Planning for Disaster Risk Reduction and Climate Change Adaptation

District of Central Saanich

Presentation to the Saanich Peninsula Accessibility Advisory Committee
January 23, 2025

Agenda

- Project Overview
- Questions
- Discussion

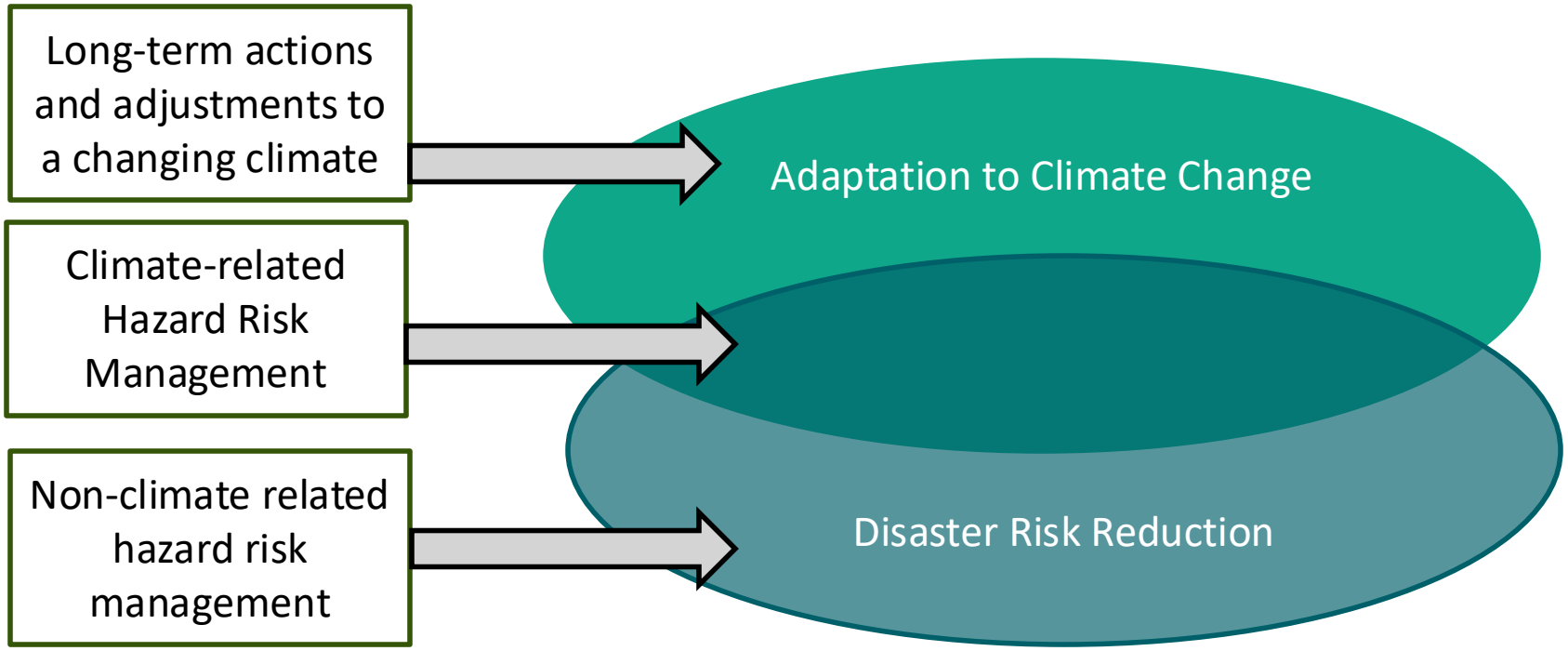
Project Overview

"It is important for the municipality to use an 'Accessibility Lens' on all decisions being made. How any decision whether it be housing, climate change or recreation needs to be looked at through that lens as a matter routine and planning. Not as afterthoughts." – Community member with a physical and cognitive disability

Project Overview

- Develop a Disaster Climate Risk Reduction and Adaptation Plan
- Develop a Mental Health Resiliency Strategy
- Build knowledge and capacity
  - Distinct vulnerabilities and needs
  - Focus on resilience gaps and opportunities
  - Engage with partners and staff

Disaster Risk Reduction and Climate Change Adaptation

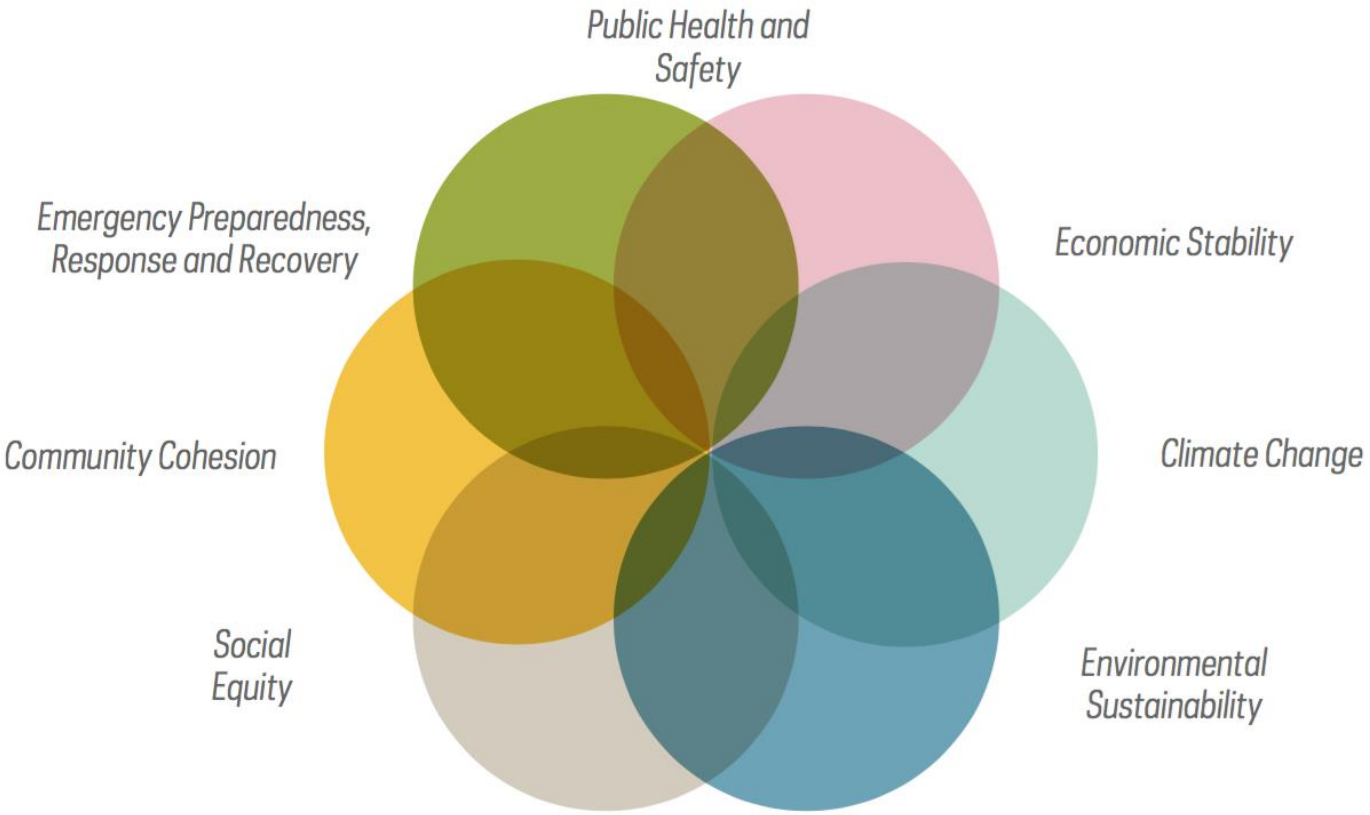


Prevent Creation of New Risk

Reduce Existing Risk

Increase Resilience

It's All Connected



General Process Steps

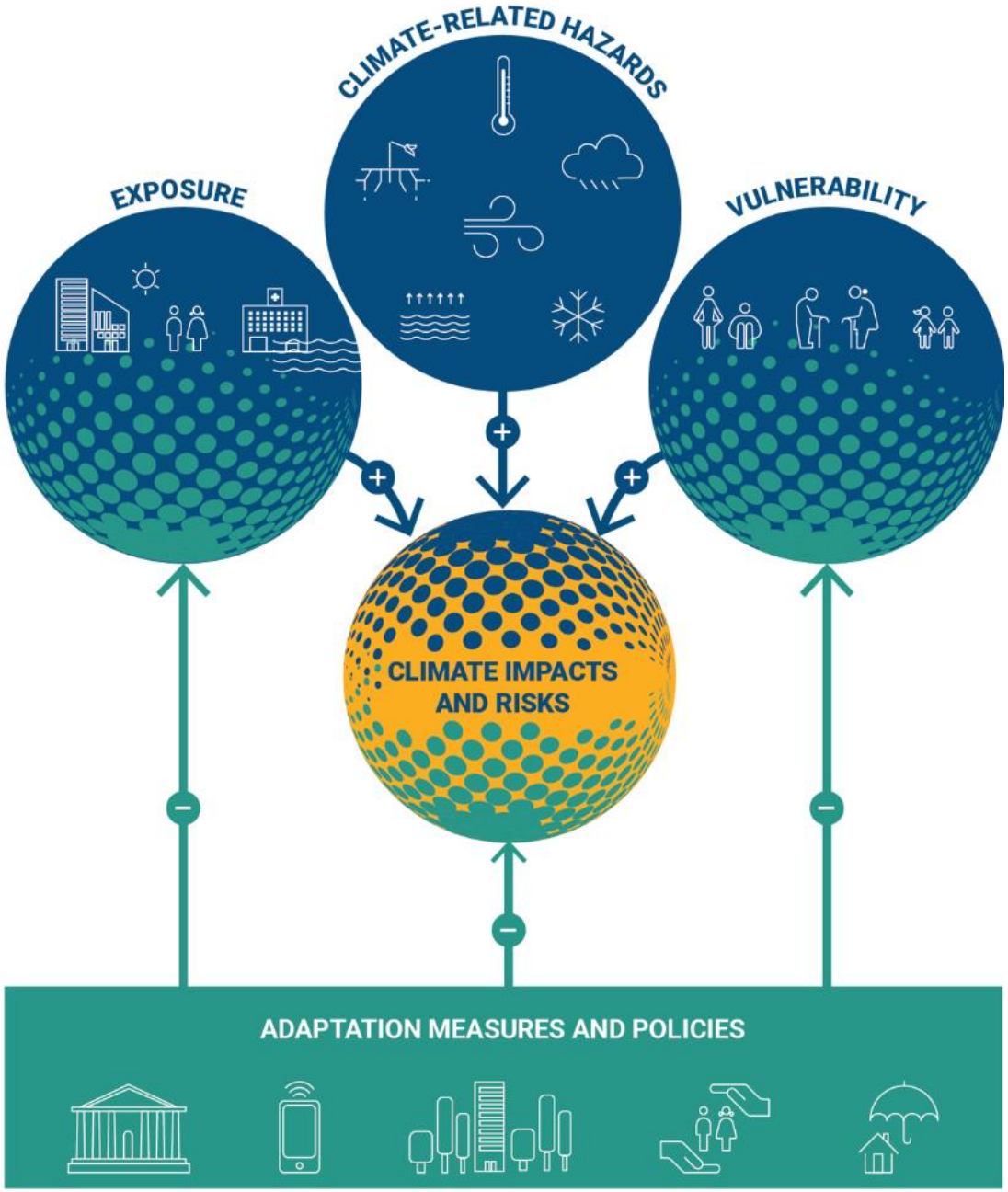
European Union Example

Canadian National Adaptation Strategy

Timeline


First Nations Engagement
Survey
Focus Groups
Public Engagement
Nov. 2024
Feb. 2025
April 2025
Nov. 2025
Interest Holder Workshop 1 - Impacts
Risk Assessment
Interest Holder Workshop 2 – Develop Strategies
Implementation Planning
Draft Plan to Council

Climate Hazards and Projections



The impacts of climate events and disasters are not evenly experienced within or between population groups.

Incorporating equity considerations into disaster and climate risk management is essential for building resilient communities and reducing overall vulnerability.

Climate-Related Hazards

Extreme Heat

Flooding: Coastal, Riverine

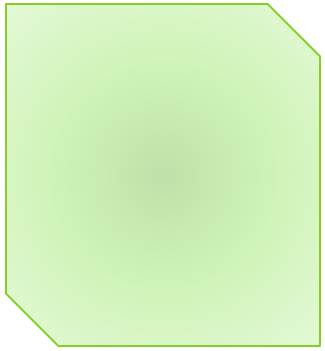
Flooding: Rain

Wildfire

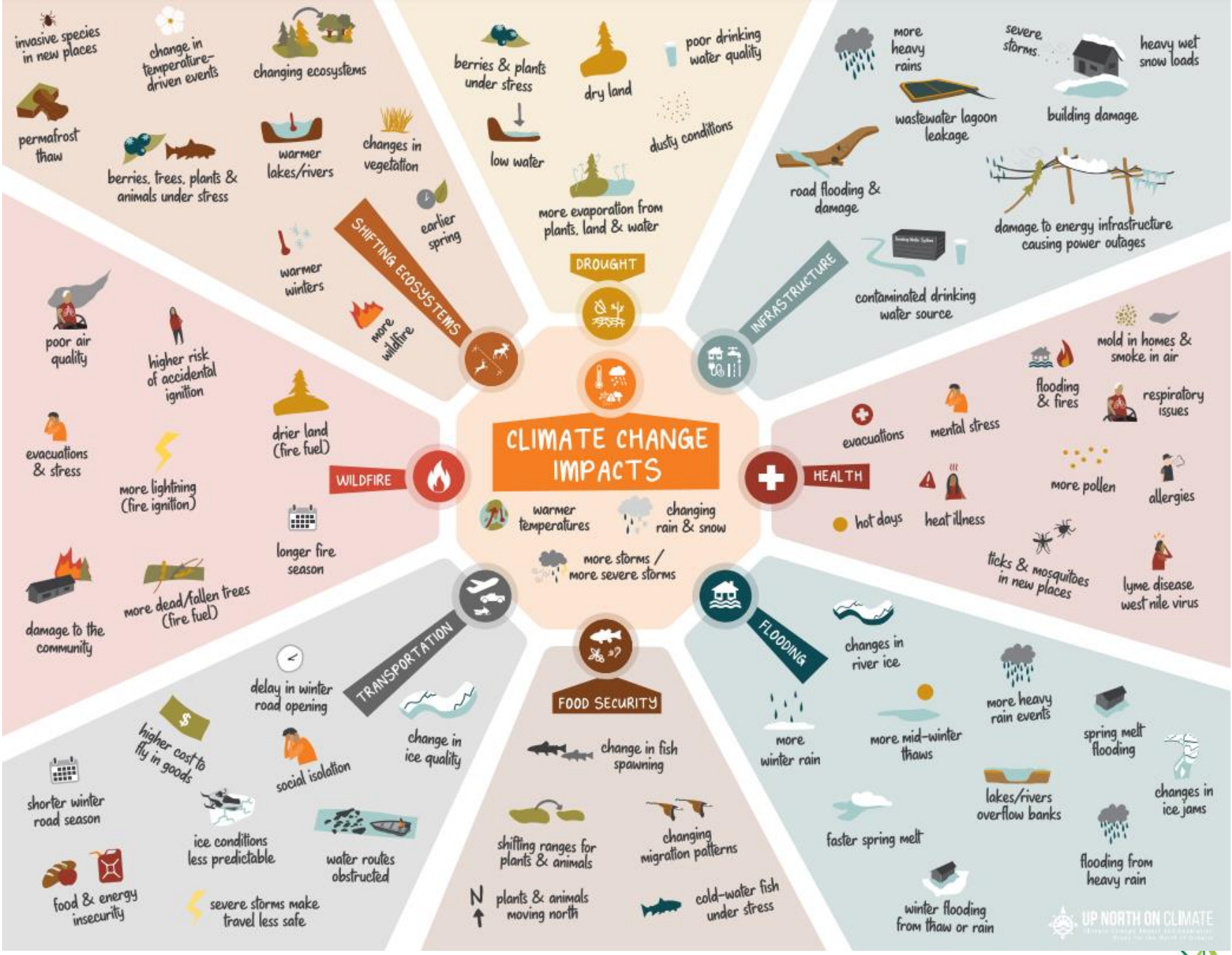
Smoke

Storms

Drought



Landslide


CLIMATE CHANGE IMPACTS
warmer temperatures
changing rain & snow
more storms / more severe storms
SHIFTING ECOSYSTEMS
invasive species in new places
change in temperature-driven events
changing ecosystems
permafrost thaw
berries, trees, plants & animals under stress
warmer lakes/rivers
changes in vegetation
earlier spring
warmer winters
more wildfire
DROUGHT
berries & plants under stress
dry land
poor drinking water quality
low water
dusty conditions
more evaporation from plants, land & water
INFRASTRUCTURE
more heavy rains
severe storms
heavy wet snow loads
wastewater lagoon leakage
building damage
road flooding & damage
damage to energy infrastructure causing power outages
contaminated drinking water source
WILDFIRE
poor air quality
higher risk of accidental ignition
drier land (fire fuel)
evacuations & stress
more lightning (fire ignition)
longer fire season
damage to the community
more dead/fallen trees (fire fuel)
HEALTH
evacuations
mental stress
flooding & fires
mold in homes & smoke in air
respiratory issues
more pollen
allergies
hot days
heat illness
ticks & mosquitoes in new places
lyme disease
west nile virus
TRANSPORTATION
delay in winter road opening
higher cost to fly in goods
social isolation
change in ice quality
shorter winter road season
ice conditions less predictable
water routes obstructed
food & energy insecurity
severe storms make travel less safe
FOOD SECURITY
change in fish spawning
shifting ranges for plants & animals
changing migration patterns
N
plants & animals moving north
cold-water fish under stress
FLOODING
changes in river ice
more winter rain
more mid-winter thaws
more heavy rain events
spring melt flooding
changes in ice jams
lakes/rivers overflow banks
faster spring melt
flooding from heavy rain
winter flooding from thaw or rain
UP NORTH ON CLIMATE

Hotter, drier Summers

Hottest Summer Days

1990s	2050s	2080s
29°C	32°C	35°C

Heatwaves

1990s	2050s	2080s
1 day		22 days

Tropical Nights

1990s	2050s	2080s
0		52 days

Summer Rainfall

1990s	2050s	2080s
	15% decrease	19% decrease

Impacts

- Water shortages
- Heat illness
- Increased wildfire and grass fire risk
- Social isolation
- Absenteeism and reduced productivity
- Sensitive infrastructure may overheat
- Marine die off, impacts on sensitive aquatic species
- Stress on species such as the Western Red Cedar
- Business disruption

Warmer, Wetter Winters

Coldest Nighttime Low

-15℃	+5℃	+8.5℃
1990s	2050s	2080s

Frost and Ice Days Decreasing

	Half as many as today	Rare
1990s	2050s	2080s

Longer Growing Season

	+47 days	+68 days
1990s	2050s	2080s

- Snow rare by the 2080s
- Heating load decreasing for buildings – down 22% by the 2050s
- Winter rainfall increasing by 25% by the 2050s

Increased Intensity and Frequency of Precipitation

1:20 Year Wettest Day

100mm	+15%	+25% or 125mm
1990s	2050s	2080s

1:20 5-day Rainfall

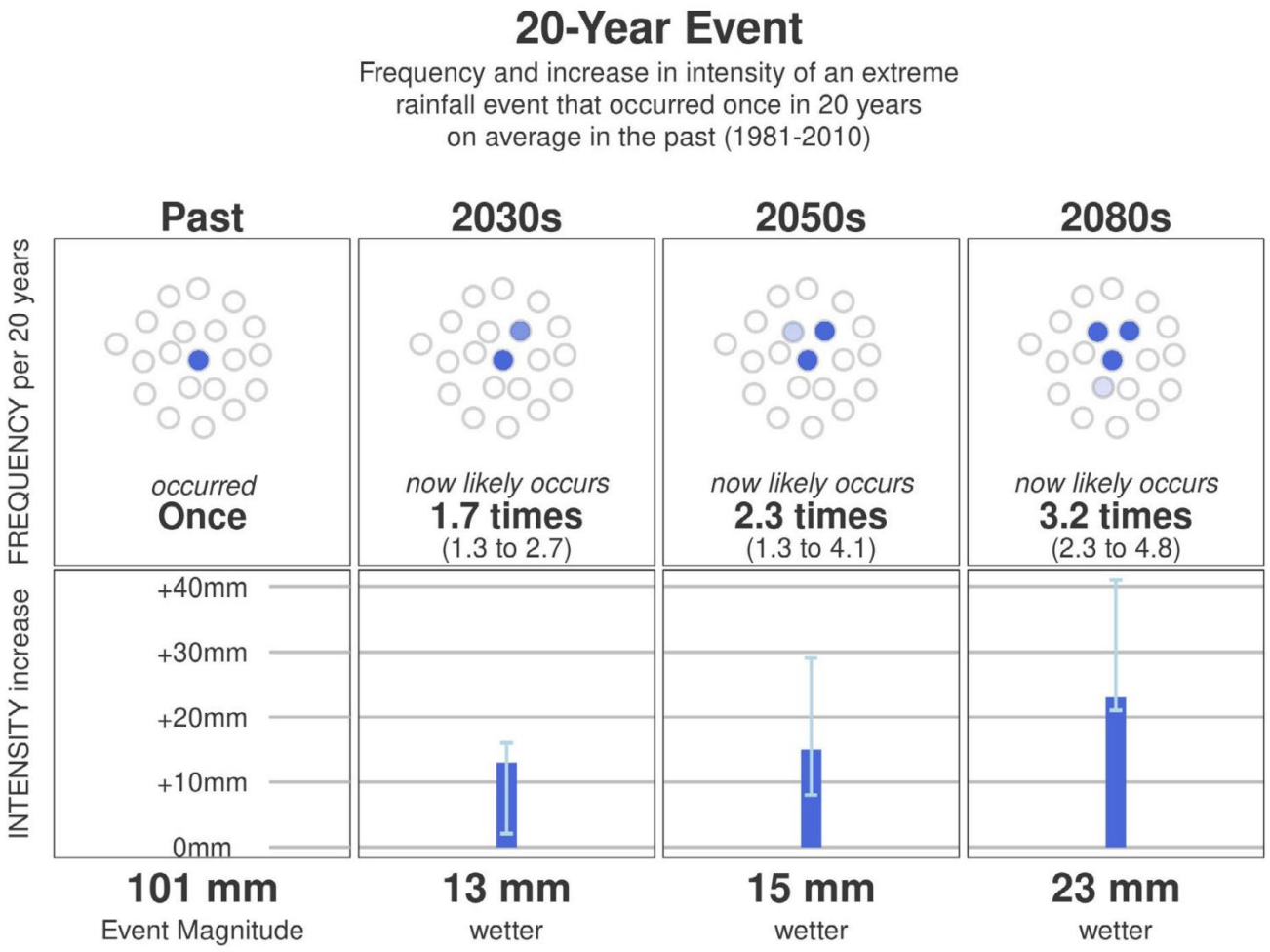
230mm		+20% or 280mm
1990s	2050s	2080s

- The wettest days which capture the volume of rainfall on the 95th percentile wettest days annually increase by 47% by the 2080s.
- Increases risk of flooding, landslide/debris flood/flow
- Compound hazard with wildfire

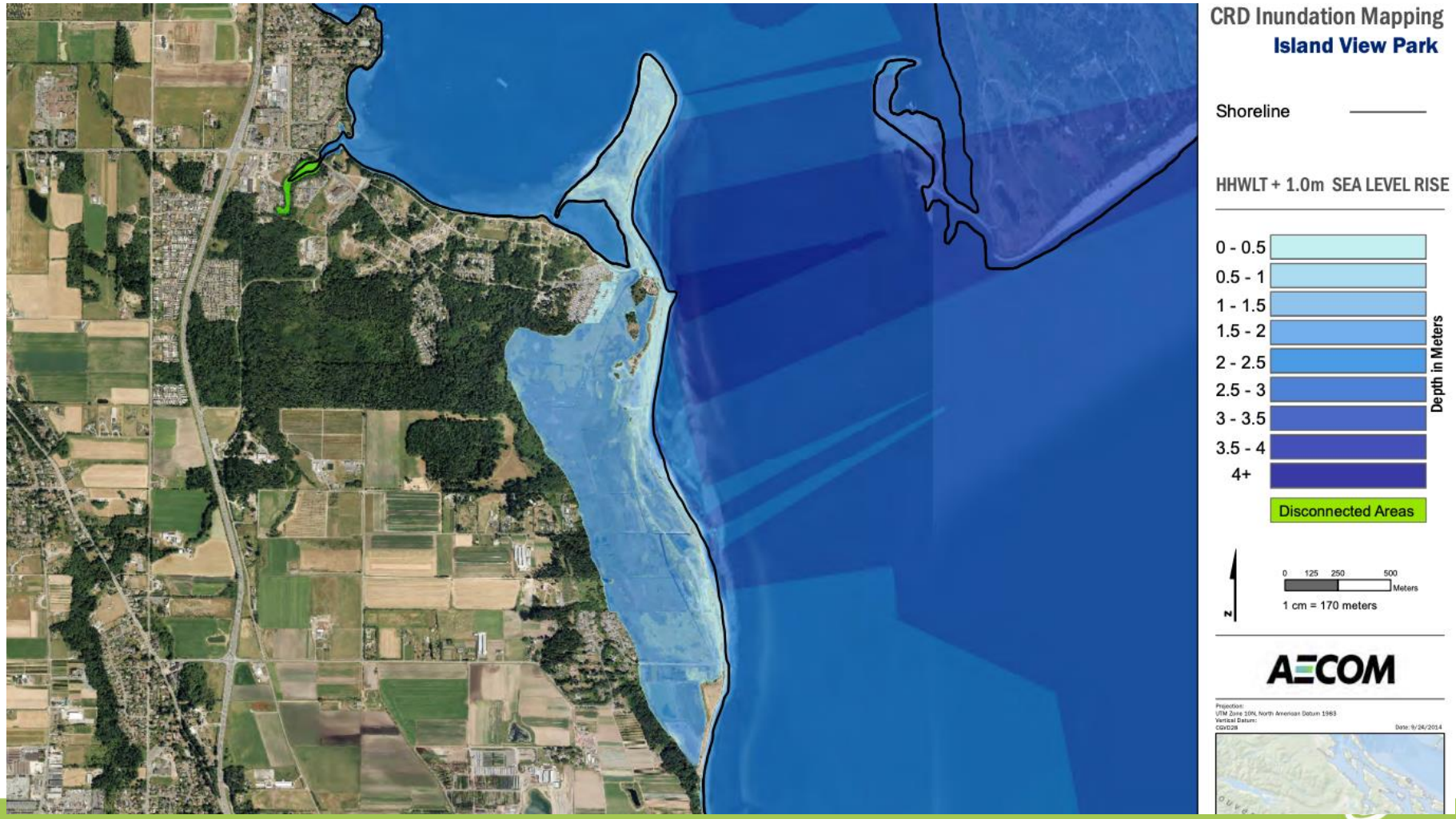
Impacts

- Flooding from heavy rainfall – damage, disruption, supply chain
- Stormwater / ditching not designed for flow levels
- Anxiety every time it rains
- Pests may survive the winter better
- Increased invasive species
- More wear and tear on infrastructure
- Increasing insurance premiums
- Increasing risk of landslide, debris flood, erosion
- Damage to crops, livestock evacuation

Increasing frequency and Intensity of Extremes



Sea Level Rise



Overlap with the 2023 Accessibility Plan

- Improve plain language, accessible information and communication
  - Including the PEMO alert system (review accessibility)
- Review current mental health support mechanisms and consider possible improvements.
- Establish a service desk / method to support residents to access and navigate services
- Event checklist, dispatch training and emergency plan review for municipal buildings
- Increase infrastructure for electric mobility devices
- Improved transportation options and sidewalks.

Questions?

Discussion

Discussion Questions

- What is your experience and/or observations of impacts from climate-related hazards and extreme weather?
- Are there gaps you see for climate resilience in the existing accessibility plan?
- When is an appropriate time to circle back with this committee? With draft actions?

Next Steps

- Focus Groups – Deeper Dive:
  - older adults, youth, agriculture sector, service providers
- Public Survey Findings
- Meet with staff project team to review risk assessment
- Workshop 2 in the spring - Actions to build resilience and reduce risk

Thank you!

Tamsin Mills – Tamsin@pinna.ca

Kerri Klein - Kerri@shiftcollaborative.ca