



Tools for Communities: Climate Change Hazard Maps

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Overview

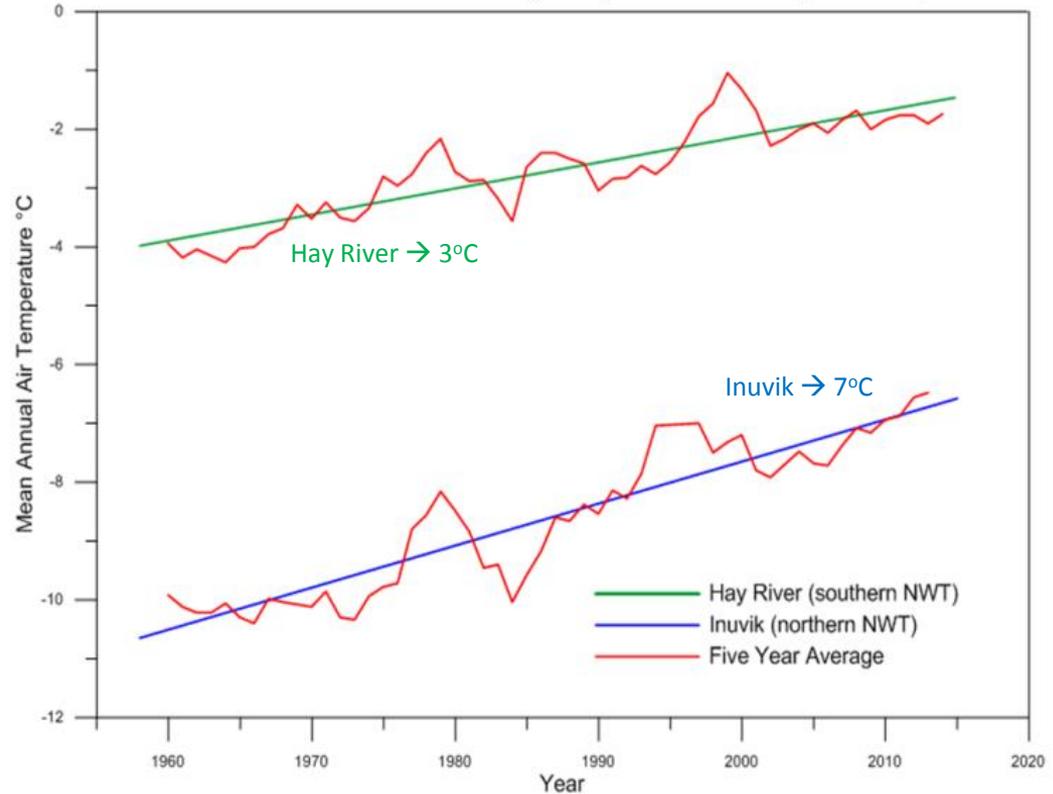
1. Climate Change Context
2. Hazard Mapping Project
3. Other Projects

Situation

Parts of the NWT are warming at rate 4 – 5 x faster than global averages.

Communities are experiencing impacts at a local level.

Observed Historical Rates of Warming – Hay River and Inuvik (1958-2015)



Government of Northwest Territories

2030 NWT Climate Change Strategic Framework: Goals



1. Reduce Greenhouse Gas Emissions
2. Improve Knowledge of Climate Change Impacts
3. Build Resiliency and Adapt to a Changing Climate

Current status:

A 2019-2023 Action Plan is under development and will be available for a four-week public review period.

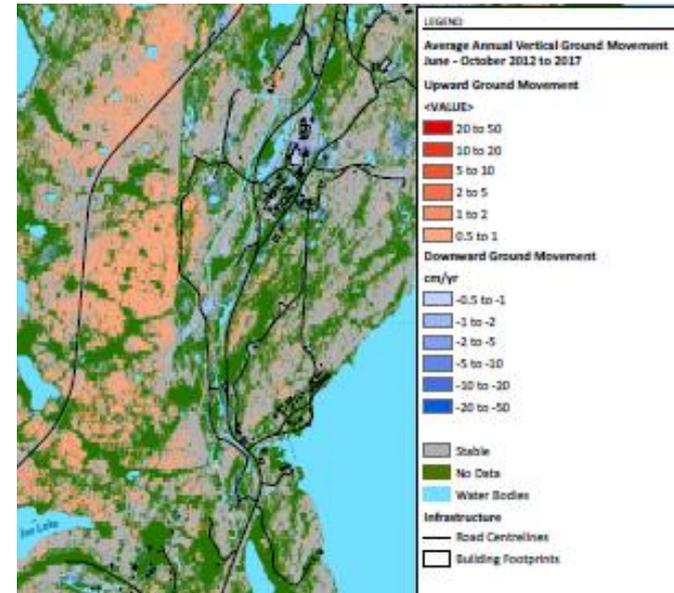
**Climate change is producing
new, or changes to existing,
hazards and risks.**



The Department of Environment and Natural Resources is working to provide communities with climate change hazard maps and other resources.

This supports:

- The 2030 NWT Climate Change Strategic Framework Goals
- **NWT Association of Communities' 2018 Re-affirmed Resolution for the need to support Hazard Mapping and Adaptation planning for NWT communities.**





What is a Hazard and a Risk?

- A **hazard** is any source of **potential** damage, harm or adverse health effects on something or someone.
- **Risk** is the chance that something or someone will be harmed if exposed to a hazard.



Main Climate-Driven Hazard Types for NWT

- Permafrost thaw
- Landslides and ground movement
- Flooding
- Coastal and River Erosion
- Sea Level Rise
- Wildland Fire
- Sea and Freshwater Ice change



What is a Climate Change Hazard Map?

- Spatial representations of physical processes associated with climate change
 - Example – Flood Risk Maps
- A variety of information is needed to produce a map
 - Air photography, remote sensing, geotechnical information
 - Methodology to interpret datasets into a map

How can communities use Hazard Maps?

- Limit development in hazard prone areas.
- Ensure the built environment can withstand a range of environmental stresses.
- Monitoring infrastructure and buildings to assist with maintenance and asset management.
- Preserve natural environments that can help reduce climate impacts.
- Provide hazard-related information to the public.
- Plan for emergencies.



How can you integrate climate adaptation into your plans and operations?

Hazard Mapping: Collaborative Approach





Hazard Mapping Project Team

The following Departments are involved:

- Environment and Natural Resources (**Project Lead**)
- Municipal and Community Affairs
- Industry, Tourism and Investment
- Lands
- Infrastructure
- Geomatics

**Northwest
Territories
Association of
Communities**

Status: Hazard Mapping Project

Analyzing requirements to develop hazard maps & related information

Completion March 2019

Lead: Department of Environment and Natural Resources

Analyzing requirements to update floodplain maps

Completion March 2019

Lead: Department of Lands

Compile and develop permafrost geotechnical datasets and pilot test methods with 2 – 3 communities

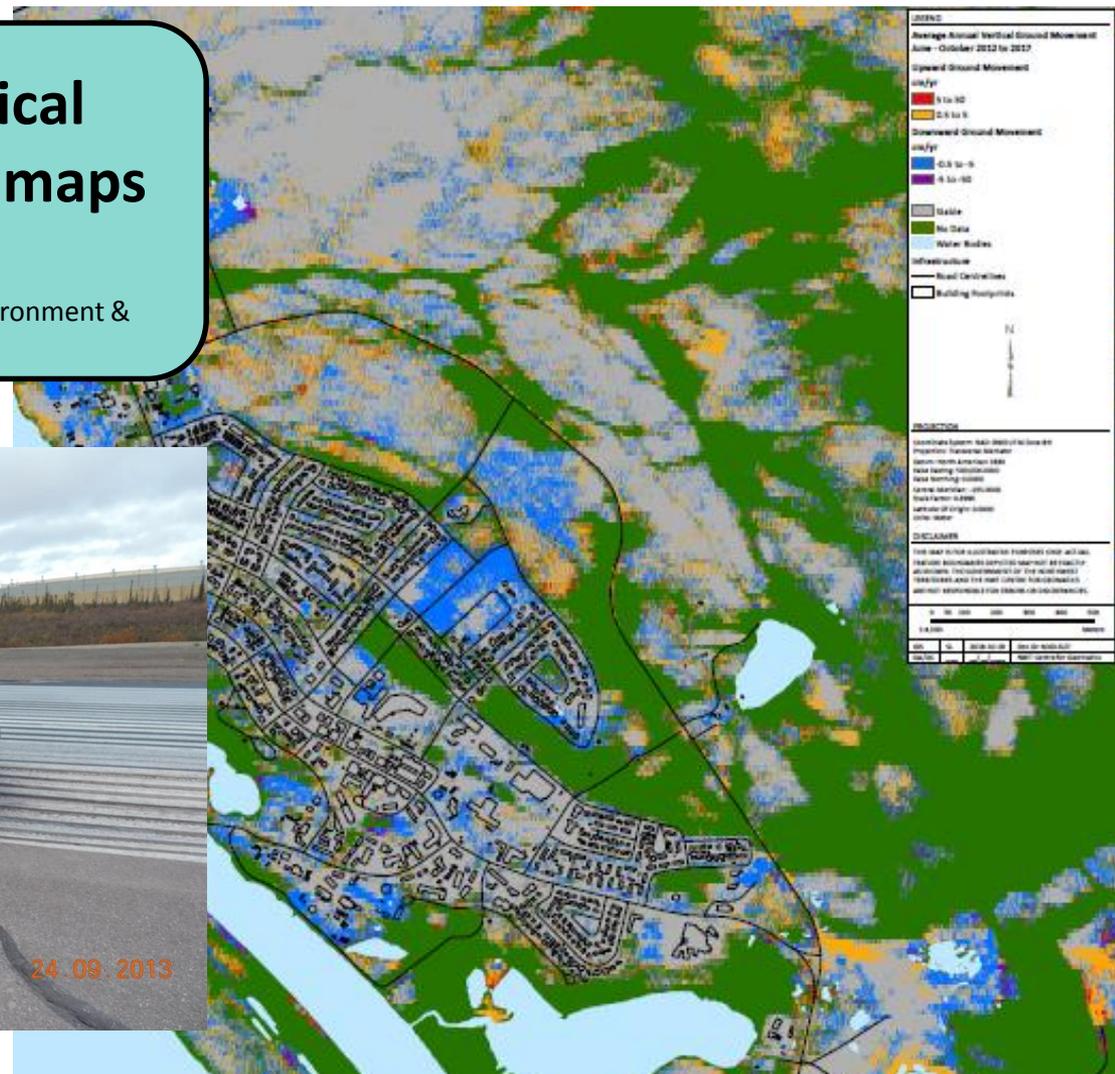
Completion March 2020

Lead: Department of Industry, Tourism and Investment

Pilot testing vertical ground movement maps

Project Underway

Lead: Geomatics and Department of Environment & Natural Resources



GNWT Community Climate Adaptation Resources - Under Development

**Developing a drainage
maintenance plan, training video
and materials.**

Lead: Department of Municipal & Community Affairs

Upcoming Webinar

December 6 – Climate Change
Adaptation and Community
Planning

Infrastructure Risk Assessment Project

- Understand risks to community infrastructure
- how to plan for and manage infrastructure

Lead: Department of Municipal & Community Affairs

Questions????

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