Change is in the Air

AHEAD OF THE STORM:

Preparing Toronto for Climate Change – Highlights

April 2008

TORONTO

Message from the Mayor

Toronto's reputation as an environmental leader is driven by our vision and our commitment to be one of the greenest and most liveable cities in North America. As a City, we're fully engaged in efforts to protect our climate and our environment.

While stopping the release of greenhouse gases remains our first priority, it's apparent that some degree of climate change has already begun.

In developing an adaptation strategy, the City of Toronto is taking steps to prevent the negative impacts of climate change while we continue to reduce emissions to fight global warming.

Sincerely,

David Miller

Mayor David Miller

AHEAD OF THE STORM: Preparing Toronto for Climate Change

Highlights

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1- Loss of urban forest and damage to property due to storms

2- Storm damages municipal infrastructure (photo credit: Jane-Finch.com)

3- Risk of disease associated with warmer climate – West Nile virus (photo credit: Illinois Department of Public Health)

4- Green roofs cool buildings and reduce storm runoff

5- Planting trees to improve the urban forest

6- Permeable paving reduces runoff and provides moisture for trees

April 2008

TORONTO Environment Office

Purpose and Goals

This document summarizes *Ahead of the Storm: Preparing Toronto for Climate Change*, a comprehensive 45-page document which includes a series of recommendations which will see the City take proactive, protective measures to prepare for climate change. *Ahead of the Storm* was prepared in April 2008 by the Toronto Environment Office in collaboration with the City's Adaptation Steering Group and the Clean Air Partnership.

The purpose of this 'highlights' document is to engage Toronto residents and businesses in a dialogue about what actions we can take to prepare for climate change and minimize its negative effects on our environment, health and economy.

We Welcome Your Comments and Feedback

Please tell us what you think of the actions and recommendations proposed in this document. For information on the ways you can provide your input see page 17.

More information

Ahead of the Storm: Preparing Toronto for Climate Change

For more information on the actions and recommendations outlined in this 'highlights' document please view or download the comprehensive 45-page *Ahead of the Storm: Preparing Toronto for Climate Change* document at www.toronto.ca/teo/pdf/ahead_of_the_storm.pdf

Climate Change, Clean Air and Sustainable Energy Action Plan (2007)

To view or download Toronto's *Climate Change, Clean Air and Sustainable Energy Action Plan* (2007) which targets an 80% reduction in greenhouse gas emissions by 2050 please visit www.toronto.ca/changeisintheair/index.htm

For more information about Toronto's environmental programs, projects and policies please visit www.toronto.ca/environment

Ahead of the Storm: Preparing Toronto for Climate Change proposes a series of actions to prepare Toronto for climate change including:

- short-term actions beginning in 2008 that will help prevent and/or minimize the potential impacts of climate change on Toronto
- a series of actions that will guide the development of a comprehensive, long-term strategy to adapt to climate change

Toronto's Climate Change, Clean Air and Sustainable Energy Action Plan (2007)

- Toronto's Climate Change, Clean Air and Sustainable Energy Action Plan, which was unanimously endorsed by Council in July 2007, set in motion Toronto's bold and ambitious climate change agenda.

- The action plan – which targets an 80 per cent reduction in greenhouse gas emissions by 2050 – introduces major programs to cut emissions and reduce, or mitigate, climate change. It also recommended the development of a complementary strategy to adapt to climate change.

Toronto's Climate Change Adaptation Strategy (2008)

- Climate change is a long-lasting change in weather patterns. This change will mean that our infrastructure and buildings will have to be adapted to weather patterns that are different from what they were designed to accommodate.

- Examples of adaptation actions that make our infrastructure and buildings more resilient and contribute to broader sustainability are:
  - landscaping that reduces water demand and is adaptive to drought
  - increasing the tree canopy
  - rain barrels and permeable surfaces that reduce runoff from severe rainfalls, and
  - reflective roofs that reduce urban heat

- In the fall of 2007, City staff began to lay the foundation for the development of a comprehensive climate change adaptation strategy. The City's adaptation strategy will strive to prevent or minimize the negative effects of climate change, and take advantage of potential opportunities.

Why is Adaptation Necessary?

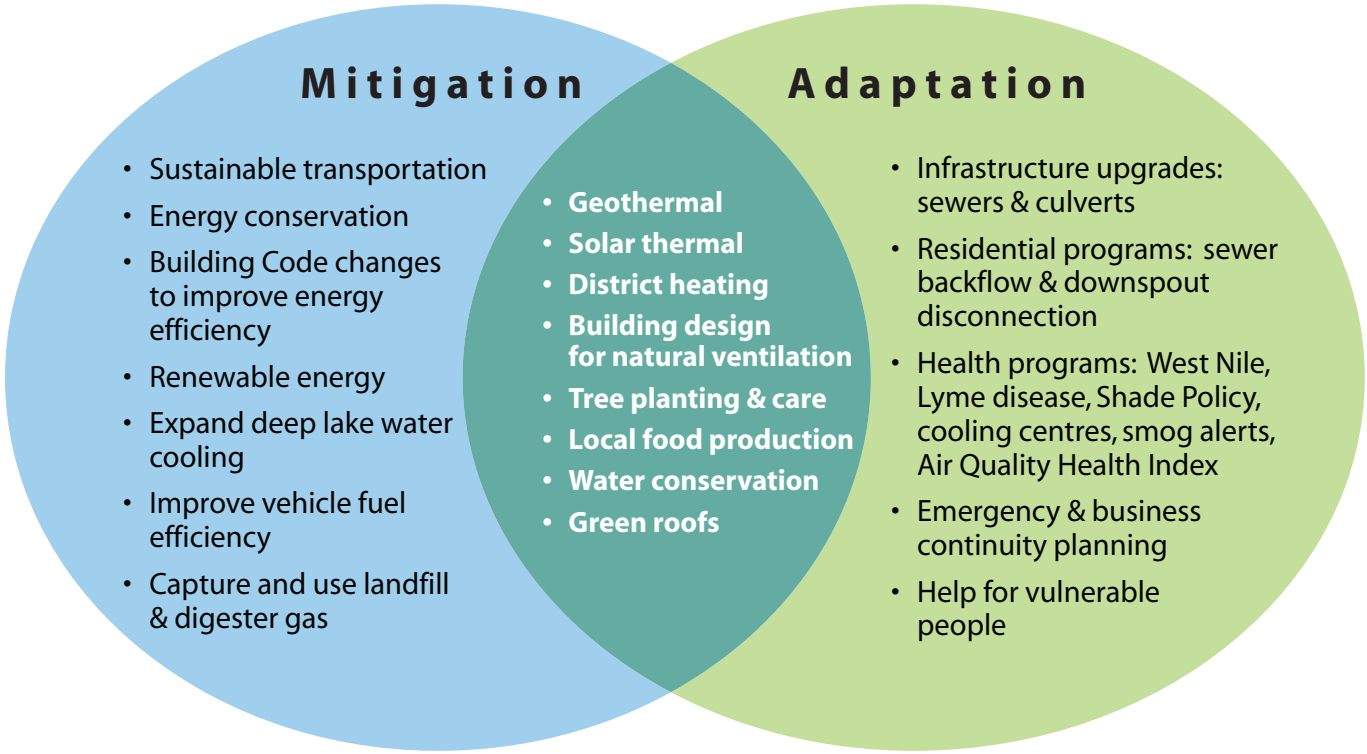
It is widely recognized that the world's climate will continue to change for years to come as a result of the greenhouse gases already in our atmosphere. In the last decade, Toronto has experienced more extreme heat, storms, floods and droughts as well as the invasion of damaging insects and vector-borne diseases.

Climate change has the potential to significantly affect many of the programs, services and infrastructure for which the City has primary responsibility, and in which it invests heavily, including:

- public health
- water supply and stormwater management
- local transportation and public transit systems
- electricity distribution
- parks and urban forests
- social and emergency services.

The City also has a special responsibility to assist people who are particularly vulnerable to climate change, such as isolated seniors, children, people with chronic illnesses (including mental illness), and homeless and low-income people.

Toronto's Climate Change Agenda Includes Two Broad and Complementary Strategies: Mitigation and Adaptation



Mitigation: the globally responsible thing to do

Actions that reduce the emissions that contribute to climate change.

Adaptation: the locally responsible thing to do

Actions that minimize or prevent the negative impacts of climate change.

Global Climate Changes

Climate change is already being felt by millions of people in countries and communities around the world. Global climate changes include rising temperatures, changing precipitation levels and patterns, extreme weather events and rising sea levels.

Rising Temperatures

- Eleven of the 12 hottest years on record have occurred since 1995. Average global temperatures have risen 0.74ºC over the last 100 years, and are expected to increase a further 2º to 4ºC by the end of this century. In addition to higher temperatures, there will be more frequent and longer heat waves.

Changing Precipitation Levels and Patterns

- Seasonal precipitation patterns and levels are changing around the world. The incidence and extent of drought is also increasing.

Extreme Weather

- Storms, including hurricanes and heavy rainfalls are becoming stronger and more frequent as temperatures increase.

Sea levels are rising

- As ocean temperatures rise, water expands and sea level rises. Melting glaciers also add to sea level. As global warming continues, melting of the world's ice sheets could raise sea level 5 to 7 metres and flood the world's coastal cities.

Inland lake and river levels are dropping

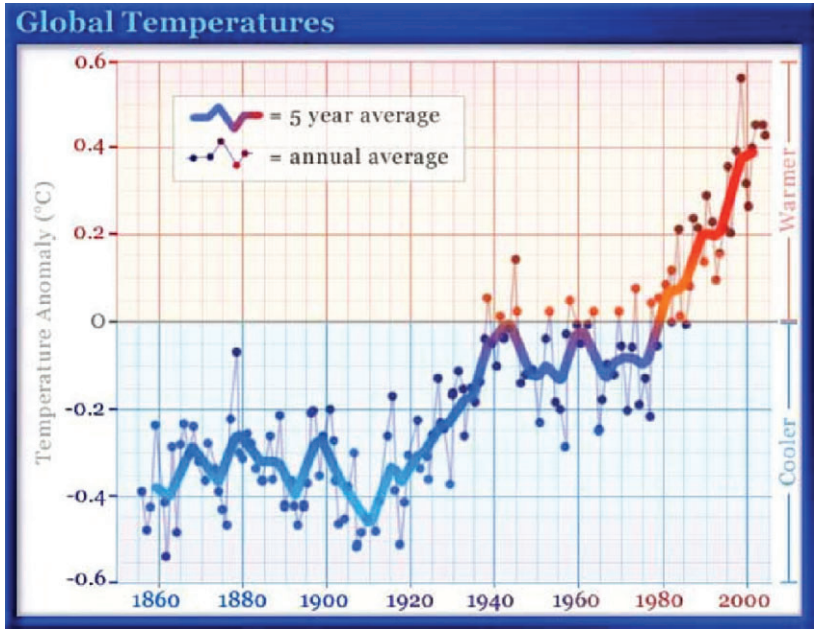
- As temperatures rise, surface water evaporates and lake levels lower. Ice also melts and exposes more water to evaporation. Lower lake levels contribute to higher water temperatures which affects biodiversity and water quality.

A Canadian Perspective

Canada is seeing more dramatic and extreme weather and related disasters including floods, wildfires and storms.

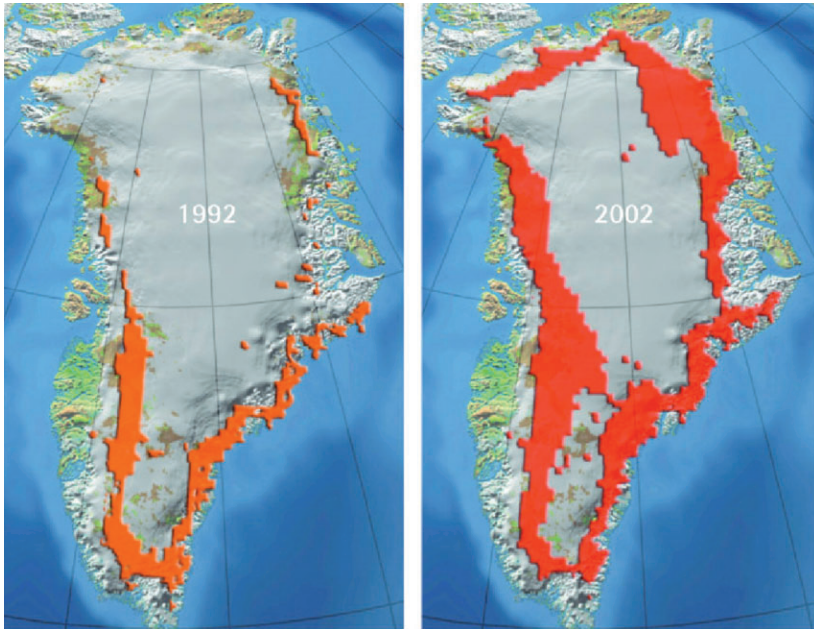
- The number of weather-related disasters in the 1990s was four times higher than in the 1950s, and caused 14 times as much in economic losses.*
- One in five Canadians was directly affected by a weather disaster between 1996 and 2000.*

*www.davidsuzuki.org



GLOBAL TEMPERATURES ON THE RISE

Source: Intergovernmental Panel on Climate Change (2007)



GREENLAND'S ICE SHEET IS MELTING

Source: Arctic Climate Impact Assessment / Grabhorn, 2004
Areas in orange and red show the extent of melting.

WEATHER-RELATED INSURANCE LOSSES INCREASED GLOBALLY BY MORE 1300% FROM 1960 TO 1999. NATURAL CATASTROPHE LOSSES REACHED AN ESTIMATED $75 BILLION IN 2007, OF WHICH INSURED LOSSES TOTALLED $30 BILLION IN US DOLLARS.

MUNICH RE GROUP (2007)

"WARMING OF THE CLIMATE SYSTEM IS UNEQUIVOCAL, AS IS NOW EVIDENT FROM OBSERVATIONS OF INCREASES IN GLOBAL AVERAGE AIR TEMPERATURES, WIDESPREAD MELTING OF SNOW AND ICE, AND RISING GLOBAL AVERAGE SEA LEVEL."

INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE (2007)

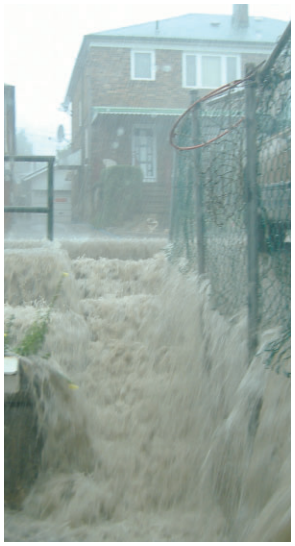
IT'S BEEN PREDICTED THAT CLIMATE CHANGE MAY CREATE AS MANY AS 150 MILLION NEW CLIMATE REFUGEES BY 2050.

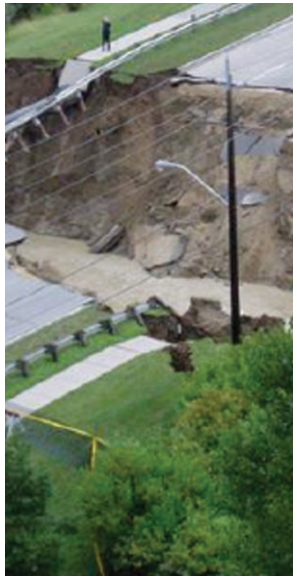
INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE (2007)

Toronto's Changing Climate

Trees at Risk

- Invasive species such as the Asian long-horned beetle (above), European gypsy moth and Emerald Ash Borer are damaging Toronto's urban forest.
- More than 30,000 street trees in Toronto are at risk.
- Increased stress on urban trees makes them even more vulnerable to storms, drought and high winds.





August 2005 – Most Expensive Storm in Toronto's History

- The August 2005 storm was one of eight extreme weather events in the past 20 years.
- A record rainfall caused flash flooding and washed out a portion of Finch Avenue.
- Damage to public and private property was estimated at $400-500 million.
- The storm flooded more than 4,200 basements and damaged stream banks, trees and parks.

Summer 2005 – Toronto's Hottest Summer on Record

- 41 days over 30°C
- 8 heat alerts issued
- 18 extreme heat alerts
- 48 smog advisories
- 6 rooming house deaths attributed to heat
- More than two hundred 911 calls for heat-related illness

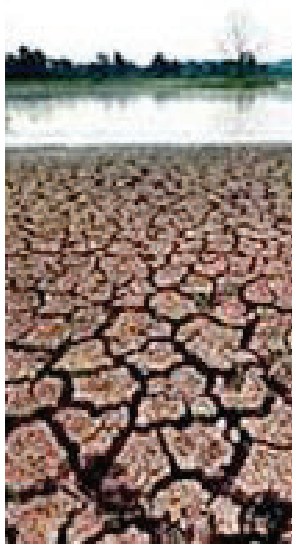
- Toronto Public Health (TPH) estimates that on average 120 premature deaths are heat-related each year.
- TPH predicts that heat-related deaths will double by 2050 and triple by 2080, and deaths related to air pollution will increase 20% by 2050 and 25% by 2080.
(Pengelly et al, 2005)

Record Snowfall

- As a result of a record snowfall in the winter of 2007/08, the City's winter maintenance budget was overspent by more than $20 million.
- Toronto's average annual snow removal budget is $68 million.

More Severe Storms

- A tornado associated with the 2005 storm, damaged home, cars, trees and farm buildings from Stratford to Peterborough, and may have touched down in Toronto. Tornadoes hit nearby Hamilton in 2005 and Newmarket in 2006.
- Toronto is considered to be outside Southwestern Ontario's tornado corridor, but this may be changing. (MacIver, 2006)



Summer 2007

- The summer of 2007 was the driest summer in 50 years, with 95 consecutive days without significant rain. (Environment Canada, 2007)
- Droughts harm wetlands, trees, plants and the ecosystem in general.

Warmer Winters

- Warmer winters allow the expansion of insects that carry infectious diseases, such as the Black-legged tick (left) which carries Lyme disease.
- As temperatures rise, Toronto may be at risk for additional infectious diseases… (Chiotti et al, 2002)

Impacts of Climate Change on Toronto: At a Glance

For additional details please refer to page 33 of *Ahead of the Storm – Preparing Toronto for Climate Change* available at www.toronto.ca/teo/pdf/ahead_of_the_storm.pdf

Projected Climate	Potential Impacts
Hotter summers	More: • Hot days, nights and heat waves • Smog • Illness and deaths due to heat waves and smog • Demand for electricity • Demand for water • Stress on trees, gardens and vegetation • Food-borne illness • Power outages: brownouts and blackouts • Violence and crime
Milder winters	More: • Disease-bearing insects will survive over the winter and expand the range of certain infectious diseases • Insects that damage trees • Freeze-thaw cycles which damage roads and other transportation infrastructure, as well as plants and trees
Dryer summers	• Increased demand for water • Stress on trees, gardens and vegetation • Reduced electricity generation capacity
More intense precipitation	• Pressure on the stormwater management system • Flooding of basements and low-lying areas • Increased wear and pressure on culverts, bridges and other transportation infrastructure • Contamination of streams and lake from runoff • Erosion of rivers and streams
More extreme weather, storms and increased wind speeds	Damage to: • Buildings, roads and other infrastructure from high winds, heavy slowfalls and freezing rain • Transmission lines • Trees, parks and natural areas • Beaches, waterfront areas and stream banks • Increased risk of power outages/blackouts
Water level drop in Great Lakes Basin	• Increased concentration of contaminants in Lake Ontario • Reduced capacity for Great Lakes shipping • Loss of wetlands

What Toronto is Already Doing

For additional details please refer to page 15 of *Ahead of the Storm – Preparing Toronto for Climate Change* available at www.toronto.ca/teo/pdf/ahead_of_the_storm.pdf

Toronto already has a number of programs in place that will help Toronto adapt to climate change. Many of these programs also help increase the overall liveability and sustainability of Toronto.

Existing City Programs That Reduce Vulnerability to Climate Change

Hot weather response: some public buildings function as cooling centres during periods of extreme heat

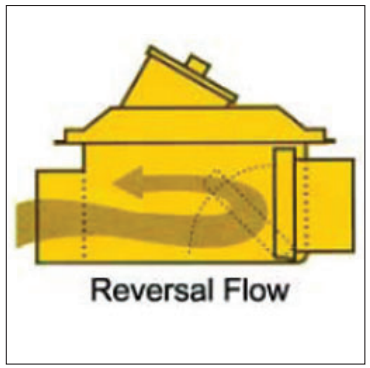
Toronto's Heat Alert System and Hot Weather Response Plan

- Heat warnings are issued and City staff work with community agencies to prevent illnesses and deaths during periods of extreme hot weather.

Downspout disconnection rain barrels reduce storm sewer overload and provide water for lawns and gardens

Wet Weather Flow Master Plan

- A 25-year plan designed to reduce flooding from intense rainfall and impacts on streams and lake water.



Back-water valves reduce the risk of basement flooding

Basement Flooding Protection Subsidy Program

- A City-subsidized program to install back-water valves and sump pumps on household sewer connections provides additional protection against flooding from sanitary sewers.

Permeable pavement reduces stormwater runoff

'Greening' Parking Lots

- Draft Design Guidelines for 'Greening' Surface Parking Lots will help developers and designers of surface parking lots meet Official Plan policies and environmental performance targets of the Toronto Green Development Standard.

Green roofs

Street trees

Planting more trees

Reflective/cool roof

Green Roof Pilot Incentive Program

- Provides incentives for green roofs to be installed on new or renovated Toronto buildings. Green roofs capture and retain stormwater and cool the buildings on which they grow.

Green Development Standard

- Sets performance targets for the design and construction of new developments in Toronto, which:
  - increase the energy efficiency of buildings
  - reduce greenhouse gas emissions
  - reduce the urban heat island effect
  - conserve water
  - reduce stormwater runoff
  - enhance neighbourhood green space

A Commitment to Double the Tree Canopy

- A major study of Toronto's tree canopy potential is currently underway. Expanding the tree canopy will increase shade, reduce the urban heat island effect and reduce runoff.

Flood Warning Forecasting

- The Toronto and Region Conservation Authority's system helps prepare for flood emergencies and reduce damage to life and property.

Emergency Plan

- Protects the health, safety and welfare of the community in the face of a variety of hazards, including those which may occur more frequently as a result of climate change such as severe weather, floods, power failures, etc.

Deep Lake Water Cooling (Enwave), Peaksaver and Keep Cool Programs (Toronto Hydro)

- A variety of innovative programs conserve energy, reduce peak electricity demand on hot summer days, and reduce the risk of brownouts and blackouts during heat waves.

Better Buildings Partnership

- Increases the energy efficiency of existing buildings and new construction, decreases energy use and peak demand, and reduces the potential for brownouts and blackouts during heat waves.

Next Steps and Recommendations

Ahead of the Storm: Preparing Toronto for Climate Change recommends two concurrent streams of activities to prepare Toronto for climate change.

1. Immediate Actions: Starting in 2008

A series of short-term actions starting in 2008 will help Toronto adapt to climate change. These actions will build on existing programs and enhance climate change adaptation in known areas of vulnerability. For a list of these short-term actions see page 12.

In addition to these short-term actions which are being implemented, City staff have identified 13 additional actions which require approval and funding. For more information about these additional actions please refer to page 19 of *Ahead of the Storm – Preparing Toronto for Climate Change* available at www.toronto.ca/teo/pdf/ahead_of_the_storm.pdf

2. Longer-term Actions to Develop a Climate Change Adaptation Strategy

Ahead of the Storm: Preparing Toronto for Climate Change recommends a nine-step process which will guide the development of a long-term climate change adaptation strategy, and a series of 29 specific actions to further climate change adaptation in Toronto. For a list of these longer-term actions see pages 14-16.

Recommended Nine-Step Process to Develop a Strategy:

1. Create internal mechanisms for adaptation process
2. Engage public, business and other stakeholders
3. Incorporate climate change adaptation into policies and business planning
4. Analyze how Toronto's climate is changing
5. Identify vulnerabilities to climate change
6. Risk assessment: identify impacts requiring priority action
7. Identify and assess adaptation options to reduce risk
8. Develop and implement adaptation strategies
9. Monitor and evaluate adaptation actions and adjust as needed

1. Immediate Climate Change Adaptation Actions: Starting in 2008

For additional details please refer to page 17 of *Ahead of the Storm – Preparing Toronto for Climate Change* available at www.toronto.ca/teo/pdf/ahead_of_the_storm.pdf

NEW ADAPTATION ACTIONS	ANTICIPATED BENEFIT
Engage Toronto's Neighbourhoods and Communities Through 'Live Green Toronto'	To support neighbourhoods and communities in greening projects, including initiatives that will reduce climate change impacts.
Conduct the Don Trunk Sewer and Waterfront Wet Weather Flow Control Projects	To assess the effects of extreme weather on long-term performance of existing and new wet weather flow facilities and attain water quality goals.
Complete Flood Warning System Updates	To improve existing systems to prepare for flood emergencies.
Conduct Lake Ontario Shoreline Planning	Adaptive design for aquatic diversity and flood protection will take into account fluctuations of water level.
Develop Regional Extreme Precipitation Intensity, Duration and Frequency Curves	To improve ability to design storm drainage infrastructure for extreme runoff events.
Review Urban Flooding Issues	To identify future policy and program requirements for flood protection.
Conduct a Scan of Methods used in other jurisdictions to Assess Vulnerability to Heat	To create a heat-related vulnerability assessment tool that improves the effectiveness of the City's Hot Weather Response Plan.
Evaluation of the Air Quality Health Index (AQHI) Pilot	Evaluation will help identify behaviour changes that citizens are making as a result of the AQHI and identify improvements in education initiatives that can help maximize health benefits when air quality is poor.
Increase Use of New Winter Weather Technologies to Improve Monitoring for Snow and Freezing Rain Conditions Begin Using Combination Ploughing and Salting Vehicles	These innovations will: a) reduce accident claims and service delivery costs during freezing rain episodes which are expected to increase as our climate changes; and b) result in more effective use of salt.

NEW ADAPTATION ACTIONS	ANTICIPATED BENEFIT
Conduct Studies on Potential Regulatory Requirements for Green Roofs	An increase in green roofs will reduce electricity demand for air conditioning in summer and reduce stormwater runoff.
Conduct Urban Heat Island Research to Inform Land Use Planning Policy Approaches to "cooling" the City	Identification of Toronto's "hot spots", what causes them, and implementing strategies to reduce them will help cool the city. This information will be helpful in forming new development standards, e.g. Green Development Standard.
Reduce Stream Erosion and Increase Stream Restoration	Coordinate procedures among different levels of government to reduce stream erosion and in the long-term, aid in stream restoration.
Develop a Live Green Toronto "Climate Change Action Kit"	Torontonians better informed and engaged in adapting to climate changes.
Improve Future Climate Change Prediction Capabilities	Improved information on expected climate changes will permit better decision-making on adaptation planning. Models will help develop watershed plans that will aid adaptive management in the Rouge, Don and Humber River watersheds.
Participate in the Greater Toronto Incident Management Exchange	Help the business sector adapt to climate changes including severe weather events.

2. Recommendations to Develop a Climate Change Adaptation Strategy

For additional details please refer to page 21 of *Ahead of the Storm – Preparing Toronto for Climate Change* available at www.toronto.ca/teo/pdf/ahead_of_the_storm.pdf

The following is a list of the actions recommended to develop and implement a climate change adaptation strategy for the City of Toronto, sorted by category.

ACTIONS TO ESTABLISH A STRONG AND ONGOING ADAPTATION PROCESS

- City operated groups that have identified and proposed short-term adaptation actions make the business case for implementing these actions and seek the appropriate approvals to ensure implementation.
- Establish a mechanism to ensure that the City's leaders are regularly updated about climate change impacts and adaptation planning to ensure continual progress.
- Make climate change a key mandate of the Executive Environment Team and commit to coordinating climate change planning across the City's Agencies, Boards Commissions, Corporations and Divisions to ensure efficient and effective implementation.
- Ensure that City divisions likely to be significantly affected by climate change have staff dedicated to impacts assessment and adaptation options review.
- Establish a formal mandate, workplan and responsibilities for the City's Adaptation Steering Group. Ensure that all sectors likely to be strongly affected by climate change and/or considered essential for adaptation are represented and active.
- Set up a mechanism for regular reporting of the work of the Adaptation Steering Group to Management.
- Establish or enhance issue-based adaptation working groups in areas that are already experiencing impacts from climate change or are at high risk of impact, such as water, health, infrastructure, energy, urban ecosystems (e.g. forestry/green space) and emergency preparedness.
- Develop a communications plan and implement in-reach activities such as workshops, webinars and electronic communications to increase the awareness of management and front-line City staff about the local impacts of climate change and adaptation.
- Establish a working group within the Adaptation Steering Group to identify training needs and opportunities for staff working on climate change adaptation.

- Include climate change considerations and explicit goals for adaptation in plans, programs, strategies and assessment procedures, including:
  - Toronto's Official Plan
  - Transit City Plan
  - Urban Forest Management Plan
  - Hot Weather Response Plan
  - Green Economic Sector Development Strategy
  - Deep Lake Water Cooling
  - Environmental Assessments of new capital projects
  - Wet Weather Flow Master Plan
  - Parks, Forestry and Recreation Strategic Plan – Our Common Grounds
  - Emergency Plan
  - Green Development Standard
  - Toronto Hydro's plans and strategies
  - Long Term Fiscal Plan
  - Better Buildings Partnership – Existing Buildings and New Construction Programs

- Incorporate explicit climate change considerations into existing programs that protect against current climate extremes and adjust programs to provide additional protection where necessary.

- All City agencies, boards, commissions and divisions will consider climate change in their emergency management and business continuity planning.

- Establish a formal mechanism to review progress on climate change adaptation and ensure that Toronto's adaptation actions are effective.

IDENTIFY AND PRIORITIZE RISKS AND ADAPTATION OPTIONS

- Develop a city-wide inventory of current climate vulnerabilities and assess the extent to which current activities provide protection.

- Undertake a city-wide risk assessment process to identify vulnerabilities and determine priority impacts requiring adaptation strategies.

- For high priority risks, identify and evaluate a range of adaptation options that could reduce vulnerability to specific climate change impacts, and that could be implemented in a comprehensive adaptation strategy.

- Develop criteria for choosing among adaptation options and strategies. Consider as a priority options that have multiple benefits, such as the ability to reduce greenhouse gas emissions and increase the overall sustainability and liveability of Toronto.

RESEARCH

- Establish mechanisms for regular communication and consultation with local and regional climate change and adaptation experts. One resource should be a web-enabled "Municipal Climate Change Reference Collection."

- Promote the formation of an "Urban Climate Change Centre" to facilitate climate change research and solution implementation for Toronto and other cities and towns in the GTA. This GTA-based group could involve colleges and universities and all three levels of government.

- Undertake research to analyze key historical climate trends in the Toronto region, refine the accuracy of local climate projections, and conduct case studies of recent climate events that have had a major impact in Toronto.

- Engage staff in studies of climate impacts on specific City services and infrastructure and involve them in programs to test and evaluate possible solutions.

FUNDING

- Participate in adaptation networks and other government initiatives that will provide useful new knowledge and networking, and research and funding opportunities to support Toronto's adaptation agenda.

- All City agencies, boards, commissions, corporations and divisions identify in their 2009 budget submissions specific actions and programs they plan to undertake regarding climate change mitigation and adaptation.

- Allocate funds for investigating and piloting promising adaptation strategies.

- Develop a comprehensive funding strategy for the City's climate change adaptation initiatives, including establishing an "Extreme Weather Reserve" to lessen the expenditure impacts of extreme weather on the City's annual budgets.

CAPACITY BUILDING IN THE COMMUNITY

- Develop and implement a public and stakeholder awareness and engagement strategy:
  - Create a Toronto climate change impacts and adaptation website with up-to-date information on climate change.
  - Public meetings to discuss climate change impacts and proposed adaptation strategies as they develop.
  - Support, through Live Green Toronto, community and neighbourhood groups taking action to adapt to climate change.

- Work with organizations that support vulnerable populations in Toronto to make and implement plans that reduce their risks to climate impacts.

- Identify and promote actions that individual households and community organizations can take to adapt to climate change.

- Work with local business leaders and associations to discuss climate impacts, strategies and possibilities for long-term cooperation on climate change adaptation.

We Welcome Your Comments and Feedback

The City of Toronto is interested in obtaining your feedback on these proposed actions and recommendations to help Toronto prepare for climate change. You may provide your comments in one of these ways:

1) Attend one or more of the scheduled public meetings. For details on these meetings please visit www.toronto.ca/involved

2) Submit written comments by email to: changeisintheair@toronto.ca, or by mail to:

   David MacLeod, Senior Environmental Specialist
   Toronto Environment Office, 21st Floor, East Tower
   City Hall
   100 Queen Street West, Toronto, ON M5H 2N2
   Fax: 416-338-0808

3) Call the 24-hour Comment Line for the City of Toronto Climate Change Adaptation Project: 416-338-3095.

4) Provide a personal deputation to the City Council's Parks and Environment Committee on Wednesday, May 21, 2008. To schedule a deputation, you may send an email to: pec@toronto.ca, or call the City Clerk's Office at 416-392-6662, or submit a written deputation to:

   Dela Ting, Committee Administrator
   City Clerk's Office, 10th Floor, West Tower
   City Hall
   100 Queen Street West, Toronto, ON M5H 2N2
   Fax: 416-392-1879

   The deadline to schedule a personal deputation and/or submit a written deputation is Tuesday, May 20, 2008 at 4:00 p.m.

For more information on these actions and recommendations please view or download the comprehensive 45-page Ahead of the Storm document at www.toronto.ca/teo/pdf/ahead_of_the_storm.pdf