



# CANADA'S CLIMATE CHANGE ADAPTATION PLATFORM

*Equipping Canadians for a Changing Climate*

**Annual Report for April 2017 to March 2018**



CANADA'S CLIMATE CHANGE ADAPTATION PLATFORM – Equipping Canadians for a Changing Climate Annual Report for April 2017 to March 2018.

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## PLENARY MEMBERS (2017/2018)

- **Plenary Chair** – Natural Resources Canada, Lands and Minerals Sector; Chris Jennings | Don Lemmen
- **Plenary Vice-chair** – Nova Scotia Environment; Jason Hollet

### Territorial and Provincial Governments

- British Columbia – Ministry of Environment Climate Action Secretariat; Suzanne Spence
- Manitoba – Manitoba Conservation and Water Stewardship; Neil Cunningham
- New Brunswick – New Brunswick Environment and Local Government; Darwin Curtis
- Newfoundland and Labrador – Office of Climate Change and Energy Efficiency; Jackie Janes
- Northwest Territories – Environment and Natural Resources; Lisa Dyer
- Nova Scotia – Nova Scotia Environment; Jason Hollet
- Nunavut – Climate Change Secretariat; Zoe Martos
- Ontario – Ministry of Environment and Climate Change; Karen Clark | James Nowlan
- Prince Edward Island – Department of Environment, Labour and Justice; Todd Dupuis
- Saskatchewan – Ministry of Environment; Scott Pittendrigh | Bob Wynes
- Yukon – Climate Change Secretariat; Rebecca World | Kirsten Burrows

### Federal Government Departments and Agencies

- Agriculture and Agri-Food Canada; Alexandre Lefebvre
- Environment and Climate Change Canada; Laniel Bateman
- Fisheries and Oceans Canada; Keith Lennon
- Health Canada; Carolyn Tateishi
- Indigenous and Northern Affairs Canada; Marie-Ève Neron
- Infrastructure Canada; Sonya Read
- Natural Resources Canada, Canadian Forest Service; Vincent Roy | Winn Hays-Byl
- Parks Canada; Gilles Seutin
- Public Health Agency of Canada; Christina Lee-Fuller
- Public Safety Canada; Jacqueline Randall
- Standards Council of Canada; Michel Girard
- Transport Canada; Maxine Bilodeau

### National Indigenous Organizations

- Assembly of First Nations; Kim Scott
- Inuit Tapiriit Kanatami; Tonio Sadik
- Métis National Council; John Weinstein

### Private Sector and Not-for-profit Organizations

- Chartered Professional Accountants of Canada; Gord Beal
- Canadian Electricity Association; Devin McCarthy;
- Canadian Federation of Agriculture; Drew Black

- Engineers Canada; David Lapp
- Federation of Canadian Municipalities; Shannon Joseph
- Forest Products Association of Canada; Robert Laroque
- Insurance Bureau of Canada; David McGown
- Institute for Catastrophic Loss Reduction; Paul Kovacs
- Mining Association of Canada; Ben Chalmers | Brendan Marshall
- Ouranos; Alain Bourque

### Observers

- Environment and Climate Change Canada, Climate Research; Marjorie Shepherd
- Environment and Climate Change Canada, Canada Centre for Climate Services; Lo Cheng
- Natural Resources Canada, Energy Sector; Lynne Monastesse Jason Randall
- Natural Resources Canada - Mining; Photinie Koutsavlis
- Québec - Ministère du développement durable de l'environnement et des parcs; Catherine Gauthier
- University of Waterloo; Jean Andrey

### Adaptation Platform Secretariat (Natural Resources Canada)

- Elizabeth Atkinson | Don Lemmen
- Heather Dewar | Joanne Egan
- Adam Greenberg

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For more information or to contact individual members please email: [adaptation@nrca.gc.ca](mailto:adaptation@nrca.gc.ca)

Taking action to adapt to current and future climate impacts will help protect Canadians from climate change risks, build resilience, reduce costs, and ensure that society thrives in a changing climate. Developing adaptation expertise and technology can further contribute to clean growth by creating jobs and spurring innovation. Adaptation is a long-term challenge, and it requires ongoing commitment to action.

Government of Canada (2016) [Pan-Canadian Framework on Clean Growth and Climate Change](#).

# CANADA'S CLIMATE CHANGE ADAPTATION PLATFORM

## 6<sup>TH</sup> ANNUAL REPORT (APRIL 2017 TO MARCH 2018)

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## THE ADAPTATION PLATFORM

The Adaptation Platform brings together representatives from national industry, Indigenous, professional and not-for-profit organizations, federal, provincial and territorial governments, and researchers to tackle shared climate change adaptation priorities. Collaboration between the public and private sectors, and across jurisdictions and disciplines, is essential to address the complex and cross-cutting issue of climate change adaptation.

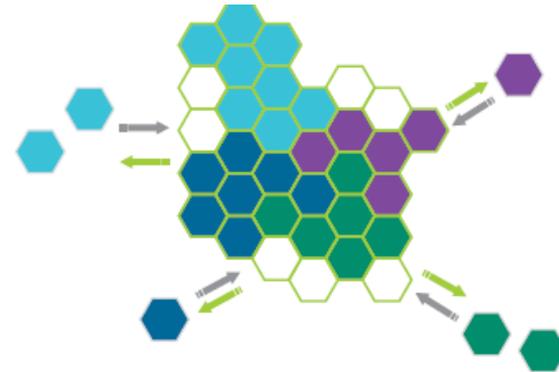
Platform participants are both the users and producers of adaptation knowledge and tools. As a result, the Platform's work is demand-driven, facilitating the analysis and implementation of adaptation action, and directly responding to the needs of decision-makers in Canada's public and private sectors. By providing the structure to pool financial resources, knowledge, and people, the Adaptation Platform works to create new information and tools for adaptation and get these products to the appropriate users.

Canada's Adaptation Platform is structured around several components: a plenary body, a series of subject-matter specific working groups, a secretariat and a broad network of individuals engaged in delivering adaptation actions. Additionally, Regional Adaptation Collaboratives (including the Pan-Territorial Adaptation Partnership) are active across the country performing outreach, and enhancing regional dissemination of Platform results.

Natural Resources Canada chairs the Adaptation Platform, and has committed ongoing resources to support the overall Platform, selected Working Group activities, and to provide the secretariat function.

The Plenary, comprised of senior-level representatives of governments and national organizations, meets twice yearly. The main objective of Plenary is to identify critical and emerging adaptation priorities in Canada and to support collaborative efforts in focused areas of work. Plenary members also generate support for adaptation action and disseminate adaptation knowledge within their organizations and extended networks.

Working Groups focus efforts on shared adaptation priorities within their particular subject matter area. Plenary members can nominate participants from their organizations and networks that bring the resources (time, money, expertise) needed to develop and carry out working group activities. Additional members are recruited by the Working Group chairs or co-chairs.



Administrative duties are carried out by the secretariat at Natural Resources Canada. Tasks include: supporting Plenary; managing a shared workspace; facilitating interactions amongst the working group co-chairs; running a webinar series; and producing the annual report and regular newsletters.

The workspace is a virtual forum where Working Group and Plenary members can plan, work, share and review draft products. It complements traditional forms of discussion and collaboration such as teleconferences and face-to-face meetings. During 2017/18 there were 32,200 views on the workspace.

Newsletters were circulated to over 1400 Platform members in the spring and fall of 2017. Webinars have been recorded and are available at [webinars.cullbridge.com/AdaptationPlatform](http://webinars.cullbridge.com/AdaptationPlatform).

The Adaptation Platform is successfully connecting the resources, people and ideas needed for Canada's regions and industries to understand the effects of a changing climate and adapt their operations accordingly.

More information on the Adaptation Platform can be found at: <http://www.nrcan.gc.ca/environment/impacts-adaptation/adaptation-platform/10027>

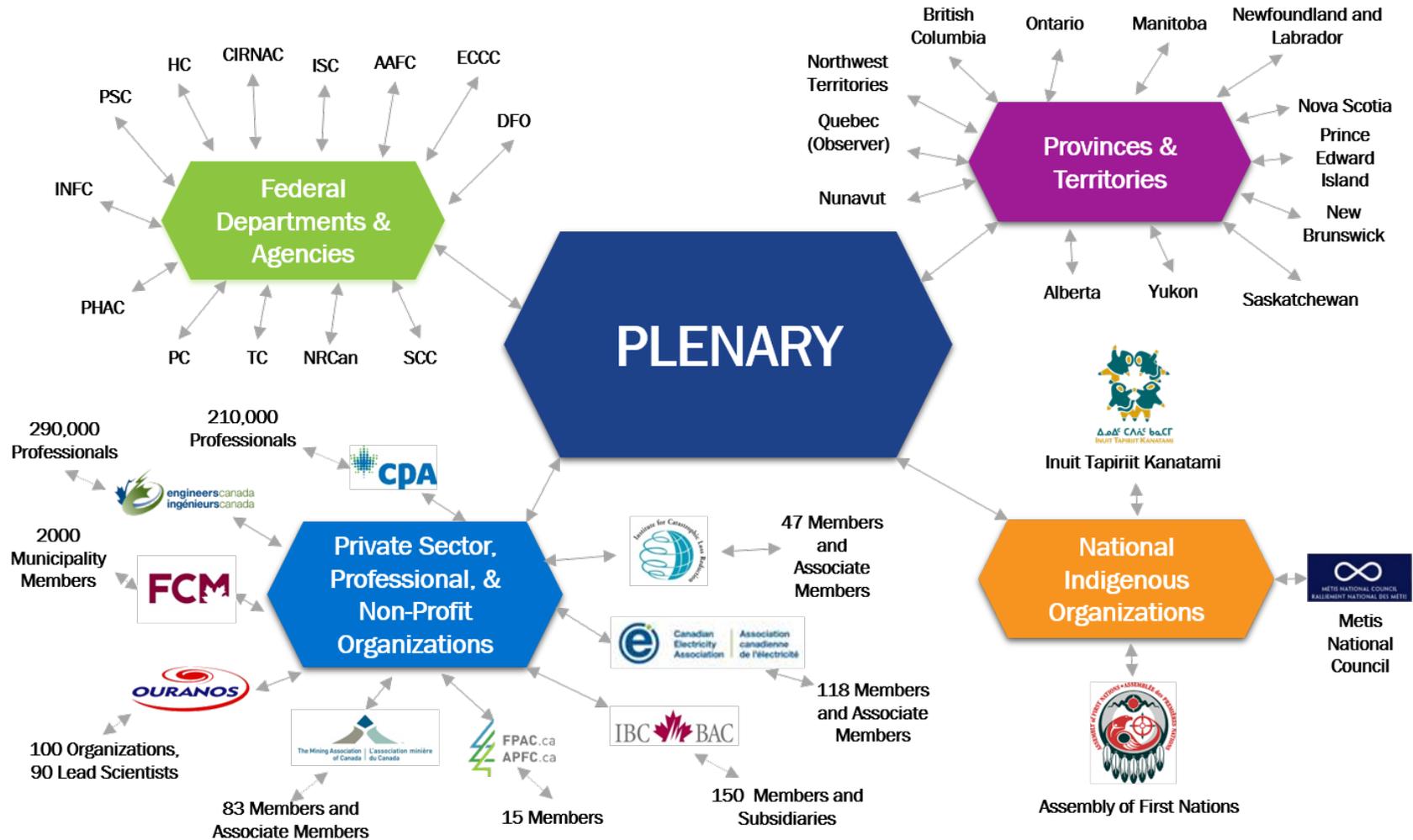
## PLENARY

The Plenary is a network of networks. Direct membership includes all provincial and territorial governments, multiple federal government departments, national Indigenous, professional and industry associations, and research organizations. The greater reach includes more than 250 organizations, 210 000 accountants and 290 000 engineers across Canada. This feature is a critical component of the Adaptation Platform communication strategy. Communication priorities include increasing dissemination to targeted audiences, enhancing engagement at senior levels within members' organizations, and making greater use of extended networks to promote inclusion of adaptation as part of day-to-day management practices.

The Adaptation Platform Plenary held two successful meetings in 2017/18, with discussions providing new insights on the progress of adaptation in Canada and leveraging the diverse resources of the group. Plenary continues to grow as the Métis National Council (MNC) General Assembly passed a resolution to participate as a full member.

The Spring meeting was held May 10<sup>th</sup> and 11<sup>th</sup>, 2017 at the John Diefenbaker Building in Ottawa, Ontario. This meeting was chaired by Don Lemmen (Natural Resources Canada) with a total of 70 participants, representing 37 member organizations and 6 observer organizations. Key areas of focus included mechanisms to work more closely with National Indigenous Organizations on climate change adaptation, as well as adaptation action and opportunities in the United States.

## PLENARY: A NETWORK OF NETWORKS '



AAFC: Agriculture and Agri-food Canada, CIRNA: Crown-Indigenous Relations and Northern Affairs, DFO: Fisheries and Oceans Canada, ECCC: Environment and Climate Change Canada, HC: Health Canada, ISC: Indigenous Services, INFC: Infrastructure Canada, NRCan: Natural Resources Canada, PC: Parks Canada, PHAC: Public Health Agency of Canada, PSC: Public Safety Canada, SCC: Standards Council of Canada, TC: Transport Canada

## Reflections from the co-chair

*I had the good fortune to begin my tenure as Chair of the Adaptation Platform just as the Government of Canada launched significant new investments to address climate change. The Pan Canadian Framework on Clean Growth and Climate Change made a number of new adaptation commitments. It led to the creation of a new climate information organization in the Canada Centre for Climate Services. It launched new programs to address key barriers to taking action to adapt, including a lack of capacity and relevant expertise, and to work closely with Indigenous communities to develop solutions that fit their needs. Perhaps most significantly, it launched the Disaster Mitigation and Adaptation Fund that commits \$2 billion dollars to projects that will strengthen the resilience of communities. I walked into a rapidly changing landscape.*

*The Adaptation Platform, however, brings together a community that understands how a changed landscape can create new challenges. Investments are not inherently solutions; money requires the energy, creativity and intelligence of people who understand the broad impacts climate change is having across Canada and the specific impacts facing individual regions and sectors of our economy. This was a particular challenge for members of the Adaptation Platform whose day jobs encompass both addressing the causes of climate change and adapting to its impacts. They were responding to both adaptation initiatives and the significant opportunities to help Canada meet its Paris commitments to GHG reductions. Human capacity can be an even more precious, more scarce resource than funding and for a like the Adaptation Platform are essential for helping us to share necessary energy and intelligence.*

*My first Plenary meeting in Halifax was a shared event with Canada's Disaster Risk Reduction Roundtable. This partnership rested on the logical premise that, because we want Canada to be resilient to both climate related and non climate related hazards, we work with similar communities, apply similar approaches, and use similar policy levers. I was energized by that collaboration in the same way that I was struck by the perspective of colleagues who work in both adaptation and mitigation and their ability to see paths forward that advance both objectives. Both struck me as progress toward making adaptation a mainstream part of how we live, what we do. As the new Chair, I was convinced this kind of integration was the established norm. I have learned, as part of my learning curve, how much this integration depends on the continuing efforts and initiative of Platform members and other partners working on adaptation in Canada.*

*The Adaptation Platform will help to sustain those efforts and to unearth new opportunities to integrate adaptation in novel and exciting ways. The more I have learned in this first year, the more I can imagine ways for what we know about climate impacts and adaptation to influence decisions and the decision making processes by which we determine our options. As a community, we are already working together to anticipate how our future climate will affect us, and we will continue to prepare not only to reduce risks but also to transform our communities, society and economy so that Canada is prepared to thrive in a future climate. In other words, my first year as Chair charged my imagination. I am eager to take the momentum we have as a community and see just how far it can take us.*

Chris Jennings, Director, Climate Change Impacts and Adaptation Division, Natural Resources Canada

The highlight of the May meeting was a half-day session on Indigenous engagement jointly organized and delivered by representatives from the Assembly of First Nations (AFN) and Inuit Tapiriit Kanatami (ITK). A series of impactful presentations, stories and sharing of personal experiences led to broader group discussion on how we can improve Indigenous involvement in the Adaptation Platform and our professional networks. In his opening remarks, Graeme Reed (AFN) highlighted that the approach of the new federal government means there is now an opportunity for Canada to renew its relationship with Indigenous peoples and for Indigenous peoples to help Canada become a climate leader. He asked Plenary to consider how we can improve Indigenous involvement at Plenary and within each member's organizational networks.

Discussions of adaptation in the U.S. were led by Suzanne Spence (British Columbia - Ministry of Environment Climate Action Secretariat) and Catherine Gauthier (Québec - Ministère du développement durable de l'environnement et des parcs), who had participated in an International Visitor's Leadership Program on *Climate Change in Canada- U.S. Security*. They participated in 31 meetings over 3 weeks, meeting with national and local-scale organizations. Recurrent messages included the importance of leadership and the ability of federal investments to provide local opportunities. A subsequent presentation by Mike Kuperberg, Executive Director of the U.S. Global Change Research Program, focused on the evolving role of federal climate change research in the U.S. Recent developments include an expanded role for non-government stakeholders in promoting climate resilience, and the development of user-driven tools to assist adaptation decision-making.

Important Platform activity decisions included approval of a new working group on climate services, led by Lo Cheng of Environment and Climate Change Canada.

The Fall meeting of the Adaptation Platform Plenary was held October 24<sup>th</sup> and 25<sup>th</sup>, 2017 in Halifax. The meeting was co-chaired by Chris Jennings (Natural Resources Canada) and Jason Hollett (Nova Scotia Environment), with the theme being *Building Back Better*. The first day was a joint meeting with Canada's Roundtable on Disaster Risk Reduction, with around 250 participants. Day 2 was the stand-alone meeting of Plenary, with 62 participants representing 33 member and 3 observer organizations.

The joint meeting on Day 1 was the first formal linkage between Canada's national platforms on adaptation and disaster risk reduction. The meeting stressed the important synergies between these two disciplines. Internationally, the Paris Climate Agreement, the Sendai Framework for Disaster Risk Reduction and the Sustainable Development Goals all emphasize a whole-of society approach and the need to build partnerships to reduce climate risks. Highlights of Day 1 included sessions organized by the Adaptation Platform on lessons from the field, moving from research to action, coastal risks, and resilient infrastructure. In addition, a training workshop on the use of climate projections, organized by Ouranos and Natural Resources Canada with the involvement of the Climate Services Team at Environment and Climate Change Canada, was well attended and positively received.

Day 2 started with reflections on what Plenary members had heard the previous day. It was noted that creativity and imagination need to be brought to the concept of 'Building Back Better,' such that it includes building smarter in the first place, and asking tough questions about what should be built back in vulnerable areas after a disaster strikes. It was recognized that we have an obligation to collaborate given the complementarity of the two communities, including common goals to prevent climate disasters and mainstream good practices. There is a need to be flexible and innovative in developing collaborations because of the widely varying needs of communities with respect to needs and capacity to address those needs.

Subsequent discussions looked at approaches for linking disciplines and for assessing managing climate risks, learning from international work (Anne Hammil, International Institute for Sustainable Development) and an innovative project in Nova Scotia (Nova Scotia Environment, Nova Scotia Department of Agriculture, Land Protection Services, and the Nova Scotia Federation of Agriculture). Common messages include the need to embrace learning as a means of improving assessment activities as well and monitoring and evaluation of adaptation practices.



Photo by Samantha Page

### Reflections from the co-chair

*Nova Scotia was happy to co-host the October 2017 Fall plenary meeting in Halifax. The integrated, multi-disciplinary approach of the plenary matches the approach that Nova Scotia Environment has taken to help prepare our province for climate change. The responsibility to act is with us all, and requires a collaborative, meaningful framework. This year, NSE is working with our Department of Agriculture on a comprehensive climate scan to identify the areas of risk and opportunity as well as the capacity to address those risks and opportunities. We will continue to work with internal and external partners to on similar risk and opportunity assessments and to strengthen their capacity to act on adaptation.*

*The importance of partnership, being proactive, and freely sharing information were key messages of the Plenary and the Disaster Risk Reduction Round Table with which the Plenary overlapped. These messages resonate with NSE as continuing our partnerships with federal, provincial and territorial colleagues, industry organizations, NGOs, and impacted communities remain a priority for Nova Scotia.*

*In summary, the Plenary, provides a very valuable platform to facilitate information exchange and collaboration. We appreciated the opportunity to work with NRCAN on such a successful event.*

Jason Hollett, Executive Director of Climate Change,  
Nova Scotia Environment

## WORKING GROUPS

Products that put the information and tools in the hands of the people implementing climate change adaptation are typically produced under the guidance of the Working Groups. Like Plenary, Working Groups are a network of networks. Typically co-chaired by members from different organizations, Working Groups bring together people with expertise and common interest in specific issues or sectors. Participants collaborate to define, and then work towards achieving, their climate change adaptation objectives. Terms of reference are developed for each Working Group and a program of work is developed and brought to Plenary. The program of work is revisited on a timeline established by each Working Group, but often follows government funding cycles. Many of the Working Groups develop a State of Play document that serves as a reference tool when identifying and discussing initiatives to be undertaken.

Members of a Working Group may contribute by providing funding, expertise and information from their organizations; writing and reviewing documents; acting as advisory committee members on projects; or hosting meetings. Working Groups meet primarily by teleconference, and some carry out work using the online workspace. Working Group activities are carried out by member organizations as well as through calls for proposals and contracted work. Priorities for funding would be identified based on the mandate of the potential funder, which could include any Plenary member organizations.

Highlights of the activities undertaken between April 2017 and March 2018 by active Working Groups are presented below.

Please consult the following national sites for access to products produced under the Adaptation Platform.

- [Natural Resources Canada](#)
- [The Adaptation Library](#)

Regional dissemination is also undertaken in partnership with the following Regional Adaptation Collaboratives:

- [British Columbia](#)
- [Prairies](#)
- [Ontario](#)
- [Quebec](#)

## *Biodiversity Adaptation*

### **Co-chairs:**

Scott Parker (April to December 2017), Parks Canada Agency  
Elizabeth Nelson (January 2018 to present), Parks Canada

The Biodiversity Adaptation State of Play report was completed through a detailed literature review, a series of expert interviews, and a collaborative review process undertaken by the Biodiversity Adaptation Working Group members. The State of Play report identified strengths, weaknesses, and opportunities associated with such a multi-faceted and complex issue, grouped under four themes: Science; Partnerships; Communications; and Policy, Programs and Funding. This overview of the current state of biodiversity adaptation in Canada will inform development of the Working Group's program of work moving forward. The Working Group also conducted an internal survey to identify key areas of interest for information sharing at future meetings, and held four lively teleconferences.

## *Climate Services*

### **Co-chairs:**

Lo Cheng, Environment and Climate Change Canada  
David Huard, Ouranos

Since its establishment in fall 2017, The Climate Services Working Group (CSWG) has gathered a wide range of stakeholders across regions and sectors to address common issues and needs related to the ongoing delivery of climate services for adaptation decision-making and planning in Canada. Early on, members developed and agreed upon the working group Terms of Reference, scope of work and a common definition of climate services. Soon after, the CSWG identified and prioritized two key short-term areas of activity to advance work and developed two sub-groups: (1) monitoring and (2) training.

The scope of the sub-group on weather and climate monitoring is to provide Canadians with improved, standardized and accessible weather and climate metadata and data to support their planning and decision-making. This Monitoring sub-group is currently developing its plan of activities for the 2018/2019 fiscal year. Activities will include, but are not limited to, evaluating the coverage and characteristics of existing monitoring sites and monitoring networks to identify needs and gaps; recording the evolution of instrumentation, maintenance and the physical changes of sites to assess the quality of the collected data; and identifying the different metadata and data standards that exist to support interoperability across networks.

The scope of the Training sub-group is training Canadians about what climate information is available and how to use it to guide decision-making. In winter/spring 2018 the training sub-group developed a plan of activities for the 2018/2019 fiscal year. These activities include

defining user types and their training needs, examining existing climate services training, and developing training products such as workshops and webinars.

Finally, the Climate Services Working Group will be looking to recruit new members, identifying areas of collaboration with other working groups under the Adaptation Platform and will be considering other activities for its Program of Work to be carried out over the next few years.

## Coastal Management

### Co-chairs:

*Mary-Ann Wilson, Natural Resources Canada*

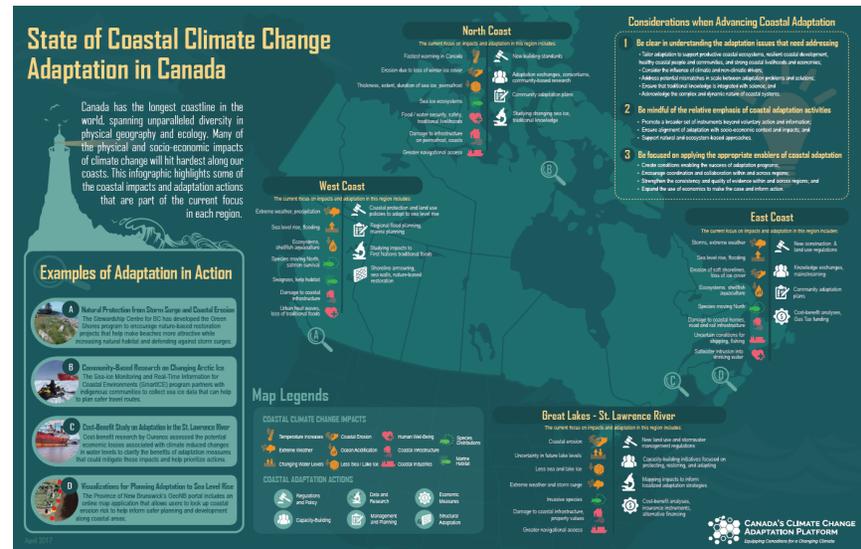
*Erin Taylor, Climate Change Secretariat, Prince Edward Island  
Department of Environment, Labour and Justice*

During 2017/18 the Working Group developed a new Program of Work to identify and address common issues and needs related to practical coastal adaptation in Canada. The Program of Work for the period 2017-2021 builds on the findings and recommendations of the Coastal Stay of Play Report (ESSA 2017) and drawing extensively from the Working Group members' expertise and networks.

Needs identified in the both the State of Play Report and the Program of Work represent the breadth of what the Working Group feels is necessary to advance adaptation for coastal management in Canada. The objectives guiding the 2017-2021 Program of Work are to:

- Enhance understanding of climate risks and opportunities and the application of knowledge to make well-informed decisions and implement actions;
- Build capacity to undertake sustainable adaptation action;

- Increase collaboration, engagement and the use of integrated approaches;
- Identify and promote policy and regulatory enablers;
- Promote resilience through innovation and infrastructure; and,
- Improve monitoring, evaluation and reporting of adaptation actions.



In August 2017, Natural Resources Canada solicited proposals for cost-shared projects to support implementation of the Program of Work, with \$2 million dedicated to addressing coastal management priorities, including:

- Alternative and innovative options to hard protection infrastructure solutions;
- Expanded or innovative policy instruments; and,
- Integrated adaptation initiatives.

NRCan will support seven new projects under the Coastal Management Topic, which will run from March 2018 until November 2020 and produce a range of pilots, tools, and resources to advance coastal adaptation.

## Economics

### Chair:

*Pam Kertland, Natural Resources Canada*

An updated Program of Work for 2017 – 2021 was developed; informed by the State of Play report and insights from working group members. The members agreed on the following objectives:

- To build capacity to improve the use of economic information in adaptation decision-making;
- To advance economic analysis of the costs and benefits of climate change impacts and adaptation;
- To improve the incorporation of information on climate impacts and adaptation in financial analysis and decision-making in the financial services sector and in governments; and
- To identify and encourage the use of economic instruments for adaptation.

To support the objectives identified by the Adaptation Platform Working Groups, Natural Resources Canada solicited proposals for cost-shared projects in August 2017. Out of the \$8.25 million in funding allocated for the call, \$1.75 million was allocated to eight economics projects that will:

- Expand analysis of costs and benefits
- Improve the capacity of the financial services sector to address climate change in disclosures and decision-making.

The economic analysis projects focus on: various aspects of adaptation to flooding including the use of natural infrastructure, wildfire management, and trade-offs during regional water shortages.

Recognizing that climate change impacts and adaptations that occur outside Canada could have an impact on Canada - for example through the demand and supply for goods, availability and cost of inputs, and trade competition - a project was initiated to study this issue in more depth.

## Energy

### Co-chairs:

*Mary-Ann Wilson, Natural Resources Canada*  
*Position available / vacant*

Activities of the Energy Working Group (EWG) address five objectives:

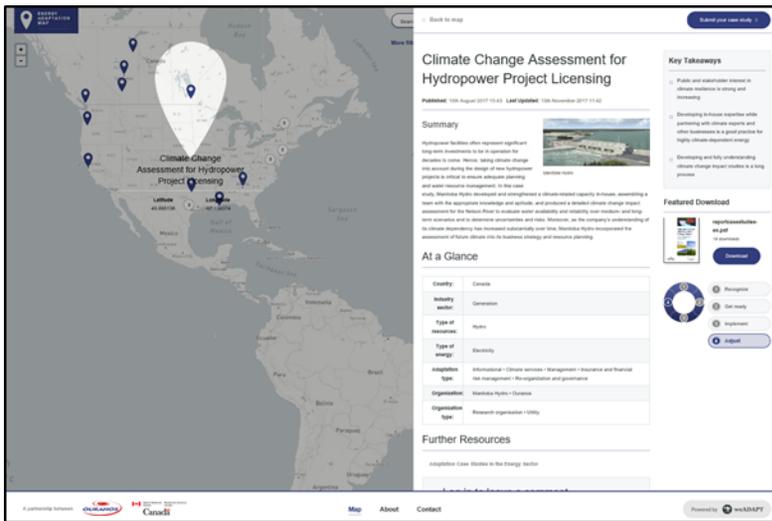
1. Enabling the use of climate data and information
2. Increasing capacity and engagement
3. Developing the business case and supporting decision-making
4. Driving adaptation through collaboration and innovation
5. Promoting policy and regulatory enablers

The EWG has been active in reaching out to broader audiences through presentations at events such as the Federation of Canadian Municipalities' Climate and Asset Management Network, the Canadian Smart Grid Action Network, and the Electricity, Distribution, Information Systems and Technology 2018 Conference.

In addition, the Energy Working Group continues to coordinate efforts and share knowledge with the International Energy Agency.

In the past year the EWG also provided input and expertise into relevant national initiatives, including a submission to Generation Energy, a national dialogue on Canada’s energy future led by Natural Resources Canada. The EWG is also participating in a project led by the Canadian Standards Association to develop climate change adaptation solutions within the framework of the Canadian Electrical Code.

In addition, building on a previously completed project, Ouranos collaborated with WeADAPT to create an interactive, web-accessible database that will continue to be populated with roughly 200 case studies. The website provides examples of measures to address barriers to adaptation in the Energy Sector from around the world. Finally, the fall 2017 NRCan Call for Proposals supported six new energy sector projects in the areas of economic decision-making, adaptation measures and options, and building capacity.



Interactive database of energy adaptation case studies.

## Forestry

### Chairs:

*Vincent Roy / Winnifred Hays-Byl, Canadian Forest Service*

The Forestry Adaptation Working Group (FAWG) updated its Terms of Reference and continued to build its membership with significant representation of provinces and territories, academia and industry. The State of Play report on Forestry Adaptation in Canada provided the basis for the FAWG’s new Program of Work to advance cost-effective options for tracking forest climate change adaptation progress, provide information on climate change impacts and adaptation for forest management planning, and promote best practices in forestry adaptation across jurisdictions. The Canadian Forest Service supported the NRCan Call for Proposals on Forestry Adaptation which was open to FAWG members; four proposals on forestry adaptation were funded for the period 2018-2020. The FAWG’s monthly meeting agenda was restructured to include feature presentations on adaptation to increase engagement and knowledge sharing across Canada, including, for example, presentations from the Canadian Centre for Climate Services, and the Expert Panel on Climate Adaptation and Resilience Results.



## Infrastructure and Buildings

### Co-chairs:

David Lapp, Engineers Canada

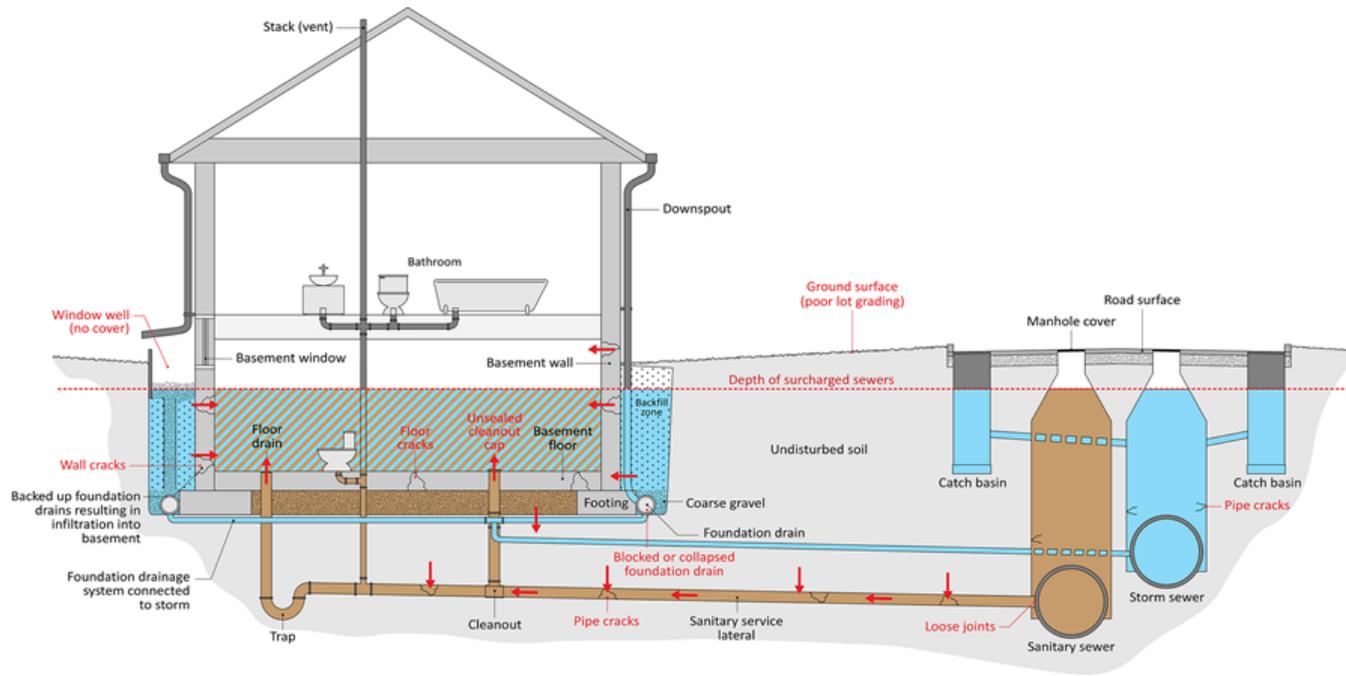
Paul Kovacs, Institute for Catastrophic Loss Reduction

In the fall of 2017, the Infrastructure and Buildings working group updated its Program of Work to reflect findings and input provided by the 2017 [State of Play](#) project. The updated Program of Work continues to emphasize the objectives of building capacity for buildings and infrastructure adaptation, outreach and information dissemination, and building evidence for adaptation measures. As an unfunded working group, the meetings have focused on dissemination of information on adaptation initiatives, and the creation of opportunities for adaptation project partnerships. Since the last

update to Plenary, Infrastructure and Buildings has received presentations from around 20 external and internal presenters, focusing on progressive national adaptation programs and local adaptation initiatives.

Ongoing and completed projects by working group participants include:

- Development of standards and guidelines related to \$ infrastructure and buildings, including: \$
  - Engineers Canada/SCC Stormwater Quality Management Standard Seed Document project,
  - ICLR/SCC Wind Resilience for Low-Rise Residential Seed Document project,
  - CSA Z800-18 Basement Flood Protection and Risk Reduction Guideline,



Detail from CSA Z800-18 Basement Flood Protection and Risk Reduction Guideline – sewer backup flooding. Adapted from ICLR 2009 Handbook for Reducing Basement Flooding

- Durham Region Climate Resilience Standard for New Houses,
- Contributions to NRC's Climate Resilient Buildings and Core Public Infrastructure project related to basement flood and WUI fire, and
- U of G/ICLR/NSERC project on performance of household basement flood protection measures,
- Climate data projects by Ouranos and Standards Council of Canada), and;
- Development of tools and guides to assist in the selection, evaluation and implementation of adaptation options, including CVC's Risk and Return on Investment Tool and the ACT SFU Low Carbon Resilience - Practitioners as Drivers for Sustainable Communities project.

Engineers Canada continues to develop several national and international infrastructure initiatives, and has continued application of the PIEVC protocol for Canadian infrastructure. Highlighted national and international initiatives include a project with Ontario First Nations Technical Services Corporation (OFNTSC) for the Akwesasne First Nation focused on development and testing of a First Nations PIEVC/asset management toolkit in Ontario, and a partnership with the German International Development Agency GIZ for the Enhanced Climate Services for Infrastructure Investment project, which will support application of the PIEVC protocol in Brazil, Costa Rica, Vietnam and as part of the Nile Basin Initiative.

## Mining

### Chairs:

*Pam Kertland, Natural Resources Canada*

The Mining Working Group membership was refreshed and expanded to 18 members.

To support their planning, the Working Group commissioned a State of Play report for mining and adaptation. The report, which was finalized in March 2017, focuses on the impacts of climate change on mining in Canada and the adaptation activities by the private and public sectors to address them. The report is based on the findings of the studies conducted as part of the 2012-16 program, grey literature from government, industry and academic sources, and on interviews with different stakeholders. The objectives of the report are to:

- assist the Working Group to develop common understanding of the state of action on climate change adaptation in the mining sector;
- provide an updated snapshot of the work that has been underway within the mining sector on adaptation in the past five years (2012-2016); and
- identify gaps and needs to help advance on key issues in adaptation and inform the development of the MWG program of work for the next four years (2017-2021).

Additionally, the results of the projects undertaken during the previous program phase (2012-2016) continue to be disseminated both within and outside Canada at events such as the Adaptation Canada 2016 conference in Ottawa in April 2016 and the Adaptation Futures conference in Rotterdam in May 2016.

## OTHER ACTIVITIES

### *Canada in a Changing Climate: Advancing our Knowledge for Action*

Tremendous progress was made in 2017/18 on the development of the next national assessment of how Canada's climate is changing, the impacts of these changes, and how we are adapting to reduce risk.

The new assessment differs from past assessments in important ways:

- 1 – Other ways of knowing, including Indigenous knowledge and practitioner experience, will be included equally with conventional science sources;
- 2 – A more transparent and inclusive process will allow even more experts contribute to the development; and
- 3 – The report will be developed for digital delivery and present key findings that speak to issues of concern to decision-makers.

The [Canada in a Changing Climate](#) website allows visitors to learn more about the assessment process, meet the assessment team, and contribute directly by completing questionnaires, submitting relevant documents, and registering to be an expert reviewer.

A key milestone was the first joint meeting of the Advisory Committee and Coordinating Lead Authors in Halifax; held in conjunction with the October meeting of the Adaptation Platform Plenary. The goals were to solidify a team approach; clarify expectations; common themes and challenges; and help equip the lead authors with the information they need to pull together a strong chapter. This included a commitment to

develop guidance on the inclusion of Indigenous knowledge in the report, to be prepared by a subgroup under the leadership of experts from the Assembly of First Nations and Inuit Tapiriit Kanatami.

A second meeting of Coordinating Lead Authors was held in Toronto in February. That meeting focused on issues of overlap between chapters, writing to key concepts, and digital delivery.

Finally, the first product of the national assessment, *Canada's Changing Climate Report*, has finished external review and is on schedule for completion in December 2018. This report, led by Environment and Climate Change Canada, presents an overview of climate trends and projections for Canada and serves as a foundation for all subsequent products of this assessment.

For more information on Canada in a Changing Climate, contact [Don Lemmen](#) or [Fiona Warren](#) at Natural Resources Canada.



National Assessment Advisory Committee (left to right) – Graeme Reed, Elaine Fox, Don Lemmen, Caroline Larrivé, Thomas White, Fred Lipschultz, Gord Beal, Susan Evans, Stewart Cohen, Ewa Jackson, Marjorie Shepherd, Linda Mortsch, Anne Kendrick, Paul Kovacs, Patricia Manuel, David Lapp.

## Northern Adaptation Partnership

Discussions around the creation of the Northern Adaptation Partnership and the development of the Northern Adaptation Strategy continued throughout 2017-2018. Crown-Indigenous Relations and Northern Affairs established a collaborative process with territorial, provincial, and northern governments and Indigenous Peoples to advance work on the Northern Adaptation Strategy. The engagement approach included conference calls as well as regional visits. The input generated through this engagement phase served to make progress on a framework document for the Strategy.

General consensus has been reached on the content of the framework document. It lays the foundation for the Northern Adaptation Strategy which will enable meaningful collaboration and serve to advance adaptation actions at the community level. The Northern Adaptation Strategy will be complementary to regional and community level climate change and adaptation strategies and implementation plans.

## Update on the Flood Mapping Committee

Since 2014, several federal government departments who are members of the Adaptation Platform have contributed to the federal Floodplain Mapping Committee (FMC), which is developing technical guidance for floodplain mapping for Public Safety Canada's [National Disaster Mitigation Program](#).

A key element of the Adaptation Platform members participation on the FMC is to support the incorporation of climate change considerations in floodplain mapping. This work is undertaken by a sub-group on climate change and flood mapping, chaired by Natural Resources Canada, Environment and Climate Change Canada, and the

Government of Alberta. Over the past year the sub-group has developed *Case Studies on Climate Change in Floodplain Mapping* that are part of the [Federal Floodplain Mapping Guideline Series](#). The case studies document methods to incorporate climate change into floodplain mapping undertaken by early adopters, and is expected to be published in Spring 2018.

The sub-group also provided input with respect to climate change sections for other guidelines of the series. The sub-group organized a workshop on Climate Change and Floodplain Mapping in Edmonton, March 20-21, 2018, co-hosted by Natural Resources Canada and the Government of Alberta. The workshop brought together stakeholders and experts to discuss recommendations to advance this important issue. The sub-group will review the outcomes of the workshop and determine the next steps for the upcoming year.



Members of the Planning Committee for the Workshop on Climate Change and Floodplain Mapping (Edmonton, AB; March 20-21, 2018) holding a roadmap for the quantitative inclusion of climate change into floodplain mapping.