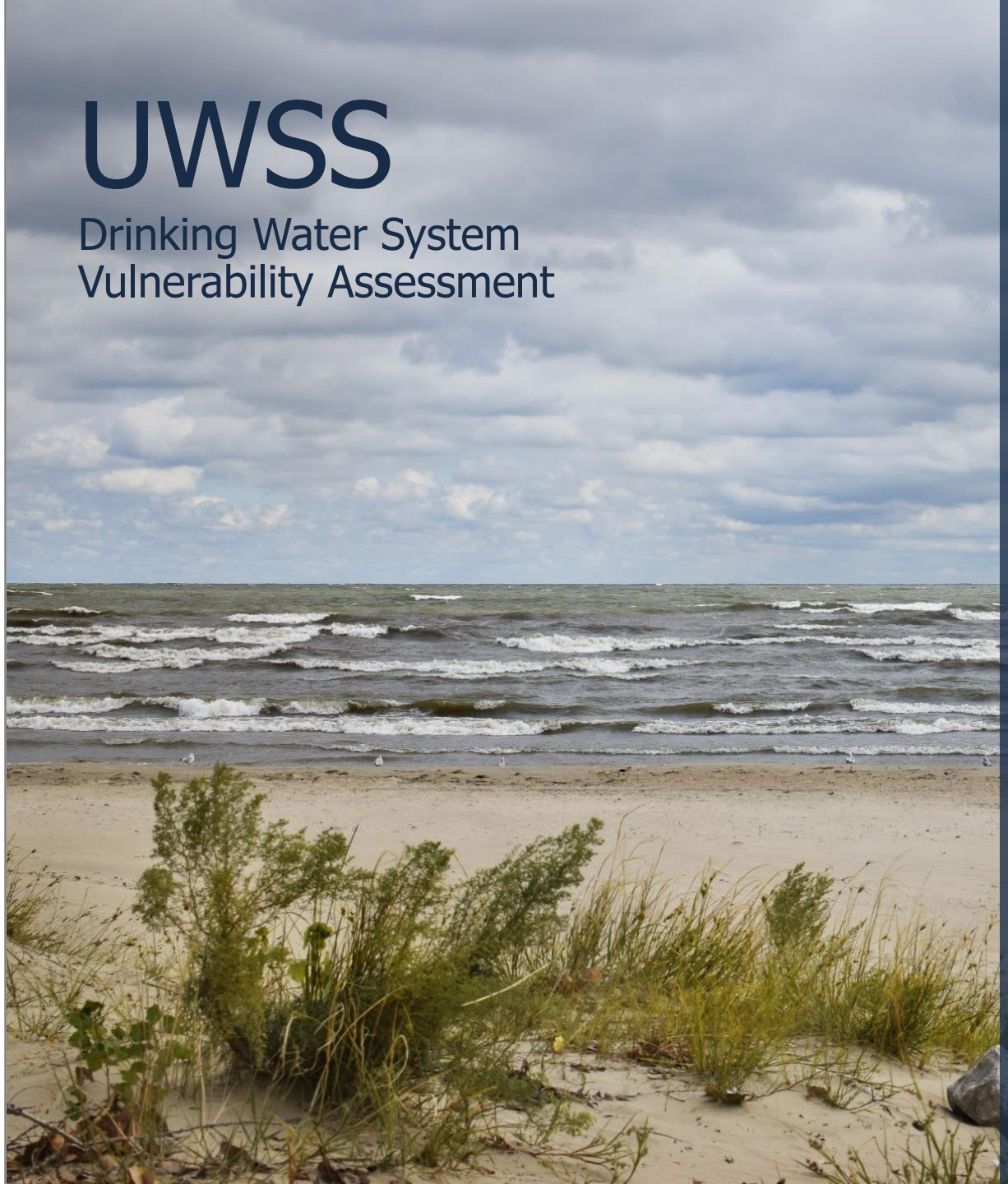
- 8 strategic priorities to help reduce the identified gaps in the risk assessment
- Under "Adaptation Policies & Regulations" new minimum floor elevation requirements were established for habitable space



FCM CLIMATE & ASSET MANAGEMENT

UWSS

Drinking Water System Vulnerability Assessment



Climate Change Impacts

- High speed wind has damaged infrastructure, resulting in power outages
- Breakage of underground infrastructure due to changes in freeze-thaw cycle
- High temperatures and stagnant water promote growth of algae

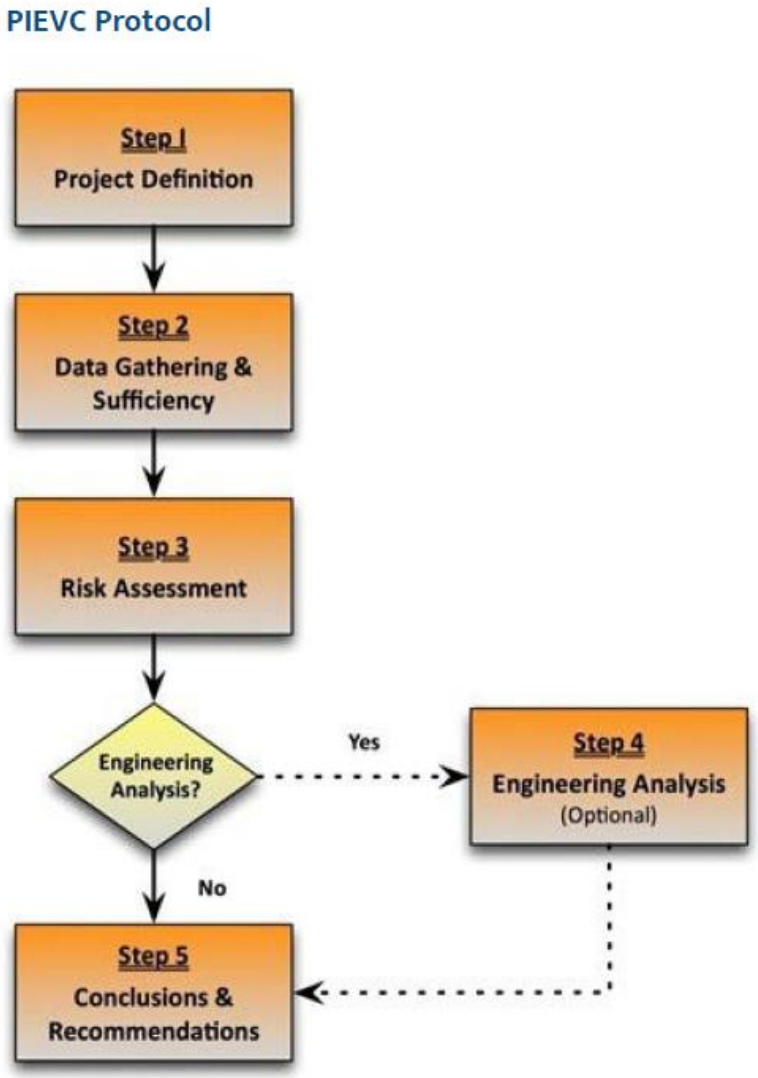
UWSS

Asset Management & PIEVC Protocol

- Foundation of asset management data, systems and processes

PSD | CITYWIDE

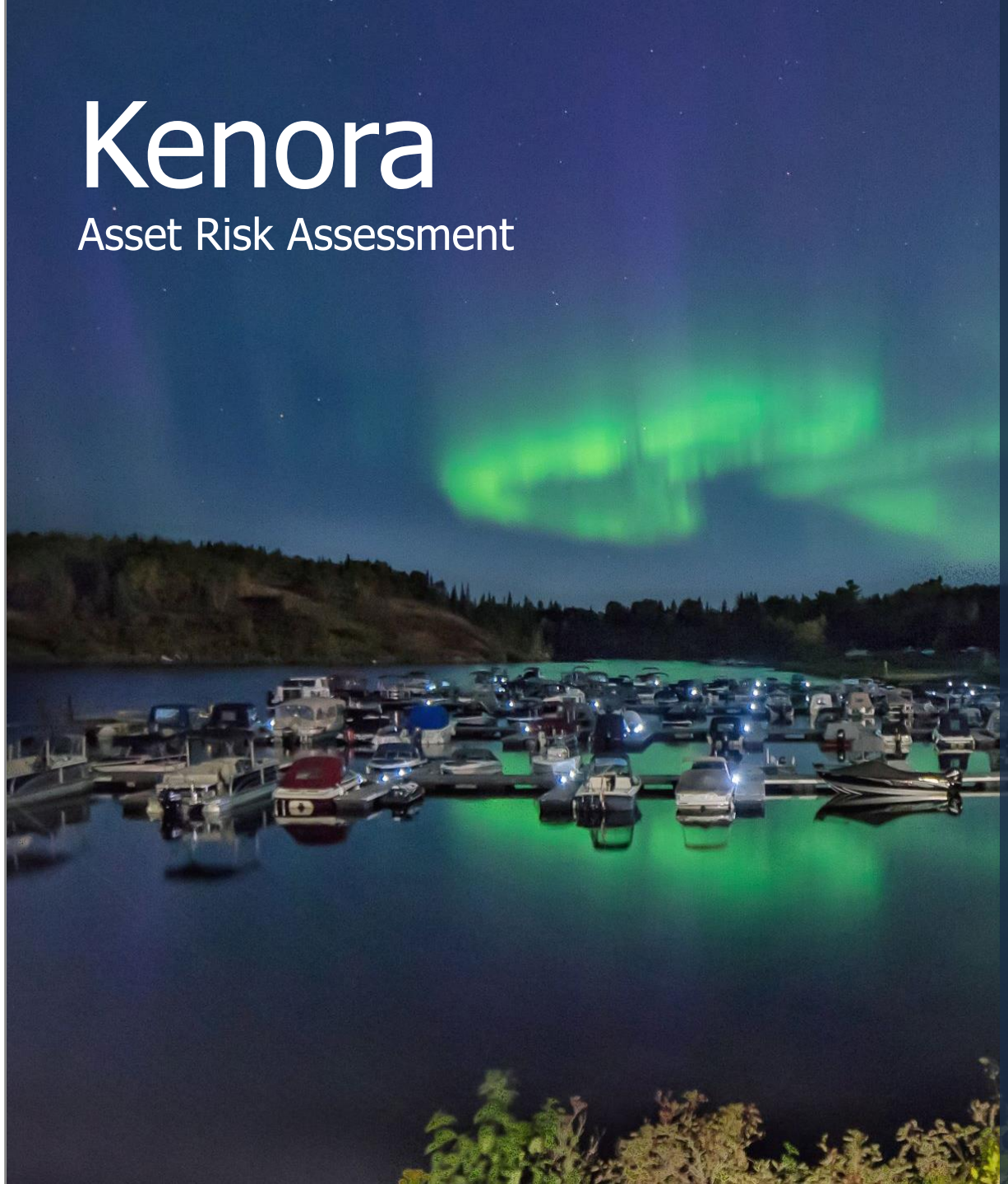
- Worked with Engineers Canada to conduct water system vulnerability assessment using PIEVC Protocol



FCM CLIMATE & ASSET MANAGEMENT

Kenora

Asset Risk Assessment



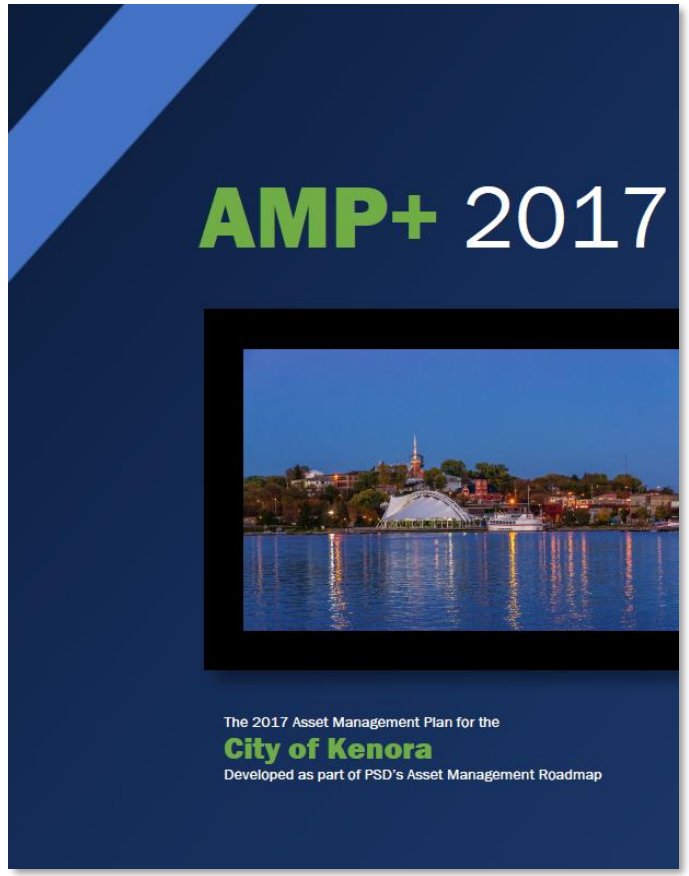
Climate Change Impacts

- Increased temperature and increased rainfall, resulting in more storms and flooding
- Damage to infrastructure due to freeze/thaw cycles
- Forest fire risk due to higher temperatures/drier conditions

Kenora

Aligning Climate Change Adaptation with Asset Management

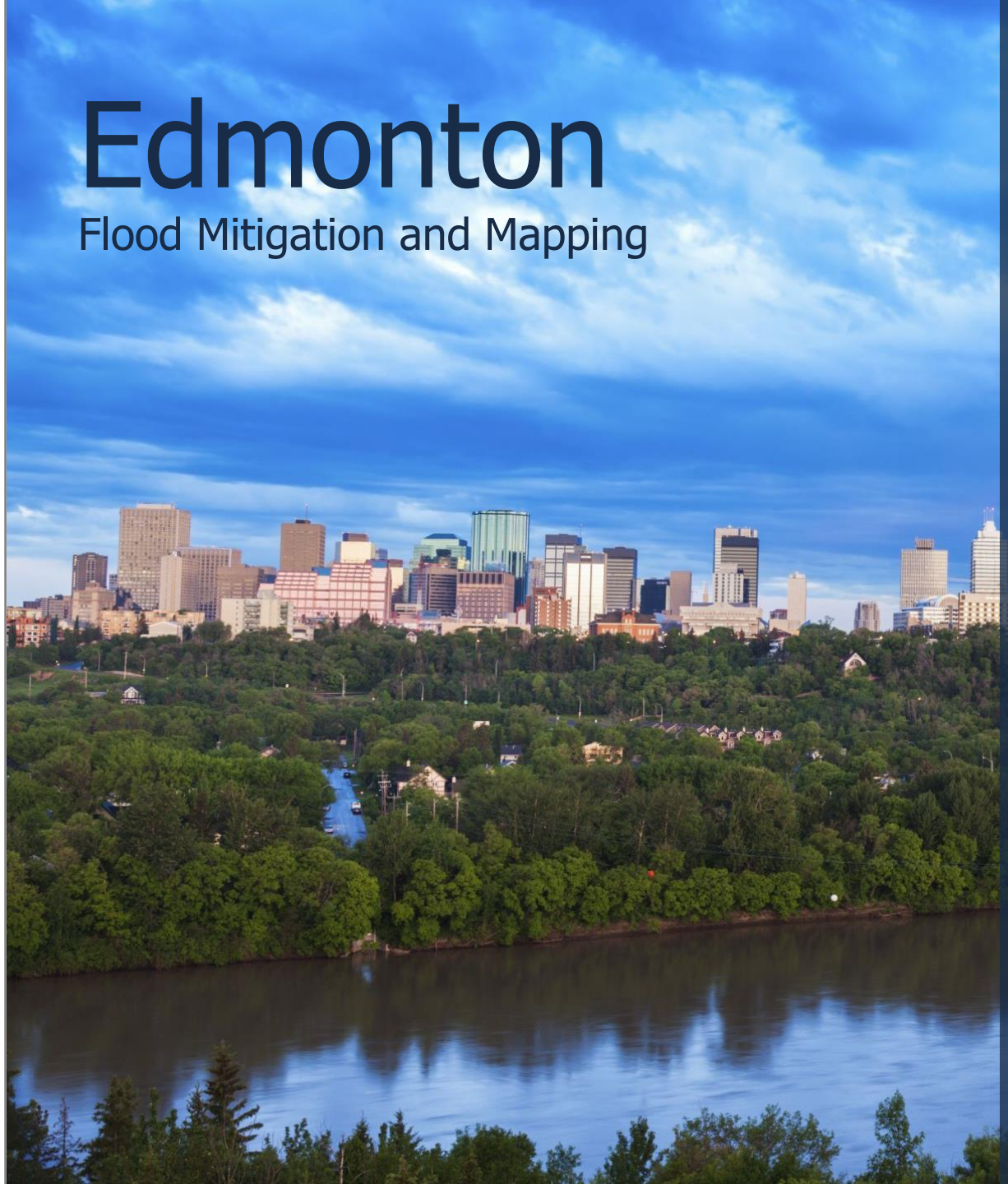
- Collected asset attribute data and completed comprehensive AMP
- Participated in FCM's CAMN
- Worked with PSD to complete Climate Change Adaptation & Resilience Study, Risk Assessment Framework



FCM CLIMATE & ASSET MANAGEMENT

Edmonton

Flood Mitigation and Mapping



Climate Change Impacts

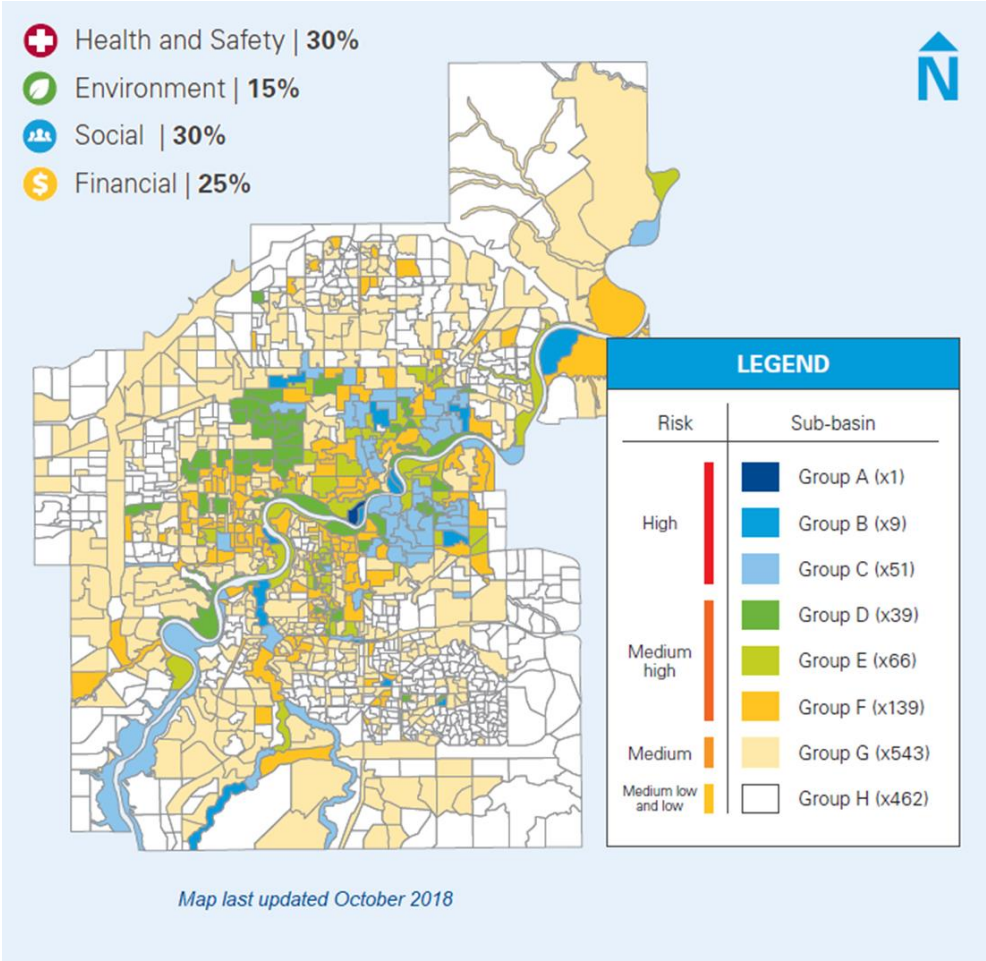
- Increase in average temperatures across all seasons
- Drier summers, wetter winters, and more heavy precipitation events
- Frequency and severity of wildfire, extreme rainfall or snow, freezing rain, high winds, and lightning are expected to increase

Edmonton

Edmonton's Climate Resilient Adaptation Strategy and Action Plan

- Phase 1: Investigation
- Phase 2: Direction Setting
- Phase 3: Taking Action

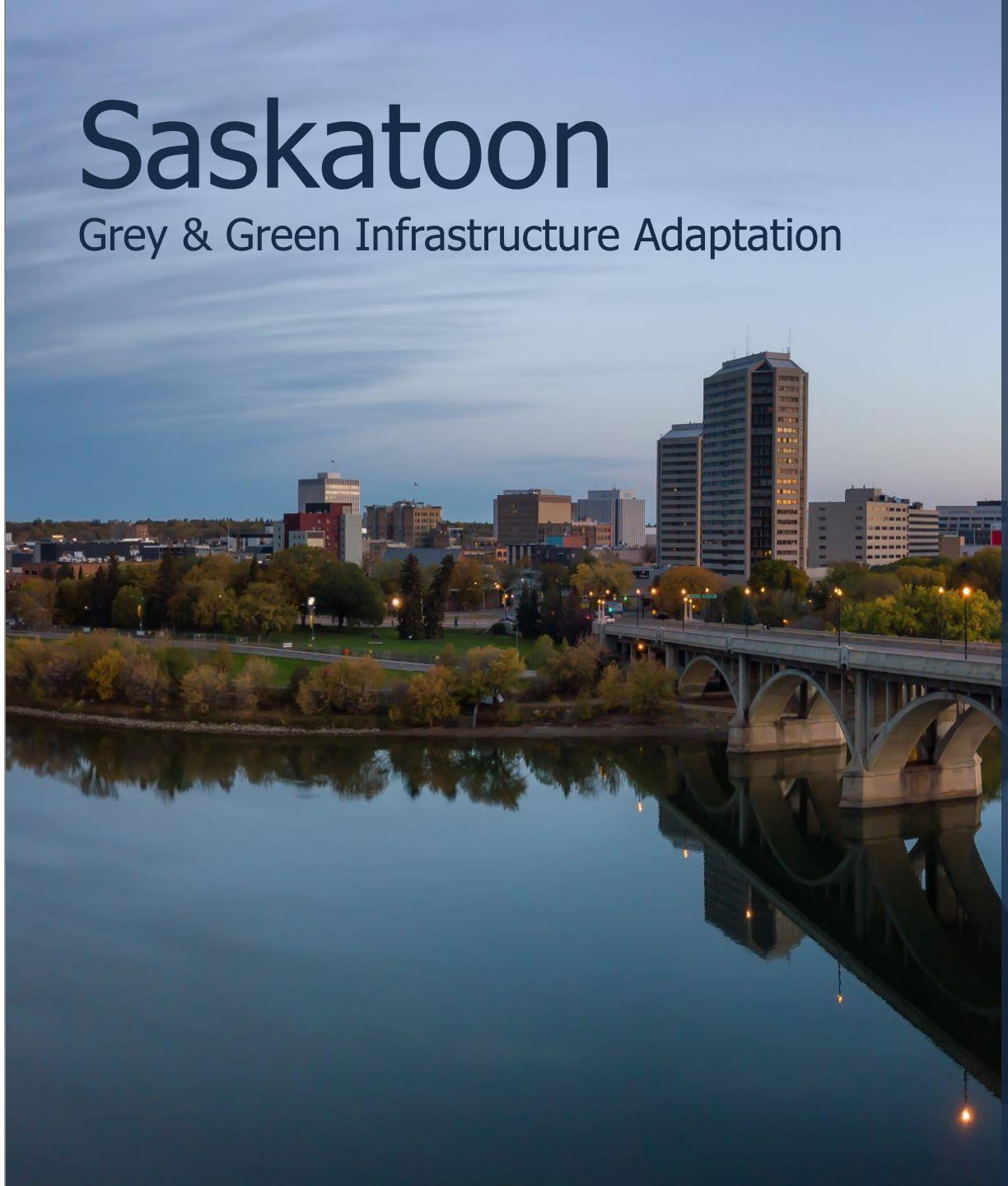
EPCOR's Stormwater Integrated Resource Plan (SIRP)



FCM CLIMATE & ASSET MANAGEMENT

Saskatoon

Grey & Green Infrastructure Adaptation



Climate Change Impacts

- Localized heavy rainfall and flooding
- Higher frequency of freeze-thaw cycles
- Higher risk of grass and bush fires, periods of drought, and extended periods of heat

Saskatoon

1) Flood Control Strategy
2) Green Infrastructure Strategy
3) Local Actions: Saskatoon's Adaptation Strategy

Climate Adaptation and Asset Management Program (CAAMP)

Delivered by PSD in partnership with
Oxford University

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St. Clair Township

- State of Maturity Workshop
- Data Gap Analysis
- Climate Change Adaptation Plan
  - Climate Profile
  - Climate Impacts
  - Recommendations