ASSESSING AND MITIGATING MUNICIPAL CLIMATE RISKS AND VULNERABILITIES IN YORK REGION, ONTARIO

Project Update

ONTARIO CLIMATE CONSORTIUM

May 2015

Research Purpose

The overall objective of this project is to advance climate change adaptation action planning in York Region, which has the ultimate aim of enhancing the resilience of local communities, natural systems and municipal assets. This will be accomplished through the current project by establishing the processes, developing the necessary tools and templates, compiling/developing the necessary information, tailoring data management systems and enhancing staff capacity to conduct risk and vulnerability assessments, and resiliency-based adaptation planning.

Context

The Intergovernmental Panel on Climate Change's (IPCC) Fifth Assessment Report (AR5) provides a substantial base of evidence to conclude that climate change is unequivocal, already resulting in a range of risks to nations and local communities, and likely to persist through the twenty first century (IPCC 2014; IPCC 2013). Key issues associated with climate change in the Great Lakes region, to which local communities will need to respond include; more frequent and intense extreme weather such as rainstorms, snowstorms, heat waves and droughts; anomalous climate conditions and shifts in seasonality; and the host of cascading impacts on water levels, hydro-ecological, socio-economic and infrastructure systems (Baule et al. 2014; Huff and Thomas 2014; Sholzberg et al., 2014).

The cascading impacts due to changes in climate are likely to exacerbate existing stress on assets and services across York Region, at both the upper tier and lower tier municipal level. Climate change is also likely to have interacting and compounding effects on existing pressures in the York Region, namely the pressures associated with increased urban land development and localized natural resource activities (York Region, 2011). That being said, the Region has a strong base of diverse natural landscape, with several key physiographic features such as Lake Simcoe and the Oak Ridges Moraine, which provide key assets for enhanced regional resiliency to change if managed sustainably.

Project Background

In 2011, the Regional Municipality of York developed a draft climate adaptation action plan to identify potential effects of climate change and strategies the region can adopt to prepare for these changes to ultimately ensure "more resilient Regional services and communities." This work was supported by other strategic documents produced by York Region including the Sustainability Strategy, Vision 2051, Official Plan and Greening Strategy. These documents recommend that the Region to explore how it can adapt to climate change to ensure more resilient communities and that it host a Climate Change Workshop to increase awareness about climate change and explore adaptation and response strategies. The York Region Official Plan [see over…]

also required the preparation of a climate change adaptation action plan which is in line with the Region's Sustainability Strategy.

At the local municipal level, climate adaptation is being addressed through a variety of mechanisms including sustainability plans, community energy plans and enhanced development standards; all of which achieve on the ground results. The development of an adaptation framework will assist York Region and each of the nine local municipalities to move towards creating actions plans to specifically address climate adaptation.

Project Tasks, Deliverables and Timelines

Phase 1	**Formalize stakeholders, adaptation team, adaptation framework and governance.** **Outcome 1:** Terms of reference	✓
Phase 2	**Identification of all municipal service areas/assets at risk, potential climate hazards and compilation of existing risk assessment information from Greater Toronto Area and Great Lakes communities.** **Outcome 2:** Completed risk identification and database set-up.	**In progress**
Phase 3	**Characterize detailed local vulnerabilities and risks for stormwater using indicators.** **Outcome 3:** Risk and vulnerability characterization for stormwater draft.	**Expected Jul. 2015**
Phase 4	**Validate and refine results from project Phase 3.** **Outcome 4:** Detailed risk and vulnerability characterization for stormwater.	**Expected Nov. 2015**
Phase 5	**Develop adaptive risk treatment/management for stormwater.** **Outcome 5:** List of adaptation alternatives for stormwater management.	**Expected Dec. 2015**

Project Participants and Funders

The project is being coordinated by the OCC and led by a steering committee. The core project team is composed of OCC, Clean Air Partnership (CAP) and York Region staff. This project was made possible through funding support from The Ministry of the Environment and Climate Change (MOECC) and the Great Lakes Integrated Sciences and Assessments Program (GLISA) who also provide guidance through advisory roles.

Key Audiences (Users)

The purpose of this project is to provide a framework for ongoing risk and vulnerability assessment and adaptive management/resiliency-based planning in York Region. Workshops and surveys will be used to engage staff more broadly and to increase capacity at the staff level to conduct risk and vulnerability assessment and adaptation planning across municipal management and service areas in York Region.

Contact

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