Summary of the Evaluation of the Climate Change Adaptation (CCAP) Program

About the Climate Change Adaptation Program

NRCan has been involved in climate change initiatives for over 20 years. CCAP is delivered by two divisions within the Lands and Minerals Sector (LMS): Climate Change Impacts and Adaptation Division's Adaptation Program (CCIAD-AP) under the Hazards, Adaptation and Operation Branch (HAOB), and the Climate Change Geoscience Program (CCGP) of the Geological Survey of Canada (GSC).

The main source of funding for CCIAD-AP was through temporary funding (C-base), and the total actual expenditures between 2016-17 to 2020-21 were approximately $29.8 million. The actual expenditures of CCGP were $21.6 million, which included A-base, C-base and OGD allocations, as well as additional cash and in-kind support secured from partners and collaborators.

Natural Resources Canada's Climate Change Adaptation Program (CCAP) consists of:

Climate Change Impact and Adaptation Division's Adaptation Platform (CCIAD-AP)
Climate Change Geoscience Program (CCGP)

CCIAD-AP aims to advance climate resilience across Canada by facilitating collaborative actions among the public and private sectors, non-governmental organizations, academia, and Indigenous organizations. The program advances climate change adaptation in Canada via three key delivery mechanisms:

- **Canada's Climate Change Adaptation Platform** brings together key stakeholders to support and enhance collaboration, knowledge creation, and knowledge dissemination. The Platform includes the Plenary, subject matter Working Groups, State of Play reports, Grants and Contribution program, and Regional Adaptation Collaboratives hub.
- The **National Knowledge Assessment (NKA)** process supports the assessment and sharing of science-based knowledge and tools, including Indigenous knowledge, and funds regional risk assessments with each province.
- The **Building Regional Adaptation Capacity and Expertise** (BRACE) program works in direct partnership with provinces to build the capacity of organizations, professionals, and communities to apply climate change considerations and actions.

CCGP delivers scientific research and analysis on geoscience issues to support climate change adaptation, organized around: 1) current and future conditions in permafrost regions; 2) coastal dynamics; 3) extreme events; and 4) melting glaciers.

- **In Canada's North,** CCGP's expertise and systems are used almost exclusively to support climate change adaptation in permafrost and coastal regions, as well as glacier mass balance monitoring.
- **In Canada's coastal areas,** CCGP supports climate change adaptation by conducting research as well as making tools available in relation to sea level change and coastal sensitivity mapping.

What the Evaluation Found

Relevance and Program Context

Climate change impacts are already felt across Canada, particularly in Canada's northern and coastal regions. The increasing frequency and severity of natural disasters driven by climate change illustrate the need to ensure that infrastructure and communities can adapt to climate change impacts. Climate change adaptation is a growing concern and priority for the Government of Canada, as demonstrated by the ratification of the Paris Agreement in 2015 and the development of the Pan-Canadian Framework on Climate Change and Clean Growth (PCF) in 2016. The PCF aims to meet Canada's GHG reduction targets, grow the Canadian economy, and build Canada's resilience to a changing climate. In 2022, the GC released the National Adaptation Strategy. Several federal departments are involved in climate change adaptation in Canada, and CCAP is NRCan's long-standing climate change adaptation program.

Effectiveness in achieving the intended outcomes

CCAP is effective in achieving its intended outputs and immediate outcomes. The program is progressing towards the intermediate and long-term outcomes.

Through CCIAD-AP, target stakeholders have:

- Increased awareness of climate change impacts;
- Increased access to information, expertise, and tools they need to support climate adaptation actions;
- Increased capacity to use and apply climate adaptation tools and information in their work through BRACE; and
- Been enabled to participate in and contribute to the identification of priorities for climate adaptation activities in Canada.

As a result, CCIAD-AP's target stakeholders have identified a range of climate change adaptation measures to address risks and opportunities arising from climate change. Target stakeholders have started including climate adaptation in their plans and strategies and implementing climate adaptation measures. However, more work is required because not all target stakeholders have taken climate adaptation action.

Through CCGP, target stakeholders have:

- Increased awareness of NRCan geoscience data, knowledge and tools related to climate change;
- Increased use of NRCan resources related to climate change; and
- Increased access to knowledge products to support the identification of priorities for preparedness and adaptation activities in Canada.

CCGP products are published on NRCan information systems (i.e., GEOSCAN, Permafrost Information Network, and CanCoast) and on external databases to communicate its scientific discovery to national and international end-users.

Through CCGP, target decision-makers from all levels of government have made science-based decisions related to climate change adaptation. CCGP has also influenced the implementation of climate adaptation measures in several key areas, including improved flood forecasting (Hudson Bay Lowlands), long-term glacier monitoring (Canadian Arctic and the Western Cordillera), permafrost-climate-infrastructure interactions (Iqaluit Airport), and understanding of ground-ice conditions and coastal changes (Hamlet of Tuktoyaktuk).

Finally, CCAP is progressing towards its ultimate outcome. The overall trends of progress suggest that CCIAD-AP and CCGP have enabled improved resilience to climate change impacts in Canadian regions, communities, and economic sectors through the implementation of climate change adaptation measures. CCIAD-AP and CCGP have cultivated stakeholders' capacity to act and adapt in the events of climate-related hazards and disaster risks. However, **the evaluation found some limitations in CCAP's performance measurement strategy**. While CCIAD-AP and CCGP have put in place several measures for performance measurement, neither has been consistent with collecting performance information on all their key components. Performance information for the longer-term outcomes remains a challenge for CCAP to make a definitive conclusion on the impact of the program on the ultimate outcome.

Efficiency and Economy of the Program Model

CCAP has generally evolved in the design and delivery to meet the new and changing needs of target stakeholders. CCIAD-AP is effective in keeping abreast of the trends in the field of climate change adaptation. CCIAD-AP have added Indigenous partners to the Platform Plenary, enhanced inclusivity and transparency of the NKA process, and worked with the provinces to build regional adaptation capacity via BRACE. CCGP has updated its strategic priorities and activities over time by shifting its focus on Canada's Arctic region, and thus maximizing program impacts on infrastructure and communities for northern resource development.

The CCAP model generally supports the program objectives as part of the PCF. CCIAD-AP and CCGP each provide unique and important functions while collaborating on issues and activities of common interests. Both the CCIAD-AP and CCGP models are effective in facilitating partnerships, collaborations and communications, as well as the production of relevant knowledge and tools. CCGP's matrix organization facilitates the contribution to the project management and decision-making process of CCGP scientists and other personnel from across the country. The evaluation also found that CCGP and CCIAD-AP are efficient in leveraging their resources. CCGP is effective in establishing partnerships to increase the reach and impact of its projects led by a relatively small number of personnel, as well as procuring funds from various external sources. CCIAD-AP facilitates the advancement of desirable outcomes in climate adaptation in communities by leveraging pre-existing relationships and networks that are embedded in a particular community.

Key informants underscored that there are still critical gaps and challenges in the practical implementation of climate change adaptation measures. Although the implementation of climate adaptation measures is not part of the program's current mandate, CCAP could play a potential role in catalysing the implementation of climate adaptation measures by using its pre-existing networks and knowledge built.

CCAP has considered EDI factors in all its key components. CCIAD-AP and CCGP have facilitated a variety of initiatives that have strengthened some Indigenous groups' adaptive capacity to respond to climate change impacts. CCAP could consider further opportunities to include more under-represented communities, in addition to

Indigenous peoples, to identify climate change adaptation solutions and strengthen Canada’s resilience.

Recommendations	Management Response and Action Plan
1. The ADM, Lands and Minerals Sector (LMS) should further explore avenues to accelerate the implementation of climate change adaptation measures.	**Management response:** Management agrees. Building on LMS' co-leadership in the development of the National Adaptation Strategy (NAS), and leadership on the Economy and Workers System under the NAS, the ADM-LMS commits, via the Director General-Hazards, Adaptation & Operations Branch (HAOB) and Director General-Geological Survey of Canada (GSC), to work with partners to address knowledge and skills barriers for climate change adaptation. This will be achieved through targeted research, enhanced engagement and knowledge products, case studies of adaptation actions, and funding projects to develop information and skills for adaptation. Specifically: • LMS-GSC will undertake research on the cryosphere, sea-level, and coastal changes with a stronger focus on hazards and risks to produce new knowledge products for communities and other stakeholders. • LMS-GSC will coordinate with federal partners, Indigenous groups, Provinces and Territories, and academia to develop research priorities for contribution to ECCC's Climate Science 2050 Science and Knowledge Plan. • LMS-HAOB will undertake and disseminate case studies of adaptation actions that document the lessons learned so that other decision-makers can learn from those experiences. • LMS-HAOB will co-fund projects that address knowledge gaps and emerging issues and support adaptation skills development in professionals such as planners and accountants. • LMS-HAOB will launch a new program to accelerate coordinated adaptation action in coastal regions. • LMS-HAOB will work with other federal departments to develop revised federal governance on adaptation to deliver co-ordinated action on the objectives and targets of the NAS. The revised governance will improve collaboration with Provinces, Territories, Indigenous Peoples, and other partners to deliver more coordinated adaptation programming. **Position responsible:** DG-HAOB and DG-GSC. **Timing:** • LMS-GSC will include hazard and risk-related research activities in its climate change programming by May 31, 2024.

Recommendations	Management Response and Action Plan
	• LMS-GSC will contribute collaborative research priorities to CS2050 Plan by December 15, 2023. • LMS-HAOB will issue a call for proposals for co-funded projects by June 30, 2023. • LMS-HAOB will undertake adaptation case studies and disseminate results to the Adaptation Platform by April 1, 2025. • LMS-HAOB will launch a Climate Resilient Coastal and Northern Communities program by September 29, 2023. • LMS-HAOB, working with other federal departments, will develop revised federal governance by September 29, 2023.
2. The ADM, LMS should continue to explore and implement approaches to further integrate considerations for Equity, Diversity, Inclusion, and Accessibility in Climate Change Impacts and Adaptation Division-Adaptation Program (CCIAD-AP), with particular emphasis on the participation of diverse Indigenous communities and other under-represented groups that are affected by climate change impacts.	**Management response:** Management agrees. LMS-HAOB will invite participation of under-represented groups in Canada's Adaptation Platform plenary and working groups to enhance collaboration on Inclusion, Diversity, Equity and Accessibility in adaptation. LMS-HAOB will update its Climate Change Adaptation Terms and Conditions to better support Grants and Contributions projects led by Indigenous communities. LMS-HAOB will increase requirements for consideration of Inclusion, Diversity, Equity and Accessibility in its co-funded projects. **Position responsible:** DG-HAOB. **Timing:** • Invites sent to under-represented groups to join the Adaptation Platform by October 30, 2023. • Amendment of the Climate Change Adaptation Terms and Conditions by June 30, 2023. • Increased requirements for Inclusion, Diversity, Equity, and Accessibility in co-funded projects will be added to the call for proposals by June 30, 2023

Recommendations	Management Response and Action Plan
3. The ADM, LMS should review the performance measurement strategy of Climate Change Adaptation Program. In particular: a. Update the strategy to collect the performance information that best informs progress and accomplishment of its expected results and updated targets (CCIAD-AP and Climate Change Geoscience Program). b. Specific to CCIAD-AP, ensure that the program is monitoring and measuring outputs and outcomes of all the key delivery mechanisms, including projects subsidized by the program (e.g., the Platform, BRACE, etc.).	**Management response:** Management agrees. a) DG-GSC will update its strategy for performance measurement including revision to logic model and metrics. DG-HAOB will update its performance measurement strategy to contribute to measurement of the National Adaptation Strategy Objectives and Targets. b) DG-HAOB will take steps to ensure improved project monitoring and reporting of results takes place, for example by adjusting its full-time equivalent staff resources. **Position responsible:** a) DG-GSC, DG-HAOB b) DG-HAOB **Timing:** a) CCAP project performance measurement strategy is updated by September 29, 2023. Updates to the Performance Measurement Strategy to contribute to the NAS Objectives and Targets will be done in collaboration with ECCC and Other Government Departments by December 29, 2023. b) Improved monitoring and reporting is in place for CCIAD-AP by September 29, 2023.

About the Evaluation

NRCan's Audit and Evaluation Branch conducted an evaluation of the CCAP between April 2020 and December 2021, in accordance with the Treasury Board (TB) *Policy on Results* (2016). The evaluation covered the five-year period from 2016-17 to 2020-21. The evaluation responds to a TB commitment with respect to CCAP's funding in 2016-17 and 2017-18, as part of the Horizontal Climate Change Adaptation Initiative led by Environment and Climate Change Canada. The evaluation focused on program performance and the following three objectives:

1. Assess the program model's capacity to adapt to the evolving context;
2. Assess whether the program has put in place measures to achieve EDI objectives with an emphasis on Indigenous peoples; and
3. Assess the program's contribution to achieving its intended outcomes with emphasis on the long-term outcomes.

The evaluation also examined CCAP's implementation of recommendations from the previous evaluation, as well as lessons learned and best practices related to the design and delivery of the program. A document review, a literature review, key informant interviews, and case studies were used to answer the evaluation questions.

Date modified:
2025-02-10