

Climate Adaption in Thunder Bay



June 2014 – Great Lakes & St. Lawrence Cities Initiative Annual Meeting

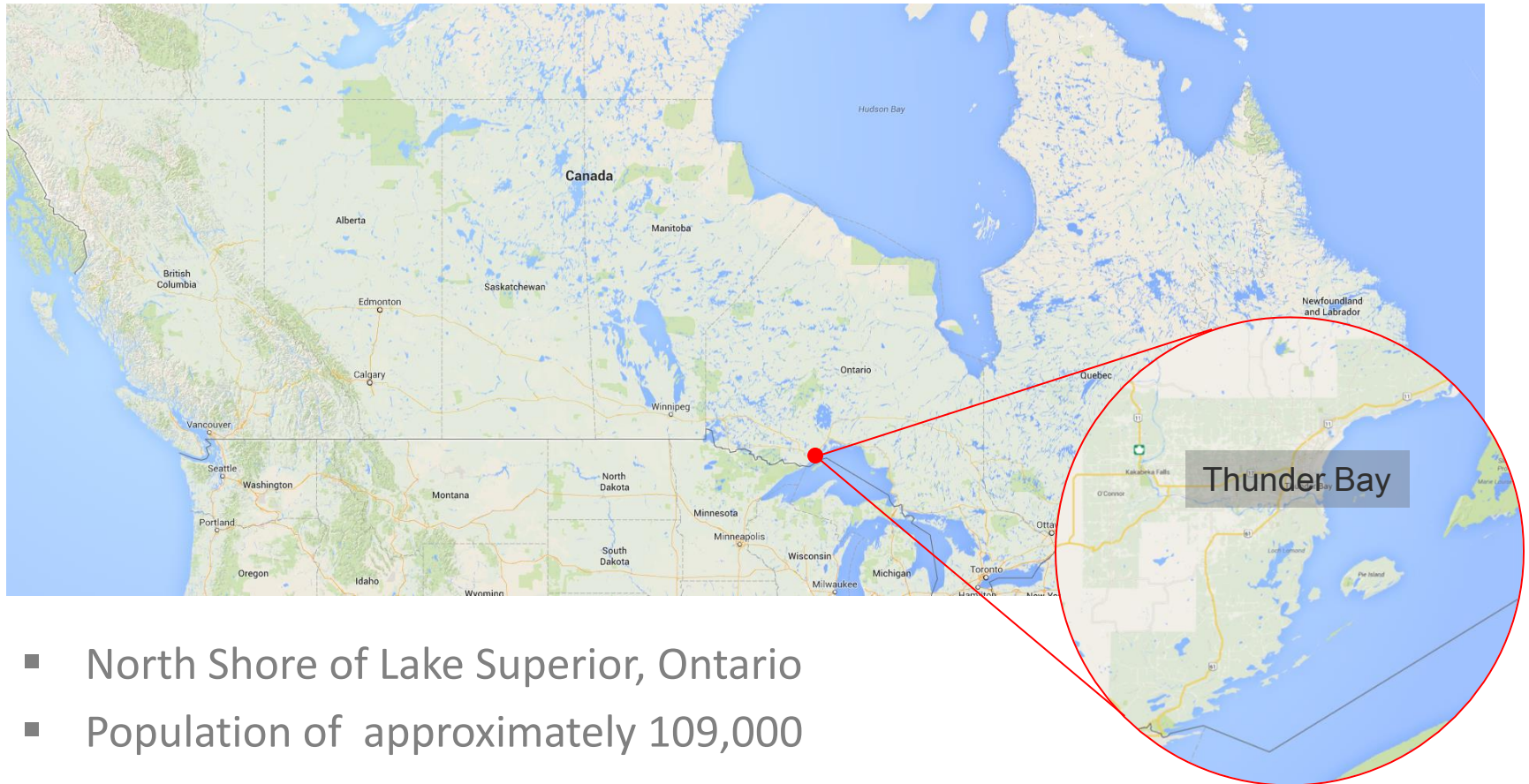


Outline

- Introduction – Climate Change in Thunder Bay
- Planning for Climate Adaptation
- EarthCare Thunder Bay – A Platform for Community Engagement
- Developing the Strategy – A Work in Progress
- Municipal Adaptation and Resiliency Service (MARS)



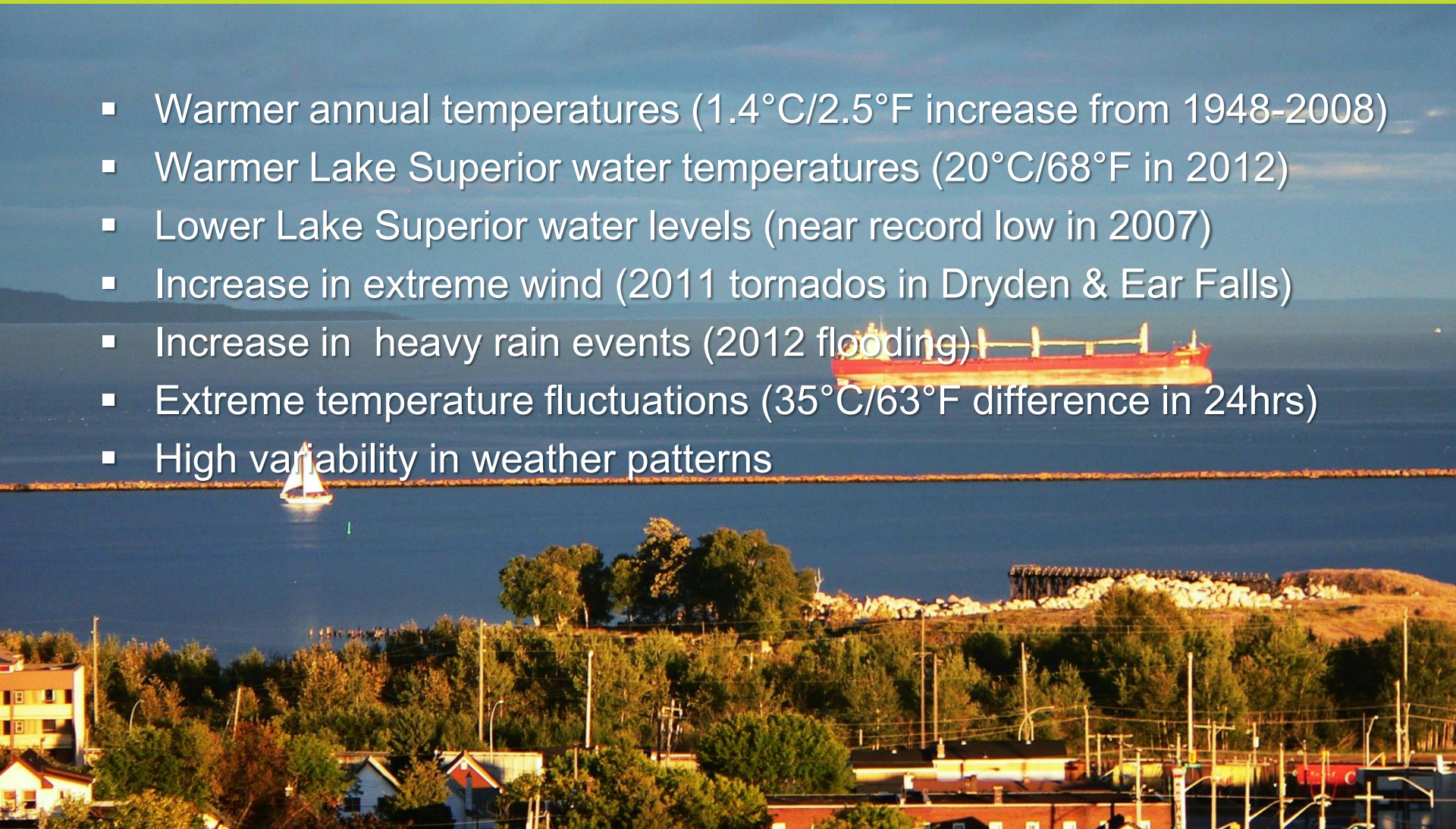
Introduction



- North Shore of Lake Superior, Ontario
- Population of approximately 109,000

Introduction

- Warmer annual temperatures (1.4°C/2.5°F increase from 1948-2008)
- Warmer Lake Superior water temperatures (20°C/68°F in 2012)
- Lower Lake Superior water levels (near record low in 2007)
- Increase in extreme wind (2011 tornados in Dryden & Ear Falls)
- Increase in heavy rain events (2012 flooding)
- Extreme temperature fluctuations (35°C/63°F difference in 24hrs)
- High variability in weather patterns



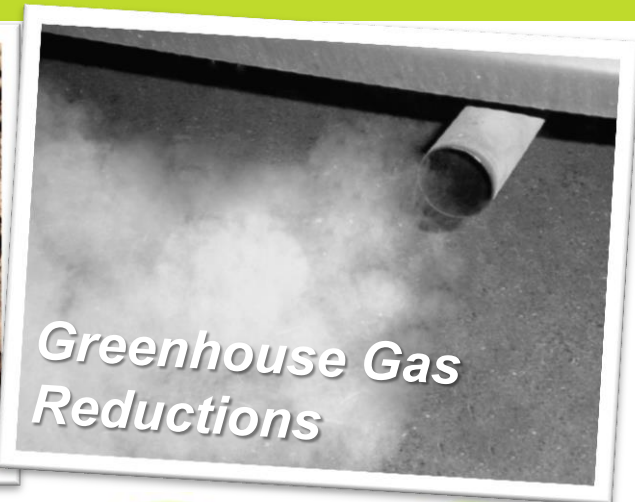
Planning for Climate Adaptation

- 70% of Thunder Bay citizens recently surveyed said they have experienced climate change
- May 2012 extreme weather event demonstrated that climate change impacts can incur high costs to the community as a whole
- The City of Thunder Bay is looking to take a proactive approach through the development of a Climate Adaptation Strategy
- The purpose of the strategy is to:
 1. Identify climate change impacts and the risk they pose
 2. Propose actions to reduce risk and vulnerability associated with climate changes impacts through adaptive measures

Planning for Climate Adaptation

- EarthCare recognized that creating a sustainable community goes beyond mitigation to include adaptation in the 2012 Annual Report
- There is a strong focus on climate adaptation in the updated EarthCare Sustainability Plan
- Developing a Climate Adaptation Strategy is also supported by the City's Executive Management Team, various Councillors and Mayor Keith Hobbs
- Thunder Bay joined the ICLEI Building Adaptive and Resilient Communities (BARC) program in 2012

EarthCare Thunder Bay



ENERGY



GREEN
BUILDING



EDUCATION



MOBILITY



AIR



COMMUNITY
GREENING



LAND USE
PLANNING



ADAPTATION



FOOD



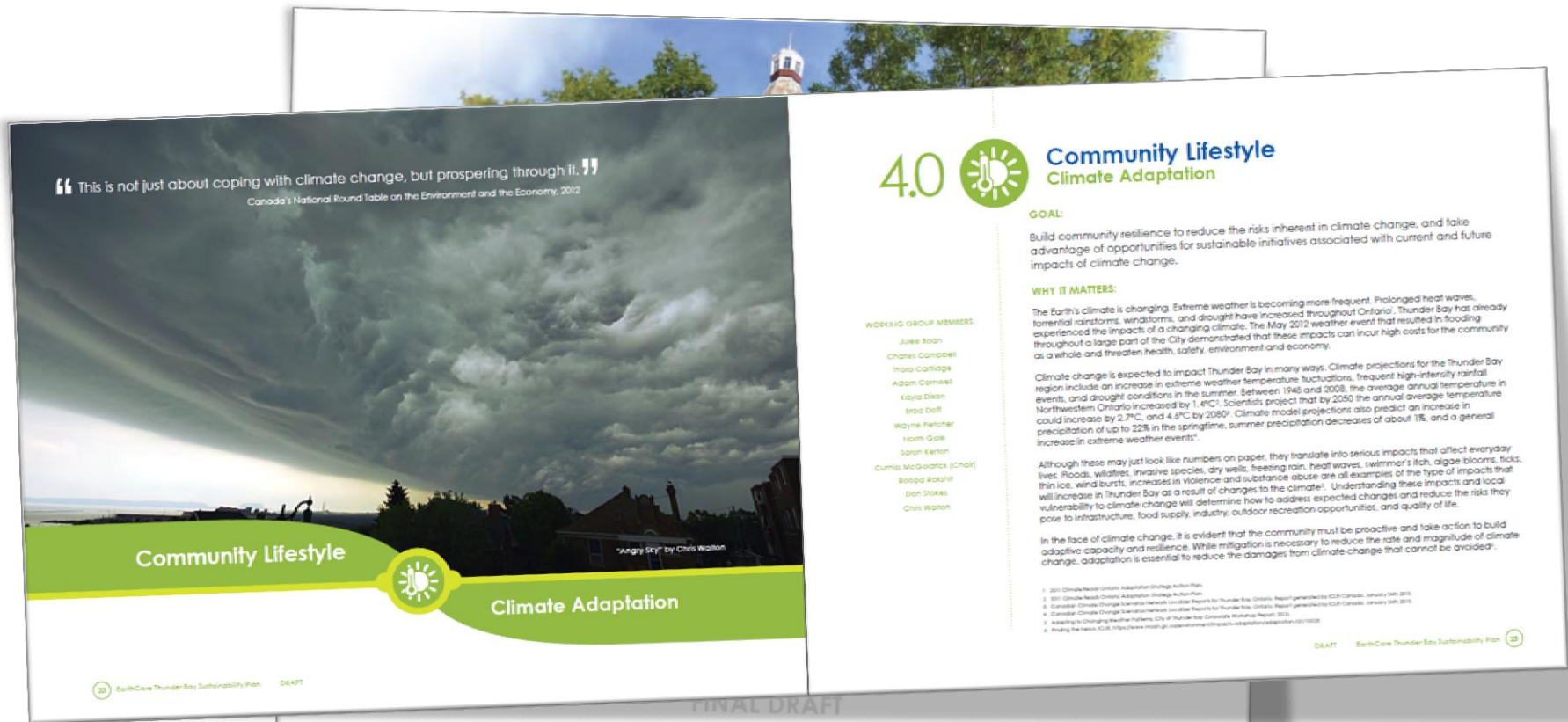
WASTE



WATER



EarthCare Thunder Bay



EarthCare Thunder Bay

- Provides a platform for community engagement / partnerships
 - Public, youth and stakeholder engagement
 - Community partnership opportunities
 - Social media



EarthCare Thunder Bay

- Increases cross-collaboration and builds capacity for projects and programs
 - ~40km of bike lanes installed
 - Low Impact Development
 - Methane capture at landfill
 - Solar PV installation
 - Anti-idling program
 - Rain barrel rebate program
 - Downspout disconnection program



EarthCare Thunder Bay

- Supports and promotes sustainability in municipal planning and operations
 - Sustainability Plan
 - Urban Forest Management Plan
 - Stormwater Master Plan
 - Active Transportation Plan
 - Food Strategy
 - Waste Management Strategy
 - Facility Design Standards



Developing the Strategy



MILESTONE 1: INITIATE

MILESTONE 2: RESEARCH

MILESTONE 3: PLAN

MILESTONE 4: IMPLEMENT

MILESTONE 5: MONITOR / REVIEW

- We are following ICLIE's Building Adaptive and Resilient Communities (BARC) Five Milestone Framework
- We are making progress on all fronts:
 - ✓ Information & Research
 - ✓ Leadership & Planning
 - ✓ Projects & Implementation
 - ✓ Communication & Outreach



Developing the Strategy



Information & Research

- Offered workshops to collect information
- Participation from City Staff, Provincial Government agencies, Conservation Authority and EarthCare Working Groups – Community stakeholders

Developing the Strategy

Leadership & Planning

- Objectives and actions in the EarthCare Sustainability plan support the development of the Climate Adaptation Strategy
- Other City Plans, Strategies and Policies



Developing the Strategy



Projects & Implementation

- Increase awareness of climate change impacts and vulnerabilities associated with stormwater
- Showcase the role of green infrastructure – paradigm shift
- Reduce risk of extreme rain falls and urban flooding

Developing the Strategy

Communication & Outreach

- Bi-monthly seminar series in partnership with Environment North
- Presentations to community groups
- Social media
- Municipal webinar training series in partnership with Great Lakes St. Lawrence Cities Initiative



Developing the Strategy

*EarthCare
Partnerships*



- INFORMATION & RESEARCH
- LEADERSHIP & PLANNING
- PROJECTS & IMPLEMENTATION
- COMMUNICATION & OUTREACH

**MILESTONE 1:
INITIATE** ✓

**MILESTONE 2:
RESEARCH**

**MILESTONE 3:
PLAN**

**MILESTONE 4:
IMPLEMENT**

**MILESTONE 5:
MONITOR / REVIEW**

**MUNICIPAL
CLIMATE
ADAPTATION
STRATEGY**

*Community
Support*

Moving Forward

- Prioritization is essential
- Strong Corporate commitment is imperative
- Look for more funding / partnership opportunities
- Continue to build / carry the momentum



Great Lakes and St. Lawrence Cities Initiative Municipal Adaptation and Resiliency Service (MARS)

Goderich, ON August 2011

Photos: Canada.com



Photo: TB Newswatch **Thunder Bay, ON**
May 2012
Flood



Photo: woodtv.com

Duluth, MN
June 19-20, 2012
Flood



Toronto, ON
July 2013
Flood

Photo: National Post



Photo: i.huffpost.com

Grand Rapids, MI
April 2013
Flood



Great Lakes and St. Lawrence Cities Initiative Municipal Adaptation and Resiliency Service (MARS)

- MARS launched in January 2014
- Seed funding from Ontario Ministry of the Environment
 1. Creation of MARS portal, a one-stop shop for information on municipal adaptation, hosted by OCCIAR
 2. Webinar training series for Ontario members, hosted by Clean Air Partnership
 3. Call to Action forms
 4. Pilot projects funded by RBC in Hamilton, Thunder Bay
 5. Webinar training series for Quebec members, featuring OURANOS, Ministry of Public Security, Trois Rivières
 6. Strategic Partnership with NOAA, University of Michigan





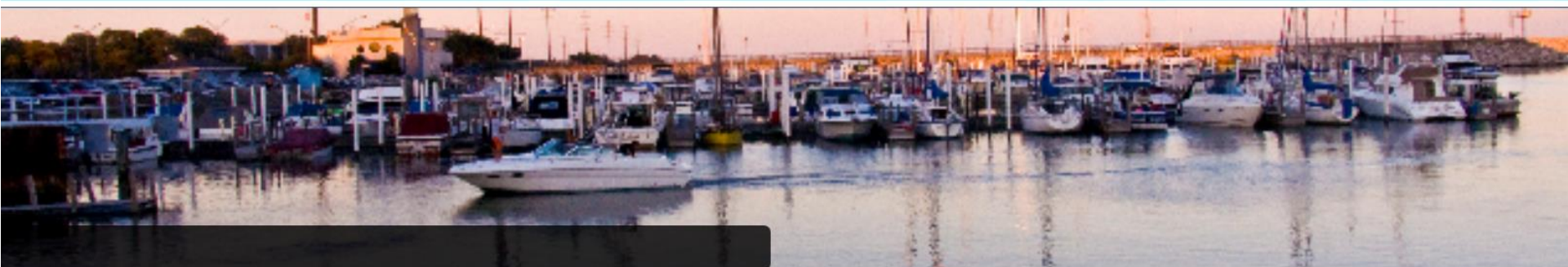
Great Lakes and St. Lawrence Cities Initiative Municipal Adaptation and Resiliency Service (MARS)

MARS Portal



Great Lakes & St. Lawrence Cities Initiative
Municipal Adaptation & Resiliency Service (MARS)

SEARCH



HOME

CALL TO ACTION

TRAINING

RESOURCES

TOOLS

CLIMATE DATA

NEWS & EVENTS

COMMUNITY

GO TO GLSLCI

GO TO CCACoP

HOME



Welcome to the MARS CoP!

...working together to accelerate adaptation planning and implementation in
Great Lakes municipalities

Quick Links

CASE STUDIES

MARS TRAINING SCHEDULE

CALL TO ACTION PLEDGES

What would you like to do?

SEND OUT A CALL FOR KNOWLEDGE

ADD A RESOURCE TO THE LIBRARY

POST A FORUM DISCUSSION

SEARCH FOR RESOURCES

CONTACT US



Great Lakes and St. Lawrence Cities Initiative Municipal Adaptation and Resiliency Service (MARS)

For more information :

For more information on the MARS program, visit

www.glslcities.org/MARS.cfm

Visit and register on the MARS portal at

www.ccadaptation.ca/MARS

Contact Nicola Crawhall, at nicola.crawhall@rogers.com