Collingwood Climate Adaptation Plan

Workshop #3

February 3, 2026

AMETHYST INFRASTRUCTURE MANAGEMENT

aspire CONSULTING

redbrick COMMUNICATIONS

Agenda

- ✓ Introductions
- ✓ Project Overview and Where We Are
- ✓ Vulnerability Assessment Results
- ✓ Risk Refresher
- ✓ Breakout Session: Risk Assessment
- ✓ Key Takeaways from Breakout Session
- ✓ Next Steps

Land Acknowledgement

For more than 15,000 years the First Nations walked upon, and cared for, the lands we now call home: Anishinabek, Haudenosaunee, Ojibwe, and many others who cared for their families and communities, the way we now seek to care for ours.

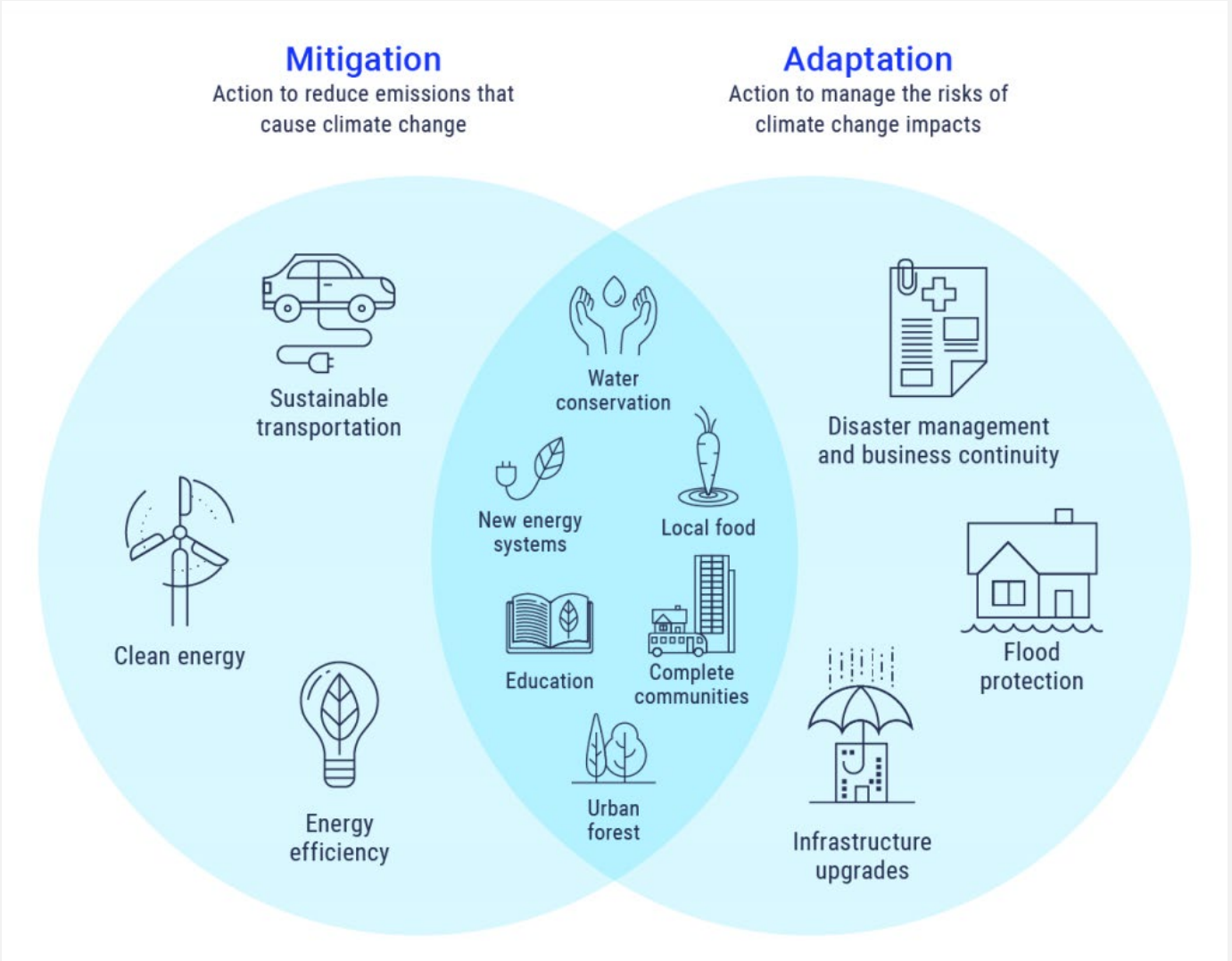
The Town of Collingwood acknowledges the Lake Simcoe-Nottawasaga Treaty of 1818 and respects all of the Nation-to-Nation agreements that have formed relationships with the original inhabitants of Turtle Island; the reality of our shared history; the current contributions of Indigenous people within our community and seeks to continue empowering expressions of pride amongst all of the diverse stakeholders in this area.

We seek to do better, to continue to recognize, learn, and grow, in friendship and community, Nation-to-Nation.

Collingwood Climate Adaptation Plan

What is Climate Adaptation

Mitigation vs. Adaptation



Source: Government of Canada (2022)

What is Climate Adaptation

Infrastructure Upgrades and Design Standards

Policy, Planning and Regulatory Updates

Emergency Planning and Response Enhancement

Education, Capacity Building, and Partnerships

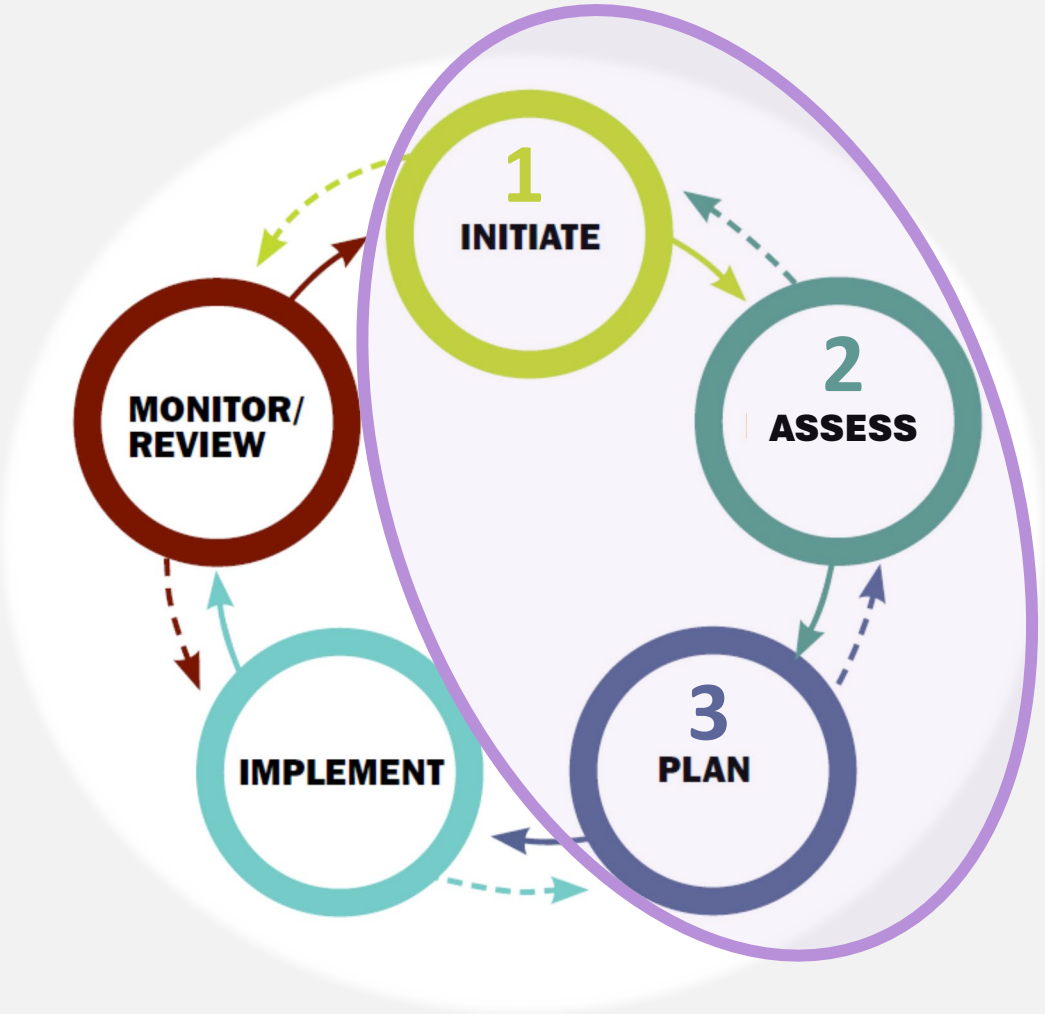
Maximizing Economic and Ecological Opportunities

Why develop a climate adaptation plan for Collingwood?

- Increasing climate impacts affecting services and infrastructure
- Council and community direction through existing plans and policies
- Need to integrate climate risk into current and future projects
- Opportunity to build long-term resilience through collaboration

Building Adaptive & Resilient Communities (BARC)

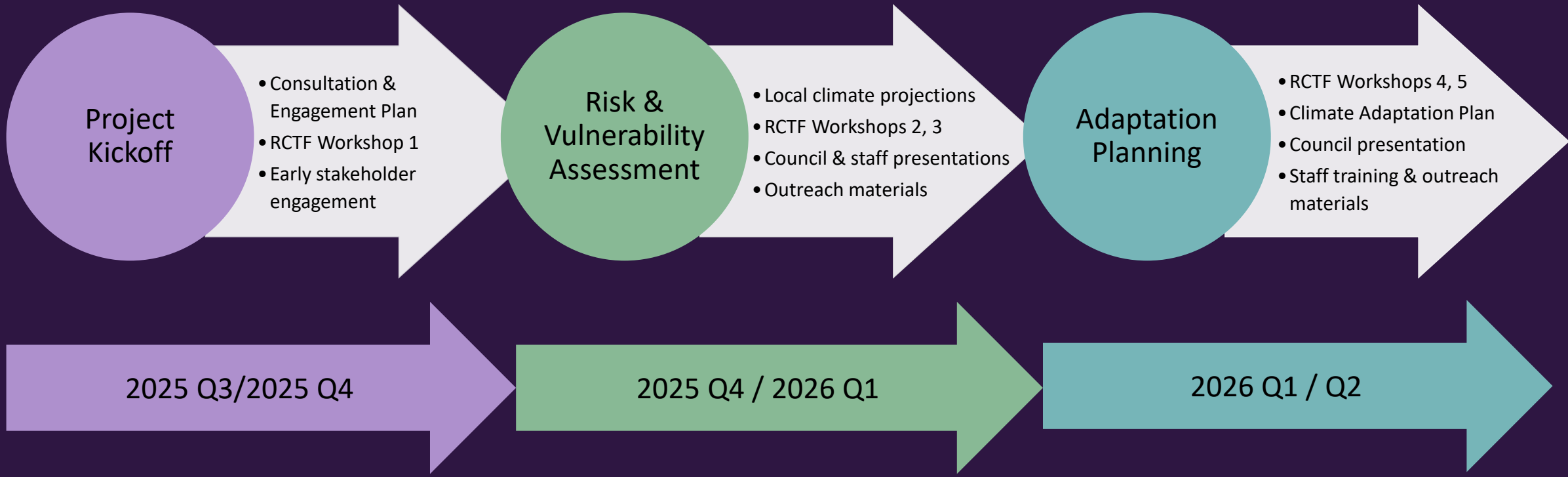
Five milestone framework developed by the International Council for Local Environmental Initiatives (ICLEI) Canada



Source: Adapted from ICLEI Canada

Collingwood Climate Adaptation Plan

Key Deliverables & Schedule



Today's Workshop

Purpose & Objectives

What we are doing today

- Validate likelihood scores
- Evaluate consequences
- Identify priority risks

What we need from you

- Your experience and perspective
- Honest input on impacts and response capacity
- Insight into gaps or uncertainty

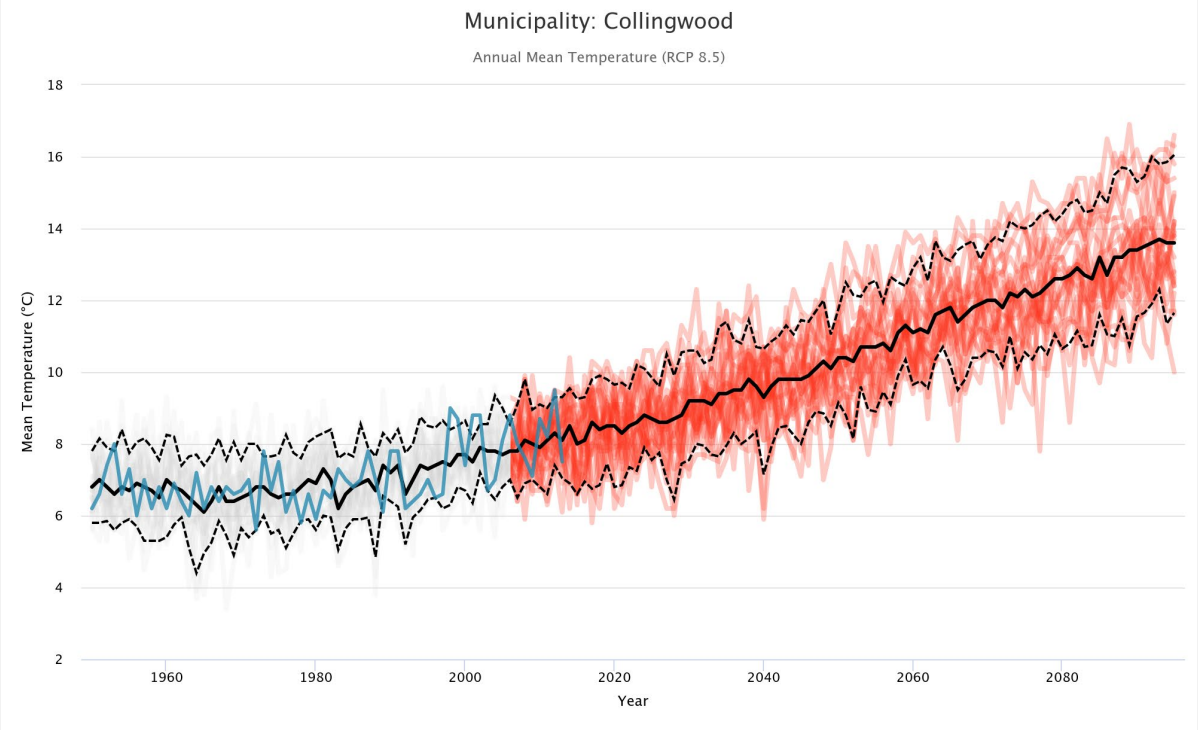
How this supports the project

- Strengthens the risk assessment
- Grounds results in local context
- Informs adaptation priorities

Vulnerability Assessment: Approach & Key Findings

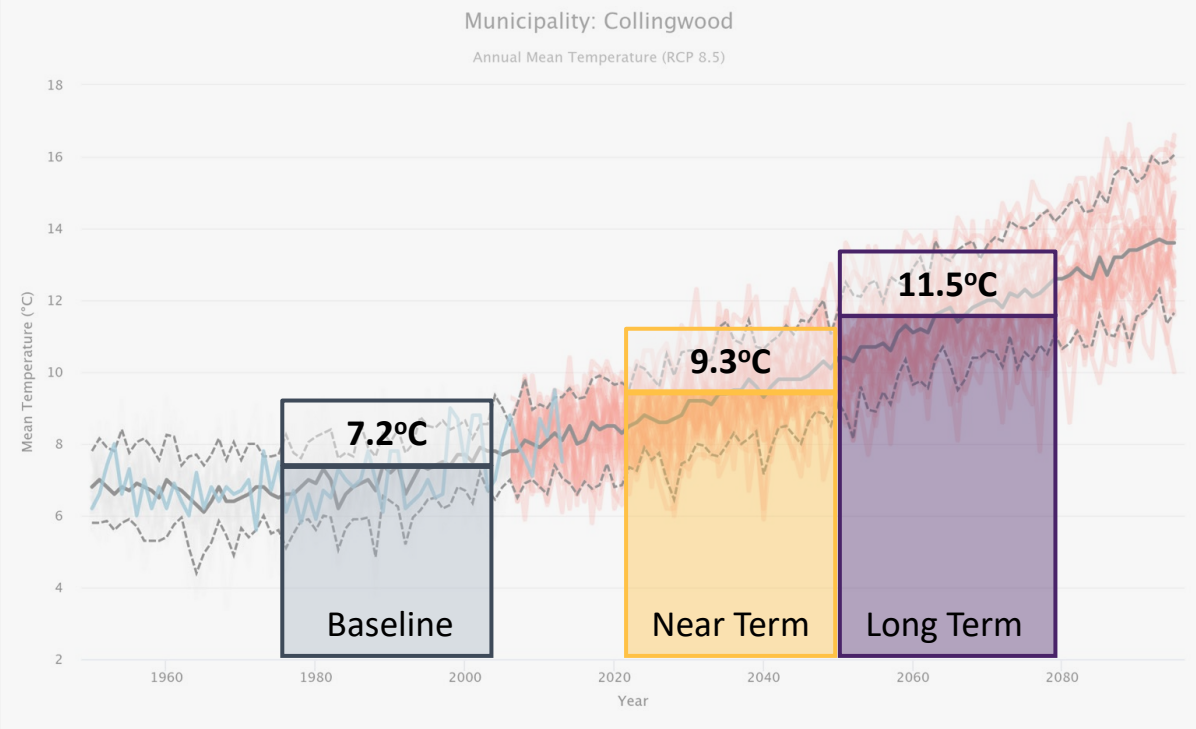
Projected Climate Trends: Collingwood

Annual Mean Temperature



Projected Climate Trends: Collingwood

Annual Mean Temperature



Projected Climate Trends: Collingwood

Temperature

- Rising averages throughout the year
- More frequent and hotter summer days
- Fewer cold winter days

Precipitation

- More precipitation annually
- More variability in winter (snow, rain, ice)

Extreme Weather

- Greater frequency and severity of storm events
- More intense short-duration precipitation events

Seasonality

- Longer growing season
- Wetter winters and springs

Common Climate Outcomes Across Systems

Built System

- Service strain and maintenance pressure
- Reduced service reliability during extremes
- Accelerated asset deterioration

Economic System

- Higher operating and recovery costs
- Business disruption
- Household financial stress

Sociocultural System

- Emergency and health care service strain
- Health, safety, and wellbeing impacts
- Access and mobility disruptions

Natural System

- Ecosystem degradation
- Invasive species expansion
- Loss of recreational and cultural value

Understanding Vulnerability in Climate Planning

- Vulnerability describes **how strongly a system is affected** by climate impacts
- It reflects both **sensitivity** and the system's **ability to adapt**
- Helps identify **where impacts are hardest to manage** – not just where hazards exist

Assessing Vulnerability

	Low Sensitivity	Medium Sensitivity	High Sensitivity
Low Adaptive Capacity	Medium Vulnerability	High Vulnerability	High Vulnerability
Medium Adaptive Capacity	Low Vulnerability	Medium Vulnerability	High Vulnerability
High Adaptive Capacity	Low Vulnerability	Low Vulnerability	Medium Vulnerability

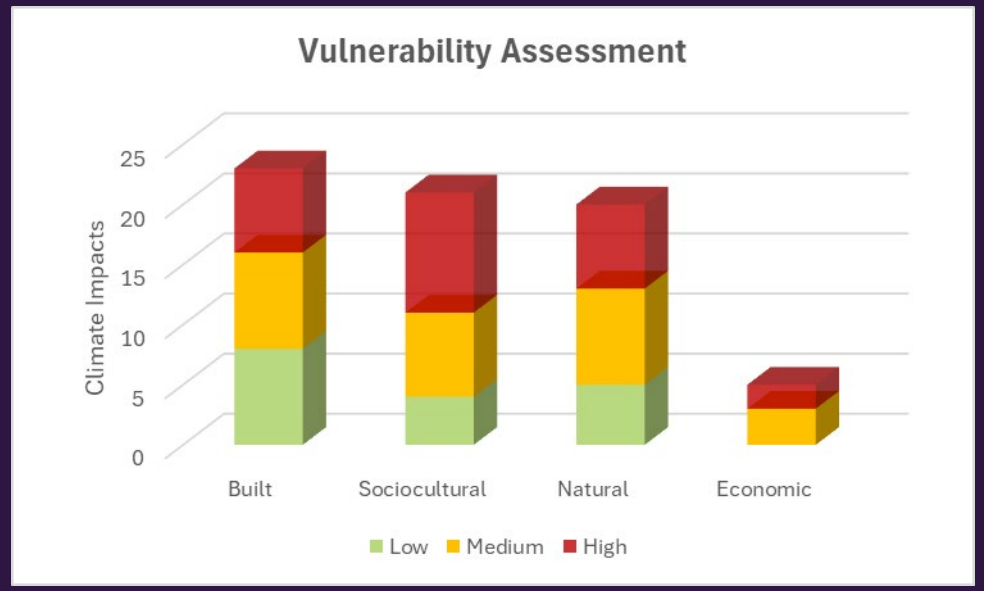
High sensitivity & low adaptive capacity
→ high vulnerability

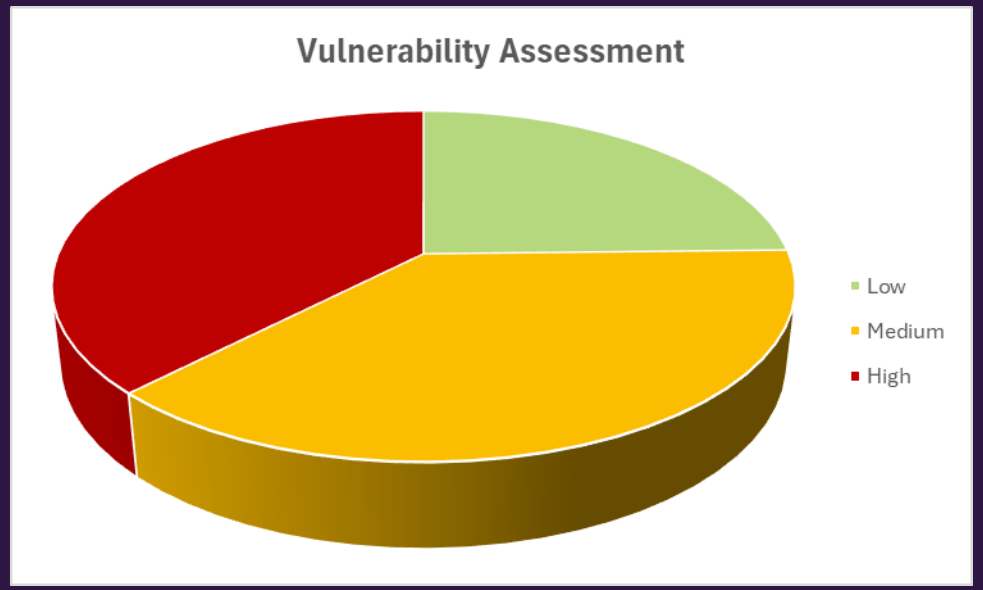
Low sensitivity & high adaptive capacity
→ low vulnerability

Vulnerability Assessment

Overview & Results

- Assessed across built, sociocultural, natural, and economic systems
- How climate pressures interact with current policies, resources, and coordination - not whether systems are “failing”
- 75% of climate impacts fall within medium to high vulnerability ranges

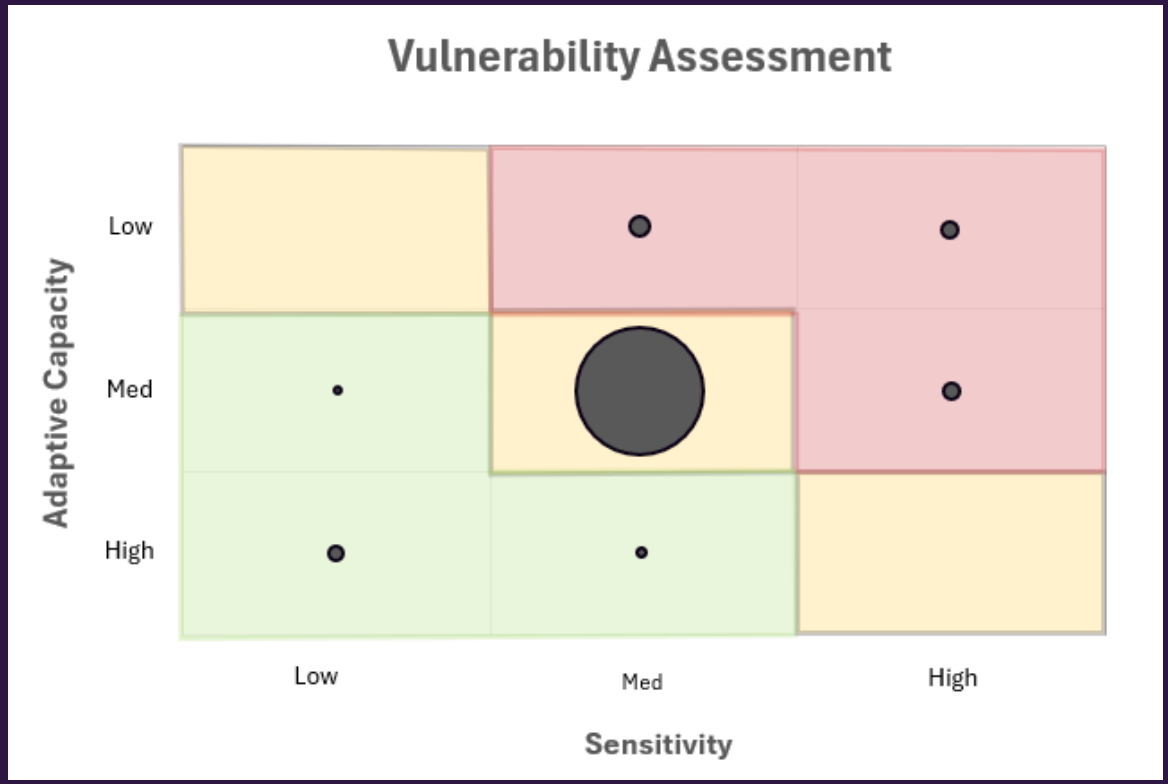




Vulnerability Assessment

Key Insights

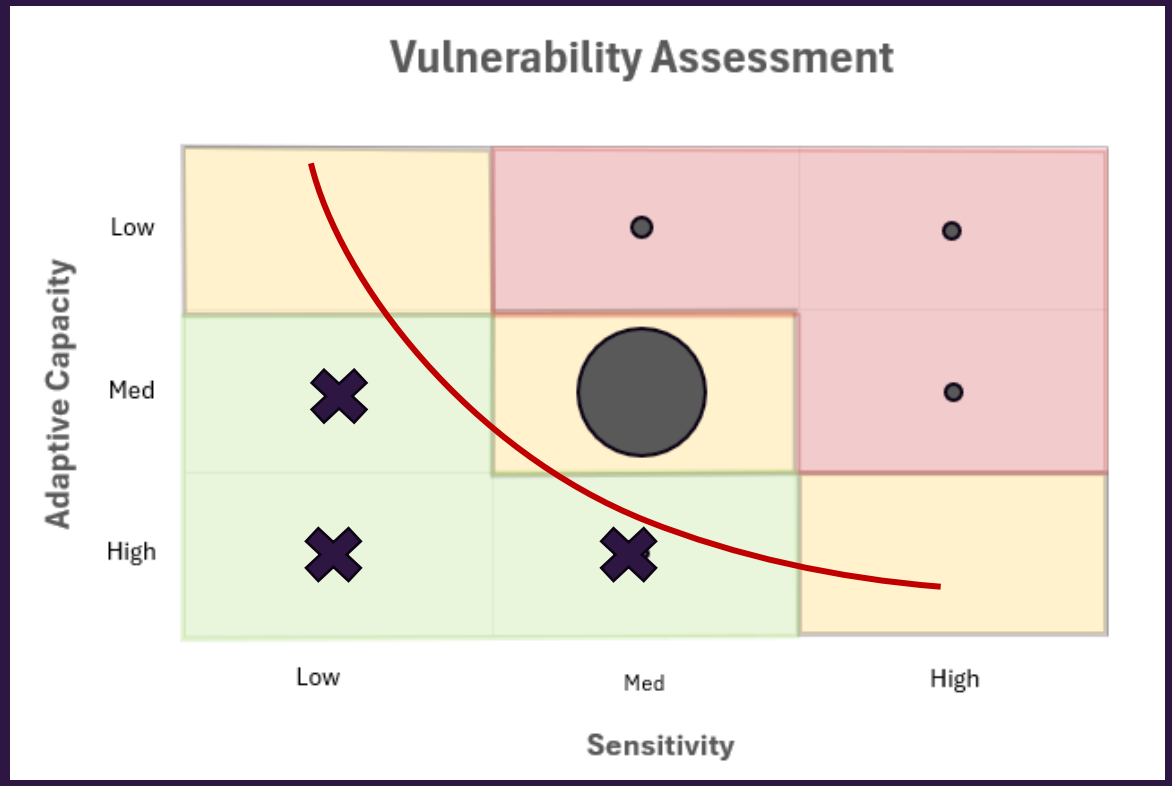
- No low-impact and hard to manage events
- No high-impact and well-prepared for events
- Reactive capacity dominates
- Cross-system effects are common
- Costs and coordination matter



Vulnerability Assessment

Outcomes

- 17 low vulnerability impacts will not move forward to the risk analysis
- Vulnerability screening reflects relative priority, not importance
- Risk assessment will help us better understand where climate impacts could create the greatest disruption to services and the community



Mentimeter

Climate Impacts & Vulnerability

Risk Refresher

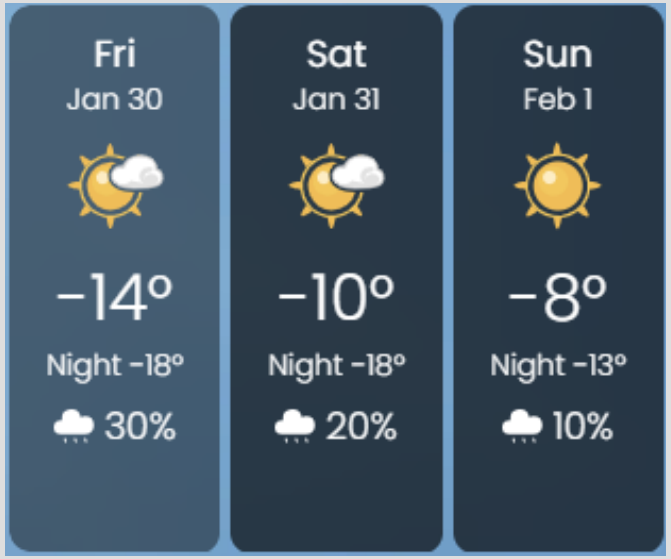
How We Think About Risk Everyday

- Risk is about **uncertainty and impact**
- We constantly **balance how likely something is** with what happens if it does
- Most decisions focus on prioritizing our attention, not eliminating risk

How Risk Shapes Our Choices

Likelihood

- How often might this happen?
- Is it rare, occasional, or becoming more common?
- Do trends suggest this is changing over time?



Consequence

- If it does happen, how disruptive would it be?
- Who or what is affected?
- Are impacts short-term, or do they linger?

From Everyday Risk to Climate Risk

- Applies the same thinking to **services**, **infrastructure**, and **communities**
- Different **scale, complexity, and time**
- A **structured approach** helps ensure consistent, transparent decisions

BARC Approach to Climate Risk

$$Risk = Likelihood\ x\ Consequence$$

Focuses on **community and service outcomes**, not assets

Considers how impacts affect **individual and interconnected systems**

Emphasizes **manageability and recovery** – not failure

Likelihood

Likelihood	Rating	Recurrent Impact	Slow Onset
Almost Certain	5	At least once per year (Annual chance: 100%)	95% or greater chance of occurrence in the next 50 years
Likely	4	Once in 1-5 years (Annual chance: 20-100%)	65 -90% chance of occurrence in the next 50 years
Possible	3	Once in 5-10 years (Annual chance: 10-20%)	5-25% chance of occurrence in the next 50 years
Unlikely	2	Once in 10-50 years (Annual chance: 2-10%)	5-35% chance of occurrence in the next 50 years
Very Unlikely	1	Once in 50 years or more (Annual chance: <2%)	Less than 5% chance of occurrence in the next 50 years

Recurrent Impact - May occur more than once

- Storm surge flooding
- Extreme heat resulting in heat-related deaths

Slow Onset – Only happens once

- Loss of an animal species due to increasing temperatures
- Introduction of disease vectors to new areas

Consequence

Sociocultural Factors

Public Health & Safety Concerns

- Fatalities, injuries, illnesses, mental health

Displacement

- Permanent or temporary relocations

Disruptions to Daily Life

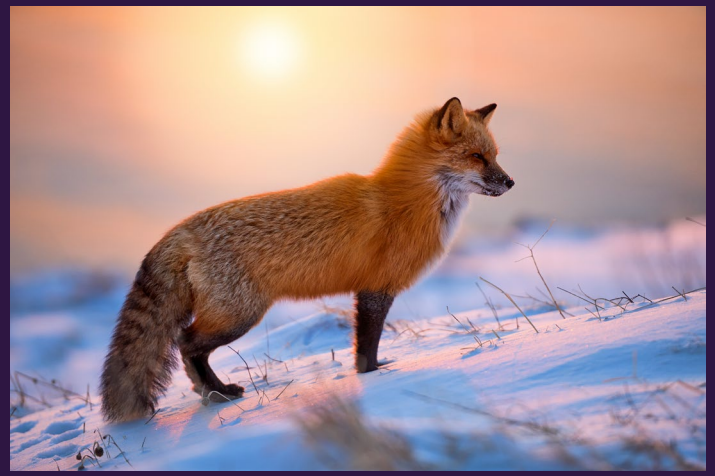
- Permanent, prolonged or short-term changes to routines or way of life

Loss of Identity, Traditions, & Cultural Practices

- Loss of traditions, ceremonies, community events

Consequence

Natural Factors



Air

- Frequency and duration of reduced air quality

Water

- Reduction in water quality and/or quantity

Land

- Impact to soil health, vegetation cover
- Cultural relationships with place

Biodiversity & Ecosystem Function

- Changes or loss in ecosystem function
- Irreversible versus reversible

Consequence

Economic Factors

Property Damage

- Level of damage and costs incurred by owners

Local Economy & Growth

- Business failures, supply chain disruptions, loss of employment

Livability & Cost of Living

- Increase in cost of living
- Decline in quality of life

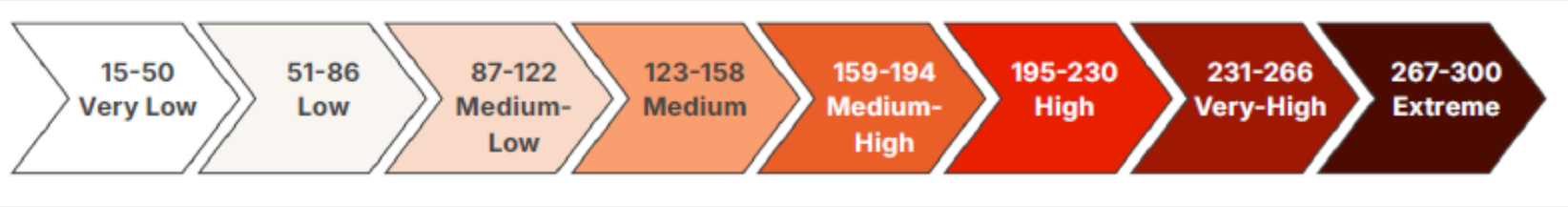
Loss of Public Services

- Decline in services and public administration
- Isolated, temporary or long-term

BARC Approach to Climate Risk

$$Risk(\mathrm{R}) = Likelihood\ (\mathrm{L})\ x\ Consequence\ (\mathrm{C})$$

$$\mathrm{R_{Total}} = \mathrm{L}\ x\ (\mathrm{C_{Sociocultural}} + \mathrm{C_{Natural}} + \mathrm{C_{Economic}})$$



Breakout Groups:
Climate Risk Assessment

Climate Risk Assessment

1. Review the climate impact statement and system effects
2. **Validate the climate likelihood rating** for near term and future projections and assign a confidence rating
3. **Determine a total consequences score** for each factor (natural, economic and sociocultural)
4. Document the rationale for the scoring
5. **Calculate the total risk scores** for the impact (near term and long term) and assign a confidence rating for them

Key Takeaways

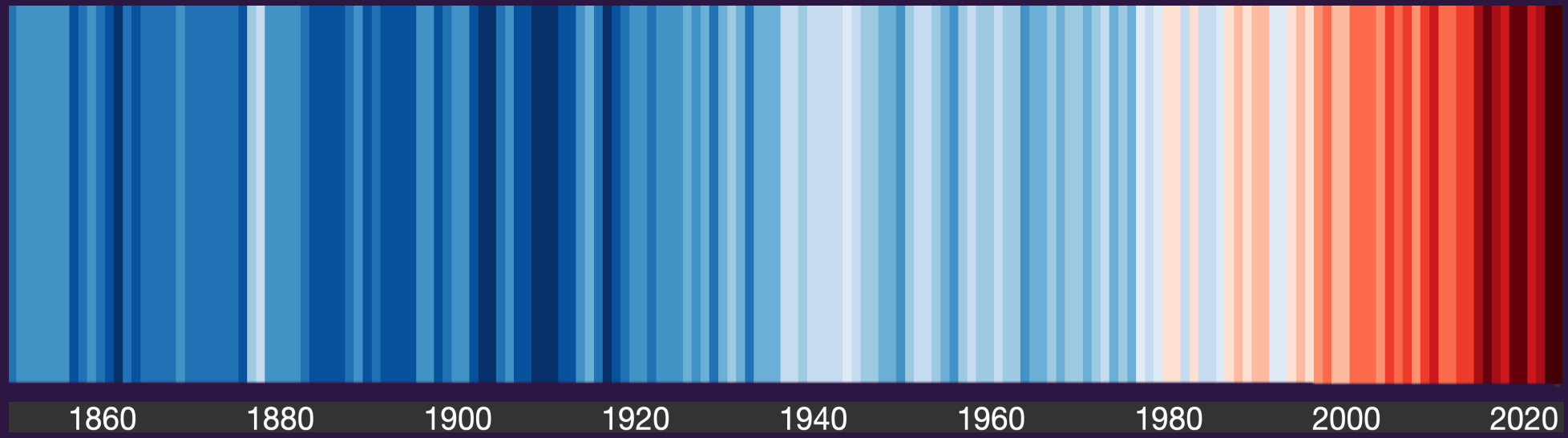
- Which risks felt most important once you talked them through as a group?
- Did you notice any common themes across different impacts or systems?
- Which risk ratings do you feel most confident about? Which ones would benefit from additional information or validation?
- Where do you see opportunities to build on existing strengths or practices?

Next Steps

1. Compile risk assessment results from today's workshop
2. Present project update and findings to staff and council
3. Host a public engagement session to validate risk assessment findings
4. Move into adaptation planning for priority climate risks

Thank You

#ShowYourStipes



Global temperature change from 1850-2024 (relative to the average temperature between 1961-2010)