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Government of Canada Adaptation Action Plan

2024 Update

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Table of Contents

Figures

Minister's Foreword

Canada's climate has changed and will continue to change. The evidence is now at our doorsteps. Floods, wildfires, droughts, health issues– Canadians across the country are feeling the impacts of climate change and record-breaking weather events. Canada needs to adapt to these changes. We can and must mitigate greenhouse gas emissions that are driving human-induced climate change, and we're doing that by implementing the 2030 Emissions Reduction Plan. But as the Indigenous peoples and inhabitants of this vast land we now call Canada have been doing since before our foundation as a country, we also must adapt our lives to the environment as it is and will be – not as we wish it were. The Government of Canada Adaptation Action Plan (GOCAAP) is the centerpiece of our country's plan to adapt to a changing climate – from West to East to North. This first-of-its-kind document is the Government of Canada's down-payment on the ongoing national project that is our National Adaptation Strategy.

The case for investing in climate adaptation is clear. In a 2020 report, the Canadian Climate Institute highlights that insured losses for catastrophic weather events have tripled, totalling more than $18 billion between 2010 and 2019. If left unchecked, the impact of climate damages will increasingly undercut Canada's economic growth. As the costs of climate change mount, it pays to be prepared. Every dollar spent on adaptation measures today saves up to $15, including both direct and indirect economy-wide benefits. The dividends from smart adaptation investment include reducing costly repairs or replacement of lost or damaged infrastructure, avoiding disruption of supply chains, and protecting against climate-related health impacts that can cause havoc in our schools, hospitals, businesses and workplaces.

Adaptation is about reducing the impacts of these events and changes on people in Canada and communities, and being better prepared to respond and recover. The choices and adaptation actions we take today will help decide the future of our communities, our livelihoods, our environment, and our economy. But what does that mean?

It means setting targets and making investments for:

- Stronger roads, bridges, sewers and other infrastructure
- Healthier people and communities
- Protecting nature and restoring biodiversity
- A more climate resilient economy and workers
- And better disaster preparedness

It also means advancing climate and environmental justice. As we build systems and solutions that are more climate resilient, we have the opportunity to address systemic inequities that make some people more vulnerable to the impacts of climate change.

The National Adaptation Strategy is a long-term vision for adaptation action, designed to raise awareness, set clear priorities and guide proactive action on adaptation throughout Canada.

Implementation of the Strategy will reduce the negative impacts of climate change based on observed or expected changes in climate. It will improve health and well-being outcomes, build and maintain infrastructure, protect nature and biodiversity, support a strong economy and workers, and enhance disaster resilience. As the climate continues to change, our actions to prepare and respond to the impacts of these changes must also keep pace. The Strategy is designed to allow for regular updates as we work and learn together about how to best build resilience to the effects of climate change.

The GOCAAP will complement the adaptation work and strategies of provinces, territories and Indigenous partners. Bilateral Provincial and Territorial action plans will be developed to advance efforts on shared priorities. And everyone has a part – provinces, territories, municipalities, Indigenous peoples, businesses, and all residents of Canada. Through these shared partnerships and initiatives, the federal government is committed to growing momentum on adaptation through tangible actions across Canada.

As climate change impacts and extreme weather become an ever-increasing part of our lives, it is critical that we take urgent action. That is why the Government of Canada has made adaptation and climate resilience a priority. Investments in adaptation shape a future that is more resilient to the impacts of a changing climate. Building climate resilience means that we are not only prepared for climate change, but we can thrive under a changing climate.

The Honourable Steven Guilbeault,
Minister of Environment and Climate Change

Executive Summary

Climate change is a reality for Canada. This is the moment to address its effects head on and ensure that we are building resilient communities and a strong economy. Canadians are already facing extreme weather events, such as Hurricane Fiona, which battered the Atlantic Provinces and Eastern Québec in September 2022; extreme heat waves and wildfires in British Columbia, Alberta, and Nova Scotia; droughts and crop losses in the Prairies; and catastrophic flooding across the country.

The case for adapting to the changing climate is undeniable. The Canadian Climate Institute estimates that by 2025 Canada will experience annual losses of $25 billion as a result of climate change. This is equal to 50 per cent of projected 2025 Gross Domestic Product (GDP) growth.

Climate change is impacting people, communities, and the natural environment on which we rely in unprecedented ways. Some impacts occur gradually, such as sea-level rise and permafrost thaw. Warming temperatures can worsen air pollution and increase the spread of disease-carrying pathogens, such as ticks and Lyme disease, affecting the health of Canadians across the country. Other impacts are immediate—like extreme heat events, wildfires, and flooding. These extreme events have devastating impacts on communities and impose significant financial burdens, which are expected to worsen considerably in the foreseeable future. Reports consistently show that prudent action to support resilient economies and communities involves making investments and preparing ahead of time to prevent the cascading of climate impacts down the road.

Canada's National Adaptation Strategy: Building Resilient Communities and a Strong Economy (NAS) provides a long-term vision on adaptation that will help prepare communities for the impacts of climate change. The Strategy lays out a vision for a resilient society and identifies goals, objectives and targets in five key systems that affect the daily lives of Canadians:

- Disaster Resilience
- Health and Well-being
- Nature and Biodiversity
- Infrastructure
- Economy and Workers

For each system, the Strategy sets a long-term transformational goal and medium-term objectives for ensuring resilience in Canada. The Strategy establishes guiding principles to ensure these goals and objectives are achieved in a just and fair way. It identifies national adaptation priorities to address current climate change impacts, reduces barriers to adaptation, and lays the foundations for transformational action so we are prepared for the future.

The *Government of Canada Adaptation Action Plan* (GOCAAP) is the policy and program framework that shows how the Government of Canada contributes to achieving the goals, objectives, and targets laid out in the NAS. While federal action is one key part for implementing the NAS, collaboration with provinces, territories, Indigenous Peoples, the private sector and all Canadians is critical to our collective success.

The Action Plan outlines the federal role in meeting adaptation goals, objectives and targets. It also identifies the tools the Government of Canada uses to make Canada more resilient to climate impacts including:

- supporting informed planning and decision-making
- generating scientifically sound, foundational climate change data
- convening partners and stakeholders
- setting long-term policy direction, along with regulatory measures (e.g., codes and standards for resilient infrastructure) and targeted investments
- working with provinces and territories to develop bilateral action plans for adaptation and co-development of the Indigenous Climate Leadership Agenda with Indigenous partners—collaborations that will maximize the impact of efforts made at different levels

Government of Canada Actions that Support Adaptation

The Action Plan is a comprehensive inventory of federal actions that implement NAS objectives. This is the first time such an inventory has been developed and published. It provides partners and stakeholders with a clear view of how their efforts can be complemented or supported by federal initiatives.

The Government of Canada will implement actions to address both the short-term and long-term climate change issues and risks facing Canadians. Federal actions in the GOCAAP can be grouped in two ways: actions that make targeted contributions to each of the five National Adaptation Strategy systems, and those that are foundational and cross-cutting.

Summary of Key Actions under each NAS System

Taking action to enhance Canada's emergency management and disaster risk reduction capabilities

The Government of Canada is supporting Canadians to prepare for, respond to, and recover from climate-related disasters. Government investments include:

- reducing the risks of wildfire in our communities by investing up to $284 million over five years to enhance community prevention and mitigation activities, support innovation in wildland fire knowledge and research, and establishing a Centre of Excellence for Wildland Fire Innovation and Resilience
- ensuring that Canadians have access to free, up-to-date and high-quality flood hazard maps by investing up to $164 million over five years and working with provinces and territories to increase Canada's resilience to flooding by expanding the Flood Hazard Identification Mapping Program
- standing up a low-cost flood insurance program by investing up to $31.7 million over three years to protect households at high risk of flooding and without access to adequate insurance
- creating a new, publicly accessible online portal by investing up to $15.3 million over three years to ensure Canadians have access to information on their exposure to flooding
- investing up to $48.1 million over five years to identify high-risk flood areas and implement a modernized Disaster Financial Assistance Arrangements program, which would incentivize disaster mitigation efforts

Taking action to protect the health and well-being of people in Canada

The Government of Canada will invest in new measures to help rapidly scale up efforts to protect individuals, communities and health systems from climate change impacts. Federal investments to build resilience in the health sector include:

- expanding Health Canada's Protecting the Health of Canadians from Extreme Heat program by investing up to $30 million over five years to provide the best available guidance and resources to Canadians in addressing extreme heat
- renewing and expanding the HealthADAPT program by investing up to $13 million over five years to support partners across Canada in creating climate-resilient health systems
- investing up to $12 million over five years to enhance the Climate Change and Health Adaptation program for First Nations North of 60^{o} and Inuit across Inuit Nunangat, and provide support to Indigenous organizations to engage First Nations and Inuit on climate change related needs and vulnerabilities in health services

Taking action to enhance a thriving natural environment

Nature is one of our greatest allies in the fight against climate change. By leveraging nature's inherent ability to buffer and protect against climate change impacts, we can promote healthy ecosystems that help to halt and reverse biodiversity loss and enable nature to fully recover to allow for natural and human adaptation. For example, wetlands are natural ecosystems that regulate water flow, prevent flooding and mitigate drought. The Government of Canada is implementing a number of conservation programs to support projects that promote more resilient natural environments, including:

- supporting the goals of protecting 25% of Canada's land and waters by 2025, and 30% by 2030 by conserving and protecting national wildlife areas, Indigenous Protected and Conserved Areas, and conserving species at risk through Canada's Enhanced Nature Legacy and Marine Conservation Program
- strengthening ecological connectivity to allow species to move freely and better adapt to a changing climate through the National Program for Ecological Corridors

Taking action to enhance our resilient natural and built infrastructure

Climate change is damaging the infrastructure and services on which we critically rely. Significant investments in building climate-resilient infrastructure across Canada include:

- investing in climate-resilient infrastructure through the national Disaster Mitigation and Adaptation Fund, which received a top up of $489 million over 10 years to continue to help municipalities and townships build new infrastructure to increase the resilience of communities
- delivering the Natural Infrastructure Fund to support and accelerate the uptake of nature-based solutions
- investing up to $60 million over five years to accelerate the use of climate-informed codes, standards and guidelines for resilient infrastructure in Canada
- investing up to $95 million over five years to deliver a climate toolkit and services that increase the uptake of climate resilient practices and investments in communities

Taking action to protect the economy and workers

Canada's economy will anticipate, manage, adapt and respond to climate change impacts and will advance new and inclusive opportunities within a changing climate, particularly for communities at greater risk, Indigenous Peoples and vulnerable economic sectors.

This will be done by:

- enhancing the resiliency of Canada's supply chains in the event of disasters, providing workers with the tools and the skills they need to thrive under a changing climate and supporting industries, such as agriculture and mining, which are vulnerable to climate change
- investing up to $41 million over five years to pilot a new approach to implementing regional climate resilience through the new Climate-Resilient Coastal Communities Program, which will enable communities to partner with other stakeholders to address barriers and develop novel solutions to climate change risks

Building our knowledge and understanding of Canada's changing climate

Protecting our communities, businesses and homes from climate change starts with decision-ready information. To ensure that Canadians have access to relevant climate change information and resources, expertise and advice to make climate-informed decisions, the Government of Canada is:

- undertaking state-of-the-art climate modelling and research, and sharing this information through the Canadian Centre for Climate Services to help Canadians make climate-informed decisions
- investing up to $70 million over five years to deliver a new Canada-wide climate science assessment, which will provide authoritative knowledge and new data about ongoing and future climate change in Canada and underpin the direction for future adaptation

Developing tools and resources to support communities in adapting

To turn awareness into action, people in Canada need to be able to access tools, programs, and resources to address the climate risks they face. Those at higher risk of climate impacts, including smaller communities, racialized and vulnerable groups, require additional support to keep pace with more severe impacts, The Government of Canada is investing in capacity building tools and resources to support communities in greatest need, including:

- expanding the Green Municipal Fund by up to $530 million to support community-based adaptation initiatives, in collaboration with the Federation of Canadian Municipalities
- providing up to $50 million over 5 years to enhance existing programs in Indigenous and northern communities, such as First Nation Adapt, Climate Change Preparedness in the North, and Indigenous Community-based Climate Monitoring, which help to build adaptation capacity and support community-led adaptation measures

Establishing governance and demonstrating leadership

Clear accountabilities and responsibilities are needed to align and improve adaptation actions across society. Adaptation governance mechanisms bring together the perspectives of different orders of government, Indigenous Peoples, marginalized groups, the private sector, and civil society. In addition, integrating adaptation efforts into federal policy, planning and investments, the Government of Canada is leading by example in building climate resilient institutions.

The Government of Canada will:

- continue to work closely with First Nations, Inuit and Métis representatives and rights-holders to create a partnership model for climate action through the Indigenous Climate Leadership Agenda
- work to enshrine adaptation into everyday decision-making to ensure that all programs, policies, initiatives and departments consider climate change risks and support Canada's national adaptation objectives

Taken together, the Action Plan includes a total of 73 federal actions across 22 departments and agencies, illustrating the depth and breadth of action being taken. This builds on the $4.5 billion that has already been invested in adaptation and billions more for disaster response and recovery efforts since 2015. Much has already been accomplished, and we have a solid base from which to build; but the need to do more is clear and urgent.

Like the National Adaptation Strategy, the Government of Canada Adaptation Action Plan will be updated periodically as the climate continues to change, priorities shift, and new actions are designed and announced—it will evolve to meet Canada's needs to become increasingly resilient to climate change. Canada will continue to learn how best to set priorities, develop new policy measures and actions, strengthen coordination with other levels of government and nations, and update approaches to reflect best practices. Coupled with Canada's efforts to reduce greenhouse gas emissions, described in Canada's *2030 Emissions Reduction Plan*, the GOCAAP communicates a comprehensive federal approach to prepare for climate change, build resilient communities, create jobs, and grow a strong economy.

Spring 2024 Update

Canada's National Adaptation Strategy: Building Resilient Communities and a Strong Economy has been in place for a year, setting a long-term vision for climate resilience across the country. Over that time, the federal government has continued to implement the Government of Canada Adaptation Action Plan and has developed new initiatives. These include investments announced under Budget 2024 to advance severe weather early warning system capabilities to ensure communities are prepared for extreme events, and the implementation of national flood insurance programming. Additionally, Budget 2024 announced funding to support First Nations bolster their climate resiliency and protect communities, homes, and essential infrastructure in the face of increasing climate-related disasters.

Recognizing the importance of leading by doing, the Government of Canada also updated its *Greening Government Strategy* to, among other things, increase the ambition and timelines by which federal departments are required to enhance their climate resilience, and to include climate resilience considerations in the procurement of high-value and critical goods and services. An example of action includes the emphasis on bolstering climate resilience for assets and fleets in the 2024 defence policy—Our North, Strong and Free: A Renewed Vision for Canada's Defence.

These actions and investments come at a crucial time. Canadians, our communities, and our environment are continuing to experience record-setting climate disasters, resulting in widespread devastation. The 2023 wildfire season was the worst on record, with out-of-control fires burning in every province and territory. No one was untouched by the impacts of these events. Entire communities were evacuated, homes and properties destroyed, and more than 18 million hectares of forest burned. Millions of people across Canada suffered with some of the worst air quality on Earth because of wildfire smoke, disrupting lives and livelihoods.

In addition to wildfires, Canada experienced its warmest summer since the start of national record-keeping in 1948. Enduring drought conditions were experienced throughout Western and Northwestern Canada, leading to water shortages for irrigation, domestic water supplies, power generation, and fighting wildfires. At the same time, Eastern Canada was hit with torrential rainfalls, with parts of Nova Scotia experiencing up to 100 mm of rain in one hour.

The extremes experienced in 2023 were record-breaking, and as the climate continues to warm, Canada can expect these extremes to increase in both severity and frequency. To this end, actions under this plan will continue to make important contributions to building climate resilience in Canada. The Government of Canada Adaptation Action Plan will be regularly updated as climate risks evolve, and as further actions are taken to address climate change.

1 The Climate Context

Canada's climate is changing at an alarming rate. Temperatures are rising twice as fast as the global average, and three times faster in the North. Higher temperatures are, in turn, driving more frequent and intense weather events that affect our physical environment, and pose real and increasing risks to the health and well-being of Canadians, our communities and our ways of life.

Climate change is not a future problem – it is a *now* problem. In September 2022, Hurricane Fiona battered the Atlantic Provinces and Eastern Quebec with high winds and heavy rainfall impacting families and communities, and causing widespread damage to infrastructure that and left thousands without access to power and the services they rely on for their health and safety. The scale and impact of this storm was unprecedented in Atlantic Canada.

However, Hurricane Fiona is only one of many recent examples. Every region across Canada is already experiencing the harsh and devastating impacts of climate change. Extreme heat waves have claimed hundreds of lives in Western Canada and Quebec; wildfires have destroyed communities in British Columbia, Alberta and Nova Scotia; droughts and extreme hailstorms have resulted in crop losses and have disrupted livelihoods in the Prairies; and catastrophic flooding has occurred in every province and territory across the country.

Climate change is also driving gradual, but more pervasive, impacts, such as permafrost thaw in the North, sea level rise and coastal erosion, invasive species, the spread of vector-borne diseases like Lyme disease and shifting habitats and growing seasons. These challenges must be addressed to ensure our communities and livelihoods remain safe, secure and prosperous.

Adaptation is an imperative

Adaptation means finding ways to adapt to a changing climate by making informed decisions, building resilience in our communities and businesses, and protecting each other and the places we value. It means ensuring that we are all better able to prevent, prepare, respond, and recover from climate impacts today and in years to come. Taking ambitious and collective action to adapt in ways that are equitable and inclusive will help ensure that everyone's lives and welfare are protected from the impacts of a changing climate.

The Government of Canada Adaptation Action Plan is an expression of the federal government's commitment to taking action. As we move into a future with an increasingly unstable climate, we are facing a pivotal moment in Canadian history. The choices and adaptation actions we take today will help decide the future of our communities, our environment, and our economy. Building climate resilience means that all people living in Canada will not only be prepared for climate change but will thrive.

Achieving Canada's adaptation priorities

Canada's National Adaptation Strategy

Canada's National Adaptation Strategy: Building Resilient Communities and a Strong Economy provides a long-term vision of Canada's path for a more climate resilient future. The Strategy is organized around five interconnected systems that are most impacted by climate change:

- Disaster Resilience;
- Health and Well-being;
- Nature and Biodiversity;
- Infrastructure; and
- Economy and Workers.

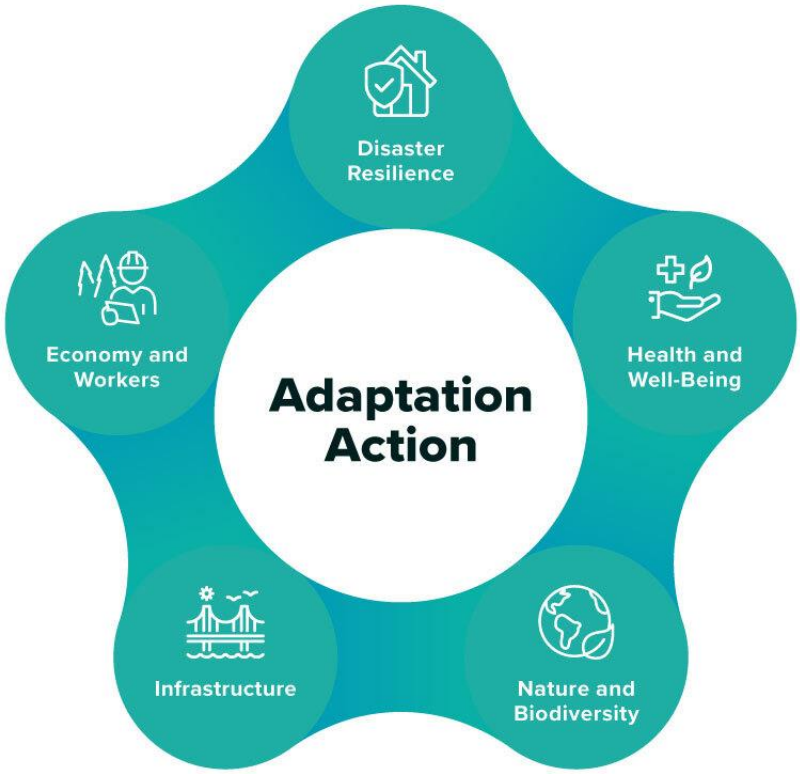

Figure 1. The five National Adaptation Strategy systems.

For each system, the National Adaptation Strategy (NAS) sets a long-term transformational goal, medium-term objectives, and near-term targets for ensuring climate resilience in Canada. Achieving these will require action from governments, communities, individuals, and the private sector. The Strategy also establishes guiding principles to ensure these goals and objectives are achieved in a just and fair way. The Strategy identifies national adaptation priorities to address current climate change impacts, reduces barriers to adaptation, and lays the foundation for transformational action so Canada is prepared for the future.

These NAS systems were selected through extensive engagement with provinces and territories, National Indigenous Organizations, and other key partners. They represent the overarching climate change issues and risks facing Canada's communities, economies, and environment. The systems are aligned to key areas of risk and vulnerability that are identified in the *Canada in a Changing Climate* national assessment series.

Canada's National Adaptation Strategy Guiding Principles

1. Respect jurisdictions and uphold Indigenous People's rights
2. Advance equity and climate and environmental justice
3. Take proactive, risk-based measures to reduce climate impacts before they occur
4. Maximize benefits and avoid maladaptation

The Government of Canada Adaptation Action Plan

The *Government of Canada Adaptation Action Plan* (GOCAAP) is the Government of Canada's contribution to the implementation of the National Adaptation Strategy**.** It lays out how the Government of Canada is making strategic and targeted actions to help meet the Strategy's goals, objectives, and targets while respecting the federal government's role and authority for action. Through the Action Plan, the Government of Canada is delivering 73 actions to advance adaptation throughout the five NAS systems and address both immediate and future climate risks to Canada. Each action directly supports the Strategy's objectives, with many actions helping to achieve multiple objectives at once.

However, meeting the transformational goals, objectives and targets of the NAS requires collaboration. The GOCAAP aligns and complements action plans by other orders of governments, who are advancing work within their jurisdiction and area of responsibility. To support regional and local implementation, the Government of Canada is committed to developing joint federal-provincial and federal-territorial action plans with provinces and territories to advance adaptation priorities in areas of shared or intersecting jurisdiction.

The Government of Canada will also support adaptation actions in Indigenous communities through existing and new federal measures, as well as through the Indigenous Climate Leadership Agenda to identify a path forward for self-determined adaptation action that addresses Indigenous Peoples' climate priorities.

Indigenous Peoples are rights-holders, knowledge-holders and leaders in climate adaptation. They also face disproportionate costs and risks from climate change, including significant risks to Indigenous ways of life. Many Indigenous communities are advancing self-determined or self-governed adaptation actions as stewards of their territories and communities. Further systematic integration of adaptation measures in infrastructure, health, environmental protection, economic development and emergency management services, are needed to support resilient and sustainable Indigenous communities.

Taken together, these initiatives will help implement Canada's national adaptation priorities.

The adaptation cycle

Adaptation is a long-term process. The climate change risks we are facing today will not be the same risks we will face in the future. Effective adaptation is an ongoing process of learning about risks, setting new priorities, planning against these priorities, and implementing and

mainstreaming actions, evaluating the effectiveness of these actions, and making adjustments, as necessary.

Canada's National Adaptation Strategy is contributing to an ongoing cycle of national assessments and is initiating targeted actions and a nation-wide monitoring and review process to strengthen and refocus the national adaptation response over time (see figure 2).

The GOCAAP will grow and evolve as the Government of Canada and our partners continue to research and assess our evolving climate change risks and explore opportunities for new actions.

The Action Plan will be reviewed and updated at least every five years. Using metrics and indicators that are aligned to the NAS monitoring and evaluation framework, the Government of Canada will be able to better understand what actions are effectively reducing risks and where improvements need to be made. This ongoing and iterative approach will ensure that the federal government continues to build resilience in the face of Canada's evolving climate risks.

Figure 2. Graphic showcasing Canada's adaptation cycle and where the GOCAAP and NAS fit within this process.

Climate risk action areas

Climate change impacts in Canada are disrupting communities and lives across the country, causing billions of dollars of damage to physical infrastructure, homes, and the economy.

The costs are high. The Disaster Financial Assistance Arrangements (DFAA) program is the Government of Canada's primary mechanism to financially support provinces and territories to respond and recover when disasters occur. Since the DFAA program was established in 1970, the Government of Canada has contributed over $9 billion in post-disaster assistance to help provinces and territories with the costs of response and of returning infrastructure and personal property to pre-disaster condition. Provincial, territorial, municipal and Indigenous governments have incurred billions more in further costs.

Modelling from the Canadian Climate Institute estimates that Canada is expected to experience $25 billion in annual Gross Domestic Product losses due to climate change in 2025—just two years away. Without adaptation, this estimate rises to $78 billion and $101 billion annually by mid-century in a low and high greenhouse gas emissions scenario, respectively.

However, the impacts of climate change are not limited to severe weather. Climate change poses both immediate and long-term risks to nearly every component of Canadian society. Slow-onset changes, while more difficult to see in everyday life, are projected to have impacts and costs of a similar magnitude to extreme weather events.

Figure 3. Some of the many regional climate change impacts that people in Canada are facing.[1]

For example, rising sea levels are threatening Canada's coastal communities and ecosystems, leading to cascading risks from coastal erosion, increased storm surge, saltwater intrusion, flooding and damage to homes and infrastructure. Increasing temperatures can worsen and exacerbate air pollution, and are aiding the spread of infectious diseases, such as those carried by ticks and mosquitos. Additionally, Northern Canada is experiencing rapid permafrost thaw, changing ice and snow conditions, and shifting wildlife habitats, putting food security and traditional ways of life at risk. Figure 3 highlights some of the many impacts that Canadians are already facing.

Through the GOCAAP, the Government of Canada is delivering a suite of programming to reduce the risks that matter most to Canadians. Recognizing that climate change impacts are highly regional in nature, many of the actions under this plan are designed to be flexible and support regions, communities, and businesses in addressing their individual needs and priorities.

Under the first iteration of the Action Plan, the Government of Canada is prioritizing actions that protect Canadians, the environment, and the economy from the increasingly unpredictable and often severe impacts of climate change and help meet the objectives of the National Adaptation Strategy.

The plan outlines the following steps:

- Working to address the climate risks that communities face;
- Working with other orders of governments, Indigenous partners, and the private sector to communicate these risks as a way to empower communities to protect themselves; and,
- Providing an array of programming and incentives to accelerate resilience, with a focus on those most vulnerable.

The sections below provide a summary of some of the most damaging climate-related events facing Canadians, the associated risk reduction objectives that are being advanced under this Plan, and both new and ongoing actions that will help tackle these risks. Each of these risks are supported by targets under the National Adaptation Strategy.

To best support Canadians in finding programs that meet their needs, all actions within the Action Plan are mapped against the following significant climate risks (see Annex 4**:** Government of Canada Adaptation Action Plan Table for a comprehensive overview):

- Air quality (including wildfire smoke)
- Changing freshwater, ocean and marine conditions
- Changing snow, glacier and ice conditions
- Drought
- Erosion
- Extreme weather events
- Fire events
- Flooding
- Food security
- Habitat degradation and species losses
- Extreme heat events
- Infectious diseases
- Permafrost thaw and degradation
- Sea level rise

Reducing flood risk in our communities

Flooding is Canada's most common and costly climate-related disaster. Floods can occur at any time of year, occurring both along coastlines (through a combination of storm surges, erosion, wave action, high tide, and/or tsunamis) and inland (through excessive rainfall, heavy snowmelt, river and lake flooding, and ice jams.

A large proportion of Canada's population is exposed to flooding. Approximately 83% of Canadians live in urban areas and about 80% of major Canadian cities (i.e., highly populated metropolitan areas) are located wholly or partially in flood zones. The most significant impacts and damages of flooding are expected for transportation related infrastructure, buildings, and electrical systems. Infrastructure damage associated with flooding is increasing and can occur in all seasons.

In some areas of Canada, flood damages are increasing as a result of climate change, demographic shifts, and development in high-risk flood areas. According to the Intact Centre on Climate Adaptation, even simple basement floods cost an average of $43,000; homes in flooded communities, regardless of whether individual properties experienced flood damages, face an average of 8.2% reduction in appraised value and significant sales delays post-flood.

Advancing National Adaptation Strategy Objectives and Targets

The National Adaptation Strategy is advancing objectives and corresponding targets to reduce flood risks across Canada. Objectives include:

- There is a measurable reduction of people in Canada impacted by acute and slow-onset climate-related hazards, with due consideration to how vulnerable communities can better access resources and support systems.

Canada has recently experienced several extreme flooding events, such as the 2019 flood in Quebec and Ontario, the 2021 flood in British Columbia's Fraser Valley due to a strong atmospheric river, and the 2022 flood in the Lake of the Woods watershed.

Indigenous communities face disproportionately higher levels of flood risk compared to the rest of Canada, the negative impacts of which can be exacerbated by other factors, such as loss of lands and/or forced displacement.

The **2021 atmospheric river event in British Columbia** impacted 70 First Nations communities, with 15 needing to be partially or fully evacuated. The flooding event caused significant damages, including highway and bridge washouts that left some communities further isolated and experiencing supply challenges.

- All communities are able to implement timely and successful emergency response plans that are readily accessible to everyone in the event of a disaster.

Targets include:

- By 2025, 60% of Canadians including northerners and Indigenous Peoples, are aware of the disaster risks facing their household
- By 2025, 50% of Canadians have taken concrete actions to better prepare for and respond to climate change risks facing their household
- By 2028, the federal government, provinces, and territories have worked collaboratively to prioritize at least 200 higher-risk flood areas for new flood hazard maps / regional level modelling, and have taken evidence-based risk mitigation actions in accordance with scientific guidance

Government of Canada action on flooding

To better prepare for and respond to growing flood risks, the Government of Canada is implementing a suite of programs to take action:

Flood Hazard Identification and Mapping Program
Advances work to complete flood hazard maps and regional models of targeted higher risk areas in Canada and ensures flood hazard information is accessible to Canadians.

Flood Insurance and Relocation
Advancing work to stand-up a low-cost flood insurance program, including offering reinsurance through a federal Crown corporation and a separate insurance subsidy program, aimed at protecting households at high risk of flooding and without access to adequate insurance.

Natural Infrastructure Fund
Supporting projects that use natural or hybrid infrastructure solutions, such as wetland restoration, to protect the natural environment and support healthy and resilient communities.

Disaster Mitigation and Adaptation Fund
Funding to support community infrastructure to build resilience to natural hazards, including flooding.

First Nation Adapt
Funding to support climate risk reduction in First Nation communities, including efforts to effectively reduce long-term flood risks.

Federal Flood Mapping Guidelines Series
Evergreen technical references to improve and harmonize flood mapping activities across Canada.

Disaster Financial Assistance Arrangements
Modernization of the program to promote disaster risk reduction and help build resilience for Canadians.

Meteorological Service of Canada work in response to hazards
Extreme weather forecasting, early warning systems and information dissemination on dangerous weather conditions, such as flooding.

Reducing wildfire risk in our communities

Climate change is expected to result in more frequent and intense wildfires, with severe environmental and economic consequences.

Over the last 40 years, approximately 7,000 wildland fires occur each year in Canada. Since the 1970s, the area in Canada burned annually by wildland fires has more than doubled. Fire-prone conditions are predicted to increase across the country and could again double the amount of area burned by the end of this century.

The wildfire season is already starting earlier, burning later, and becoming bigger and hotter. Wildfire smoke can affect the health of millions of Canadians for days and months. For example, in 2021 Calgary experienced 512 hours of smoke and haze, far exceeding the average of 12 hours per year.

Advancing National Adaptation Strategy Objectives and Targets

The National Adaptation Strategy is advancing objectives and corresponding targets to reduce wildfire risks across Canada. Objectives include:

- There is a measurable reduction of people in Canada impacted by acute and slow-onset climate-related hazards, with due consideration to how vulnerable communities can better access resources and support systems.
- All communities are able to implement timely and successful emergency response plans that are readily accessible to everyone in the event of a disaster.

In May 2016, a wildfire began ravaging Fort McMurray and surrounding areas, leading to the evacuation of more than 80,000 residents.

The **2016 Fort McMurray wildland fire event** was the most expensive disaster in Canadian history for insurance providers.

About 5,890 km2 of land was burned which is about the size of Prince Edward Island and over 2000 work hours were lost in the natural resources sector (forestry, fishing, mining, oil and gas extraction).

This event caused losses of approximately $3.75 billion insured losses and over $7 billion of direct and indirect losses.

Targets include:

- By 2025, 60% of Canadians including northerners and Indigenous Peoples, are aware of the disaster risks facing their household
- By 2025, 50% of Canadians have taken concrete actions to better prepare for and respond to climate change risks facing their household
- Communities, including northern and Indigenous communities, in zones of high risk, as identified by provinces and territories, develop wildfire community prevention and mitigation plans by 2030, with up to 15% implemented by 2028

Government of Canada action on wildfire

To better prepare for and respond to growing wildfires risks, the Government of Canada invests in a suite of programs and initiatives to support wildfire mitigation and prevention:

Wildfire Resilient Futures Initiatives

New investments in long-term wildfire resilience, including community prevention and mitigation, a Centre of Excellence for Wildland Fire Innovation and Resilience, and supporting Indigenous fire stewardship.

Wildfire Risk Management

NRCan will support the sustainability of Canada's forests as a source of livelihood for Canadians and as an important means to fight the effects of climate change. To achieve this, the Department will work in collaboration with federal, provincial, territorial governments, Indigenous peoples, local governments and academia to mitigate and reduce risks to communities and businesses from wildfires accentuated by climate change, consistent with the National Adaptation Strategy.

Implementing FireSmart On Reserves

Enhances the capacity of First Nation communities on-reserve to prevent and prepare for wildland fires.

WildFireSat

Will monitor all active wildfires in Canada from space to support wildfire management.

Disaster Mitigation and Adaptation Fund

Funding to support community infrastructure to build resilience to natural hazards, including wildfires.

Support for Canadian Interagency Forest Fire Centre

Federal, provincial, territorial wildfire management agencies coordinate resource and information sharing to support wildland fire prevention and mitigation.

Fighting and Managing Wildfires in a Changing Climate

Help support wildfire prevention/mitigation efforts through collaboration with stakeholders and proponents.

Parks Canada Wildfire Management Program

Builds resilience and capacity of national parks to address wildfires.

Reducing extreme heat risk in our communities

Extreme heat events, often called heat waves, involve high temperatures and high humidity. These are a growing public health concern, as a changing climate is worsening the duration and intensity of extreme heat events.

Heat waves have claimed hundreds of lives in Western Canada and Quebec in recent years. While these extreme events pose a health risk to all, some are more affected than others, such as those who are living with pre-existing health conditions.

Although heat is a health risk outdoors, in Canada, the majority of people die from extreme heat indoors. At present, Canadian homes and communities are unprepared for increasingly severe and frequent extreme heat events.

Advancing National Adaptation Strategy Objectives and Targets

The National Adaptation Strategy is advancing objectives and corresponding targets, to reduce extreme heat wave risks across Canada. Objectives include:

- People are protected from urgent climate-related health risks such as extreme heat, infectious diseases, wildfire smoke, foodborne hazards and impacts to traditional foods, poor mental health outcomes, and others.

Targets include:

- By 2026, 80% of health regions will have implemented evidence-based adaptation measures to protect health from extreme heat.
- By 2040, deaths due to extreme heatwaves have been eliminated.

In summer 2021, western North America faced a **record setting extreme heat event**. In British Columbia, temperatures reached nearly 50°C and caused at least 619 deaths. Of those who died, 90% were over the age of 60 and 98% of deaths occurred indoors. B.C. health systems faced significant pressure.

Paramedics received over 900 calls for heat stroke between June 24 and July 7. In many cases, patients had to wait hours, and in some cases died before help could arrive.

This event was the deadliest weather-related event in modern Canadian history.

Government of Canada action on extreme heat

To better prepare for and respond to growing extreme heat risks, the Government of Canada is implementing a suite of programs, including:

Protecting the Health Canadians from Extreme Heat

Increases Canada's ability and capacity to adapt and reduce health risks from extreme heat, including by supporting the implementation of Heat Alert and Response Systems. New Investments in this program will fill critical evidence and guidance gaps hindering adaptive action at local, provincial and territorial levels—particularly related to adapting to indoor heat.

Natural Infrastructure Fund

Supporting projects that use natural or hybrid infrastructure solutions, such as urban tree canopies, to protect the natural environment and support healthy and resilient communities.

Disaster Mitigation and Adaptation Fund

Funding to support community infrastructure to build resilience to natural hazards, including extreme heat.

2 The Federal Role

The Government of Canada plays a leadership role in climate change adaptation by creating an environment that is conducive to effective, efficient and equitable adaptation by and for all. The federal government fulfils its roles and responsibilities on adaptation through the following means:

Generating climate change data and information	The Government of Canada supports, develops and disseminates foundational climate change science, assessments, tools and resources to inform evidence-based decision-making related to climate change impacts and adaptation.
Convening implicated partners and stakeholders	The Government of Canada convenes and facilitates collaboration amongst key partners and stakeholders, such as Indigenous peoples, civil society, the private sector and other levels of government to advance the alignment of climate change adaptation efforts.
Setting long-term policy direction on national issues	The Government of Canada sets long-term policy in areas of national concern, including championing the establishment of the National Adaptation Strategy and action plans to implement policy direction. Regular review and updates to national adaptation policies will help to ensure actions are effectively addressing climate change risks.
Using the **federal spending power** to enable targeted actions by others, in areas where there are strong justifications[2] to do so	The Government of Canada invests in developing capacity in other orders of government, communities, the private sector, and non-governmental organizations. The federal government also invests directly in areas that will result in increased resilience on the ground, such as climate-resilient infrastructure.
Using **codes, regulations and other policy measures**, such as legislation and economic instruments, to enable actions by others	The Government of Canada creates and implements nationally applicable measures, such as laws, regulations, codes and standards, which affect all Canadians. The implementation and approval of these measures must meet the needs of Canadians living in various contexts across the country and have clear rationale and justification for their use.

Using levers related to areas of **exclusive federal jurisdiction**

The Government of Canada is responsible for the provision of a number of services in Indigenous communities on-reserve, including infrastructure, health services and emergency management. Through service delivery and transfer, the federal government supports Indigenous self-determination, as well as through work with partners in advancing Indigenous climate leadership.

The Government of Canada plays a leadership role in the global response to climate change by supporting the goals of the Paris Agreement through climate financing, international partnerships, initiatives, and bilateral cooperation. One of the key objectives of Canada's climate finance commitment is to enhance the adaptive capacity of vulnerable countries in responding to the impacts of climate change.

The Government of Canada is responsible for protecting and sustainably managing Canada's fisheries and Canada's ocean and marine spaces. This includes efforts to adapt fisheries, aquaculture, and aquatic ecosystems management to the changing climate, guided by foundational climate science data and collaborations with Indigenous Peoples and local communities. The federal government is also responsible for maintaining and supporting safe and navigable waterways.

The Government of Canada is responsible for supporting disaster relief response and relies on the Canadian Armed Forces (CAF) to assist with climate-related events, such as floods, fires and hurricanes. The ability of the CAF to rapidly deploy with equipment and personnel enhances local/regional efforts to save lives, property and enable quicker recovery. The CAF is a force of last resort that remains available to respond to domestic disasters when no other organization has the capacity to do so.

Climate change affects the implementation of mandates of all federal departments and agencies. As Canada's largest organization, with operations in all regions of the country, the Government of Canada is responsible for the advancement of adaptation through building resilience into federal assets, programs and services. This includes ensuring that climate change adaptation considerations are integrated into federal activities, including policy and programming decisions, to enhance the protection of public assets and resources. By factoring adaptation into decision-making, the Government as a whole will adapt, and in doing so can mobilize its authorities, investments and economic instruments in support of adaptation throughout the country (see Section 3.8 for more information).

3 Government of Canada Actions

The remainder of this document demonstrates how the Government of Canada is driving adaptation action under the following key themes: targeted measures, climate change knowledge and understanding, tools and resources, and governance and leadership.

- **Targeted measures** are advancing and implementing actions across the five key NAS systems within areas of federal jurisdiction. These systems are at the heart of our lives and our communities, and include disaster resilience and security, health and well-being, nature and biodiversity, infrastructure, and economy and workers.
- Establishing and disseminating sustained, iterative and inclusive **climate change knowledge and understanding** to assist governments, Indigenous partners, communities, individuals and businesses in understanding climate risks and how they can adapt. This includes supporting and promoting Indigenous knowledge systems.
- Investing in **tools and resources** to support all people living in Canada in leading local-level climate action by building adaptive capacity and implementing long-term climate solutions.
- Establishing clear **governance and leadership** between the federal government and key partners and stakeholders to ensure adaptation measures across the country are coordinated and efficient.

3.1 Disaster Resilience

Federal departments and agencies leading action

- Agriculture and Agri-Food Canada
- Environment and Climate Change Canada
- Indigenous Services Canada
- Natural Resources Canada
- Parks Canada
- Public Safety Canada
- Statistics Canada

Objectives

Disaster Resilience 1 There is a measurable reduction of people in Canada impacted by acute and slow-onset climate-related hazards, with due consideration to how vulnerable communities can better access resources and support systems.

Disaster Resilience 2 Effective, efficient, and accountable governance mechanisms are established for stronger disaster risk reduction coordination through a whole of society approach.

Disaster Resilience 3 All communities are able to implement timely and successful emergency response plans that are readily accessible to everyone in the event of a disaster.

Disaster Resilience 4 National, provincial, territorial, and regional readiness, mitigation, and recovery plans and policies integrate the latest evidence informed by risk and resilience assessments as well as local and Indigenous knowledge and are inclusive of the whole of society.

Disaster Resilience 5 People affected by disasters face minimal disruptions to lives and livelihoods and are presented with possible long-term housing solutions within a reasonable period of time.

Disaster resilience actions

- ✓ Invest in long-term climate resilience through the **Wildfire Resilient Futures Initiative**, including community prevention and mitigation, innovation in fire knowledge and research, and establishing a Centre of Excellence for Wildland Fire Innovation and resilience.

- ✓ Advance the **Flood Hazard Identification and Mapping Program** to conduct flood hazard mapping for high-risk areas in Canada and make flood hazard maps and information accessible to Canadians.

- ✓ Advance a flood reinsurance program and a separate insurance subsidy for households at high risk of flooding.

- ✓ Implement the **Disaster Financial Assistance Arrangements** as a key mechanism to provide financial assistance to provincial and territorial governments in the event of large-scale disasters. To that end, Budget 2023 proposed $48.1 million over five years, starting in 2023-2024, to identify high-risk flood areas and implement a modernized DFAA program which would incentivize mitigation efforts. This work is being informed by the findings and recommendations of an independent advisory panel and the input of provinces and territories. A modernized program will be launched in April 2025.

- ✓ Develop a new **Flood Risk Awareness Portal** to create a publicly accessible online portal where Canadians can access information on their exposure to flooding.

- ✓ Leverage the evidence provided by the **National Risk Profile** public report, a strategic national disaster risk and capability assessment, to create a forward-looking picture of risk to strengthen resilience to natural and other hazards.

- ✓ Continue to support the delivery of the **National Public Alerting System** to allow emergency management organizations across the country to warn the public of imminent or unfolding hazards.

- ✓ Continue to deliver the national **Emergency Preparedness Week** as an opportunity for individuals to take action to ensure they are prepared to protect themselves, their families, and their community during an emergency.

- ✓ Continue to use the **Federal Emergency Response Plan**, which is a means to prepare for, and respond to, emergencies.

- ✓ Deliver **Wildfire Risk Management** to support the sustainability of Canada's forests as a source of livelihood to Canadians and as an important means to fight the effects of climate change.

- ✓ Implement the ***Advancing the Federal-Provincial-Territorial Emergency Management Strategy: Areas for Action***. This new, evergreen action plan advances work in the five priority areas of activity delineated in the Emergency Management Strategy. This Strategy sets out a first-ever shared federal-provincial-territorial vision for strong, resilient communities and calls for strengthened collaboration among all partners in emergency management, in accordance with each government's respective priorities, roles and responsibilities.

- ✓ Continue to support the **Heavy Urban Search and Rescue Program** to assist eligible provinces and municipalities obtain the equipment and extensive training needed to sustain specialized search and rescue capacity.

- ✓ Implement the **Humanitarian Workforce Program** to help eligible organizations build surge capacity and deploy resources to respond to emergencies.

- ✓ Deliver the **Parks Canada Wildfire Management Program** to improve the resilience of national parks to wildfire, make communities safer, and adapt to climate change.

- ✓ Support organizations responsible for emergency preparedness, response and disasters through the provision of **Statistics Canada data**.

- ✓ Maintain the **Canadian Disaster Database** to provide a publicly available repository of detailed information on significant disaster events.

- ✓ Provide evidence for decision-making through the provision of **geoscience for public safety and climate change resilience**, including through geoscientific data and scientific interpretations.

Spotlight on Success: Geoscience Supporting Public Safety and Climate Change Resilience

As part of Natural Resource Canada's Public Safety Geoscience Program, preliminary monitoring is underway to measure and understand the parameters that contribute to glacial lake outburst floods in areas of glacial melt and retreat to understand potential impacts for future events of this nature.

To support climate change adaptation in permafrost regions, NRCan scientists in the Climate Change Geoscience Program recently released A Ground Ice Atlas of Canada as a GSC Open File. The Atlas describes the varied ground ice types and abundances in northern Canada, illustrating them with 31 examples from communities, development sites and natural settings throughout the Canadian Arctic. The Atlas compares modelled ground ice abundances to field observations and focusses on the implications of thaw processes in ice-rich terrain (thermokarst), providing guidance for resource development projects and adaptation measures related to climate change in the North.

- ✓ Release 2020 data from the **National Fire Information Database** to support the identification of fire risk in neighbourhood communities.

- ✓ Support the **Federal Flood Mapping Guidelines Series**, which consists of evergreen technical references and documents to improve and harmonize flood mapping activities across Canada.

- ✓ Provide **Emergency Geomatics Services** which accesses and analyzes satellite imagery in near real time and provides maps that directly support national coordination of emergency response.

- ✓ Enhance the capacity of the **Canadian Interagency Forest Fire Centre** as well as invest in enhanced mapping of northern forests.

- ✓ Continue to implement **WildfireSat** to detect and monitor all active wildfires in Canada from space to ensure Canada's wildfire management agencies receive unprecedented strategic intelligence on all active wildfires in near real-time.

- ✓ Support agricultural producers to recover in the event of disasters, including climate-related disasters, through the **AgriRecovery Framework**.

- ✓ Continue to coordinate **Request for Federal Assistance** through the **Government Operations Centre** as a means for provinces or territories to formally request support from the federal government for their emergency response efforts.

- ✓ Continue to deliver the **Emergency Management Assistance Program** to provide direct funding to First Nation communities to mitigate, prepare for, respond to, and recover from hazards, while also building resiliency using the four pillars of emergency management.

- ✓ Support wildfire management and response through a series of **federal investments in wildfire management** (response and operations).

Why action is needed now

Canadians are already experiencing the impacts of climate change in devastating and far-reaching ways. In some cases, these impacts are leading to increased losses. The rising frequency, severity and unpredictability of disasters also means that our emergency response systems will become more strained and difficult to manage over time.

Various regions and people across Canada are experiencing disproportionate impacts to climate change, leaving many populations at increased risk. Indigenous peoples experience unique and disproportionate impacts from climate change caused in part by historic and ongoing government practices and policies, socio-economic inequalities, remote and hard-to-access geographic locations, and deep cultural connections with the natural environment. For example, First Nation reserves and communities with a primarily Indigenous population represent 5% of the population in the country, but experience 42% of wildland fire evacuation events. In the last 20 years, some Indigenous communities have been evacuated as many as five times because of wildland fires alone.

Climate damages are increasing the economic costs of disasters, resulting in large national income losses. The Canadian Climate Institute projects that in 2025, Canada will experience $25 billion in losses relative to a stable-climate scenario, which is equal to 50% of projected 2025 GDP growth.

Through enhanced Emergency Management and Disaster Risk Reduction capabilities, Canadians will be better equipped to manage the risks and impacts of climate-related disasters. In addition to federal leadership, this will require action and collaboration from actors across Canadian society.

Implementing and aligning adaptation actions will help to mitigate the impacts experienced by communities across the country. Adaptation improves our capacity to prepare for, respond to, and recover from disasters. It also involves implementing proactive measures to minimize the impacts of disasters when they occur.

The rate at which we are experiencing catastrophic disasters is outpacing current emergency management frameworks. These events lead to broader impacts, such as poor financial and risk-based decisions resulting from factors such as large insurance pay outs related to limited disaster risk reduction capacity, and the inability to rapidly assess and address the need for debris removal.

Some of the many cascading impacts of disasters include supply chain interruptions and associated impacts on food and water security and impacts on business continuity for Canadian industry. In addition, many Indigenous and northern communities have limited health infrastructure and food security concerns, as well as remote locations that can fly-in only or have single-road access, which further increases the risk of severe and long-term consequences from flooding. An emergency road or runway closure due to a flood in a remote community can quickly cascade to food and fuel shortages and loss of access to medical care if other transportation means are limited or unavailable.

Therefore, Canada needs an emergency management system that allows for faster and more effective recovery from all-hazards including fires, storms, floods, and heat events. This involves reducing additional costs, minimizing delays and human impacts for those affected, enhancing community resiliency, and strengthening risk reduction and resiliency for future events. Urgent action is needed to allow people living in Canada, particularly those most impacted by climate change, to encounter fewer barriers to recovery, strengthen local capacities and expertise to respond, mitigate disaster risk, and increase preparedness for disaster events.

Spotlight on Canada's Emergency Management Strategy

The Emergency Management Strategy for Canada, Canada's official disaster risk reduction strategy, guides federal and provincial governments to take action to improve emergency management capacity and reduce disaster risk. As a signatory to the United Nations Sendai Framework for Disaster Risk Reduction 2015-2030, the Government of Canada has committed to increasing this country's disaster strategies, early warning systems and whole of society cooperation to reduce disaster risks, including working with Indigenous communities and vulnerable populations.

The advice proposed by the National Adaptation Strategy's Disaster Resilience and Security Advisory Table, and by those who participated in the Strategy's public engagement process, align well with existing work under the *Emergency Management Strategy for Canada* and the Sendai Framework. This advice speaks to the importance of integrating climate change adaptation with disaster risk reduction activities, including bolstering resilience and prioritizing disaster preparedness, prevention and mitigation. Aligning our approach across these areas will also help ensure that our collective response to disasters is responsive and takes into account the growing impacts and costs of climate change.

The federal role on disaster resilience

Building resilience to climate-related disasters is multi-faceted and requires effective governance, whole of society collaboration and strong communication on disaster risks, as well as tools to help address climate change. Improved emergency preparedness capabilities, data generation and public awareness focused on building climate resilience and adaptation are all more important than ever.

Emergency management (EM) roles and responsibilities in Canada are shared by federal, provincial and territorial governments and their partners, including Indigenous leaders and community governments and municipalities. The Government of Canada exercises leadership at the national and international levels relating to EM responsibilities in its exclusive fields of jurisdictions and on lands and properties under federal responsibility. Municipalities and individual citizens also have a responsibility to be prepared for disasters and contribute to a community's ability to respond to an emergency. Since most disasters occur locally, in an emergency, the first response is almost always by the local authorities or at the provincial or territorial level. Should a provincial or territorial government or Indigenous community require resources beyond their capacity to cope in an emergency or disaster, the federal government will respond to requests for assistance.

A nationally consistent emergency management and adaptation framework that also emphasize upstream resilience and well-being is necessary to ensure no one living in Canada is left behind. Lessons learned from the COVID-19 pandemic also speak to the importance of building equity, health promotion and wellness into all aspects of emergency planning and preparedness.

Emergency Management On-Reserve

In an emergency, the Government of Canada responds to any request for assistance by a provincial or territorial government, should the provincial or territorial government require resources beyond their capacity to cope. Public Safety Canada is the primary coordinating department for emergency management and works to ensure an integrated Government of Canada response. Indigenous Services Canada (ISC) has responsibility to support First Nations on reserves in emergency management as per the *Emergency Management Act* and delegated authority as under the *Indian Act*.

ISC holds service agreements with provinces and territories, and other service delivery partners, to ensure that First Nations have access to comparable emergency assistance services available to other residents in their respective jurisdiction, and that response is conducted without undue delay. In recognition of Indigenous Peoples' right to self-determination, ISC is exploring opportunities to transition to new multilateral approaches where First Nations are included in emergency management as full and equal partners.

During an emergency, ISC provides financial and emergency management support within its mandate and authority as requested by the affected First Nation(s) and province or territory. After the emergency, the Government of Canada reimburses the province, territory, First Nation or service delivery partner for eligible costs associated with emergency response and recovery. In the event of property or critical infrastructure damage in a community, ISC works with the First Nation to assess the situation, determine the most effective way to repair damage and ensure ongoing program and service delivery to the community, while also building resilience for future emergency events.

The Government of Canada is committed to working with all levels of government, Indigenous communities, civil society, private industry, non-governmental organizations and academia through increased collaboration, coordination and ambition to address the magnitude of the challenges ahead. It will also be important to support regional flexibility, given that climate impacts are manifested differently across the country. Despite the leadership of, and innovation

by, different actors, to date, our actions on adaptation have often been reactive, limited and lacking alignment across sectors.

The *EM Strategy for Canada: Toward a Resilient 2030* (EM Strategy) was endorsed in January 2019 by FPT Ministers Responsible for Emergency Management. The EM Strategy builds on previous FPT efforts by establishing priorities to strengthen the resilience of Canadian society by 2030. It seeks to guide FPT governments, and their respective EM partners in carrying out priorities to strengthen Canada's ability to understand risk and to prevent, mitigate, prepare for, respond to and recover from disasters. The EM Strategy also commits FPT governments, within their areas of responsibility, to empower Indigenous Peoples to integrate traditional knowledge, awareness and education programs into broader emergency management and disaster risk reduction.

3.2 Health and Well-being

Federal departments and agencies leading action

- Canadian Food Inspection Agency
- Canadian Institutes of Health Research
- Health Canada
- Indigenous Services Canada
- Public Health Agency of Canada

Objectives

Health and Well-being 1 Health systems have the expertise, knowledge, and resources needed to identify climate change-related risks and take equitable, evidence-based action to protect health.

Health and Well-being 2 Health authorities have identified the extent to which climate change is impacting health and have established methods for tracking future health impacts and evaluating progress towards protecting health and reducing risks.

Health and Well-being 3 People are protected from urgent climate-related health risks such as extreme heat, infectious diseases, wildfire smoke, foodborne hazards and impacts to traditional foods, poor mental health outcomes, and others.

Health and Well-being 4 Climate action across all sectors promotes good health and prioritizes measures that have multiple benefits (e.g., protecting health and improving environmental sustainability).

Health and well-being actions

- ✓ Enhance the **Protecting the Health of Canadians from Extreme Heat** program to increase Canada's ability and capacity to reduce health risks from extreme heat, including through the development and delivery of heat warnings systems called Heat Alert and Response Systems (HARS), as well as knowledge, tools and guidance to support health authorities in protecting Canadians from extreme heat, including indoors.

- ✓ Expand the **HealthADAPT** program to provide evidence, technical guidance, tools and support to health authorities and health systems across Canada to identify the climate risks they face and take actions to protect the health of their communities. HealthADAPT works to support communities of all types, particularly those with lower capacity and those most at-risk.

- ✓ Top up the **Climate Change and Health Adaptation Program for First Nation and Inuit** North of 60°N to support First Nation and Inuit-designed and driven projects, strengthening those communities in their capacity to adapt to the health impacts of

climate change, and new funding for the Climate Resilient Health Systems Initiative to support First Nations and Inuit organizations in engaging health partners on the climate change gaps and needs in health services.

- ✓ Continue to deliver the **Climate Change Research and Knowledge Mobilization Initiative** to advance climate change and health research, including the Canadian Lyme Disease Research Network and the Food Security in the Canadian North Initiative.

- ✓ Continue to deliver the **Infectious Disease and Climate Change Program** to support monitoring, education, and awareness tools to better respond to the health risks associated with climate sensitive infectious diseases, such as tick-borne and mosquito-borne diseases.

Spotlight on Success: HealthADAPT

Through the HealthADAPT program, Health Canada is taking action to support the health sector to prepare for and respond to the impacts of climate change. In 2018, Health Canada provided close to $3.5 million over four years to 10 Canadian health authorities to develop pilot projects that address climate-driven health risks. For example, British Columbia's First Nations Health Authority is addressing marine food safety on the west coast and Quebec's Centre intégré de santé et de services sociaux de Chaudière-Appalaches is tackling mental health impacts from extreme weather. These projects have led to action across the country and insight into how Canada's health care system can better adapt to a changing climate. In addition, these projects provide a foundation for adaptation for other health authorities across Canada.

Why action is needed now

The World Health Organization identified climate change as the greatest threat to global health in the 21st century. As outlined in the recently released national science assessment, *Health of Canadians in a Changing Climate*, the health risks to Canadians from climate change are growing, and Canada needs to rapidly scale-up efforts to protect individuals, communities and health systems. Health is affected by climate change through illnesses and deaths from exposure to extreme weather events (e.g., extreme heat), and through the expansion of disease vectors, such as ticks that can transmit Lyme disease and other tick-borne diseases.

While all people in Canada are at-risk from the health impacts of climate change, the risk is not shared equally. Those already facing inequity in our society are among those most likely to be impacted when climate-related events occur. Climate change is also likely to create new inequities that impact health and well-being. Older adults, those living with pre-existing physical and mental health conditions, people facing financial hardship, Indigenous peoples and racialized populations are among those most at-risk. The national climate change and health science assessment highlights that the health impacts of climate change on First Nations, Inuit and Métis peoples are far-reaching, with disproportionate impacts on their communities, including food and water security and safety, air quality, infrastructure, personal safety, mental health and wellness, livelihoods, culture and identity.

Extreme heat and its impacts on people living in Canada is a growing concern. During the extreme heat event that impacted Western Canada in 2021, temperatures rose to nearly 50°C and caused at least 619 deaths—one of the deadliest weather-related disasters in Canadian history. Extreme heat is a health risk to all; however, some people are more affected than others, such as those who are living with pre-existing health conditions. For example, 90% of people who died in the Western Canada heat event were 60 years or older. While heat is a health risk outdoors, in Canada, the majority of people die from extreme heat indoors (98% of those who died during the 2021 extreme heat event in BC died inside). Canadian homes and communities are unprepared for increasingly severe and frequent extreme heat.

As a result of climate-driven increases in wildfires, air quality in Canadian communities is at risk due to smoke which can expose millions of people to high levels of toxic air pollutants. Wildfire smoke can cause a range of health complications, from eye, ear, nose and throat irritation to aggravating cardiovascular and lung disease and increasing the risk of cancer. It is estimated that between 570 and 2,700 premature deaths occur every year in Canada due to exposure to wildfire smoke.

The emergence and re-emergence of climate-sensitive infectious disease continues to threaten the health and well-being of people living in Canada. For example, reported cases of Lyme disease have continued to increase with the highest ever recorded number of more than 2800 cases in Canada in 2021. This is up from 144 reported cases in 2009. Strengthened monitoring and modelling is needed to assess the risks of known and emerging diseases in Canada and more education and awareness is needed to communicate these risks to health professionals and Canadians.

Spotlight on Success: Infectious Disease and Climate Change Fund

Since its launch in 2017, the Public Health Agency of Canada's Infectious Disease and Climate Change Fund has enabled new and innovative partnerships, tools, capacity building and knowledge mobilization. This included a national poster contest with over 700 submissions; curriculum development for Grade 6 Students; a national baseline survey of tick-borne disease awareness for veterinarians, pet owners and hunters and anglers; videos and innovative content on the Climate Atlas of Canada (ticks, mosquitoes, water-borne diseases); and expanding a citizen-science based application to most provinces across Canada to support surveillance, and provide helpful local resources on ticks and tick-borne diseases. As of 2023, 41 projects totaling $14.7 million have been funded.

Climate change is also threatening the safety and security of our food supply. Changes to precipitation patterns, temperature and more frequent extreme weather events are projected to increase the introduction of hazards to food, including pathogens, toxins and chemical contaminants, leading to food-borne illness and negative health impacts. Climate change is also increasing risks to food safety and security through disruptions to food systems, increases in food prices, negative nutritional effects, and changes to traditional hunting and gathering practices.

Climate change not only impacts the health of individuals, but also threatens the capacity of the health systems they rely on to provide care when it is needed. Extreme events including extreme heat, floods, and wildfires have already impacted the capacity of health systems and health facilities to provide care. Hospitals have been flooded, wildfires have forced the

evacuation of patients and extreme heat has made conducting surgeries impossible. Health systems must overcome gaps in knowledge and technical capacity in order to identify the risks they face and take actions to safeguard their operations and protect health.

The federal role on health and well-being

Protecting the health of Canadians requires teamwork across all levels of government. Provinces and territories play a lead role in financing, regulating and administering healthcare in Canada, protecting and promoting public health and carrying-out health-related emergency preparedness and response. The Government of Canada works to support research and access to the best available health evidence, facilitate data and information sharing, support health emergency response efforts and preparedness planning and provide the leadership needed to ensure all Canadians have access to quality health care. Through the efforts of the Canadian Food Inspection Agency, Public Health Agency of Canada, and Health Canada the federal government works with partners to ensure Canada's food supply is safe.

In some contexts, such as the health of Inuit and First Nations people who live on reserve, the federal government plays a more direct role in providing health care services. The Government of Canada continues to work with First Nations and Inuit communities and local health authorities on climate-health adaptation initiatives and will ensure these efforts are coordinated with what is being done for all Canadians to achieve equitable benefits for First Nations and Inuit peoples.

This teamwork will be critical to protecting health from climate change. For example, during the early stages of the COVID-19 pandemic, Health Canada helped provinces and territories and local and Indigenous health authorities to adapt extreme heat programming to align with COVID-19 guidelines and emerging international best practices.

The Government of Canada works in partnership with provinces, territories and local health authorities to conduct disease surveillance and enhance prevention, including for Lyme disease, West Nile virus and other illnesses and diseases that will increase in Canada due to climate change. By collaborating with provincial and territorial health authorities, the federal government can monitor trends nationally and better support provinces and territories in taking evidence-based measures to protect health across the country.

Health authorities across Canada have established partnerships that will be critical as we work to adapt to climate change. Building on this existing collaboration between the federal government, provincial and territorial governments and local and Indigenous health authorities will be necessary for health systems to adapt and fulfil their role in protecting the health of all Canadians.

Disability, Accessibility and Inclusion for Adaptation

Achieving Canada's adaptation priorities requires the inclusion of historically marginalized groups in decision-making processes to ensure actions are inclusive and accessible for all Canadians. Research shows that Canadians with disabilities face greater climate risks, including increased fatality rates from extreme weather events. Governments and industry will need to take action to consider and include persons with disabilities in Canada's plans to address climate adaptation to address these disproportionate risks.

For persons with disabilities, their exclusion from climate adaptation planning can be a matter of life and death. Under the National Adaptation Strategy, the Government of Canada is committed to providing opportunities for partners, stakeholders, Indigenous communities, and provincial-territorial counterparts to introduce inclusive measures that meet the unique needs and intersectional perspectives of persons with disabilities.

Moving forward, key actions could include:

- Considering the unique needs and intersectional perspectives of persons with disabilities in future programs and initiatives, including alignment with the *United Nations Convention on the Rights of Persons with Disabilities (UNCRPD)* and the *Accessible Canada Act.*
- Persons with disabilities are included in adaptation governance structures to reflect the 'Nothing Without Us' principle.
- The purposeful design of infrastructure programs to improve accessibility while meeting climate mitigation targets.
- Communications and early warnings systems consider the needs of persons with disabilities across Canada.

3.3 Nature and Biodiversity

Federal departments and agencies leading action

- Agriculture and Agri-Food Canada
- Environment and Climate Change Canada
- Fisheries and Oceans Canada
- Natural Resources Canada
- Parks Canada

Objectives

Nature and Biodiversity 1 Human activities are transformed to halt and reverse biodiversity loss and enhance ecosystem connectivity and resilience.

Nature and Biodiversity 2 The ecosystems most affected by climate change are monitored, restored and managed to ensure their continued viability and adaptive capacity.

Nature and Biodiversity 3 First Nations, Inuit and Métis governments, organizations, and communities have the opportunities and means to pursue self-determined priorities for ecosystem stewardship initiatives to adapt to climate change.

Nature and Biodiversity 4 The use of nature-based solutions is accelerated to increase resilience and maximize co-benefits such as reducing stress on grey infrastructure, increasing social benefits of nature, and climate change mitigation.

Nature and biodiversity actions

- ✓ Create a network of **National Urban Parks** in Canada's large urban centers to conserve nature, connect people with nature and advance reconciliation with Indigenous peoples.

- ✓ Address climate change impacts to freshwater resources by establishing a new **Canada Water Agency**, investing in a **strengthened Freshwater Action Plan**, and **modernizing the *Canada Water Act*** to reflect Canada's freshwater reality.

- ✓ Continue to deliver the **Natural Climate Solutions Fund**, including the 2 Billion Trees Program, Nature Smart Climate Solutions Fund, and Agricultural Climate Solutions fund, to leverage the inherent ability of natural ecosystems to sequester and store carbon and reduce atmospheric greenhouse gas concentrations.

- ✓ Continue to deliver **Canada's Enhanced Nature Legacy** to conserve Canada's lands and freshwater, protect species, advance Indigenous reconciliation and increase access to nature for Canadians.

- ✓ Continue to deliver the **Marine Conservation Program** to further efforts to reach our domestic target of conserving 25% of Canada's lands and waters by 2025 and 30% of each by 2030.

- ✓ Continue to deliver the **National Program for Ecological Corridors** to support the identification and recognition of ecological corridors in key areas across Canada to help species and ecosystems adapt to climate change and contribute to halting and reversing biodiversity loss.

- ✓ Continue to deliver the **Aquatic Ecosystems Restoration Fund** to support restoration activities to address climate change impacts on coastal and marine environments.

Why action is needed now

Nature and climate change are inextricably linked. Climate change is a key driver of ecosystem degradation and change and biodiversity loss—species and the habitats they rely on are shifting, changing and in some cases disappearing in response to changing climate conditions. Ecosystems degraded by increasing temperatures, flooding and wildfire, in turn, make Canadians more exposed and vulnerable to those same climate hazards and impacts. At the same time, nature is also one of our greatest allies in the fight against climate change, helping buffer and protect communities against the impacts of a changing climate.

Climate change adaptation and nature intersect in two broad ways. Firstly, the services provided by healthy ecosystems can be leveraged to enhance climate resilience (e.g., restoration and protection of wetlands to mitigate flooding). This can be thought of as nature-for-adaptation. Secondly, as Canada's natural environment is itself vulnerable to climate impacts, we need to ensure ecosystems are climate resilient. This can be thought of as ecosystem resilience, or adaptation-for-nature, which can help restore, protect and maintain the essential services and basic needs that nature provides us like food, clean water, clean air productive soil, natural pest control, pollination, flood and erosion controls and carbon sequestration and storage.

Action on both fronts is urgently needed at all levels and will help to enhance ecosystem resilience while preserving Canada's natural legacy.

The federal role on nature and biodiversity

The actions described above are largely conventional programs to restore and protect nature. Adaptation objectives can be supported as a co-benefit of this programming since healthy, well-functioning ecosystems tend to be more resilient to climate impacts and, in turn, can better minimize the damages of climate impacts to surrounding areas. However, as the urgency to adapt becomes increasingly apparent, it is critical that efforts at all levels on conservation and biodiversity consider and support adaptation efforts more directly—it is no longer sufficient for adaptation to be advanced merely as a co-benefit of broader efforts.

The federal government shares jurisdiction over nature with provincial, territorial and municipal governments and Indigenous Peoples. In this regard, it is an opportunity for governments, Indigenous Peoples, and the for-profit and non-profit sectors to work together more deliberately and support stronger outcomes at the intersection of nature and adaptation, building on the positive and extensive collaborations, partnerships and investments to date.

The federal government has a key role to play in land and water stewardship and management in Canada and has established domestic biodiversity goals in response to newly adopted global targets under the United Nations Convention on Biological Diversity. These goals include conserving a quarter of Canada's lands and a quarter of its oceans by 2025 and working toward conserving 30% by 2030. The Government of Canada is working towards reaching these goals with its partners, including by creating healthier habitats for species at risk, and improving Canada's natural environment. The federal government will also work bilaterally with provinces and territories and explore how to leverage existing conservation programs to drive adaptation outcomes more directly. The Government of Canada will also work closely with Indigenous partners and communities to manage and protect federal lands and ecosystems that are reserve lands and/or traditional territories.

The Government of Canada is playing an important role supporting the implementation of adaptation-relevant goals and targets of the Kunming-Montreal Global Biodiversity Framework (KMGBF), adopted in December 2022 at the 15th meeting of the Conference of the Parties to the United Nations Convention on Biological Diversity. This historic framework supports the achievement of the United Nations Sustainable Development Goals and builds on the Convention's previous strategic plan. To guide domestic implementation of the KMGBF, the Government of Canada is leading development of the 2030 National Nature Strategy to meet Canada's goals to halt and reverse biodiversity loss by 2030 and put us on track to living in harmony with nature by 2050. The 2030 National Nature Strategy will contribute to the implementation of climate change adaptation goals in the nature and biodiversity system of the National Adaptation Strategy.

3.4 Infrastructure

Federal departments and agencies leading action

- Indigenous Services Canada
- Infrastructure Canada
- National Research Council
- Standards Council of Canada
- Transport Canada

Objectives

Infrastructure 1 Technical standards, planning and decision-making processes have been updated or developed to embed climate change in all decisions to locate, plan, design, manage, adapt, operate, and maintain infrastructure systems across their lifecycle.

Infrastructure 2 Public and private infrastructure decision-making is informed by system-wide assessments of, and planning for, current and emerging climate change risks.

Infrastructure 3 Infrastructure decisions prioritize benefits for marginalized populations and communities at highest risk of climate change impacts.

Infrastructure 4 All new investments in infrastructure apply resilience criteria and adopt climate change guidance, standards, and future design data to maximize the long-term benefits of infrastructure outcomes.

Infrastructure actions

- ✓ Deliver the **Disaster Mitigation and Adaptation Fund (DMAF)** to help communities remain resilient in the face of extreme events, such as flooding, wildfires and drought, by investing in structural and natural infrastructure projects that increase climate change resilience.

- ✓ Deliver the **Climate Resilient Built Environment Initiative** and the **Standards to Support Resilience in Infrastructure Program** to provide the knowledge to adapt Canada's public infrastructure where necessary, inform changes to building and infrastructure codes and create guides, standards, tools and technical solutions for climate resilience, building on the foundational work completed through the recent Climate-Resilient Buildings and Core Public Infrastructure Initiative.

- ✓ Invest $643 million through a **Supporting Climate Resilient Infrastructure Initiative** to scale-up existing actions, such as the DMAF ($489 million top-up) and the development of climate-informed codes, standards and guidance ($60 million top-up), and accelerate supports to better-informed, long-term decisions and investments in the context of a changing climate. The initiative includes approximately $95 million to develop a new

publicly accessible **Climate Toolkit and direct supports and services** that increase data, evidence and knowledge; promote the use of standardized approaches to low-carbon, climate-resilient infrastructure; and ultimately help shape capital investment decisions. As part of this initiative, Infrastructure Canada signaled an intent to lead by example, by requiring climate resilience objectives across its future funding programs.

Spotlight on success: Infrastructure Canada's Disaster Mitigation and Adaptation Fund

As of May 2024, DMAF has committed a total of $2.5 billion for 96 built and natural infrastructure projects across the country that help communities better prepare for, and withstand, the potential impacts of natural disasters, prevent infrastructure failures and protect Canadians. Below are a few examples of projects approved to date:

- DMAF committed $214 million in federal funding to ensure the safety and long-term sustainability of the City of Iqaluit's water supply system in Nunavut through the excavation and creation of a new reservoir and improvements to the city's water distribution system. The new and upgraded infrastructure will be designed and built to mitigate current and future impacts of climate change, including melting permafrost and severe droughts.
- DMAF is investing $12.2 million in the community of Gwa'sala-'Nakwaxda'xw near Port Hardy, British Columbia to install sea and river dikes as well as raise the Tsulquate River bridge. The project will help protect residents in the region from coastal and river flooding, and sea level rise, while also maintaining continued access to essential services.
- DMAF provided $16 million to the City of Victoriaville, Quebec to protect and secure the City's drinking water supply. It will increase drought resilience and help protect residents against fire by reducing the number of residents without essential services. The project will also help reduce local economic losses, while improving the community's water storage capacity.

✓ Deliver the **Natural Infrastructure Fund** to support projects that use natural or hybrid infrastructure approaches to protect the natural environment, support healthy and resilient communities, and contribute to economic growth and jobs.

✓ Continue to deliver the **National Trade Corridors Fund** to support infrastructure projects that help the fluidity and resilience of Canada's transportation supply chains and major trade corridors, including to withstand the effects of climate change.

✓ Continue to deliver the **First Nation Infrastructure Fund** to support disaster risk reduction infrastructure on-reserve to advance community health and safety, protect infrastructure assets, and support community resilience.

✓ Continue to deliver the **Capital Facilities and Maintenance Program** to address climate-related risks to First Nation communities on-reserve.

Why action is needed now

Infrastructure makes up the physical backbone of our lives and communities, and delivers critical services including transportation, health care, utilities, communications and trade. Our infrastructure includes built infrastructure, such as houses, bridges and dams, as well as natural infrastructure, such as wetlands, salt marshes and urban forests. The built environments in which we live also have important impacts on the health and well-being of our communities and can support better resilience in climate change or emergencies.

Climate change impacts infrastructure systems and services, not just individual assets, with cascading impacts that can result in loss of life, costly damage to communities, and the disruption of critical services. Indigenous and northern communities are particularly vulnerable to climate-related and other natural hazards due to remoteness, community size, inadequate infrastructure, socio-economic conditions, limited access to emergency management resources and community capacity. These climate-related hazards are exacerbated by an ageing asset base on reserve and a significant project backlog for repairs and replacements.

Extensive engagement throughout the NAS development process highlighted several infrastructure challenges to address in the expanded approach to climate change adaptation across Canada. These include:

- Infrastructure decisions continuing to be based on historical climate data and practices that do not account for future climate risks and impacts, resulting in the continued construction of new infrastructure that is vulnerable to climate change.
- Infrastructure decision-making, from planning to operations and maintenance, is made on an asset-by-asset basis with a short-term view, rather than considering the longer-term interdependencies and co-benefits of infrastructure systems and services, reducing opportunities to build systemic resilience.
- Climate change making it even more difficult for people and communities to deal with pre-existing vulnerabilities and systemic inequities related to infrastructure, such as infrastructure deficits and funding gaps.
- Infrastructure investments not maximizing long-term benefits, including climate resilience, as private and public infrastructure investors do not have a systematic, informed approach to purposefully guide the allocation of public and private funds.

Additionally, infrastructure has been identified by the Council of Canadian Academies as the top sector for climate change resilience potential in Canada, as measured by the proportion of damages that can be avoided through adaptation policy and programs for proactive, preventative solutions.

The federal role on resilient infrastructure

Adapting Canada’s infrastructure requires a shared effort as provinces, territories and municipalities primarily own and operate the majority of public infrastructure in Canada. This effort will include adopting and implementing key decisions over land-use planning and building codes, as well as building and maintaining the core public infrastructure that Canadians and our communities rely on.

Spotlight on Success: Climate-Resilient Buildings and Core Public Infrastructure Initiative

Between 2016 and 2021, INFC invested $42.5 million in the *Climate-Resilient Buildings and Core Public Infrastructure Initiative*, which enabled ground-breaking work to integrate climate resilience into building and infrastructure design, guides, and codes. Key deliverables included 34 new or updated standards, 22 new national guidance documents, updates to three major Canadian Codes, and world-leading future-looking climate data for over 660 locations across Canada to be used by building and infrastructure codes and standards, guidelines for Flood Resistant Buildings and a *National Guide for Wildland-Urban Interface Fires* (WUI Guide).

In particular, the WUI Guide contains guidance on hazard and exposure assessment, vegetation management, construction measures, community planning and resources, and emergency planning and outreach. An *impact analysis for implementing the WUI Guide* was commissioned by the National Research Council and led by the Institute for Catastrophic Loss Reduction and found that national adoption of the WUI Guide is predicted to save up to $4 for every $1 invested.

The federal government is making significant investments to advance climate resilient infrastructure, specifically through progress in moving from knowledge to action. This includes commitments in generating the data, evidence and knowledge to make informed planning decisions, updating national building codes, standards and guidelines to account for climate-related risks, and providing capital infrastructure investments to address climate change adaptation and natural disasters. The Government of Canada will continue to be a strong partner by working with provinces, territories, municipalities and other partners to address their infrastructure priorities.

The Government of Canada has committed to address the critical infrastructure gaps between Indigenous and non-Indigenous communities by 2030. As part of this commitment, the Minister of Indigenous Services has been mandated to work with partners to improve community infrastructure for First Nation communities to ensure a consistent, high quality, and distinction-based approach to service delivery, including to ensure on reserve infrastructure is climate resilient. The ability to move construction material in a reliable basis to remote and isolated communities is imperative to ensuring that the infrastructure gap is closed as the winter roads become less and less reliable so does the predictability and ability to plan and execute infrastructure projects.

Climate resilience will be a key priority as the Government of Canada works towards its next generation of infrastructure investments. Moving forward, potential areas for expanded federal activities in the infrastructure sector include:

- Bridging the action and funding gap through increased capital investment support
- Mandating resilience criteria in federal infrastructure investments
- Enabling systems-based approaches to account for interdependencies between assets and increase resiliency.

3.5 Economy and Workers

Federal departments and agencies leading action

- Agriculture and Agri-Food Canada
- Employment and Social Development Canada
- Office of the Superintendent of Financial Institutions
- Natural Resources Canada
- Transport Canada

Objectives

Economy and Workers 1 The business case for adaptation is advanced through research and the knowledge is accessible, tailored, culturally appropriate, and useful.

Economy and Workers 2 Policy and financial instruments provide the right incentives and remove disincentives for proactive adaptation.

Economy and Workers 3 Canada has a skilled, diverse, and adaptable workforce that is supported by education, training, knowledge and skills development to respond to future impacts of climate change, including within Indigenous and northern economies.

Economy and Workers 4 Economic sectors most vulnerable to the impacts of climate change routinely assess climate change impacts on the operating environment and incorporate adaptation considerations into decisions.

Economy and Workers 5 Adaptation increases the resiliency and reliability of Canada's supply chains in the face of climate change impacts which strengthens Canadian competitiveness and supports robust and sustainable economic growth.

Economy and workers actions

- ✓ Implement the **Climate-Resilient Coastal Communities Program** to increase the resilience of communities along Canada's coasts by applying a new, systems-based approach to integrated, regional-scale projects.

- ✓ Increase the resilience of Canada's supply chains through work undertaken as part of the **National Supply Chain Strategy**.

- ✓ Deliver on the **Sustainable Canadian Agricultural Partnership** to strengthen the competitiveness, innovation and resiliency of Canada's agriculture and agri-food sector, through federal, provincial, territorial (FPT) cost-shared programs (including the new Resilient Agriculture Landscapes Program), Science and Innovation programs and FPT Business Risk Management programs.

- ✓ Continue to deliver the **Climate Change Adaptation Program** to equip decision-makers with knowledge for decision-making and develop the trained, professional workforce necessary to design and implement adaptation actions.

- ✓ Develop data analytics, risk qualification, and **scenario analyses to understand physical climate risks** on financial institutions, through work led by the Office of the Superintendent of Financial Institutions and Bank of Canada.

- ✓ Continue to deliver the **Climate Resilient Mining Program** to conduct research and planning to address key climate risks to the mining sector.

- ✓ Understand and mitigate the complex risks facing Canada's rail networks and supply chains due to climate change and extreme weather events through the **Rail Climate Change Adaptation Program**.

- ✓ Support key economic sectors as they implement solutions to address current and emerging workforce needs through the **Sectoral Workforce Solutions Program**.

- ✓ Continue to deliver the **Agricultural Climate Solutions–On-Farm Climate Action Fund** to support farmers in adopting beneficial management practices.

- ✓ Continue to implement the **Agricultural Climate Solutions–Living Labs** initiative to develop, test and monitor beneficial management practices on working farms to reduce Canada's environmental footprint and enhance climate resiliency.

Spotlight on Success: Supporting On-Farm Actions under the Canadian Agricultural Partnership

Under the Canadian Agricultural Partnership, federal and provincial/territorial governments have supported cost-shared programming focused on the development of Environmental Farm Plans (or equivalent) and the delivery of incentive programs for the adoption of on-farm beneficial management practices (BMPs). As of March 31, 2022, a total of 26,174 BMP projects have been completed with 13,896 (53%) directly supporting elements of climate adaptation, including actions such as improved on-farm water supply and retention, more efficient irrigation equipment and management, and adopting soil health practices such as conservation and no-till seeding.

Why action is needed now

Canada competes in a global economy where the local, regional and national impacts of climate change, as well as the actions we take to adapt, affect communities and businesses. The impacts are felt across provincial, territorial and international borders. For example, thawing permafrost affects building and infrastructure stability, mining operations and access to markets, as well as food security for those depending on reliable access to traditional routes. Some sectors, including forestry, agriculture, fisheries and transportation, face higher levels of risk, but

the impacts on workers, trade, and supply chains will have an effect across the entire economy—and ultimately every household. It is key to ensure that Canadian workers and businesses are resilient in the face of climate change, and able to lead in a world moving to net-zero.

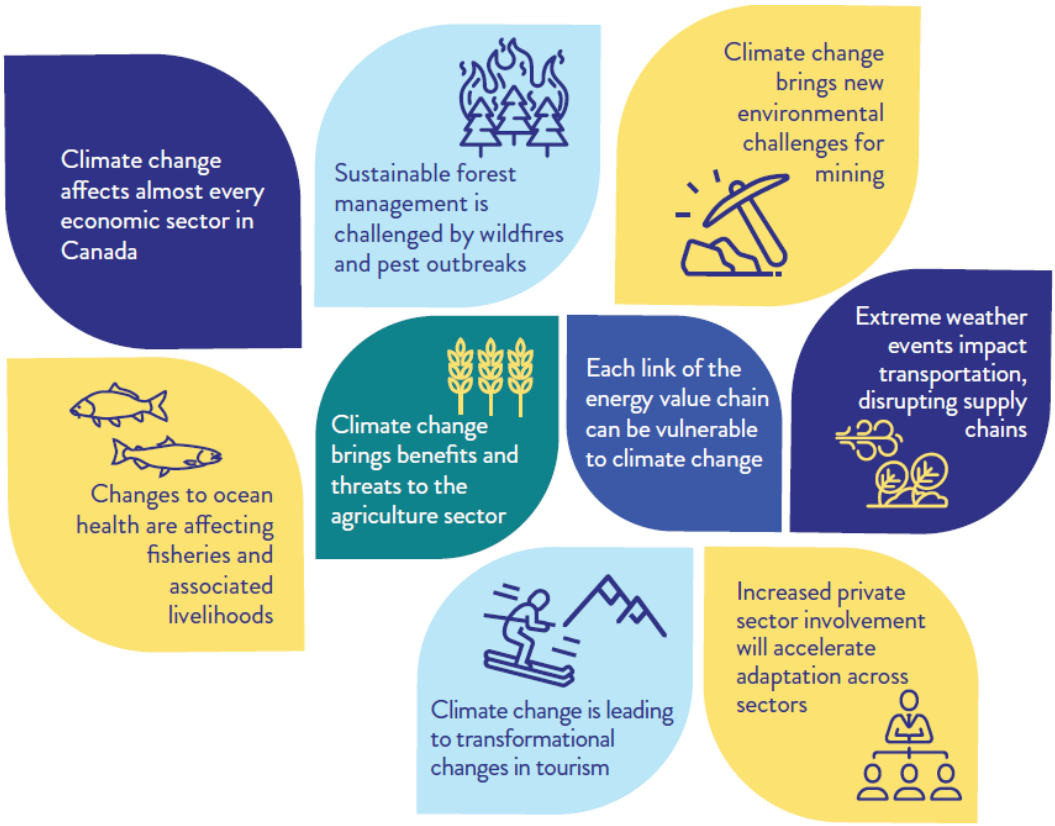

Figure 4. Examples of climate risks affecting key sectors of Canada's economy.[3]

Rural communities have strong informal economies, social networks and connections to the land—community and culture that are essential for resilience—but usually have fewer resources available to adapt to climate change than urban areas. For example, climate change is significantly impacting the agriculture and agri-food sector, with farmers already experiencing the devastation of increasingly frequent droughts, floods and wildfires. This has cross-cutting linkages to health, food security, transportation and the natural environment, as well the long-term economic viability of the sector, farmers and rural communities.

Exposure to climate change risks, such as extreme heat or vectors of disease are among the challenges Canada’s workers and their families are increasingly confronting. At the same time, demand for sustainable jobs and knowledgeable and skilled workers is growing in sectors that will drive the transformation to a net-zero and climate resilient economy.

As climate change threatens every facet of Canada’s economy, the identification and management of physical climate risks needs to become standard practice for businesses and industry.[4] For example, climate events can disrupt critical operations when physical assets are damaged, increase insurance claims from property damage, and threaten the value of investments, such as commercial real estate. Through climate-related disclosures, companies and communities are encouraged to analyze, better understand and adopt strategies to adapt to climate risks.

The Government of Canada is committed to moving toward mandatory reporting of climate-related financial risks across a broad spectrum of the Canadian economy, based on the international Task Force on Climate-related Financial Disclosures (TCFD) Framework, and the financial community is increasingly factoring climate risk into investment decisions, such as the cost of borrowing. Access to reliable climate change data, metrics and information will also be critical in supporting the financial sector to assess climate-related risks and mobilize private capital towards effective and efficient adaptation investments.

However, individuals, communities or businesses that are vulnerable to climate change impacts may also have more difficulty accessing the financial capital needed to fund adaptation actions. Like all adaptation measures, the right solutions to managing financial and economic risks will need to emphasize equity as well as resilience.

The federal role on economy and workers

Increasingly, climate change is driving demand for workers with the skills and understanding to help businesses and communities adapt. The federal government needs to do its share to anticipate and prepare for more frequent disruptions in supply chains, support climate-exposed industries and ensure that economic measures provide incentives for businesses and communities to adapt. The federal government needs to work closely with provinces and territories, Indigenous partners and other stakeholders, including the financial sector and financial regulators, to ensure that climate disruptions are minimized throughout the economy.

The economic impacts of climate change crosses sectors, disciplines and jurisdictional lines. Collaboration is required to respond to individual and shared climate change challenges. We need to improve our understanding of shared challenges to increase engagement and support better decisions by businesses, regulators and financial institutions and to align the interests of investors with the long-term benefits of becoming more climate resilient. We must also ensure that the communities and population groups affected by climate change impacts have a voice in building just and equitable financial incentives and measures to build resilience.

In general, the division of responsibilities for the economy, including in many climate-exposed sectors is a question of scale. In the natural resources sectors, for example, the Government of Canada supports science to understand how the changing climate may affect land management and investment decisions, expert guidance and tools to help assess the risks they face and the solutions available, and support to build the skills and expertise to make adaptation an on-going part of sustainable, competitive and inclusive development. The Government of Canada also supports key professions such as engineers, accountants, and natural resource managers identify what an adaptation specialist in these professions needs to know and supports the development of training that leads to green jobs that address climate change adaptation.

Federal support for knowledge and expertise is often conducted in close collaboration with the provinces and territories, universities and other expert organizations helps to identify emerging issues. Other collaborative initiatives with provinces and territories are designed to identify, prioritize and pursue opportunities for economic growth and sustainable job creation recognizing the aspects of climate change that are unique to each region. For example, the Government of Canada convenes Regional Energy and Resource Roundtables which implement a place-based approach to climate and energy.

In the financial sector, the federal government is responsible for federal financial institutions, such as banks and credit unions, and the sustainability of the financial system. The Government of Canada also has the power to create financial and tax incentives to encourage businesses, communities and citizens to invest in their own resilience.

Promoting Sustainable Finance for a Resilient Canada

Meeting Canada's climate change adaptation objectives will require substantial investment beyond the public sector. Canada's financial sector has an important role to play in accelerating climate resilience in Canada. The Sustainable Finance Action Council as well as the Office of the Superintendent of Financial Institutions are leading two relevant initiatives.

Sustainable Finance Action Council

In May 2021, the Government of Canada launched the *Sustainable Finance Action Council (SFAC)* to help lead the Canadian financial sector towards integrating sustainable finance into standard industry practice.

The SFAC's Terms of Reference call for it to provide financial sector input on the development of foundational market infrastructure including enhancing climate-related financial disclosure, defining green and transition investment, and improving climate data and analytics. The Terms of Reference also ask the SFAC to develop and report on strategies for aligning private sector capital with the transition to net zero, with support from the Canadian Climate Institute and in collaboration with the Net-Zero Advisory Body.

The SFAC will make climate-related financial disclosure its first priority and it will provide advice on the most effective ways to implement the Government's commitment towards applying mandatory climate disclosures across a broad spectrum of the Canadian economy.

Office of the Superintendent of Financial Institutions

Climate change also leads to physical risks for business. It damages assets, reduces productivity, and affects the health of workers. Disclosing risks like exposure to floods, extreme heat, or coastal erosion as part of regular financial disclosure is essential to helping investors make smart, stable decisions. To this end, the Office of the Superintendent on Financial Institutions (OSFI) has developed *draft guidance* to support federally regulated financial institutions to develop greater resilience to, and management of, climate-related risks.

OSFI's draft guidance lays out liability risks, legal risks extending from financial institutions for failing to manage risks, time horizons over which risks are manifested, different expressions of financial risk (credit, market, insurance, liquidity risks as well as strategic, operational, and reputational risks), and even the potential existential risk to long-term viability of institutions. OSFI's guidance lists opportunities to build resilience to address vulnerabilities in business models, operations, and ultimately balance sheet through work that is holistic and built on empirical data.

These actions are working together to establish a well-functioning sustainable finance market that will give investors confidence in Canada, protect the resilience of the Canadian financial sector in the years ahead, and ensure Canada's broader long-term economic strength.

3.6 Knowledge and Understanding

Federal departments and agencies leading action

- Agriculture and Agri-Food Canada
- Canadian Space Agency
- Crown-Indigenous Relations and Northern Affairs Canada
- Environment and Climate Change Canada
- Fisheries and Oceans Canada
- Natural Resources Canada

Objectives

Foundational 1 A robust evidence base for adaptation is in place through development, stewarding and sharing of existing and new data, knowledge (including Indigenous Knowledge and local knowledge), environmental and socio-economic analyses, and other ways of knowing.

Foundational 2 Indigenous knowledge systems and science are fairly and sustainably invested in, and ethical and equitable engagement is upheld in adaptation knowledge co-production, in line with First Nations, Inuit, and Métis, research protocols and data sovereignty.

Foundational 3 Everyone in Canada is informed about climate risks and vulnerabilities. Available information is accessible, easy to understand, and designed for different audiences.

Foundational actions

- ✓ Expand foundational climate data, information, science and communities through the **Priority Climate Data, Services, and Assessments** program to address priority climate data gaps impeding on the capacity of Canadians to assess their vulnerability and risks from climate change.

- ✓ Deliver the **Indigenous Community-based Climate Monitoring Program** to support Indigenous Peoples in the design, implementation or expansion of long-term community-based climate monitoring projects.

- ✓ Continue to assess how and why Canada's climate is changing, the impacts of these changes on our communities, environment and economy, and how we are adapting through the **Canada National Assessment Process**.

- ✓ Continue to implement the **Canadian Centre for Climate Services** to provide Canadians with data and information on climate risks to inform decision-making and adaptation planning.

- ✓ Use **Climate Science 2050** to guide investments in federal climate change science and research to address priority science and knowledge gaps.

- ✓ Continue to conduct climate modelling and foundational **climate science-related activities to inform risk assessments and adaptation planning** to provide decision-makers with information and data on climate change and extreme weather.

- ✓ Continue to **respond to climate-related hazards** through the Meteorological Service of Canada, including extreme weather forecasting, deploying early warning systems, and disseminating foundational climate information.

- ✓ Inform evidence-based decision-making in the area of aquatic climate science, including fisheries and coastal infrastructure, through the **Aquatic Climate Change Adaptation Services Program**.

- ✓ Continue to deliver the **Enhancing Sustainable Forest Management Practices Program** to monitor and report on the state of Canada's forests.

- ✓ Advance **Canada's Strategy for Satellite Earth Observation** to support climate science, modelling and services for Canadians.

- ✓ Continue to provide timely data and analysis on agroclimatic conditions impacting Canada's farmers and the agriculture sector, such as the **Canadian Drought Monitor**.

Why action is needed now

A strong evidence base, including both scientific knowledge and diverse ways of knowing, is the foundation for all climate change adaptation efforts. Supporting all Canadians so that they can make informed decisions to address climate change requires access to relevant and practical information and solutions for all sectors and communities. An understanding of current and future climate change, coupled with adaptation actions are critical for implementing and accelerating the ambitious action needed to build a climate resilient Canada now and for future generations.

First Nations, the Métis Nation and Inuit hold thousands of years of knowledge and experiences in stewarding and adapting to their environments—these communities actively observe, monitor and share changes in their communities and territories. Indigenous Knowledge systems are diverse, living value systems that need to be considered equally alongside other knowledge, including western science, when implementing adaptation solutions.

At the federal government level, Canada generates and supports world-class climate change science and research and is delivering broad national assessments, such as reports produced under the Canada in a Changing Climate series and expert panel reports, to help raise awareness and understanding of climate change and guide Canada's adaptation approaches. The federal government also supports a network of regional climate services organizations across the country to equip Canadians with relevant data, tools and information to incorporate projections of future climate into their decision making and business practices.

Canada's science community has been actively advancing climate change science over the years to ensure our mitigation and adaptation planning are informed by the best evidence

available. The Climate Science 2050 process aims to improve understanding of the full breadth of climate change science and knowledge needs in Canada. Recent work has been done to identify and prioritize the most pressing climate change science activities needed over the next five to ten years to inform forward-looking, effective, and targeted climate action. The best, most up-to-date climate change science and knowledge will be required to meet Canada's net zero goals and adapt to the most severe impacts of climate change.

However, as governments, communities and businesses increasingly try to assess and understand climate change risks and adapt accordingly, more advanced and tailored climate change information and resources are needed. Sustained, iterative and inclusive climate change science and knowledge, and the translation of the science into useable data, information and tools, are critical to deepening our knowledge base of how the changing climate will impact Canada and how we can best adapt. The Government of Canada is implementing a number of actions to meet this challenge and to provide the foundational supports to build knowledge and resilience for addressing priorities across all sectors in all regions.

The federal role on knowledge and understanding

The Government of Canada provides most of the essential infrastructure for climate research and long-term systematic observations programs in Canada. For example, Environment and Climate Change Canada is one of the only institutions in Canada, and one of just a handful in the world, with the scientific expertise and capacity to project and assess climate change impacts.

The Government is committed to advancing its scientific research through continued partnerships with the academic community, an important contributor to Canadian climate programming. Further, First Nations, Inuit and Métis knowledge systems play a key role in shaping our understanding of climate change impacts and solutions. The inclusion of Indigenous leadership and knowledge in climate action, while respecting sovereignty over and ownership of Indigenous knowledge and data, is critical to achieving the transformational change required to address the climate crisis.

The federal government also provides state-of-the-art climate data, services and assessments to understand risk and vulnerability to climate-related hazards which is essential in enabling all levels of government, stakeholders and communities to take effective adaptation action. The continued generation and dissemination of climate information and knowledge is foundational to informing better decision-making, developing targeted adaptation programs and services and advancing the goals and objectives of the NAS.

3.7 Tools and Resources

Federal departments and agencies leading action

- Crown-Indigenous Relations and Northern Affairs Canada
- Environment and Climate Change Canada
- Indigenous Services Canada

Objectives

Foundational 4 Everyone in Canada has equitable access to the tools and supports needed to prepare for, reduce, and respond to climate change impacts.

Foundational 5 Sustained, sufficient, and equitable public and private funding is in place to support adaptation to climate change.

Foundational 6 Local, regional, and institutional capacity for adaptation contributes to self-sufficiency and participation in adaptation actions.

Foundational actions

- ✓ Expand the **Green Municipal Fund,** administered by the Federation of Canadian Municipalities, by providing an additional $530 million to support local, community-level projects that enhance climate resilience.

- ✓ Continue to deliver the **Climate Change Preparedness in the North** program to provide funding that enable northern communities and organizations to address self-determined adaptation priorities, while building local capacity.

- ✓ Continue to deliver the **First Nation Adapt** program that enable First Nation communities and organizations located below the 60th parallel to address self-determined adaptation priorities, while building capacity.

Why action is needed now

Communities are on the frontlines of climate change. As of 2022, over 640 municipalities across Canada have declared “states of emergency” in response to severe climate change impacts; these municipalities have committed to take action to protect Canadians. Local governments are increasingly building resilience to climate risks through adaptation plans and risk assessments, land-use planning and the building of resilient infrastructure.

While local adaptation action is increasing across the country, limited information, capacity and resources to assess risk and implement solutions is challenging the ability of communities to act. Those at higher risk of climate change impacts, including smaller, remote and northern communities and historically marginalized groups, require additional support to keep pace with increasing climate impacts.

The federal government is bridging the resource gap for communities of all sizes. Through the delivery of key funding and resources, the Government of Canada provides communities with the tools and resources necessary to lead local-level climate action by building their adaptive capacity and raising readiness for the implementation of long-term adaptation solutions.

3.8 Governance and Leadership

Federal departments and agencies leading action

- Crown-Indigenous Relations and Northern Affairs Canada
- Environment and Climate Change Canada
- Treasury Board of Canada Secretariat

Objectives

Foundational 7 Effective governance for climate change adaptation is established and is inclusive of people who are disproportionately impacted by climate change.

Foundational 8 First Nations, Inuit and Métis are prepared for and have the capacity to respond to climate change through self-determined adaptation actions that are grounded in their cultures, preferences, and community priorities.

Foundational 9 Adaptation efforts improve social connections and reduce isolation and support cultural practices and places to enhance overall community resilience to climate change.

Foundational 10 Innovative solutions, through exchange of best practices and cross-jurisdictional cooperation, enhance adaptation outcomes across the country and position Canada as a global leader in supporting climate resilience.

Foundational Actions

- ✓ Work with international partners and contribute to the **NATO Climate Change and Security Centre of Excellence** in Montreal to help mitigate the impact of climate change on military activities and analyze new climate-driven security challenges.

- ✓ Advance an **Indigenous Climate Leadership Agenda with First Nations, Inuit, and Métis partners** by supporting the co-development of roadmaps for self-determined action to adapt and build resilience to climate change impacts.

- ✓ Implement the government-wide **Integrated Climate Lens** to ensure that climate change considerations are incorporated through federal decision-making.

- ✓ Lead by example by implementing the **Greening Government Strategy** to ensure that federal assets, services and operations are climate resilient and net-zero.

Why action is needed now

The Government of Canada has a strong leadership and coordination role on issues of national interest, including climate change adaptation. Given the overlapping and differentiated roles of all partners and stakeholders, a federal response alone is insufficient to respond to the challenges presented by climate change. However, federal action remains a critical component

for enabling and supporting actions from all partners and stakeholders to move the dial on establishing a more climate resilient Canada. By taking action to ensure that the federal governments own assets and operations are climate resilient it can encourage and incent action by others.

Horizontal coordination is also critical for an integrated, coherent federal approach to climate change science. For example, engagement undertaken as part of the CS2050 process highlighted the importance of nurturing collaboration on federal climate change science. Although Canada has “pockets” of disciplinary-focused or regional science coordination, these are fragmented and insufficient to deliver the trans-disciplinary science necessary to achieve adaptation and net-zero objectives.

Canada’s provinces and territories have authority over regional and local decision-making, natural resource management and community planning. Many are implementing stand-alone adaptation strategies or are integrating their planning and efforts into broader climate change action plans.

First Nations, the Métis Nation and Inuit are leaders in the fight against climate change. Indigenous Peoples have been living on, and acting as stewards of the lands that we call North America and Canada, since time immemorial. The depth of intergenerational knowledge, values and worldviews are foundational in understanding the living landscape and guiding climate action. The enduring connections to the land and culture held by many Indigenous Peoples and communities are a source of strength and will help to foster adaptive capacity and resilience in the face of a changing climate.

We must recognize that no single order of government has all of the policy tools to take all actions necessary to adapt to climate change impacts. Coherent policy guidance, along with corresponding objectives and targets are needed to align all levels of government. Implementing solutions demands collaboration and communication among various actors, and mainstreaming adaptation across all orders of government. Therefore, an integrated approach that leverages and aligns concurrent efforts across departments, between partners and throughout the whole of society, will be vital to support the National Adaptation Strategy progress and to achieve climate change adaptation goals.

The federal role on governance and leadership

The Government of Canada plays a key leadership role to help ensure adaptation actions across the country are coordinated, effective and efficient. This includes convening governments and organizations to align our collective efforts, mainstreaming adaptation into everyday government operations and decision-making and providing a sound scientific foundation to support action. While these factors help lay a foundation for action, complementary action from other actors in areas outside federal jurisdiction are necessary, such as land-use planning to account for climate change risks, sustainable natural resource management and climate-resilient healthcare, are also necessary to create transformational change. The federal government is working closely with partners through established governance structures to help align our collective efforts (see Annex 2).

To support Indigenous Peoples’ advancement of climate priorities and adaptation to the changing climate, the Government of Canada is committed to renewed nation-to-nation, Inuit-to-Crown and government-to-government relationships with First Nations, the Métis Nation and Inuit peoples, based on the recognition of rights, respect, cooperation and partnership.

The Government of Canada is committed to advancing reconciliation with Indigenous Peoples by supporting self-determined climate action. Through the development of the Indigenous Climate Leadership Agenda, the federal government will set an agenda for climate action and framework for collaboration with Indigenous partners. Recognizing Indigenous climate leadership means continuing to invest in the agency of Indigenous Peoples and communities, supporting Indigenous-led and delivered solutions, equipping Indigenous Peoples with equitable resources and ensuring appropriate access to funding to implement self-determined climate action is key.

The Government of Canada is also committed to mainstream and build resilience into its own operations. In response to the *Commissioner of the Environment and Sustainable Development's 2017 Report*, and in accordance with the *Greening Government Strategy* and the *Federal Sustainable Development Strategy*, departments and agencies have committed to address climate risks to federal assets, services and operations. These mainstreaming operations will have broad and far-reaching implications across the federal government and ensure that climate change adaptation and response is reflected in all departmental portfolios.

4 Looking Forward

The actions outlined within the Government of Canada Adaptation Action Plan are all current, which means they have both mandate and funding. The performance of actions will be reported in annual public reporting in accordance with Treasury Board of Canada Secretariat's *Policy on Results* and *Directive on Results* to ensure adaptation progress is transparent and accountable to Canadians.

To ensure adaptation targets and objectives are guiding federal investments, the programs and actions within this plan will be monitored and results will be measured using metrics and indicators aligned to the National Adaptation Strategy's monitoring and evaluation framework. This will support a continuous learning process, helping to identify what is working and where more targeted efforts are needed. This will in turn support evidence-based decision-making to improve federal programs and services on adaptation.

Successful implementation of the Action Plan also requires coordination across many federal departments and agencies. Strong governance mechanisms will increase program coherence and ensure clear accountability in making progress. Environment and Climate Change Canada leads interdepartmental governance structures that will oversee the implementation of the Action Plan and ensure adaptation actions at the federal level are integrated, efficient, and effective at driving positive results.

Adaptation planning involves a flexible approach that can accommodate change but keep us moving in the right direction. Moving forward, this action plan represents a step in a long-term and iterative process. As climate change impacts continue to accelerate, additional actions will be needed to build resilience to new and evolving climate risks and support all people living within Canada in implementing sustained adaptation solutions. Over time, decisions will be made on whether new actions are required and when, and will be informed by both evolving risks and results of earlier actions.

Strategies and work that is already underway will continue to evolve as the government integrates adaptation across its programs, services and operations. For example, the Greening Government Strategy continues to focus on accelerating adaptation action across departments and agencies, expanding its scope to include Crown Corporations, and working towards climate resilience requirements for procurements of high value as well as critical goods and services. As highlighted in Section 3, moving forward, resilience will be factored into new federal infrastructure funding to ensure investments in communities are safe, reliable, and built to withstand the changing climate.

In the near term, some key areas for future action include:

1. **Develop a unique federal approach to support climate change adaptation in the North**, including work with territorial governments and Indigenous Peoples to identify and advance key local and regional priorities and improve accessibility of federal programs in the region, in alignment with the Indigenous Climate Leadership agenda initiative.
2. **Enhance the National Adaptation Strategy's monitoring and evaluation framework**, including through work with provincial and territorial governments, National Indigenous Organizations, and other partners and actors to ensure key measurement frameworks are in place to monitor progress and guide action.

3. **Advancing mandatory climate-related financial disclosures** to require that federally regulated institutions, including financial institutions, pension funds and government agencies, to issue climate-related financial disclosures and net-zero plans. Financial institutions will be required to publish climate disclosures, including climate-related risks, starting in 2024.
4. **Investing in the Meteorological Service of Canada** to upgrade infrastructure, including information technology, to ensure it continues to effectively perform its vital functions of monitoring changes in the weather, climate, water, ice and air quality and predicting weather and environmental conditions. This information is a necessary precursor to inform local, regional and national adaptation planning.
5. **Development of the Canada Green Buildings Strategy** with provinces and territories, communities and Indigenous Peoples, to achieve a net-zero emissions and climate-resilient buildings sector by 2050. Efforts under the strategy to combat the twin challenges of climate change and energy affordability will be complemented by initiatives to help Canadians improve energy efficiency and resiliency. For example, supporting heat pump adoption will allow homeowners and tenants to lower their energy bills while also making homes and buildings safer and cooler during extreme heat events and the National Approach to Home Labelling will help Canadians improve the resiliency of their homes by sharing resiliency information and recommendations through new EnerGuide tools and standards.
6. **Development of a Sustainable Agriculture Strategy,** in collaboration with farmers, Indigenous communities and other key sector partners to help set a shared direction for collective action to improve environmental performance in the sector over the long-term, support farmers livelihoods and strengthen the business vitality of the Canadian agricultural industry.
7. **Modernizing the *Oceans Act* to explicitly consider climate change** impacts on marine ecosystems and species in regional ocean management.
8. Advance an approach to our **Blue Economy** that creates jobs in coastal communities while ensuring our oceans remain healthy.
9. **Develop a Climate Data Strategy** to ensure that the private sector and communities have access to data to inform planning and infrastructure investments.

Annex 1: Federal roles and responsibilities on adaptation

The following table outlines the roles and responsibilities of federal departments and agencies on climate change adaptation, including within discrete areas directly and indirectly related to the National Adaptation Strategy (NAS).

Department or Agency	Role and Responsibility on Adaptation
Environment and Climate Change Canada (ECCC)	ECCC is the federal lead for climate change adaptation and mitigation. It leads federal adaptation policy development, including the National Adaptation Strategy. ECCC also provides federal adaptation leadership by providing guidance and tools to support departmental adaptation planning and is implementing a federal climate lens to build adaptation and mitigation into federal decision making. ECCC plays an authoritative role in the development and dissemination of foundational climate change data, science, information, and services to Canadians. ECCC will provide federal leadership for the implementation of the Climate Science 2050 Plan. ECCC leads horizontal governance on climate change adaptation to ensure adaptation governance and coordination is enhanced across departments and agencies to ensure federal efforts are aligned. ECCC will manage a one-window approach to adaptation, working with federal partners, to coordinate adaptation and resilience requests from other levels of government, the private sector, Indigenous organizations and civil society. ECCC will also lead an umbrella web presence across the Government of Canada to coordinate adaptation resources for the public. ECCC collaborates with provincial and territorial counterpart Ministers for climate change adaptation under the Canadian Council of Ministers of the Environment and co-chair of the Climate Change Committee and chair of the Adaptation Policy Committee. ECCC will be the lead interlocutor with provincial and territorial counterparts on adaptation, and other levels of government (i.e., municipalities) on adaptation, and working with other departments. This will ensure that adaptation action across governments and engagement remains coordinated and partners have a clear window for support. ECCC and NRCan are co-leads on Canada's Adaptation Platform Plenary, providing a forum for dialogue, exchange and cooperative work with provinces, territories, National Indigenous Organizations, professional associations and others. ECCC leads Canada's international engagement on climate change, including the UN Framework Convention on Climate Change, the Montreal Protocol and other environmental agreements, and actively participates in climate-related collaboration and financing.
Agriculture and Agri-Food Canada (AAFC)	AAFC supports the Canadian agriculture and agri-food sector through initiatives that promote innovation and competitiveness. AAFC supports climate change adaptation by leading on policy solutions and supporting farmers in developing and implementing farming practices to tackle climate change. AAFC plays a key role in increasing the resilience of Canadian agricultural practices in the face of increasing climate impacts, such as floods and wildfires, which affect our food systems.

	Agriculture is an area of shared jurisdiction between the federal and provincial/territorial governments, with the provinces and territories having primary jurisdiction over land and natural resource ownership and use. AAFC collaborates with provinces and territories through five-year, federal-provincial-territorial (FPT) agricultural policy frameworks to support agriculture sector stakeholders in the responsible stewardship of Canada's agricultural lands and environment.
Canadian Institutes of Health Research (CIHR)	CIHR responds to the evolving needs for health research and seeks to transform health research in Canada by: • funding both investigator-initiated research as well as research on targeted priority areas • building research capacity in under-developed areas and training the next generation of health researchers • focusing on knowledge translation that facilitates the application of the results of research and their transformation into new policies, practices, procedures, products and services
Canadian Food Inspection Agency (CFIA)	CFIA has a mandate to safeguard Canada's food supply to enhance the health and well-being of Canada's people and protect Canada's plant and animal resources from pests, invasive species and diseases, while facilitating the international trade of food, plants, animals and related products. CFIA recognizes the impact climate change has on every aspect of its mandate and activities, and its significance to Canada's plant and animal resource base as well to changes in the presence of related diseases and pests. With industry, academia, consumers, federal partners and provincial, territorial and municipal governments, CFIA works to protect Canadians from preventable health risks related to food and zoonotic diseases that affect animals and humans.
Canadian Mortgage and Housing Corporation (CMHC)	CMHC supports the stability of the housing finance system and works to ensure everyone in Canada has an affordable home that meets their needs, which includes building climate resilience through housing. CMHC is prioritizing work that incentivizes and supports climate change mitigation and adaptation in the housing system and is working to ensure this transition is affordable and sustainable for individuals and housing partners.
Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC)	CIRNAC is leading efforts to build upon nation-to-nation relationships between the Government of Canada and Indigenous Peoples through the co-development of the Indigenous Climate Leadership Agenda. CIRNAC supports climate change monitoring, risk assessments and adaptation planning across Indigenous and northern communities, and the implementation of adaptation actions in the North; it is responsible for leading the Government of Canada's work in the North.
Department of Defence (DND) & Canadian Armed Forces (CAF)	DND supports the Canadian Armed Forces (CAF) who serve on sea, land, and in the air with the Navy, Army, Air Force and Special Forces to defend Canadians' interests at home and abroad. As the frequency and severity of climate-related events increase, and the economic and human costs of response and recovery increase, DND/CAF will continue to play an important role in effective policy and program leadership to embed adaptation principles into emergency management strategies alongside other key federal departments. As the force of last resort, upon the request from civilian authorities, the CAF can provide emergency assistance in the wake of climate-related disasters. To fulfill this role, the CAF

	will adapt to evolving conditions to ensure that it maintains force readiness in the face of a changing climate. As one of the largest real property custodians in the country, DND is adapting its infrastructure in preparation for the impacts of climate change. Given the demand on the CAF for both domestic and international deployments, DND cannot afford to have its critical infrastructure (i.e., runways, training areas, jetties) vulnerable to climate events. As such, DND is undertaking climate change vulnerability and risk assessments of its real property holdings to identify and prioritize investments. Also, as of 2021, new infrastructure and major retrofits must incorporate both net zero and climate resilience principles in design and construction.
Employment and Social Development Canada (ESDC)	ESDC has a suite of programming that supports work on climate change adaptation by addressing the direct and indirect effects of climate change on jobs, sectors, and occupations. For example, ESDC is investing approximately $3 billion annually to Labour Market Transfer Agreements for individuals and employers to obtain skills training and employment supports. ESDC's Sectoral Workforce Solutions Program (SWSP) will help thousands of employers and connect Canadians with the training they need to access good jobs in sectors where employers are looking for skilled workers. It will support equity-deserving groups and has a policy priority area to build talent for the clean economy.
Finance Canada	Finance Canada supports the Minister of Finance's responsibilities for the stewardship of the Canadian economy, including advising on federal fiscal, tax, and financial sector and transfer policies. Finance Canada, in collaboration with Environment and Climate Change Canada, is responsible for federal sustainable finance policy which aims to support the mobilization of capital to help meet Canada's climate mitigation, adaptation and broader sustainability objectives. The policy focus is to develop the foundational market infrastructure needed to scale up Canada's sustainable finance market. This includes enhancing the disclosure of climate-related financial risks, defining green and transition investments, and improving climate data and analytics. The Government of Canada established the Sustainable Finance Action Council (SFAC) in May 2021 to provide advice on these foundational matters noted above as well as net-zero capital allocation strategies. The SFAC comprises twenty-five Canadian deposit-taking institutions, insurance companies, and pension funds and reports to the Ministers of Finance and Environment and Climate Change. The Minister of Finance is responsible for the Bank of Canada, which monitors climate risks that could pose a threat to Canada's financial stability, as well as the Office of the Superintendent of Financial Institutions (OSFI), which is focused on ensuring that federally regulated financial institutions have the systems to effectively manage climate risks.
Fisheries and Oceans Canada (DFO)	DFO is responsible for sustainably managing Canada's fisheries, protecting our oceans, safeguarding our waterways and working with coastal communities. DFO is responsible for the protection, enhancement and restoration of the biodiversity and health of Canada's marine and freshwater environments, including the protection and restoration of aquatic ecosystems. DFO works with partners to preserve and protect freshwater environments, including aquatic ecosystems, from the impacts of climate change. DFO leads efforts to enhance effective action on climate change relating to oceans and fisheries. This includes conducting scientific research and monitoring activities of

	ecosystems to inform the management of fisheries, oceans and coastal infrastructure management, species conservation and marine safety. DFO provides foundational climate science related to adaptation in support of Climate Science 2050 implementation and the delivery of its mandate.
Health Canada (HC)	HC's mandate supports climate change adaptation through the development and provision of research, information, and services to better understand and prepare for the health risks of climate change. HC delivers adaptation programs that address climate-related health issues, including heat-related illness, air quality, and food safety (the latter delivered in collaboration with the Canadian Food Inspection Agency). As the lead for the Health and Well-being system under the National Adaptation Strategy, and climate change adaptation lead for the Federal Health Portfolio, Health Canada works to coordinate and advance adaptation action across Canada. Health Canada fills evidence gaps, develop guidance and tools, coordinate efforts to measure progress, enables the sharing of data, information and best practices and provides national leadership to guide health sector adaptation.
Infrastructure Canada (INFC)	INFC leads the delivery of planning and capital investment support for resilient infrastructure. INFC also builds partnerships, develops policies and fosters knowledge about public infrastructure in Canada. INFC manages works with the Standards Council of Canada and National Research Council Canada to develop climate-resilient codes and standards for buildings and infrastructure to enable infrastructure decision-makers to integrate climate change considerations. As the lead for the Resilient Infrastructure system under the NAS, and the adaptation lead for the federal infrastructure portfolio, INFC continues to play a leadership role moving forward, bolstering this role by coordinating, aligning and expanding programming to ensure that infrastructure is climate-resilient.
Indigenous Services Canada (ISC)	ISC supports First Nations and Inuit peoples in controlling the delivery of high-quality services for healthy, prosperous and thriving communities, including in climate change, emergency management, resilient infrastructure, lands and environmental management, and health and well-being. ISC will continue to empower and support Indigenous communities to build climate resilience and advance self-determined climate actions in the delivery and transfer of climate-conscious services and programs.
National Research Council Canada (NRC)	The NRC is contributing to the Government of Canada's climate resiliency efforts by providing guidance, tools and standards, which contribute to long-lasting infrastructure and buildings, including retrofits and upgrades, to help communities build resilience, reduce disaster risks and conserve costs over the long term. In addition, experts from the NRC's Construction Research Centre contribute science-based research to inform the technical committees in the national model code development system, which are responsible for developing the provisions of the National Model Codes.

Natural Resources Canada (NRCan)	NRCan supports the sustainable, equitable and competitive development of natural resources and the communities that depend on the natural resources sectors. The department leads in areas of science necessary to improve understanding in how changes in the climate impact terrestrial systems, including groundwater, erosion and deposition, permafrost changes, coastal dynamics, forest ecosystems and timber supply. NRCan has more than 20 years of experience leading adaptation programs that help businesses, communities and professionals understand, assess and develop solutions to the climate change impacts they face. NRCan programs have played a key role in identifying emerging climate issues. NRCan has led the impacts and adaptation knowledge assessment process since the early 2000s, working with other lead departments to produce the assessment series. NRCan programming supports climate change adaptation in key areas, including foundational knowledge and capacity building, forest resilience, resilient housing and geoscience and geospatial data, including hazard mapping. NRCan has led Canada's Adaptation Platform since 2012, providing a forum for dialogue, exchange and cooperative work with provinces, territories, National Indigenous Organizations, professional associations and others. ECCC has co-led Canada's Adaptation Platform Plenary with NRCan since 2020. Going forward, NRCan will continue to play a strong role in climate change adaptation for industry, businesses and communities and lead the Economy and Workers system under the NAS. This leadership could be bolstered by expanding upon NRCan's unique role in leading economic adaptive efforts.
Parks Canada (PC)	PC is responsible for protecting and presenting national significant examples of Canada's natural and cultural heritage for present and future generations. PC maintains a key role in leading the identification and adoption of adaptation solutions in Canada's network of protected areas. PC programming aims to provide natural solutions for climate change by conserving biodiversity, protecting ecosystem services, connecting landscapes (e.g., National Ecological Corridors Program), capturing and storing carbon and building knowledge. This contributes to the development and maintenance of a thriving natural environment that is more resilient to the effects of climate change.
Public Health Agency of Canada (PHAC)	PHAC's core functions include preventing and controlling the spread of infectious diseases, preparing for and responding to public health emergencies, promoting health and conducting monitoring and population health assessments. The Agency's mandate also includes leading in the sharing, receiving and implementation of research developed in Canada and internationally and strengthening intergovernmental collaboration on public health.
Public Safety Canada (PS)	PS exercises leadership for national security and emergency preparedness. The Emergency Management Strategy for Canada, which was developed and released jointly by provincial, territorial and federal government in 2019, lays out key priorities for action in support of climate resilience from a disaster risk reduction (DRR) perspective: • Improved understanding of disaster risks in all sectors of society • Increased focus on disaster prevention and mitigation • Enhanced disaster response capacity and coordination, and development of new capabilities • Strengthened recovery efforts to build back better

	PS will continue to play a key role in the implementation of the NAS, further integrating adaptation principles into emergency management, preparedness and disaster resilience efforts.
Standards Council of Canada (SCC)	SCC works closely with its partners to lead the development of, and promote the value of, standardization strategies and conformity assessment to support the health, well-being and safety of Canadians. SCC leads the development of standardization strategies for buildings and infrastructure, and supports their uptake to drive implementation, to mainstream climate change adaptation and resilience, and to support informed decision making for infrastructure and buildings.
Statistics Canada	As the national statistical office, Statistics Canada ensures that Canadians have the information they require to make evidence-based decisions. The agency provides all levels of government with the timely, high-quality data and insights they need to help address emerging socioeconomic and environmental concerns. The statistical information produced relates to the commercial, industrial, financial, social, economic, environmental and general activities and conditions of the people of Canada.
Transport Canada (TC)	TC advances programs, policies, and updated laws and regulations that support its mandate to promote a transportation system in Canada that is safe, secure, efficient and environmentally responsible, including collaborating with transportation stakeholders to support climate adaptation efforts and increased resilience throughout the sector. Under its core responsibility for a Green and Innovative Transportation System, a climate resilient transportation system is a central objective.
Treasury Board of Canada Secretariat (TBS)	TBS provides advice and makes recommendations to the Treasury Board committee of ministers on how the Government spends money on programs and services. TBS leads the implementation of the Greening Government Strategy, which is Cabinet Directive that commits government departments to take action on adaptation and mainstream climate adaptation across government. In this pursuit, TBS continues to focus efforts on ensuring the Government of Canada will transition to net-zero carbon and climate-resilient operations and supporting program development to meet this goal. TBS also provides federal adaptation leadership by providing guidance and to support real property climate risk assessments and adaptation planning.

Annex 2: Bilateral cooperation with partners

Climate change risks are far reaching, varying from region to region, making adaptation an area of common interest across federal, provincial and territorial jurisdictions, as well as Indigenous governments. The complex inter-jurisdictional considerations and horizontal nature of adaptation means that clear leadership and coordinated and aligned action by all orders of governments, is fundamental to realizing a climate resilient Canada.

Federal, provincial and territorial

As provinces and territories have jurisdiction over many areas critical for climate change resilience (e.g., land-use planning, building regulations, natural resource management, health care systems, infrastructure, emergency management), they are essential partners in adaptation efforts. In recognition of the need for coordinated action, adaptation governance tables comprised of federal-provincial-territorial (FPT) representatives have been established.

The primary mechanism for FPT cooperation is the Canadian Council of Ministers of the Environment (CCME). The CCME is a minister-led intergovernmental forum for collective action on environmental issues of national concern, including adaptation and resilience. It aims to facilitate inter-jurisdictional cooperation on climate change mitigation and adaptation, including collaborate action to implementing the Pan-Canadian Framework on Clean Growth and Climate Change.

Beyond the CCME, there are a number of other FPT fora considering climate change in their discussions, including the Canadian Council of Resource Ministers, Canadian Council of Forest Ministers, Canadian Council of Fisheries and Aquaculture Ministers and Canadian Council of Ministers Responsible for Transportation and Highway Safety.

Indigenous governments and organizations

Indigenous Peoples, particularly in northern communities, are experiencing disproportionate impacts of climate change. Across Canada, Indigenous Peoples are active drivers of change, contributing vital knowledge, experience, innovation and leadership on adaptation. They have voiced a need and desire for increased agency, self-determination and leadership over climate action, emphasizing that it should be built on the principles of partnership and the recognition of Indigenous governance, rights and leadership.

The federal government has a nation-to-nation relationship with Indigenous Peoples and has direct responsibility for delivering services to First Nations on reserve. Typically, Canada engages with Indigenous organizations and governments, including on the development of the NAS, through three distinctions-based, senior-level tables with the Assembly of First Nations, Métis National Council and Inuit Tapiriit Kanatami.

Annex 3: Government of Canada Adaptation Action Plan table

The following table provides an overview of all actions within this plan and relevant NAS objective(s) that it supports, the primary audience that is intended to benefit from the action and climate risk(s) that it directly addresses.

GOVERNMENT OF CANADA ADAPTATION ACTION PLAN TABLE						
NAS System	**Federal Action**	**Lead Department/Agency**	**Status**	**NAS Objective(s)**	**Audience**	**Climate Risk**
Disaster Resilience	Wildfire Resilient Futures Initiative	Natural Resources Canada	Existing	Disaster Resilience 1; Disaster Resilience 4	Indigenous communities and organizations; Communities; Natural resource managers	Fire events
Disaster Resilience	Advancing the Flood Hazard Identification and Mapping Program	Natural Resources Canada	Existing	Disaster Resilience 1; Disaster Resilience 4	Provincial governments; Territorial governments	Flooding
Disaster Resilience	Flood Insurance and Relocation	Public Safety Canada	Expanded	Disaster Resilience 1; Disaster Resilience 2; Disaster Resilience 4; Disaster Resilience 5	Provincial governments; Territorial governments; Private sector	Flooding
Disaster Resilience	Disaster Financial Assistance Arrangements	Public Safety Canada	Existing	Disaster Resilience 5	Provincial governments; Territorial governments	Extreme weather events; Flooding; Fire events
Disaster Resilience	Flood Risk Awareness Portal	Public Safety Canada	Existing	Disaster Resilience 4	All Canadians	Flooding
Disaster Resilience	National Risk Profile	Public Safety Canada	Existing	Disaster Resilience 4	All Canadians	Flooding; Fire events; Extreme weather events
Disaster Resilience	National Public Alerting System	Public Safety Canada	Existing	Disaster Resilience 1; Disaster Resilience 3	All Canadians; Provincial governments; Territorial governments	Flooding; Fire events; Extreme weather events
Disaster Resilience	Emergency Preparedness Week	Public Safety Canada	Existing	Disaster Resilience 4	All Canadians; Provincial governments; Territorial governments; Not-for-profit organizations; Indigenous communities and organizations; Private sector	Extreme weather events; Flooding; Fire events; Extreme heat events
Disaster Resilience	Federal Emergency Response Plan	Public Safety Canada	Existing	Disaster Resilience 2	Federal government	Extreme weather events; Flooding; Fire events; Extreme heat events
Disaster Resilience	Wildfire Risk Management	Natural Resources Canada	Existing	Disaster Resilience 1; Disaster Resilience 2	Provincial governments; Territorial governments; Municipal governments	Fire events
Disaster Resilience	Advancing the Federal-Provincial-Territorial	Public Safety Canada	Existing	Disaster Resilience 2	Provincial governments; Territorial governments	All climate risks

GOVERNMENT OF CANADA ADAPTATION ACTION PLAN TABLE						
NAS System	**Federal Action**	**Lead Department/Agency**	**Status**	**NAS Objective(s)**	**Audience**	**Climate Risk**
	Emergency Management Strategy: Areas for Action					
Disaster Resilience	Heavy Urban Search and Rescue (HUSAR) Program	Public Safety Canada	Existing	Disaster Resilience 3	Provincial governments; Municipal governments	Extreme weather events; Flooding; Fire events
Disaster Resilience	Humanitarian workforce	Public Safety Canada	Existing	Disaster Resilience 3; Disaster Resilience 2; Disaster Resilience 5	Not-for-profit organizations	Flooding; Fire events
Disaster Resilience	Parks Canada Wildfire Management Program	Parks Canada Agency	Existing	Disaster Resilience 1; Disaster Resilience 2; Disaster Resilience 3; Disaster Resilience 4	Federal government; Communities	Fire events
Disaster Resilience	Provide Statistics Canada data that can be used to support emergency preparedness, response and disasters	Statistics Canada	Existing	Disaster Resilience 4	All Canadians	Extreme weather events; Flooding; Fire events; Extreme heat events
Disaster Resilience	Canadian Disaster Database	Public Safety Canada	Existing	Disaster Resilience 4	All Canadians	Extreme weather events; Flooding; Fire events; Extreme heat events
Disaster Resilience	Geoscience supporting public safety and climate change resilience	Natural Resources Canada	Existing	Disaster Resilience 4	Provincial governments; Territorial governments; Indigenous communities and organizations	Flooding; Erosion; Permafrost thaw and degradation; Changing snow, glacier and ice conditions; Sea level
Disaster Resilience	National Fire Information Database	Statistics Canada	Existing	Disaster Resilience 1; Disaster Resilience 4;	Provincial governments; Territorial governments; Municipal governments;	Fire events
Disaster Resilience	Federal Flood Mapping Guideline Series	Natural Resources Canada	Existing	Disaster Resilience 1; Disaster Resilience 2; Disaster Resilience 4	Provincial governments; Territorial governments	Flooding
Disaster Resilience	Emergency Geomatics Services	Natural Resources Canada	Existing	Disaster Resilience 1; Disaster Resilience 4	Provincial governments; Territorial governments	Extreme weather events; Flooding; Fire events
Disaster Resilience	Enhanced mandate for forest mapping of northern forests, and to enhance capacity of the Canadian Interagency Forest Fire Centre	Natural Resources Canada	Existing	Disaster Resilience 4	Provincial governments; Territorial governments	Fire events

GOVERNMENT OF CANADA ADAPTATION ACTION PLAN TABLE						
NAS System	**Federal Action**	**Lead Department/Agency**	**Status**	**NAS Objective(s)**	**Audience**	**Climate Risk**
Disaster Resilience	WildfireSat	Natural Resources Canada	Existing	Disaster Resilience 3	All Canadians; Provincial governments; Territorial governments	Fire events
Disaster Resilience	Sustainable Canadian Agricultural Partnership : AgriRecovery Framework	Agriculture and Agri-Food Canada	Existing	Disaster Resilience 2; Economy and Workers 3	Provincial governments; Territorial governments; Agricultural producers	Drought; Flooding; Fire events; Extreme weather events
Disaster Resilience	Government Operations Centre Request for Federal Assistance	Public Safety Canada	Existing	Disaster Resilience 2; Disaster Resilience 3	Federal government	Extreme weather events; Flooding; Fire events
Disaster Resilience	Emergency Management Assistance Program	Indigenous Services Canada	Existing	Disaster Resilience 1; Disaster Resilience 5	Indigenous communities and organizations	Extreme weather events; Flooding; Fire events
Disaster Resilience	Federal Investments in Wildfire Management (response and operations)	Natural Resources Canada	Existing	Disaster Resilience 2; Disaster Resilience 3; Disaster Resilience 4	Provincial governments; Territorial governments; Indigenous communities and organizations	Fire events
Health and Well-being	Protecting the Health of Canadians from Extreme Heat	Health Canada	Existing	Health and Well-being 3	All Canadians; Provincial governments; Territorial governments, Local and regional health authorities, municipal governments, Non-governmental organizations, Indigenous communities and organizations, and all Canadians	Extreme heat events
Health and Well-being	HealthADAPT	Health Canada	Existing	Health and Well-being 1; Health and Well-being 2; Health and Well-being 4	All Canadians; Provincial governments; Territorial governments, Local and regional health authorities, municipal governments, Non-governmental organizations, Indigenous communities and organizations, and all Canadians	All climate risks
Health and Well-being	Climate Change and Health Adaptation Program for First Nation and Inuit Communities	Indigenous Services Canada	Existing	Health and Well-being 1; Health and Well-being 3	Indigenous communities and organizations; Not-for-profit organizations	Extreme weather events; Food security; Changing freshwater, ocean and marine conditions
Health and Well-being	Climate Change Research and Knowledge Mobilization Initiative	Canadian Institutes of Health Research	Existing	Health and Well-being 1	All Canadians; Academic institutions	All climate risks
Health and Well-being	Infectious Disease and Climate Change Program	Public Health Agency of Canada	Existing	Health and Well-being 1; Health and Well-being 3	Provincial governments; Territorial governments; Municipal governments; Indigenous	Infectious disease

GOVERNMENT OF CANADA ADAPTATION ACTION PLAN TABLE						
NAS System	**Federal Action**	**Lead Department/Agency**	**Status**	**NAS Objective(s)**	**Audience**	**Climate Risk**
					communities and organizations; Not-for-profit organizations	
Nature and Biodiversity	National Urban Parks Program	Parks Canada Agency	Existing	Nature and Biodiversity 4	Indigenous communities and organizations; Municipal governments	Air quality; Drought; Erosion; Extreme heat; Flooding; Habitat degradation and species loss
Nature and Biodiversity	Creation of the Canada Water Agency, strengthening the Freshwater Action Plan, and modernization of the Canada Water Act	Environment and Climate Change Canada	Existing	Nature and Biodiversity 2	Provincial governments; Territorial governments; Municipal governments; Indigenous communities and organizations; Not-for-profit organizations; Private sector; Academic institutions	Habitat degradation and species losses; Changing freshwater, ocean and marine conditions
Nature and Biodiversity	Natural Climate Solutions Fund	Environment and Climate Change Canada; Natural Resources Canada; Agriculture and Agri-Food Canada	Existing	Nature and Biodiversity 4	Provincial governments; Territorial governments; Municipal governments; Indigenous communities and organizations; Not-for-profit organizations; Private sector	Habitat degradation and species losses
Nature and Biodiversity	2 Billion Trees	Natural Resources Canada	Existing	Nature and Biodiversity 4	Provincial governments; Territorial governments; Municipal governments; Indigenous communities and organizations; Not-for-profit organizations; Private sector	Habitat degradation and species losses; Changing freshwater, ocean and marine conditions; Extreme heat events
Nature and Biodiversity	Nature Smart Climate Solutions Fund	Environment and Climate Change Canada	Existing	Nature and Biodiversity 2	Provincial governments; Territorial governments; Municipal governments; Indigenous communities and organizations; Not-for-profit organizations; Private sector; Academic institutions	Habitat degradation and species losses; Changing freshwater, ocean and marine conditions
Nature and Biodiversity	Marine Conservation Program	Fisheries and Oceans Canada	Existing	Nature and Biodiversity 2	Provincial governments; Territorial governments; Indigenous communities and organizations; Not-for-profit organizations; Private sector	Habitat degradation and species losses; Changing freshwater, ocean and marine conditions
Nature and Biodiversity	Canada's Enhanced Nature Legacy Program	Environment and Climate Change Canada	Existing	Nature and Biodiversity 2	Provincial governments; Territorial governments; Municipal governments; Indigenous communities and organizations; Not-for-profit organizations; Private sector	Habitat degradation and species losses

GOVERNMENT OF CANADA ADAPTATION ACTION PLAN TABLE						
NAS System	**Federal Action**	**Lead Department/Agency**	**Status**	**NAS Objective(s)**	**Audience**	**Climate Risk**
Nature and Biodiversity	National Program for Ecological Corridors	Parks Canada Agency	Existing	Nature and Biodiversity 2	Provincial governments; Territorial governments; Municipal governments; Indigenous communities and organizations; Not-for-profit organizations	Habitat degradation and species losses
Nature and Biodiversity	Aquatic Ecosystems Restoration Fund	Fisheries and Oceans Canada	Existing	Nature and Biodiversity 2	Indigenous communities and organizations; Not-for-profit organizations; Academic institutions	Habitat degradation and species losses; Changing freshwater, ocean and marine conditions
Infrastructure	Disaster Mitigation and Adaptation Fund	Infrastructure Canada	Existing	Infrastructure 3; Foundational 5	Provincial governments; Territorial governments; Municipal governments; Indigenous communities and organizations; Not-for-profit organizations; Private sector	Flooding; Drought; Fire events; Extreme heat events; Erosion; Extreme weather events; Permafrost thaw and degradation; Sea-level
Infrastructure	Climate Resilient Built Environment (CRBE) Initiative	Infrastructure Canada; National Research Council Canada	Existing	Infrastructure 1	Provincial governments; Territorial governments; Municipal governments; Academic institutions; Not-for-profit organizations; Academic institutions	Flooding; Fire events; Extreme weather events; Extreme heat events
Infrastructure	Standards to Support Resilience in Infrastructure Program (SSRIP)	Infrastructure Canada; Standards Council of Canada	Existing	Infrastructure 1	Provincial governments; Territorial governments; Municipal governments; Indigenous communities and organizations; Not-for-profit organizations; Academic institutions	Flooding; Fire events; Extreme weather events; Permafrost thaw and degradation; Changing snow, glacier and ice conditions; Extreme heat events
Infrastructure	Supporting Climate Resilient Infrastructure	Infrastructure Canada	Existing	Infrastructure 1; Infrastructure 2; Infrastructure 4	Provincial governments; Territorial governments; Municipal governments; Indigenous communities and organizations; Not-for-profit organizations; Academic institutions	All climate risks
Infrastructure	Natural Infrastructure Fund	Infrastructure Canada	Existing	Nature and Biodiversity 4	Provincial governments; Territorial governments; Municipal governments; Indigenous communities and organizations; Not-for-profit organizations; Private sector	Flooding; Erosion; Extreme heat events; Extreme weather events
Infrastructure	National Trade Corridors Fund	Transport Canada	Existing	Infrastructure 4	Provincial governments; Territorial governments; Municipal governments; Indigenous	Flooding; Permafrost thaw and degradation; Extreme weather events; Erosion; Sea level

GOVERNMENT OF CANADA ADAPTATION ACTION PLAN TABLE						
NAS System	**Federal Action**	**Lead Department/Agency**	**Status**	**NAS Objective(s)**	**Audience**	**Climate Risk**
					communities and organizations; Not-for-profit organizations; Private sector; Academic institutions; Federally regulated organizations; Provincially regulated organizations	
Infrastructure	First Nation Infrastructure Fund	Indigenous Services Canada	Existing	Infrastructure 3	Indigenous communities and organizations; Not-for-profit organizations; Academic institutions; Provincial governments; Territorial governments; Municipal governments	Flooding; Fire events; Extreme weather events; Erosion
Infrastructure	Capital Facilities and Maintenance Program	Indigenous Services Canada	Existing	Infrastructure 3	Indigenous communities and organizations; Not-for-profit organizations; Academic institutions; Provincial governments; Territorial governments; Municipal governments	Flooding; Fire events; Erosion
Economy and Workers	Climate-Resilient Coastal Communities Program	Natural Resources Canada	Existing	Economy and Workers 3; Foundational 4; Foundational 5	Municipal governments; Indigenous communities and organizations, Provincial governments, Territorial governments, Private sector	Changing freshwater, ocean and marine conditions; Changing snow, glacier and ice conditions; Sea level; Permafrost thaw and degradation; Extreme weather events
Economy and Workers	National Supply Chain Strategy	Transport Canada	Existing	Economy and Workers 1	Private sector	Flooding; Fire events; Extreme weather events
Economy and Workers	Sustainable Canadian Agricultural Partnership: Federal, provincial, territorial (FPT) cost-shared programs	Agriculture and Agri-Food Canada	Existing	Economy and Workers 3; Health and Well-being 4; Nature and Biodiversity 1; Nature and Biodiversity 2; Nature and Biodiversity 3; Nature and Biodiversity 4	Provincial governments; Territorial governments; Agricultural producers	Drought; Habitat degradation and species losses; Changing freshwater, ocean and marine conditions; Fire events
Economy and Workers	Sustainable Canadian Agricultural Partnership: Agriculture and Agri-food Canada Science and Innovation programs	Agriculture and Agri-Food Canada	Existing	Economy and Workers 3; Nature and Biodiversity 3	Not-for-profit organizations; Indigenous communities and organizations; Private sector; Agricultural producers	All climate risks
Economy and Workers	Sustainable Canadian Agricultural Partnership: FPT Business Risk Management Programs	Agriculture and Agri-Food Canada	Existing	Economy and Workers 3; Disaster Resilience 2	Agricultural producers; Provincial governments; Private sector; Not-for-profit organizations	Drought; Flooding; Fire events; Extreme weather events

GOVERNMENT OF CANADA ADAPTATION ACTION PLAN TABLE						
NAS System	**Federal Action**	**Lead Department/Agency**	**Status**	**NAS Objective(s)**	**Audience**	**Climate Risk**
Economy and Workers	Climate Change Adaptation Program	Natural Resources Canada	Existing	Economy and Workers 1; Economy and Workers 2; Economy and Workers 3; Economy and Workers 4; Foundational 4; Foundational 5; Foundational 10	Provincial governments; Territorial governments; Indigenous communities and organizations; Not-for-profit organizations; Private sector; Academia	All climate risks
Economy and Workers	Using Scenario Analysis to Assess Climate Risk	Bank of Canada; Office of the Superintendent of Financial Institutions	Existing	Economy and Workers 4	Private sector	All climate risks
Economy and Workers	Climate Resilient Mining Program	Natural Resources Canada	Existing	Economy and Workers 1; Nature and Biodiversity 1	Private sector	Extreme weather events
Economy and Workers	Rail Climate Change Adaptation Program	Transport Canada	Existing	Economy and Workers 2	Federally regulated organizations; Provincially regulated organizations	Flooding; Fire events; Extreme weather events; Permafrost thaw and degradation
Economy and Workers	Sectoral Workforce Solutions Program	Economic and Social Development Canada	Existing	Economy and Workers 3	Provincial governments; Territorial governments; Municipal governments; Indigenous communities and organizations; Not-for-profit organizations; Private sector	All climate risks
Economy and Workers	Agricultural Climate Solutions – On-Farm Climate Action Fund	Agriculture and Agri-Food Canada	Existing	Economy and Workers 2	Provincial governments; Territorial governments; Indigenous communities and organizations; Not-for-profit organizations; Private sector; Agricultural producers	Drought; Habitat degradation and species losses; Changing freshwater, ocean and marine conditions
Economy and Workers	Agricultural Climate Solutions – Living Labs	Agriculture and Agri-Food Canada	Existing	Economy and Workers 3	Agricultural producers; Academic institutions; Private sector; Not-for-profit organizations	Drought; Habitat degradation and species losses; Changing freshwater, ocean and marine conditions
Knowledge and Understanding	Expansion of foundational climate data, information, science and communications	Environment and Climate Change Canada	Existing	Foundational 1	All Canadians	All climate risks
Knowledge and Understanding	Indigenous Community-based Climate Monitoring	Crown-Indigenous Relations and Northern Affairs	Existing	Foundational 1; Foundational 2	Indigenous groups	All climate risks; Changing freshwater, ocean and marine conditions; Changing snow, glacier and ice conditions; Habitat degradation and species losses

GOVERNMENT OF CANADA ADAPTATION ACTION PLAN TABLE						
NAS System	**Federal Action**	**Lead Department/Agency**	**Status**	**NAS Objective(s)**	**Audience**	**Climate Risk**
Knowledge and Understanding	Canada's National Assessment Process (*Canada in a Changing Climate: Advancing our Knowledge for Action*)	Natural Resources Canada	Existing	Foundational 1; Foundational 3	All Canadians	All climate risks
Knowledge and Understanding	Canadian Centre for Climate Services	Environment and Climate Change Canada	Existing	Foundational 3	All Canadians; Academic institutions	All climate risks
Knowledge and Understanding	Climate Science 2050	Environment and Climate Change Canada	Existing	Foundational 1; Foundational 2	All Canadians; Academic institutions	All climate risks
Knowledge and Understanding	Climate science to inform risk assessment and adaptation planning	Environment and Climate Change Canada	Existing	Foundational 1	All Canadians; Academic institutions	All climate risks
Knowledge and Understanding	The Meteorological Service of Canada's work in response to hazards	Environment and Climate Change Canada	Existing	Foundational 1; Foundational 3	All Canadians	Extreme weather events; Flooding; Extreme heat events; Air quality; Changing freshwater, ocean and marine conditions
Knowledge and Understanding	Aquatic Climate Change Adaptation Services Program	Fisheries and Oceans Canada	Existing	Foundational 1	Communities; Academic institutions; Natural resource managers	Sea level; Changing freshwater, ocean and marine conditions; Changing snow, glacier and ice conditions; Habitat degradation and species losses
Knowledge and Understanding	Enhancing Sustainable Forest Management Practices Program	Natural Resources Canada	Existing	Foundational 1	Natural resource managers	Habitat degradation and species losses; Fire events
Knowledge and Understanding	*Resourceful, Resilient, Ready: Canada's Strategy for Satellite Earth Observation*	Canadian Space Agency; Natural Resources Canada; Environment and Climate Change Canada	Existing	Foundational 1	Provincial governments; Territorial governments; academic institutions; Indigenous communities and organizations; Private sector	Air quality; Flooding; Fire events; Infectious diseases; Food security; Drought; Extreme weather events; Permafrost thaw and degradation; Changing freshwater, ocean and marine conditions; Changing snow, glacier and ice conditions
Knowledge and Understanding	Agroclimatic data, analysis and the Canadian Drought Monitor	Agriculture and Agri-Food Canada	Existing	Foundational 3	All Canadians	Drought; Extreme weather events
Tools and Resources	Advancing Municipal Adaptation Action through the Green Municipal Fund	Environment and Climate Change Canada	Existing	Foundational 4; Foundational 5; Foundational 6	Municipalities	All climate risks; Flooding; Fire events; Extreme heat events

GOVERNMENT OF CANADA ADAPTATION ACTION PLAN TABLE						
NAS System	**Federal Action**	**Lead Department/Agency**	**Status**	**NAS Objective(s)**	**Audience**	**Climate Risk**
Tools and Resources	Climate Change Preparedness in the North	Crown-Indigenous Relations and Northern Affairs	Existing	Foundational 4; Foundational 5; Foundational 6	Indigenous communities and organizations; Communities; Territorial governments; Academic institutions; Not-for-profit organizations	Extreme weather events; Permafrost thaw and degradation; Changing snow, glacier and ice conditions; Habitat degradation and species losses; Food security
Tools and Resources	First Nation Adapt	Crown-Indigenous Relations and Northern Affairs	Existing	Foundational 4; Foundational 5; Foundational 6	Indigenous communities and organizations	Flooding; Erosion; Extreme weather events
Governance and Leadership	NATO Climate Change and Security Centre of Expertise	Global Affairs Canada; Department of National Defence	Existing	Foundational 10	International organizations	All climate risks
Governance and Leadership	Indigenous Climate Leadership	Crown-Indigenous Relations and Northern Affairs	Existing	Foundational 8	Indigenous communities and organizations	All climate risks
Governance and Leadership	Integrated Climate Lens	Environment and Climate Change Canada	Existing	Foundational 10	Federal government	All climate risks
Governance and Leadership	Greening Government Strategy	Treasury Board of Canada Secretariat	Existing	Foundational 10; Nature and Biodiversity 1; Nature and Biodiversity 4; Infrastructure 2; Infrastructure 4; Economy and Workers 5	Federal government	All climate risks; Extreme weather events; Habitat degradation and species losses; Changing freshwater, ocean and marine conditions

Annex 4: National Adaptation Strategy goals, objectives, and targets

NATIONAL ADAPTATION STRATEGY SYSTEMS

DISASTER RESILIENCE					
Goal	Communities and all people living in Canada are better prepared to prevent, mitigate, respond to, and recover from the hazards, risks and consequences of disasters linked to the changing climate; the well-being and livelihoods of people living in Canada are better protected; and overall disaster risks have been reduced, particularly for vulnerable sectors, regions, and populations at greater risk.				
Objectives	**Disaster Resilience 1** There is a measurable reduction of people in Canada impacted by acute and slow-onset climate-related hazards, with due consideration to how vulnerable communities can better access resources and support systems.	**Disaster Resilience 2** Effective, efficient, and accountable governance mechanisms are established for stronger disaster risk reduction coordination through a whole of society approach.	**Disaster Resilience 3** All communities are able to implement timely and successful emergency response plans that are readily accessible to everyone in the event of a disaster.	**Disaster Resilience 4** National, provincial, territorial, and regional readiness, mitigation, and recovery plans and policies integrate the latest evidence informed by risk and resilience assessments as well as local and Indigenous knowledge and are inclusive of the whole of society.	**Disaster Resilience 5** People affected by disasters face minimal disruptions to lives and livelihoods and are presented with possible long-term housing solutions within a reasonable period of time.
Targets	By 2025, 60% of Canadians including northerners and Indigenous Peoples, are aware of the disaster risks facing their household. By 2028, the federal government, provinces, and territories have worked collaboratively to prioritize at least 200 higher-risk flood areas for new flood hazard maps / regional level modelling and have taken evidence-based risk mitigation actions in accordance with scientific guidance. By 2025, 50% of Canadians have taken concrete actions to better prepare for and respond to climate change risks facing their household.	By 2025, a federally-led table that includes federal, provincial, and territorial governments and Indigenous partners have engaged regularly to align and coordinate emergency management adaptation activities to promote disaster resilience.	Communities, including northern and Indigenous communities, in zones of high risk, as identified by provinces and territories, develop wildfire community prevention and mitigation plans by 2030, with up to 15% implemented by 2028.		By 2028, a national recovery strategy is developed which sets out shorter timeframes for displaced individuals to be able to return to their homes or resettle after climate change disaster events. By 2025, complete the modernization of the Disaster Financial Assistance Arrangements to incentivize disaster risk reduction and improve recovery outcomes from large-scale disasters.

HEALTH AND WELL-BEING				
Goal	The health of all people in Canada is safeguarded and supported by a climate-resilient and adaptive health sector that has robust and agile systems and services that account for and support the diverse components of well-being.			
Objectives	**Health and Well-being 1** Health systems have the expertise, knowledge and resources needed to identify climate change-related risks and take equitable, evidence-based action to protect health.	**Health and Well-being 2** Health authorities have identified the extent to which climate change is impacting health and have established methods for tracking future health impacts and evaluating progress towards protecting health and reducing risks.	**Health and Well-being 3** People are protected from urgent climate-related health risks such as extreme heat, infectious diseases, wildfire smoke, foodborne hazards and impacts to traditional foods, poor mental health outcomes and others.	**Health and Well-being 4** Climate action across all sectors promotes good health and prioritizes measures that have multiple benefits (e.g., protecting health and improving environmental sustainability).
Targets	By 2030, health systems have identified risks, developed adaptation plans and are measuring progress towards climate resilience.		By 2026, 80% of health regions[5] will have implemented evidence-based adaptation measures[6] to protect health from extreme heat. By 2040, deaths due to extreme heatwaves have been eliminated.	By 2030, consideration of health impacts and benefits are integrated into key climate change tools, guidelines and standards.
NATURE AND BIODIVERSITY				
Goal	Biodiversity loss has been halted and reversed and nature has fully recovered allowing for natural and human adaptation, where ecosystems and communities are thriving together in a changing climate, with human systems existing in close connection with natural systems.			
Objectives	Nature and Biodiversity 1 Human activities are transformed to halt and reverse biodiversity loss and enhance ecosystem connectivity and resilience.	Nature and Biodiversity 2 The ecosystems most affected by climate change are monitored, restored and managed to ensure their continued viability and adaptive capacity.	Nature and Biodiversity 3 First Nations, Inuit and Métis governments, organizations, and communities have the opportunities and means to pursue self-determined priorities for ecosystem stewardship initiatives to adapt to climate change.	Nature and Biodiversity 4 The use of nature-based solutions is accelerated to increase resilience and maximize co-benefits such as reducing stress on grey infrastructure, increasing social benefits of nature, and climate change mitigation.
Targets	Conserve 25% of our lands and waters by 2025 and 30% of each by 2030, working to halt and reverse nature loss by 2030 in Canada. Recognize and support at least 3 ecological corridors by 2025, to improve ecological connectivity between protected and conserved areas.	Establish 15 new national urban parks by 2030 to conserve nature, connect people with nature, and advance reconciliation with Indigenous Peoples.	By 2026, support new and existing Guardians initiatives, establish new Indigenous Guardians Networks, and support Indigenous communities to build capacity to establish more Indigenous Protected and Conserved Areas.	

INFRASTRUCTURE				
Goal	All infrastructure systems in Canada are climate-resilient and undergo continuous adaptation to adjust for future impacts to deliver reliable, equitable, and sustainable services to all of society.			
Objectives	**Infrastructure 1** Technical standards, planning and decision-making processes have been updated or developed to embed climate change in all decisions to locate, plan, design, manage, adapt, operate, and maintain infrastructure systems across their lifecycle.	**Infrastructure 2** Public and private infrastructure decision-making is informed by system-wide assessments of, and planning for, current and emerging climate change risks.	**Infrastructure 3** Infrastructure decisions prioritize benefits for marginalized populations and communities at highest risk of climate change impacts.	**Infrastructure 4** All new investments in infrastructure apply resilience criteria and adopt climate change guidance, standards, and future design data to maximize the long-term benefits of infrastructure outcomes.
Targets	By 2030, robust guidance, codes and standards covering the top climate change risks for key public infrastructure systems are available to be adopted by all infrastructure decision-makers. By 2026, additional climate change resiliency considerations are incorporated into 3 Canadian Codes (National Building Code, Canadian Highway Bridge Design Code, and Canadian Electrical Code).	By 2030, 80% of public and municipal organizations have factored climate change adaptation into their decision-making processes.	The Government of Canada, in partnership with First Nations, Inuit and Métis will continue to make immediate and long-term investments to support ongoing work to close the infrastructure gap by 2030.	Starting in 2024, resilience to climate change impacts is factored into all new federal infrastructure funding programs.

ECONOMY AND WORKERS					
Goal	Canada's economy is structured to anticipate, manage, adapt, and respond to climate change impacts; and to actively advance new and inclusive opportunities within a changing climate, particularly for communities at greater risk, Indigenous Peoples, and vulnerable economic sectors.				
Objectives	**Economy and Workers 1** The business case for adaptation is advanced through research and the knowledge is accessible, tailored, culturally appropriate, and useful.	**Economy and Workers 2** Policy and financial instruments provide the right incentives and remove disincentives for proactive adaptation.	**Economy and Workers 3** Canada has a skilled, diverse, and adaptable workforce that is supported by education, training, knowledge and skills development to respond to future impacts of climate change, including within Indigenous and northern economies.	**Economy and Workers 4** Economic sectors most vulnerable to the impacts of climate change routinely assess climate change impacts on the operating environment and incorporate adaptation considerations into decisions.	**Economy and Workers 5** Adaptation increases the resiliency and reliability of Canada's supply chains in the face of climate change impacts which strengthens Canadian competitiveness and supports robust and sustainable economic growth.

Targets			By 2027, 70% of the members of relevant professional associations (e.g., civil engineers, planners, landscape architects, accountants, and others) have the capacity to apply climate change adaptation tools and information and communicate the business case for adaptation measures to their clients or target audiences.	By 2027, 80% of highly exposed businesses include adaptation to climate change in plans and strategies in order to strengthen their competitiveness. Sectors at highest risk include forestry, agriculture, fisheries, energy, mining, transportation, and tourism. By 2027, 80% of coastal communities and 60% of businesses located in coastal regions are implementing adaptation actions to increase climate resilience and reduce the economic impacts of climate change.	

FOUNDATIONAL

KNOWLEDGE AND UNDERSTANDING			
Objectives	**Foundational 1** A robust evidence base for adaptation is in place through development, stewarding and sharing of existing and new data, knowledge (including Indigenous Knowledge and local knowledge), environmental and socio-economic analyses, and other ways of knowing.	**Foundational 2** Indigenous knowledge systems and science are fairly and sustainably invested in, and ethical and equitable engagement is upheld in adaptation knowledge co-production, in line with First Nations, Inuit, and Métis, research protocols and data sovereignty.	**Foundational 3** Everyone in Canada is informed about climate risks and vulnerabilities. Available information is accessible, easy to understand, and designed for different audiences.
Targets			By 2024, over 180,000 people in Canada per year access climate services to support adaptation decision making.
TOOLS AND RESOURCES			
Objectives	**Foundational 4** Everyone in Canada has equitable access to the tools and supports needed to prepare for, reduce, and respond to climate change impacts.	**Foundational 5** Sustained, sufficient, and equitable public and private funding is in place to support adaptation to climate change.	**Foundational 6** Local, regional, and institutional capacity for adaptation contributes to self-sufficiency and participation in adaptation actions.
Targets	By 2030, all northern and Indigenous communities have resources to develop, or have access to, culturally appropriate tools and information to address climate risks.		

GOVERNANCE AND LEADERSHIP				
Objectives	**Foundational 7** Effective governance for climate change adaptation is established and is inclusive of people who are disproportionately impacted by climate change.	**Foundational 8** First Nations, Inuit and Métis are prepared for and have the capacity to respond to climate change through self-determined adaptation actions that are grounded in their cultures, preferences, and community priorities.	**Foundational 9** Adaptation efforts improve social connections and reduce isolation and support cultural practices and places to enhance overall community resilience to climate change.	**Foundational 10** Innovative solutions, through exchange of best practices and cross-jurisdictional cooperation, enhance adaptation outcomes across the country and position Canada as a global leader in supporting climate resilience.

Annex 5: Key terms and concepts

Adaptation

In human systems, the process of adjustment to actual or expected climate and its effects, in order to moderate harm or exploit beneficial opportunities. In natural systems, the process of adjustment to actual climate and its effects; human intervention may facilitate adjustment to expected climate and its effects.

Adaptive Capacity

The ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities, or to respond to consequences.

Co-benefits

The positive effects that a policy or measure aimed at one objective might have on other objectives, thereby increasing the total benefits for society or the environment. Co-benefits are often subject to uncertainty and depend on local circumstances and implementation practices, among other factors. Co-benefits are also referred to as ancillary benefits.

Climate-related hazards

The potential occurrence of a [climatic] event or trend that may cause loss of life, injury or other health impacts, as well as damage and loss to property, infrastructure, livelihoods, service provision, ecosystems and environmental resources.

Ecosystem Goods and Services

Ecosystem goods and services include the tangible goods (e.g., fish, timber) and less tangible services (e.g., clean air, productive soil) that arise from ecosystem structures and functions and that provide benefits to people.

Exposure

The presence of people, livelihoods, species or ecosystems, environmental functions, services and resources, infrastructure, or economic, social or cultural assets in places and settings that could be adversely affected.

Disaster Risk Reduction (DRR)

The substantial reduction of disaster risk and losses in lives, livelihoods and health, as well as in the economic, physical, social, cultural and environmental assets of persons, businesses, communities and countries.

Emergency Management (EM)

The prevention and mitigation of, preparedness for, response to and recovery from emergencies.

Green/Natural Infrastructure

The interconnected set of natural and constructed ecological systems, green spaces and other landscape features. It includes planted and indigenous trees, wetlands, parks,

green open spaces and original grassland and woodlands, as well as possible building and street-level design interventions that incorporate vegetation. Green infrastructure provides services and functions in the same way as conventional infrastructure.

Hazard

A potentially damaging physical event, phenomenon or human activity that may cause the loss of life or injury, property damage, social and economic disruption or environmental degradation.

Health System

Individuals, organizations, groups, communities, all orders of government, Indigenous health organizations and others who contribute to improving the health and well-being of populations make up Canada's complex health system. This includes, for example, Indigenous health organizations, local/municipal health authorities, provincial and territorial ministries of health, national and provincial/territorial health organizations and institutions, federal agencies and departments whose responsibility is the management of risks that may impact population health or funding research, health and allied health professionals and associations, healthcare and public health service providers, non-governmental organizations and community-based organizations, universities, laboratories and research institutions, media, private sector and industry partners.

Infrastructure

Includes new and existing assets, as well as grey infrastructure, hybrid and natural infrastructure.

Infrastructure systems

Sets of built and nature-based infrastructure assets that together deliver key services, and which share vulnerabilities and interdependencies, within and across the built environment, natural systems such as ecosystems and watersheds, jurisdictions and transboundary territories.

Infrastructure services

Includes the provision and support for health care, utilities, water and wastewater, telecommunications, emergency services, trade and transportation routes and power (among others).

(Disaster) Mitigation

Sustained actions taken to eliminate or reduce risks and impacts posed by hazards well before an emergency or disaster occurs; mitigation activities may be included as part of prevention. Measures may be structural (e.g., flood dikes) or non-structural (e.g., land use zoning and building codes).

(Greenhouse Gas) Mitigation

A human intervention to reduce emissions or enhance the sinks of greenhouse gases.

Nature-based Solutions

Nature-based solutions are actions to protect, sustainably manage and restore natural or modified ecosystems which address societal challenges effectively and adaptively, simultaneously providing human well-being, ecosystem resilience and biodiversity benefits.

Preparedness

A phase of emergency management consisting in making decisions and taking measures before an emergency in order to be ready to effectively respond and recover.

Prevention

Actions taken to avoid the occurrence of negative consequences associated with a given threat; prevention activities may be included as part of mitigation.

Resilience

The capacity of social, economic and environmental systems to cope with a hazardous event, trend or disturbance, responding or reorganizing in ways that maintain their essential function, identity and structure while maintaining the capacity for adaptation, learning and transformation.

Risk

The combination of the likelihood and the consequence of a specified hazard being realized; refers to the vulnerability, proximity or exposure to hazards, which affects the likelihood of adverse impact.

Vulnerability

The propensity or predisposition to be adversely affected. Vulnerability encompasses a variety of concepts and elements including sensitivity or susceptibility to harm and lack of capacity to cope and adapt.

Annex 6: Detailed Government of Canada adaptation actions

Disaster resilience

Action 1: **Wildfire Resilient Futures Initiative**

Lead department: Natural Resources Canada
Implements objective: Disaster Resilience 1, 4
Status: Existing Action

The scope, scale and impact of wildland fire is increasing as our climate changes, placing lives, communities, economic activity, infrastructure and more, at risk each year. The Wildfire Resilient Futures Initiative will invest in long-term wildfire resilience, including community prevention and mitigation (i.e., enhancing FireSmart Canada), and developing evidence-based approaches to enhance and support community resilience as the nature and behaviour of wildfires change over time. The initiative will also establish a Centre of Excellence for Wildland Fire Innovation and Resilience to mobilize knowledge, increase uptake of innovations in technology and training, support Indigenous fire stewardship, and help strengthen wildland fire management in Canada and around the world.

Action 2: Advancing the Flood Hazard Identification and Mapping Program

Lead department: Natural Resources Canada
Implements objective: Disaster Resilience 1, 4
Status: Existing Action

Floods are the most commonly occurring natural hazard in Canada and account for the largest portion of disaster recovery costs on an annual basis. The Flood Hazard Identification and Mapping Program (FHIMP), administered by Natural Resources Canada (NRCan) with support from Environment and Climate Change Canada (ECCC) and Public Safety Canada (PS), aims to meet the Minister of Natural Resources' mandate commitments to develop flood maps for higher-risk areas in collaboration with provinces and territories (PTs) and to advance work to complete flood mapping nation-wide. In doing so, the FHIMP will ensure that flood hazard maps and information are made available to all Canadians.

Advancing the Flood Hazard Identification and Mapping Program will allow NRCan and supporting partners to continue to collaborate with PTs and other organizations to provide regulatory-quality flood hazard maps and scientific modelling to ensure that Canadians have access to free, up-to-date, high-quality flood hazard maps, which will have a direct, positive impact on their safety and security. Foundational data and scientific modelling developed by NRCan, and partners will contribute to the creation of regulatory-quality flood hazard maps that will inform decision-making in support of flood mitigation, adaptation to a changing climate, resilience building and protection of lives and properties.

Action 3: Flood Insurance and Relocation

Lead departments:	Public Safety Canada; Canada Housing and Mortgage Cooperation
Implements objectives:	Disaster Resilience 1, 2, 4, 5
Status:	Expanded Action

Homeownership now comes with the burdens of paying for the costs of climate change, due to the increasing frequency and severity of natural disasters. Therefore, there is a need to establish a flood insurance program which will help Canadians access insurance coverage and protect their home in a way that is affordable.

Budget 2024 announced the government's intention to establish a subsidiary of the Canada Mortgage and Housing Corporation (CMHC) to deliver flood reinsurance. To advance this commitment, Budget 2024 proposed to provide $15 million to the CMHC in 2025-26 to advance implementation of a national flood insurance program.

The government is also advancing work with provinces and territories, in partnership with the insurance industry, to stand-up a low-cost flood insurance program for high-risk properties within the next twelve months.

Action 4: Disaster Financial Assistance Arrangements

Lead department:	Public Safety Canada
Implements objective:	Disaster Resilience 5
Status:	Existing Action

In the event of a large-scale natural disaster, the Government of Canada provides financial assistance to provincial and territorial governments through the Disaster Financial Assistance Arrangements (DFAA).

When response and recovery costs exceed what individual provinces or territories could reasonably be expected to bear on their own, the DFAA provide the Government of Canada with a fair and equitable means of assisting provincial and territorial governments.

As of March 2024, the Government of Canada has provided over $9 billion in post disaster assistance to help provinces and territories with the costs of response and returning infrastructure and property to pre-disaster condition.

Budget 2023 proposed $48.1 million over five years, starting in 2023-2024, to identify high-risk flood areas and implement a modernized DFAA program which would incentivize mitigation efforts. This work is being informed by the findings and recommendations of an independent advisory panel and the input of provinces and territories. A modernized program will be launched in April 2025.

Action 5: **Flood Risk Awareness Portal**

Lead department: Public Safety Canada
Implements objective: Disaster Resilience 4
Status: Existing Action

Budget 2023 proposed to provide $15.3 million over three years to create a publicly accessible online portal where Canadians can access information on their exposure to flooding. The Portal will leverage recently published Public Safety Canada risk assessment work that has been presented to international audiences and will incorporate state-of-the-art flood modelling and data science to present clear, consistent flood hazard information for all Canadians to motivate risk reduction actions. The Public Safety Canada team is working collaboratively with other departments to ensure alignment with other federal initiatives and disaster risk websites such as RiskProfiler and Geo. The Portal is a key component linked to several other evidence-based initiatives at Public Safety Canada aimed at increasing the resilience of Canada, and Canadians, to disaster risks.

Disaster Awareness and Communications

Action 6: National Risk Profile

Lead department: Public Safety Canada
Implements objective: Disaster Resilience 4
Status: Existing Action

A strategic national disaster risk and capability assessment that uses scientific evidence and stakeholder input to assess representative scenarios, gather data from participants with relevant knowledge and expertise and create a forward-looking picture of risk to strengthen resilience to natural and other hazards. A public report was released on May 11, 2023, as part of Emergency Preparedness Week, which is based on input and evidence from whole-of-society stakeholders across Canada and provides a foundation for understanding disaster risk from the three costliest hazards facing Canadians: earthquakes, wildland fires, and floods.

Evidence and stakeholder input that is gathered though the National Risk Profile advances the integration of climate change adaptation into emergency management, informing decision-making and strategic investments for disaster risk reduction and resilience building. This integration can help improve efficiencies across the emergency management system, leverage and align our collective emergency management and climate change adaptation expertise, better prepare communities for emergency preparedness and climate related disasters and help support greater mechanisms for a timely response and recovery.

By serving as an evidence-based review of these key disaster risks, the National Risk Profile report is a useful resource for emergency management practitioners, decision-makers and the public. It identifies key gaps in the emergency management system to generate a dialogue on how to support informed decision-making to reduce risk and build resilience, which is a goal of the NAS.

Action 7: National Public Alerting System

Lead department: Public Safety Canada
Implements objectives: Disaster Resilience 1, 3
Status: Existing Action

The National Public Alerting System provides emergency management organizations across the country with the capability to rapidly warn the public of imminent or unfolding hazards to life. It delivers critical and potentially life-saving alerts to Canadians through television, radio and compatible wireless devices. Public Safety Canada is leading collaborative federal, provincial and territorial efforts to strengthen governance, sustainability and guidelines around the usage of the National Public Alerting System to maintain a public alerting system for all Canadians that is reliable, accessible, inclusive and trusted.

By providing proactive emergency alerting, the national public alerting system helps communities to implement timely emergency response plans in the event of a disaster thereby minimizing the immediate impacts of climate-related hazards. On May 8, 2024, a test of the National Public Alerting System was sent out in most provinces and territories over TV, radio and wireless networks. As part of this test, Public Safety Canada sent the test message in select jurisdictions simultaneously.

Action 8: Emergency Preparedness Week

Lead department: Public Safety Canada
Implements objective: Disaster Resilience 4
Status: Existing Action

Emergency Preparedness (EP) Week is a national event supported by Public Safety Canada, working closely with provincial and territorial emergency management organizations, Indigenous organizations, non-governmental organizations, and private sector organizations who support activities at the local level. An annual event for over 25 years, it traditionally takes place during the first full week of May. EP Week encourages Canadians to take three simple steps to become better prepared to face a range of emergencies, including (1) Know the risks, (2) Make a plan and (3) Get an emergency kit.

Every year, EP Week serves as an opportunity to remind Canadians of the importance of being prepared for any emergency situation that could occur. It is an opportunity to reflect on how actions at the individual and community level can help reduce the impact of disasters and improve overall resiliency.

The past several years have highlighted the fact that emergency preparedness has a greater scope than just weather events. From May 5 to 11, 2024, EP Week provided an opportunity for Canadians to take action to ensure they are prepared to protect themselves, their families, and their communities during an emergency. This year, the theme was Be Prepared. Know Your Risks. The intent of the theme was to encourage Canadians to understand the risks in their area and learn what actions they can take to protect themselves and their families.

Overall, this event promotes local adaptation action, and encourages people in Canada to develop and maintain readiness, mitigation and recovery plans and policies that integrate the latest evidence and enable them to prepare themselves to face emergencies as they emerge.

Action 9: Federal Emergency Response Plan

Lead department: Public Safety Canada
Implements objective: Disaster Resilience 2
Status: Existing Action

The Federal Emergency Response Plan (FERP) is the all-hazards framework that guides federal emergency response operations. It outlines federal governance, roles and responsibilities, including alignment with those of the provinces and territories, non-governmental organizations, and the private sector. The FERP is activated when an emergency impacts multiple jurisdictions, federal assets, services, employees, etc. are implicated, the National interest is affected and when a request for federal assistance is received. Federal response plans developed by other departments should align with the FERP, which applies to all-hazards domestic events, or international events that have a domestic impact. Moving forward, efforts will need to be made to address gaps in defining roles and responsibilities which align on the nature of the event, clarity on governance and departmental authorities, and greater preparedness and capacity to respond when events arise.

Action 10: Wildfire Risk Management

Lead department: Natural Resources Canada
Implements objectives: Disaster Resilience 1, 2
Status: Existing Action

NRCan provides wildfire information and expertise to Canada's fire management agencies, delivering essential services (such as fire modeling, mapping and monitoring, and fire behaviour, risk and growth assessments) and helping to build understanding of how climate change is affecting forests, wildfire and wildfire management now and in the future. These tools help fire managers make decisions on best fire response and allocation of firefighting resources. In addition, through cooperative efforts like the Canadian Council of Forest Ministers and the Canadian Interagency Forest Fire Centre, NRCan works in close partnership with the provinces and territories to develop collective wildland fire management approaches and strategies that address the growing challenge of increasing forest fires across the country.

Advancing Emergency Management Implementation

Action 11: Advancing the Federal-Provincial-Territorial Emergency Management Strategy: Areas for Action

Lead department: Public Safety Canada
Implements objective: Disaster Resilience 2
Status: Existing Action

In March 2022, FPT Ministers responsible for emergency management released the *2021-22 Federal, Provincial, and Territorial Emergency Management (FPT EM) Strategy Interim Action Plan*. The plan is the first in a series of action plans to 2030. It will advance defined outcomes within the Emergency Management Strategy for Canada and demonstrate concrete steps that federal, provincial and territorial governments and respective emergency management partners, can take to advance disaster resilience.

In February 2024, Ministers approved the release of the *Advancing the Federal-Provincial-Territorial Emergency Management Strategy: Areas for Action*. This new, evergreen action plan advances work in the five priority areas of activity delineated in the Emergency Management Strategy. This Strategy sets out a first-ever shared federal-provincial-territorial vision for strong, resilient communities and calls for strengthened collaboration among all partners in emergency management, in accordance with each government's respective priorities, roles and responsibilities.

Action 12: Heavy Urban Search and Rescue (HUSAR) Program

Lead department: Public Safety Canada
Implements objective: Disaster Resilience 3
Status: Existing Action

The federal government provides investments to help eligible provinces and municipalities obtain the equipment and extensive training needed to sustain this specialized search and rescue capacity that is often critical in the aftermath of various incidents including earthquakes, cyclones, tornadoes, storms, flooding, wildland fires and critical infrastructure failures. There are currently six HUSAR Task Forces across Canada supported through this program.

The HUSAR program ensures that Canada's national approach to emergency management is increasingly reflective of the needs of all partners and the changing risk environment. As growing cities, aging infrastructure and climate variability increase across the country, ensuring sufficient HUSAR capacity is critical.

Action 13: Humanitarian Workforce

Lead department: Public Safety Canada
Implements objectives: Disaster Resilience 2, 3, 5
Status: Existing Action

The Humanitarian Workforce (HWF) program helps eligible organizations build surge capacity and deploy resources to respond to emergencies, including the COVID-19 pandemic or other large-scale emergencies, such as wildfires and floods. For example, this program can provide funding

for a non-governmental organization (NGO) to temporarily deploy nurses to assist with vaccination, following a Request for Federal Assistance from a province or territory.

As part of its response to the COVID-19 pandemic, the Government of Canada has committed $150 million between 2021-2023 to support the Canadian Red Cross and other NGOs in building and maintaining a humanitarian workforce to provide surge support in response to the pandemic and other large-scale emergency events in Canada.

This program addresses the evolving disaster landscape and looks to improve the Government of Canada's current response capacity through building a civilian response capacity to respond to emergency events. Work is underway to build a broader civilian response capacity to further enhance Canada's capacity to respond to climate change events, bolster response capacity to all hazards, including future climate related events. The goal is to ultimately help the Government of Canada adapt to the changing risk environment, reduce disaster consequences and improve resiliency.

Action 14: Parks Canada Wildfire Management Program

Lead department:	Parks Canada Agency
Implements objectives:	Disaster Resilience 1, 2, 3, 4
Status:	Existing Action

Parks Canada is the only federal organization that manages and responds to wildfire on the ground, with similar roles and capabilities as any provincial-territorial wildfire agency. As the largest federal land manager, Parks Canada is responsible for managing wildland fire across 350,195 km2 of federal Crown lands (approximately the size of Germany or six times the land mass of Nova Scotia). Parks Canada (along with NRCAN) is a member of the Canadian Interagency Forest Fire Centre (CIFFC) and a member of its Board of Directors. As such, Parks Canada provides operational wildfire resources (equipment and personnel) to provinces, territories and international partners through CIFFC and other resource exchange agreements. This close partnership with provinces and territories will help address the growing challenge associated with climate change and the increased frequency and intensity of extreme weather-related events and disasters such as wildfires.

The Parks Canada wildfire management program integrates adaptation actions in all aspects of wildfire management, and aims to make communities safer, protect national parks and create landscapes that are more resilient to climate change by proactively investing in wildfire preparedness, response and mitigation.

With climate change impacts increasing wildfire risks, Budget 2021 provided an investment of $52.5 million over five years in new funding to Parks Canada to enhance its wildfire management program. With the additional investment, Parks Canada continues to build its' wildfire management capacity through several activities such as:

- sharing resources, training and expertise with partners
- preparing for longer fire seasons resulting from climate change
- increasing governmental capacity to train and retain highly specialized personnel
- increasing response, mitigation and planning capacity
- increasing the scope and accelerating the pace of wildfire risk reduction efforts across the country, with a particular focus on the communities located within and directly adjacent to PC administered places

Evidence and Data on Climate Hazards

Action 15: Statistics Canada to provide data that can be used to support emergency preparedness, response and disasters

Lead department: Statistics Canada
Implements objective: Disaster Resilience 4
Status: Existing Action

A range of Statistics Canada socio-demographic and economic data are currently available for emergency preparedness, response and disasters. Much of these data, including profiles of communities, are available at the neighbourhood level.

Action 16: The Canadian Disaster Database

Lead department: Public Safety Canada
Implements objective: Disaster Resilience 4
Status: Existing Action

The Canadian Disaster Database is a publicly available repository of historical records that describes where and when a significant event occurred, a description of the event, the number of injuries, fatalities, an estimate of associated costs, and other facets when available (e.g., temporary or permanent displacement).

The database contains information on more than 1000 events and can be used to support research, academic activities and decision-making across a breadth of fields including earth sciences, agriculture, climate change, biology and epidemiology, land-use planning, insurance, investment, and the anthropological and sociological aspects of community resilience, among many others.

Action 17: Geoscience supporting public safety and climate change resilience

Lead department: Natural Resources Canada
Implements objective: Disaster Resilience 4
Status: Existing Action

NRCan's Geological Survey of Canada provides evidence for decision-making related to public safety and climate change resilience, through geoscientific data and scientific interpretations.

The Public Safety Geoscience Program aims to understand the hazards and risks to Canadians associated with climate-related hazards, such as terrestrial and marine landslides, and coastal flooding, and works with the Canadian Hazards Information Service on a range of non-climate hazards like earthquakes and space weather. This work contributes to disaster risk reduction actions at local, regional, and national scales.

The Climate Change Geoscience Program aims to better understand the impacts of climate change by conducting geological research on permafrost, coastal erosion, sea level rise and glacier melting. In doing so, the program provides cutting-edge information and data to improve our understanding of how Canada's landmass is affected by climate change in order to support land-use planning, infrastructure development and to help industry and at-risk communities adapt.

Action 18: National Fire Information Database

Lead department: Statistics Canada
Implements objectives: Disaster Resilience 1, 4
Status: Existing Action

The National Fire Information Database (NFID) "Community Fire Risk Reduction Dashboard" is a pilot project to identify fire risk in neighborhood communities in British Columbia. The main objective is to build capacity for fire services to identify and target communities that would benefit most from fire prevention treatments in order to not only prevent fires, but more importantly, to prevent injuries and deaths occurring as a result of fires.

The NFID informs Canadians about fire incidents, fire protection features, circumstances contributing to outbreak, factors relating to origin and spread; fire loss details; discovery of fire and actions taken; fire casualties and other socioeconomic data. Consolidating data from across the country informs a national picture for evidence-based adaptation decision-making.

Action 19: Federal Flood Mapping Guideline Series

Lead department: Natural Resources Canada
Implements objectives: Disaster Resilience 1, 2, 4
Status: Existing Action

In consultation with provincial, territorial, and Indigenous partners and other key stakeholders, NRCan publishes the Federal Flood Mapping Guideline Series to address a lack of national-level guidance on Canada's flood mapping procedures and dissemination. The series consists of evergreen technical references and documents to help advance flood mapping activities across Canada.

Action 20: Emergency Geomatics Services

Lead department: Natural Resources Canada
Implements objective: Disaster Resilience 1, 4
Status: Existing Action

Natural Resource Canada's emergency geomatics and satellite mapping service (EGS) is an integral part of disaster response in Canada. By accessing and analyzing satellite imagery in near real time, EGS produces maps that directly support national coordination of emergency response (i.e., emergency mapping services). These maps provide critical information, such as flood extents, river ice jams and observable damage, to federal, provincial and territorial response teams. They are also used to accumulate accurate knowledge of areas most at risk, informing decision both at the time of emergency and into the future, thereby improving response measures and mitigating the impacts of natural disasters. Through the application of satellite imagery and scientific assessment, EGS supports evidence-based decision-making, operational planning and helps make Canadian communities safer and more resilient.

Action 21: Enhanced mandate for forest mapping of northern forests, and to enhance capacity of the Canadian Interagency Forest Fire Centre

Lead department: Natural Resources Canada
Implements objective: Disaster Resilience 4
Status: Existing Action

The Canadian Interagency Forest Fire Centre (CIFFC) is a not-for-profit corporation owned and operated by the federal, provincial and territorial wildland fire management agencies to coordinate resource sharing, mutual aid and information sharing. In addition, CIFFC serves as a collective focus and facilitator of wildland fire cooperation and coordination nationally and internationally in long-range fire management planning, program delivery and human resource strategies.

Budget 2021 provided investments to expand capacity at the CIFFC and expand the organization's mandate to include wildland fire prevention and mitigation, in addition to its traditional role relating to wildland fire response and operations.

Action 22: WildFireSat

Lead department: Natural Resources Canada
Implements objective: Disaster Resilience 3
Status: Existing Action

Natural Resources Canada, the Canadian Space Agency, and Environment and Climate Change Canada will deliver the WildFireSat Canadian Operational Mission (WildFireSat-COM), a new satellite system that detects and monitors wildfires. This fully funded end-to-end initiative (as outlined in Budget 2022) will serve as a complete information system, observing wildfires during their peak burning period and delivering detailed analysis of fires as fast as possible directly to the operational partners making decisions on the front lines. As a result, Canada's wildfire management agencies will receive unprecedented strategic intelligence on all active wildfires in near real-time. Air quality, smoke, and carbon emissions from wildfires will be better forecasted and monitored (an important requirement of international agreements on carbon reporting), and, ultimately, there will be a significant reduction of the economic and societal risks and losses wildfires can cause.

Financial Support to Address Climate Hazards

Action 23: Sustainable Canadian Agricultural Partnership: AgriRecovery Framework

Lead department: Agriculture and Agri-Food Canada
Implements objective: Disaster Resilience 2, Economy and Workers 3
Status: Existing Action

The AgriRecovery Framework is part of a suite of federal-provincial-territorial (FPT) Business Risk Management (BRM) tools under the five-year (2023-2028) FPT agriculture policy framework, the Sustainable Canadian Agricultural Partnership. AgriRecovery is a disaster relief framework intended to complement other core BRM programs (AgriInsurance, AgriStability and AgriInvest) to help agricultural producers recover from natural disasters. FPT governments work together when natural disasters occur to assess the impacts and determine whether there is need for an AgriRecovery initiative and targeted assistance (cost-shared on a 60:40 basis between the

federal government and participating provinces or territories) to help with the often extraordinary costs of recovery.

Action 24: Government Operations Centre Request for Federal Assistance

Lead department: Public Safety Canada
Implements objective: Disaster Resilience 2, 3
Status: Existing Action

The Government Operations Centre Request for Federal Assistance (RFA) is the Government of Canada's process through which disaster response support, including floods, is provided to provinces and territories. A well-established process exists for managing RFAs through Public Safety which includes interprovincial and interdepartmental consultation and coordination prior to directing a request to a federal organization.

The province or territory submits a formal RFA to describe what they would need in federal government support for a successful emergency response. Public Safety's Government Operations Centre is ready to respond to any situation, at any time. Its "all-hazards" approach to planning, response and support means the Government of Canada can adapt quickly, under any circumstance, when a province or territory requests assistance.

Action 25: Emergency Management Assistance Program

Lead department: Indigenous Services Canada
Implements objectives: Disaster Resilience 1, 5
Status: Existing Action

In partnership with First Nation communities, provincial and territorial governments and non-governmental organizations, Indigenous Services Canada's (ISC) Emergency Management Assistance Program (EMAP) helps communities on reserve access emergency assistance services. Through EMAP, ISC provides direct funding to First Nation communities to mitigate, prepare and respond to hazards and build resiliency using the four pillars of emergency management: Mitigation; Preparedness; Response; and Recovery. The program includes the following funding streams: Capacity Enhancement; FireSmart; Non-Structural Mitigation and Preparedness; and Response and Recovery.

EMAP supports community disaster resilience by providing funding for First Nations and Tribal Councils to hire emergency management coordinators. It also supports non-structural mitigation and preparedness initiatives for small-scale projects undertaken by First Nations communities on-reserve to prepare for and mitigate emergencies and reduce impacts caused by natural disasters.

EMAP supports response and recovery efforts when a First Nation experiences a present or imminent threat that requires prompt coordination of actions to protect the health, safety or welfare of people, or to limit damage to property or the environment. The program reimburses the cost of response and recovery activities due to emergencies, guided by program eligibility criteria.

The EMAP program authorities also enable ISC to provide response and recovery funding to respond to health emergencies caused by natural or accidental hazards, including disaster-related mental health impacts and treatment and primary care needs during emergency events.

To improve wildfire management and adaptation efforts, the FireSmart program stream under EMAP enhances the capacity of First Nations communities to prevent and prepare against wildland fires. This includes providing funding for on-reserve fire suppression services. FireSmart

leverages Indigenous knowledge of the local environment and terrain to improve emergency planning, preparation and response to wildfires.

As it relates to emergency management and preparedness, but also resilient infrastructure investments under action items 45 – First Nation Infrastructure Fund, and 46 – Capital Facilities and Maintenance Program, Budget 2024 proposed:

- $145.2 million to work with First Nations to develop greater climate resiliency and deploy structural mitigation strategies that protect communities, homes, and essential infrastructure from climate disasters, including $10.4 million for Modern Treaty and Self-Governing First Nations.

- $20.9 million to support the First Nations Fire Protection Strategy, 2023 to 2028 by distributing fire alarms and fire extinguishers to homes and community facilities on-reserve, as well as fire-related education programs.

- $9 million to Indigenous government directly affected by the 2023 wildfires in the Northwest Territories.

Action 26: **Federal Investments in Wildfire Management (response and operations)**

Lead department:	Natural Resources Canada
Implements objective:	Disaster Resilience 2, 3, 4
Status:	Existing Action

The Government of Canada has provided critical investments to support wildfire management and response over the last five years. Budget 2022 committed an additional $346.1 million to support provinces and territories in procuring firefighting equipment, providing firefighter training and employment supports, creating a Centre of Expertise in Indigenous Fire Stewardship, and increasing firefighting capacity in First Nations communities. Budget 2021 investments targeted enhanced forest mapping in northern areas at risk of wildfires and enhanced capacity of the Canadian Interagency Forest Fire Centre, Budget 2019 provided $156 million in new emergency management resources, including $38.5 million toward wildland fire management through NRCan. A portion of this investment established the five-year Wildland Fire Resilience Contributions Program, which targets projects for public education and partnerships, information management and tool development (providing fire management agencies with the best available information and science-based tools to support decision-making, increased risk prediction and faster fire response), and protecting forest resources and communities (helping forest-based communities prepare for and respond to extreme fire events).

Health and well-being

Action 27: Protecting the Health of Canadians from Extreme Heat

Lead department: Health Canada
Implements objective: Health and Well-being 3
Status: Existing Action

Since 2008, Health Canada's heat program has worked to increase Canada's ability and capacity to adapt to and reduce the health risks posed by extreme heat. The program has supported the development of heat safety programs called Heat Alert and Response Systems across Canada. Health Canada, with partners such as Environment and Climate Change Canada and provincial public health agencies, works to fill scientific evidence gaps, improve heat health programming and support local level health authorities in adapting to climate change and protecting their communities from extreme heat.

Health Canada's expanded heat program will work to enhance and fulfil the federal role in responding to increasingly dangerous extreme heat. Health Canada is renowned as an international leader in heat health programming and adaptation. With expanded resources, this program would fill critical evidence and guidance gaps hindering adaptive action at local and provincial/territorial levels—particularly related to adapting to indoor heat, the leading cause of heat-related death in Canada. The program would ramp-up Canada's heat health research capacity, speed up the development of innovative, effective and equitable heat health adaptations and increase the support available to health authorities across Canada to access the best available guidance and resources to support real-world measures that protect people and communities.

Action 28: HealthADAPT

Lead department: Health Canada
Implements objectives: Health and Well-being 1, 2, 4
Status: Existing Action

Health Canada's national health adaptation program, HealthADAPT, was launched in 2018 to support health authorities in identifying and addressing the climate risks facing their operations and the health of the communities they serve. Health Canada developed and shared technical guidance with health authorities across Canada and invested approximately $3.5 million in pilot projects with 10 health authorities across five provinces and territories. With Health Canada support, health authorities were able to identify complex risks facing their operations, staff and patients. Projects include innovative efforts to address the mental health impacts of flooding, support safe access to traditional food sources, and identify risks to health facilities and health care delivery.

An expanded HealthADAPT program will build on past success to support partners across Canada in creating climate-resilient health systems. Through research, the development of technical guidance and funding, HealthADAPT will expand support for local and regional level action. An expanded HealthADAPT will also provide the national leadership and support the development of evidence and data needed to protect health from climate change. Recognizing the need to reduce future health risks from climate change, HealthADAPT will support and guide health authorities and stakeholders in improving the environmental sustainability of Canada's health sector.

Health care in Canada is among the most greenhouse gas intensive in the world (about 5% of Canada's national emissions). By supporting health authorities in reducing emissions and adapting to impacts at the same time, HealthADAPT will help partners identify ways to simultaneously protect health, reduce costs and improve sustainability. For example, by working to reduce energy demands, health facilities can become more resilient to extreme events that may disrupt power, while also saving money that can be redirected to patient care.

Action 29: Climate Change and Health Adaptation Program for First Nation and Inuit Communities

Lead department: Indigenous Services Canada
Implements objective: Health and Well-being 1, 3
Status: Existing Action

The Climate Change and Health Adaptation Program supports First Nations south of 60°N, First Nations north of 60°N and Inuit through separate intakes and processes to identify, assess and respond to the health impacts of climate change by funding community-designed and driven projects. Areas of past adaptation projects have focused on traditional food security and access to country food, engagement with Elders and youth, safety while on the land, impacts of extreme weather events, documentation of traditional medicines and mental health impacts of climate change on youth.

Supporting projects focusing on human health and a changing climate, the program enables communities to:

- develop and implement health-related adaptation or action plans
- identify vulnerabilities in the health system and develop plans to address them
- develop knowledge-building and communication materials
- support adaptation decision-making at the local, regional and national levels

As of June 2023, 217 First Nations and Inuit-designed and driven projects across236 different First Nation and Inuit communities have been funded through the Climate Change and Health Adaptation Program, strengthening those communities in their capacity to adapt to the health impacts of climate change.

Action 30: Climate Change Research and Knowledge Mobilization Initiative

Lead department: Canadian Institutes of Health Research
Implements objective: Health and Well-being 1
Status: Existing Action

The Canadian Institutes of Health Research will continue the implementation of Budget 2017 investments in Clean Growth and Climate Change, including the Canadian Lyme Disease Research Network and the Food Security in the Canadian North initiative, as well as deliver commitments with existing resources that support research on environments and health.

Action 31: Infectious Disease and Climate Change Program

Lead department: Public Health Agency of Canada
Implements objective: Health and Well-being 1, 3
Status: Existing Action

The Public Health Agency of Canada's (PHAC) Infectious Disease and Climate Change Program (IDCCP) supports climate change adaptation and resiliency by equipping health professionals, individuals and communities with the information needed to protect and improve health from climate sensitive infectious diseases. Key results include:

- building capacity to advance targeted risk modeling activities on tick- and mosquito-borne diseases to support federal-provincial-territorial decision-making
- creating new risk maps, models and reports
- working with provincial/territorial counterparts to enhance tick-borne and mosquito-borne disease surveillance in Canada
- building capacity within PHAC to support laboratory diagnostics for co-infections related to tick-borne diseases
- advancing public education and awareness activities with a focus on tick bite prevention (e.g., annual awareness campaigns, traveling children's tick exhibit in partnership with the Museum of Science and Technology)

As part of the IDCCP, the Public Health Agency of Canada's IDCC Fund has enabled new and innovative partnerships, tools, capacity building and knowledge mobilization. As of June 2023, the IDCC Fund has invested in 41 projects totaling $14.7 million.

Nature and biodiversity

Action 32: National Urban Parks Program

Lead department: Parks Canada Agency
Implements objective: Nature and Biodiversity 4
Status: Existing Action

National urban parks have tremendous potential, playing an important role in improving access to nature for those living in cities, conserving and sharing cultural heritage, and advancing reconciliation with Indigenous peoples. These parks will support Canada's major cities in developing local solutions to biodiversity loss and dealing with the impacts of climate change, such as floods and extreme heat. The program will help cities adapt to climate change, while contributing to national and global biodiversity targets with innovative solutions that benefit residents, businesses, and local wildlife. National urban parks will help to mitigate threats to infrastructure from extreme weather events, support storm water management and soil quality, and help sequester carbon.

In 2015, the federal government created Canada's first national urban park, Rouge National Urban Park in the Greater Toronto Area, which will protect nearly 80 square kilometres once fully established and provide critical flood protection for Toronto.

To build healthier communities, the federal government is investing to create more natural and green spaces for urban residents. Budget 2024 proposed to provide $36.1 million over five years, starting in 2024-25, with $8.2 million in remaining amortization, and $4.6 million per year ongoing to create Ojibway National Urban Park in Windsor, Ontario

Ojibway National Urban Park, developed in partnership with the City of Windsor and Indigenous partners including the Walpole Island and Caldwell First Nations, is another example of how different orders of government can work together to protect the environment and advance reconciliation.

Action 33: Creation of the Canada Water Agency, strengthening the Freshwater Action Plan, and modernization of the *Canada Water Act*

Lead department: Environment and Climate Change Canada
Implements objective: Nature and Biodiversity 2
Status: Existing Action

Recognizing the threat to freshwater caused by climate change and pollution, the federal government is moving forward to establish a new Canada Water Agency and make major investments in a strengthened Freshwater Action Plan. Strengthening the Freshwater Action Plan, which will be implemented through a new Canada Water Agency, will benefit younger generations and people living around waterbodies who rely on them as their drinking water source, and people working in sectors such as tourism, agriculture, and fisheries that depend on fresh water. An investment of $85.1 million over five years, starting in 2023-24, with $0.4 million in remaining amortization and $21 million ongoing thereafter will support the creation of the Canada Water Agency, which will be headquartered in Winnipeg. By the end of 2023, the government will introduce legislation that will fully establish the Canada Water Agency as a standalone entity.

The Government of Canada will invest $650 million over ten years, starting in 2023-24, to support monitoring, assessment, and restoration work in the Great Lakes, Lake Winnipeg, Lake of the Woods, St. Lawrence River, Fraser River, Saint John River, Mackenzie River, and Lake Simcoe. In addition, the Government of Canada will invest $22.6 million over three years, starting in 2023-24, to support better coordination of efforts to protect fresh water across Canada. The government has also committed to advance the modernization of the *Canada Water Act* to reflect Canada's freshwater reality, including climate change and Indigenous rights, following the establishment of the Canada Water Agency.

Action 34: Natural Climate Solutions Fund

Lead departments:	Natural Resources Canada; Environment Climate Change Canada; Agriculture and Agri-Food Canada
Implements objective:	Nature and Biodiversity 4
Status:	Existing Action

The Natural Climate Solutions Fund ($4 billion) aims to leverage the inherent capacity of natural ecosystems to sequester carbon and reduce atmospheric greenhouse gas concentrations. This fund supports three federal programs: the 2 Billion Trees Program ($3.2 billion), the Nature Smart Climate Solutions Fund ($631 million, with additional funding of $780 million proposed in Budget 2022) and the Agricultural Climate Solutions Program ($185 million, plus $200 million in Budget 2021, with an additional $470 million proposed in Budget 2022) (see Economy and Workers section).

Action 34.1: 2 Billion Trees

Lead department:	Natural Resources Canada
Implements objective:	Nature and Biodiversity 4
Status:	Existing Action

The 2 Billion Trees (2BT) program under the Natural Climate Solutions Fund will invest up to $3.2 billion by 2031 in supporting provinces, territories, third-party organizations (for and not-for profit) and Indigenous organizations to plant two billion trees across Canada. Planting two billion trees across the country will help Canada's efforts to tackle the twin crises of climate change and biodiversity loss, while also contributing to multiple co-benefits such as increasing the resilience of forests to climate change and reducing community risks to natural disasters like flooding and wildfires.

Action 34.2: Nature Smart Climate Solutions Fund

Lead department:	Environment and Climate Change Canada
Implements objective:	Nature and Biodiversity 2
Status:	Existing Action

The Nature Smart Climate Solutions Fund supports projects that conserve, restore and enhance wetlands, peatlands and grasslands to store carbon. Projects will focus on conserving, restoring and enhancing the management of important habitat for migratory birds, species at risk and other species of cultural and/or socio-economic importance to local communities. This program is a $631 million, 10-year fund to protect nature where it protects us. Activities during 2021-22 to 2030-31 will seek to reduce 2-4 megatons of greenhouse gas emissions per year from 2030 to 2050 and onward.

Action 35: Marine Conservation Program

Lead department: Fisheries and Oceans Canada
Implements objective: Nature and Biodiversity 2
Status: Existing Action

The Marine Conservation Program ($976 million) aims to conserve 25% of Canada's oceans by investing in nature-based solutions such as marine protected areas (MPAs) and other effective conservation measures (OECMs). These resources will support the effective management of existing MPAs and OECMs, establishment of new MPAs and OECMs and to continue building on and fostering meaningful partnerships with partners and stakeholders.

MPAs and OECMs are parts of the oceans that are legally conserved and managed to achieve long-term conservation. These area-based conservation measures are increasingly recognized as a tool for maintaining and restoring ecosystem resilience in a changing climate, providing vital ecosystem services, and reducing biodiversity loss. Reaching our domestic conservation targets will require an "all in" effort–-working in partnership with provinces, territories, Indigenous peoples, marine industry stakeholders, environmental non-governmental organizations, academia and local communities.

Action 36: Canada's Enhanced Nature Legacy Program

Lead department: Environment and Climate Change Canada
Implements objective: Nature and Biodiversity 2
Status: Existing Action

Canada's Enhanced Nature Legacy initiative ($2.3 billion) aims to conserve up to 1 million square kilometers of additional land and inland waters to achieve Canada's target to conserve 25% of Canada's land and waters by 2025, including through national wildlife areas, and Indigenous Protected and Conserved Areas; create thousands of jobs in nature conservation and management; accelerate new provincial and territorial protected areas; support Indigenous guardians and take action to conserve priority species at risk of disappearing, including through partnerships with Indigenous Peoples. This work also includes Nature Agreement negotiations with provincial and territorial governments, seeking to increase coordinated action towards federal nature targets (25% by 2025, 30% by 2030, protection of species at risk, etc.).

Action 37: National Program for Ecological Corridors

Lead department: Parks Canada Agency
Implements objective: Nature and Biodiversity 2
Status: Existing Action

The National Program for Ecological Corridors ($60.6 million) supports the identification and recognition of ecological corridors in key areas across Canada. These corridors will help species adapt to climate change and contribute to halting and reversing biodiversity loss. Parks Canada collaborates with other levels of government, partners, experts and Indigenous Peoples to develop national criteria for the identification of corridors and map where they would be beneficial for biodiversity conservation. As the world warms, species will shift their ranges across the landscape. If wildlife populations are isolated in patches of habitat confined to protected areas, they are unlikely to survive in the long term. This program is critical to the maintenance of

ecological integrity of existing protected and conserved areas by helping species and ecosystems adapt to a changing climate.

Action 38: Aquatic Ecosystems Restoration Fund

Lead department:	Fisheries and Oceans Canada
Implements objective:	Nature and Biodiversity 2
Status:	Existing Action

The Aquatic Ecosystems Restoration Fund supports restoration activities that will address climate change's impacts to coastal and marine environments**.** It builds on the success of the Coastal Restoration Fund. The renewed and expanded program will support aquatic ecosystems restoration projects to address the root causes of impacts to coastal and marine environments, ensuring the long-term sustainability of aquatic habitats and the nature-based climate solutions they provide.

Infrastructure

Action 39: Disaster Mitigation and Adaptation Fund

Lead department: Infrastructure Canada
Implements objectives: Infrastructure 3; Foundational 5
Status: Existing Action

The Disaster Mitigation and Adaptation Fund (DMAF) has helped communities remain resilient in the face of extreme events, such as flooding, wildfires and drought, by investing in built and natural infrastructure projects. Projects funded through DMAF apply a resilience assessment within the application process, ensuring that federal funding links to advancing climate resilience. In addition, the increase in community resilience is assessed as one of the main program criteria.

With a total program envelope of close to $3.8 billion, which includes $489 million received through the National Adaptation Strategy, the DMAF ensures continuity of support to Canadian communities as quickly as possible, given the urgency of adaptation needs.

Action 40: Climate-Informed Codes and Standards for Resilient Infrastructure

Lead departments: Infrastructure Canada; National Research Council Canada; Standards Council of Canada
Implements objective: Infrastructure 1
Status: Existing Action

Infrastructure Canada, in partnership with the National Research Council and the Standards Council of Canada, delivers the Climate Resilient Built Environment (CRBE) Initiative and the Standards to Support Resilience in Infrastructure Program (SSRIP). The CRBE Initiative actively seeks opportunities to integrate and accelerate the uptake of climate resilience in building and infrastructure design, asset management tools, guides, codes and standards through research and pilot projects. In complement, the SSRIP leads the development of standardization strategies, and support their uptake to drive implementation, to mainstream climate change adaptation and resilience, and support informed decision making for infrastructure and buildings.

Action 41: Supporting Climate Resilient Infrastructure

Lead department: Infrastructure Canada
Implements objectives: Infrastructure 1, 2, 4
Status: Existing Action

In 2021, the Minister of Infrastructure and Communities was given the mandate to create open-access climate toolkits to help infrastructure owners and investors develop projects that contribute to Canada's path to net-zero emissions. Building on this commitment, Infrastructure Canada will develop a climate toolkit that will provide data, research, standards and guidelines, and case studies, and deliver place-specific and asset-specific guidance to reduce climate-related risks for infrastructure. In addition, a help desk and a roster of climate and infrastructure practitioners will be established to provide direct support to communities across the country in applying the tools to implement adaptation and greenhouse gas mitigation measures.

The Minister of Infrastructure and Communities was also given the mandate to build on the foundation of the DMAF to continue seeking opportunities to scale the construction of climate-resilient infrastructure across Canada, with a particular emphasis on communities most at risk.

Recognizing that climate-adapted codes, standards and guidance provide a major opportunity to meaningfully scale-up resiliency across the infrastructure lifecycle, Infrastructure Canada will accelerate and amplify the work on climate-informed codes, standards and guidelines for high-risk priority areas through increased and sustained funding to the National Research Council and the Standards Council of Canada. This will allow for an expanded range of work to be undertaken, notably through developing and updating practical and targeted guidance and standards to address worsening impacts from climate change (e.g., for projection of flood hazard risks and mitigation of flooding in urban, rural, remote and coastal communities), and in developing interactive knowledge products and training that are tailored towards the needs of municipalities, public and private procurement and design professionals.

Infrastructure Canada will require climate resilience objectives across future funding programs, touching on an array of assets including transit, water, and community assets. Resilience requirements include resilience assessments, future climate-informed design data, guidelines, standards and codes, and hazard-specific criteria, with incentives for natural and/or hybrid infrastructure projects.

The Supporting Climate Resilient Infrastructure Initiative will ensure that decision-makers and professionals are best equipped to identify key risks confronting their infrastructure assets and systems and determine locally appropriate solutions to make communities more resilient to a rapidly changing climate.

Action 42: Natural Infrastructure Fund

Lead department: Infrastructure Canada
Implements objective: Nature and Biodiversity 4
Status: Existing Action

The Natural Infrastructure Fund ($200 million) supports projects that use natural or hybrid approaches to protect the natural environment, support healthy and resilient communities, and contribute to economic growth and jobs. The Fund will bring multiple benefits to communities across Canada, including increasing climate change resilience, mitigating carbon emissions, improving environmental quality and promoting people's access to nature.

Action 43: National Trade Corridors Fund

Lead departments: Transport Canada
Implements objective: Infrastructure 4
Status: Existing Action

The National Trade Corridors Fund received $4.6 billion to help fund infrastructure projects in Canada. Infrastructure projects include work at airports, ports, railways, transportation facilities and access roads. These projects improve the flow of goods and people in Canada, increase the flow of trade in and out of Canada, help the transportation system to withstand the effects of climate change and better adapt to new technologies and innovation, and address the transportation needs of Arctic and northern communities.

Action 44: First Nation Infrastructure Fund

Lead department: Indigenous Services Canada
Implements objective: Infrastructure 3
Status: Existing Action

The Structural Mitigation stream of the First Nation Infrastructure Fund (FNIF), administered by Indigenous Services Canada, provides support for disaster risk reduction infrastructure on reserves. The FNIF funds infrastructure projects that modify hazards, including removing, reducing or eliminating them, segregating hazards by keeping them away from people and infrastructure assets, and altering the design and construction of infrastructure assets to make them more resilient to potential hazards.

Action 45: Capital Facilities and Maintenance Program

Lead department: Indigenous Services Canada
Implements objective: Infrastructure 3
Status: Existing Action

The Capital Facilities and Maintenance Program invests in community infrastructure for First Nations on-reserve, including measures to address climate-related risks facing communities, such as flooding mitigation and erosion control.

Economy and workers

Action 46: Climate-Resilient Coastal Communities Program

Lead department: Natural Resources Canada
Implements objectives: Economy and Workers 3; Foundational 4, 5
Status: Existing Action

The Climate-Resilient Coastal Communities Program will increase the resilience of communities along Canada's coasts by applying a new, systems-based approach to integrated, regional-scale projects. It will work with partners, rights-holders and stakeholders to undertake scientific research and co-develop adaptation measures that will make adaptation not only more effective, but also more affordable by aligning efforts and resources across jurisdictions. The program will also invest in critical science and work with communities and Indigenous Peoples to fill important, immediate knowledge gaps on the impacts of climate change on sea-level rise, coastal erosion, permafrost thaw and glaciers in northern and coastal areas. The program's innovative approach will lead to more efficient and more equitable responses.

Action 47: National Supply Chain Strategy

Lead department: Transport Canada
Implements objectives: Economy and Workers 5
Status: Existing Action

Transport Canada received funding in Budget 2023 to address recommendations made by the National Supply Chain Task Force, to address both chronic and acute supply chain congestion and inefficiency issues, including withstanding disruptions caused by climate change.

This includes:

- Transportation Supply Chain Office: $27.2 million over five years to establish a Transportation Supply Chain Office to work with industry and other orders of government to respond to disruptions and better coordinate action to increase the capacity, efficiency, and reliability of Canada's transportation supply chain infrastructure; and
- Supply Chain Data: $25 million over five years to develop transportation supply chain data that will help reduce congestion, make our supply chains more efficient, and inform future infrastructure planning. This measure will be advanced using existing Transport Canada resources.

Action 48.1: Sustainable Canadian Agricultural Partnership: Federal, provincial, territorial (FPT) cost-shared programs

Lead department: Agriculture and Agri-Food Canada
Implements objectives: Economy and Workers 3, Health and Well-being 4; Nature and Biodiversity 1, 2, 3, 4
Status: Existing Action

Agriculture is a shared jurisdiction in Canada and Agriculture and Agri-Food Canada (AAFC) has a long history of working with the provinces and territories to develop federal-provincial-territorial (FPT) agricultural policy frameworks, such as the Sustainable Canadian Agricultural Partnership (Sustainable CAP). The Sustainable CAP is a $3.5-billion, 5-year agreement (2023-2028), between FPT governments, to strengthen the competitiveness, innovation and resiliency of the

agriculture, agri-food and agri-based products sector. The Sustainable CAP invests $2.5 billion to support region-specific agricultural programs and services that are tailored to meet regional needs. These programs are cost shared among FPT governments and are developed and delivered by provinces and territories. FPT cost-shared funding is available to support on-farm environment and climate change efforts, including $250 million for the Resilient Agriculture Landscapes Program (RALP) to help producers conserve and enhance the resiliency of agricultural landscapes by accelerating the adoption of on-farm land use and management practices that maximize provision of multiple ecological goods and services. RALP will be implemented by each province and territory in their respective jurisdictions as part of the Sustainable CAP, based on FPT mutually agreed upon principles.

Action 48.2: Sustainable Canadian Agricultural Partnership: AAFC Science and Innovation programs

Lead department: Agriculture and Agri-Food Canada
Implements objectives: Economy and Workers 3, Nature and Biodiversity 4
Status: Existing Action

The five-year (2023-2028), $3.5 billion Sustainable Canadian Agricultural Partnership (Sustainable CAP) includes six-federally funded national programs to help drive growth and sustainability in the Canadian agriculture and agri-food industry. AAFC programs such as AgriScience ($325 million), AgriInnovate ($95 million) and AAFC-led Foundational Science contribute to, among other priorities, supporting the climate resiliency and sustainability of the sector through science, research and adoption of innovative practices and technologies.

Action 48.3: Sustainable Canadian Agricultural Partnership: FPT Business Risk Management Programs

Lead department: Agriculture and Agri-Food Canada
Implements objectives: Economy and Workers 3, Disaster Resilience 2
Status: Existing Action

Under the Sustainable Canadian Agricultural Partnership (Sustainable CAP), a suite of federal, provincial and territorial cost-shared Business Risk Management (BRM) programs will help producers manage significant risks that threaten the viability of their farm and are beyond their capacity to manage, including risks and losses from severe weather events (e.g., droughts, wildfires and floods). The suite of BRM programs is designed as a collaborative effort and includes AgriInsurance, AgriStability, and AgriInvest programs. Total funding averages approximately $1.5 billion per year. In addition to these programs, the AgriRecovery Framework is a disaster relief framework that helps agricultural producers recover from natural disasters. AgriRecovery is needs-based, and funding requests can be initiated from emergency/disaster situations.

Action 49: Climate Change Adaptation Program

Lead department: Natural Resources Canada
Implements objective: Economy and Workers 1, 2, 3, 4, Foundational 4, 5, 10
Status: Existing Action

NRCan's Climate Change Adaptation Program will improve the resilience of Canada's economy including critical economic sectors and the communities that depend on them and develop the trained, professional workforce necessary to design and implement adaptation actions.

Action 50: Using Scenario Analysis to Assess Climate Risk

Lead department: Bank of Canada; Office of the Superintendent of Financial Institutions
Implements objective: Economy and Workers 4
Status: Existing Action

Climate change poses significant risks to the financial system and the economy. These include disruptions from more frequent and severe extreme weather events, as well as risks stemming from the transition to a low-carbon, net-zero economy.

The Bank of Canada and the Office of the Superintendent of Financial Institutions (OSFI) recently concluded a scenario analysis pilot project to assess the climate transition risks of six Canadian financial institutions. Moving forward, OSFI and the Bank of Canada will continue to advance this pilot collaboration by analyzing flood risk impacts on residential mortgage portfolios, and transition risk impacts on wholesale loan and securities portfolios. OSFI will also continue to enhance climate data and analytics capabilities, develop a standardized climate scenario analysis exercise for institutions, and assess the need to reflect the unique features of climate-related risks in the regulatory capital framework. This comprises an important aspect of how the Government of Canada is working to address physical climate risk within the financial sector.

Action 51: Climate Resilient Mining Program

Lead department: Natural Resources Canada
Implements objective: Economy and Workers 1, Nature and Biodiversity 1
Status: Existing Action

Extreme weather events and longer-term shifts in climate patterns have the potential to damage mining infrastructure and disrupt value chains vital to Canada's transition to net zero by 2050. Key risks include water management, increased likelihood for dam and water treatment failures, site drainage, mine closure/reclamation and mining infrastructure. The Climate Resilient Mining Program is conducting research to assess the long-term performance of cover strategies in a changing climate and assessing how metallurgical performance fluctuates with seasonal variations in recycled water quality. Researchers are also working with northern communities to fill important knowledge gaps on the impacts of dust generated from mining operations, which is increasingly being raised as a concern by communities, and where dust on snow has been shown to lead to earlier snowmelt.

Action 52: Rail Climate Change Adaptation Program

Lead department: Transport Canada
Implements objective: Economy and Workers 2
Status: Existing Action

Canada's rail network and supply chains are facing complex risks due to climate change and extreme weather events. Transport Canada's Rail Climate Change Adaptation Program was established to help Canada's rail sector research, develop, and implement innovative technologies, tools and approaches to help mitigate these risks. This includes working with railway companies to cost-share research that identifies potential risks (e.g., flooding and wildfires) and effective mitigation solutions (e.g., flood monitoring systems, imaging technologies, etc.).

Action 53: Sectoral Workforce Solutions Program

Lead department: Employment and Social Development Canada
Implements objective: Economy and Workers 3
Status: Existing Action

The Sectoral Workforce Solutions Program (SWSP) will help thousands of employers and connect Canadians with the training they need to access good jobs in sectors where employers are looking for skilled workers. It will support equity-deserving groups and has a policy priority area to build talent for the clean economy. As part of the Government's efforts to assist Canadian workers and communities in a just transition to a net-zero emissions and climate resilient economy. SWSP supports workforce development needs in sectors that are directly or indirectly involved in protecting the environment, oceanic or aquatic ecosystems, managing natural resources and/or contributing to the low-carbon economy.

Action 54: Agricultural Climate Solutions – On-Farm Climate Action Fund

Lead department: Agriculture and Agri-Food Canada
Implements objective: Economy and Workers 2
Status: Existing Action

Agricultural Climate Solutions—On-Farm Climate Action Fund is a $200 million, 3-year fund (2021-2024), with an additional $470 million proposed in Budget 2022 over six years (starting in 2022-23), to support farmers in adopting beneficial management practices that store carbon, reduce greenhouse gases, and enhance climate resiliency in three areas: nitrogen management, cover cropping and rotational grazing practices.

Action 55: Agricultural Climate Solutions – Living Labs

Lead department:	Agriculture and Agri-Food Canada
Implements objective:	Economy and Workers 3
Status:	Existing Action

Agricultural Climate Solutions—Living Labs is a $185 million, 10-year program (2021-2031) that will establish a strong, Canada-wide network of living labs. Through these living labs, regional leaders will bring together farmers, scientists and other sector partners to co-develop, test and monitor beneficial management practices on working farms to reduce Canada's environmental footprint and enhance climate resiliency.

Knowledge and understanding

Action 56: Foundational Climate Data, Science and Services and Improved Development and Delivery of Predictions of Canada's Future Climate and Extreme Events

Lead department: Environment and Climate Change Canada
Implements objective: Foundational 1
Status: Existing Action

The Government of Canada will increase access to state-of-the-art climate information to enable governments, communities, businesses and individuals across the country to better assess their vulnerability and risks to climate change through improved regional and seasonal climate predictions and services. ECCC will deliver a new Canada-focused climate science assessment in mid-2025, providing authoritative synthesis of the latest knowledge and data regarding ongoing and future climate change in Canada. Such assessments, undertaken every five years, provide the scientific underpinning for national adaptation policy development and action.

Action 57: Indigenous Community-based Climate Monitoring

Lead department: Crown-Indigenous Relations and Northern Affairs Canada
Implements objective: Foundational 1, 2
Status: Existing Action

The Indigenous Community-based Climate Monitoring program provides funding to support Indigenous Peoples in the design, implementation or expansion of long-term community-based climate monitoring projects. The projects track climate and environmental impacts on communities and traditional territories and can be used to inform Indigenous community adaptation actions and address climate data gaps. The program also facilitates access to tools and best practices for climate monitoring, supports local skill development and employment opportunities for youth, promotes knowledge transfer between generations and supports Indigenous participation in program oversight.

Action 58: Canada's National Assessment Process (Canada in a Changing Climate Series)

Lead department: Natural Resources Canada
Implements objectives: Foundational 1, 3
Status: Existing Action

The National Assessment Process provides critical information on Canada's changing climate to understand its causes, impacts and the actions needed to adapt across the country. By 2023, a series of authoritative, accessible, online reports will be released. *Canada's Changing Climate Report* focuses on how and why the climate is changing, while other reports focus on climate change impacts, adaptation and resilience. These reports confirm that climate change is causing deep and lasting impacts on our society, economy and environment, and conclude that urgent action is needed to increase Canada's resilience to climate change. They support Canadians, governments and stakeholders in understanding the climate change impacts they're facing and how they can make informed adaptation decisions.

Action 59: Canadian Centre for Climate Services

Lead department: Environment and Climate Change Canada
Implements objective: Foundational 3
Status: Existing Action

From 2017 to 2028, the federal government is investing $107.6 million in the Canadian Centre for Climate Services (CCCS) to ensure that Canadians have access to locally relevant expertise, advice, data and information needed for decision-making. The CCCS provides climate data, information and support so that Canadians and communities can make informed decisions on how to increase their resilience to climate risks. The service includes a collaborative climate information portal, ClimateData.ca, along with national Map of Adaptation Actions. Regional approaches are needed to address the unique needs of communities across the country, which is why the CCCS develops and coordinates a network of regional climate expert organizations. The CCCS and the regional organizations work together to provide joint services and to advance ClimateData.ca.

Action 60: Climate Science 2050

Lead department: Environment and Climate Change Canada
Implements objective: Foundational 1, 2
Status: Existing Action

Environment and Climate Change Canada is leading the development of the *Climate Science 2050: National Priorities for Climate Change Science and Knowledge Report*, which identifies the most pressing climate change science and knowledge priorities in alignment with NAS objectives. It follows the first report released in December 2020, Climate Science 2050 (CS2050) Advancing Climate Change Science and Knowledge, which took stock for the first time of the breadth of collaborative and transdisciplinary knowledge required to inform climate action. Where that report was a national synthesis of science and knowledge gaps, this report builds on that base by actually identifying specific science activities needed to address those gaps. The priorities outlined in the report reflect the urgent need for essential climate change science and knowledge to inform Canada's climate action and meet the ambitious targets outlined in Canada's 2030 Emissions Reduction Plan (ERP) and the NAS. This report will help to inform ongoing efforts to characterize climate risks, guide adaptation responses, and identify new opportunities for building resilience, as well as guide current and future climate change science investments, and facilitate the necessary coordination of the federal and national scientific community to create a more resilient Canada. CS2050 encompasses the natural, social and health sciences to produce assessments of climate risk used to inform other assessments produced within the federal government, such as the NRCan-led national knowledge assessments. Further, it recognizes the need to mobilize the full spectrum of Indigenous leadership, participation and knowledge systems.

Action 61: Climate Science to Inform Risk Assessment and Adaptation Planning

Lead department: Environment and Climate Change Canada
Implements objective: Foundational 1
Status: Existing Action

Environment and Climate Change Canada's (ECCC) climate modelling provides decision makers with quantitative information to understand the impact of climate change and extremes on all

regions of Canada. Climate models identify the role of human activity in driving climate change and contribute to the Intergovernmental Panel on Climate Change and Arctic Council Assessments. ECCC's scientific capacity in climate modelling has also developed robust multi-decadal climate data sets to support climate service delivery across the country. ECCC has created the Canadian Centre for Climate Services to leverage these data sets to develop and disseminate user-oriented climate data products to support adaptation actions. A website targeted to expert users provides open access to ECCC's foundational climate data and scenarios, complementing the roles and services provided by the Canadian Centre for Climate Services, regional climate service organizations and ECCC's world-class operational capability for forecasting weather and providing early warnings of hazardous weather events.

Action 62: The Meteorological Service of Canada's work in response to hazards

Lead department:	Environment and Climate Change Canada
Implements objective:	Foundational 1, 3
Status:	Existing Action

The Meteorological Service of Canada (MSC) is the authoritative source for information on weather, water quantity, ice, climate and air quality forecasting and warning services across Canada. Its services include forecasting weather conditions that can lead to unprecedented weather events, such as dangerous and extreme heat and flooding. The MSC's foundational capabilities in monitoring, high performance computing, modelling and prediction services directly support adaptation efforts by providing Canadians with life-saving data and information about weather and environmental conditions and hazards over a range of timescales.

As severe weather increases in frequency and intensity due to climate change, it is critical to accurately forecast and notify Canadians of natural disasters. Budget 2024 proposed to provide $6.9 million over five years, starting in 2024-25, with $1.4 million ongoing for the MSC's early warning system for extreme weather events, including floods and storm surges. This renewed funding will improve the accuracy of modeling, prediction, and forecasting services and enhance the dissemination of early warnings. Targeted enhancements to prediction capabilities and strengthened interjurisdictional capabilities will help Canadians better prepare for extreme weather events.

The MSC's Predicting and Alerting Coastal Flooding (PACF) initiative provides national coastal flooding predication and alerting services to support resilient coastal communities and safer near-shore marine navigation. This includes the capacity to provide advanced notice to vulnerable areas in support of emergency preparedness and response actions (e.g., evacuations) and adaptation measures.

In collaboration with Canada's provinces and territories, MSC's National Hydrological Service operates approximately 2300 of the 2900 monitoring stations on rivers and lakes across Canada and consolidates the water quantity data to provide an integrated view of the country's surface water resources. These foundational data contribute to national water management, which includes activities in flood and drought prediction and management, flood plain mapping and water allocation. The MSC also provides specialized services to model and predict the movement of wildfire smoke in the atmosphere.

The MSC also supports many mission-critical services of other federal departments and agencies as well as other national and international organizations. The MSC supports the Department of National Defence and the Canadian Coast Guard on sovereignty, security and search and rescue missions; NAV CANADA for safe aviation operations; Health Canada and health officials for air

quality alerts; and Public Safety Canada, provincial/territorial emergency managers and other public authorities when responding to weather and weather-related emergencies.

The MSC's Warning Preparedness Meteorology Program provides emergency managers and public authorities with direct access to dedicated experts trained in providing fit-for-purpose information and insight that integrates with real-time decision-making in advance of, and during high-impact weather situations. Services include advice on actions that can be taken to mitigate impacts, save lives and reduce property damage.

Action 63: Aquatic Climate Change Adaptation Services Program

Lead department: Fisheries and Oceans Canada
Implements objective: Foundational 1
Status: Existing Action

The Aquatic Climate Change Adaptation Services Program is an internal science-funding program within Fisheries and Oceans Canada that supports scientific research and monitoring activities that identify climate change impacts and vulnerabilities, improve ocean forecasting and develop adaptation information and tools for vulnerable coastal regions. The objectives of this program are to inform Fisheries and Oceans Canada's adaptation decisions related to fisheries, oceans management and coastal infrastructure.

Action 64: **Enhancing Sustainable Forest Management Practices Program**

Lead department: Natural Resources Canada
Implements objective: Foundational 1
Status: Existing Action

The Enhancing Sustainable Forest Management Practices Program carries out research that fills priority knowledge gaps about the dynamics of forest ecosystems which informs sustainable forest management in a changing climate.

Action 65: **Advancing Resourceful, Resilient, Ready: Canada's Strategy for Satellite Earth Observation**

Lead departments: Canadian Space Agency; Natural Resources Canada; Environment and Climate Change Canada
Implements objective: Foundational 1
Status: Existing Action

Satellite Earth observation uses satellites to gather information about the Earth's oceans, land, climate and populated areas. Satellite data are critical to taking action on and adapting to climate change by enabling applications and services in many areas that support the health and well-being of Canadians. These services include weather and flood warnings and forecasts, air quality monitoring and forecasting, wildfire monitoring, pollution detection and ice charting, warnings and forecasts. Satellite Earth observation also provides vital information to support climate science and modelling, like methane and carbon dioxide emissions, as well as changes to permafrost, sea ice and oceans. Published in 2022, the *Resourceful, Resilient, Ready: Canada's Strategy for Satellite Earth Observation* report outlines a strategic approach to guide Canada's actions and investments related to satellite Earth observation data, technology and partnerships over the next

15 years. This includes advancing new satellite missions and analytical environments to generate solutions for climate change mitigation and adaptation, particularly in Canada's North.

Action 66: **Agroclimatic data, analysis and the Canadian Drought Monitor**

Lead department: Agriculture and Agri-Food Canada
Implements objective: Foundational 3
Status: Existing Action

The Canadian Drought Monitor (CDM) is Canada's official source for the monitoring and reporting of drought in Canada. CDM uses a variety of federal, provincial and regional data sources to establish a single drought rating based on a five-category system. Drought classes in the CDM range from D0 to D4, with D0 indicating abnormally dry conditions, and D1 to D4 indicating moderate to exceptional drought. These ratings are shared through monthly maps that show the extent and intensity of drought across Canada. Tracking drought across the country is challenging, as there are varying definitions and indicators used to measure and define its extent and severity. The CDM overcomes these challenges by combining multiple indicators and impacts, and through consultations with federal, provincial, regional and academic scientists.

Tools and resources

Action 67: Advancing Municipal Adaptation Action through the Green Municipal Fund

Lead department: Environment and Climate Change Canada
Implements objectives: Foundational 4, 5, 6;
Status: Existing Action

To support a minimum of 1400 community-based climate adaptation initiatives, protecting Canadians and their communities, as well as minimizing costs associated with climate impacts, Environment and Climate Change Canada will collaborate with the Federation of Canadian Municipalities to expand and top-up the existing Green Municipal Fund (GMF). The new funding will support three broad areas of work under the GMF: adaptation planning, capacity building and institutional mainstreaming; accelerating local-level implementation of adaptation solutions; and piloting adaptation projects to attract greater private sector participation in adaptation financing.

Action 68: Climate Change Preparedness in the North

Lead department: Crown-Indigenous Relations and Northern Affairs Canada
Implements objectives: Foundational 4, 5, 6
Status: Existing Action

The Climate Change Preparedness in the North program provides northern communities and organizations with funding and services to build adaptation capacity and to implement adaptation measures that address self-determined priorities. The program works directly with local and regional/territorial applicants, providing long-term personalized application support to promote equal access to adaptation funding in the North.

This flexible program funds a range of adaptation projects, including vulnerability and risk assessments, hazard mapping, adaptation planning, the implementation of structural and non-structural adaptation measures (revising bylaws or procedures, retrofitting or upgrading at-risk infrastructure, built or natural), on-the-land or cultural initiatives, training and emergency preparedness.

Action 69: First Nation Adapt

Lead department: Crown-Indigenous Relations and Northern Affairs Canada
Implements objectives: Foundational 4, 5, 6
Status: Existing Action

The First Nation Adapt program provides First Nation communities and organizations located below the 60th parallel with funding that enable First Nation communities and organizations located below the 60th parallel to address self-determined adaptation priorities, while building capacity.

This flexible program funds a range of adaptation projects, including vulnerability and risk assessments, hazard mapping, adaptation planning and the implementation of small-scale adaptation measures (e.g. native plantings to support water retention, backflow water valve to reduce flooding, or fuel management to reduce the risk of wildfire on infrastructure). The program works closely with Indigenous Services Canada programs and other climate change programs to facilitate a holistic approach to funding access.

Governance and leadership

Action 70: NATO Climate Change and Security Centre of Excellence

Lead departments: Global Affairs Canada; Department of National Defence
Implements objectives: Foundational 10
Status: Existing Action

Canada is working together with international partners to establish the NATO Climate Change and Security Centre of Excellence in Montreal. This institution will be a platform through which both military actors and civilians from Canada, NATO Allied nations, and other global partners will develop, enhance, and share knowledge on climate change security impacts. It will also allow participants to work together to build required capabilities and best practices and contribute to NATO's goal of reducing the climate impact of military activities. Besides hosting this centre and supporting its operation, Canada will bring its unique knowledge and abilities across a range of relevant sectors to the functioning of the COE. Through the cooperative efforts of its participants, the work of this COE will enhance the security of Canada, NATO Allies and partners, and people around the globe.

Action 71: Indigenous Climate Leadership

Lead departments: Crown-Indigenous Relations and Northern Affairs Canada; Environment and Climate Change Canada
Implements objectives: Foundational 8, 9
Status: Existing Action

Indigenous climate leadership, through a strong nation-to-nation, Inuit-Crown and government to-government relationship, is a cornerstone of Canada's climate plans. The Government of Canada will continue to work with First Nations, Inuit and Métis representatives and rights-holders to develop and implement a model of partnership for climate action. This initiative will set long-term objectives for the Crown-Indigenous partnership on climate change and promote Indigenous Peoples' strengthened and meaningful participation in climate governance and policy; identify delivery models/roadmaps to build Indigenous capacity and mechanisms towards Indigenous-led and delivered climate programming; and support the implementation of climate priorities that set foundations towards self-determined climate action. Collaborative, distinctions-based work with Indigenous partners will include developing mechanisms to provide sustainable, long-term financing for adaptation actions, collaborative decision-making on approaches to adaptation, and addressing barriers to adaptation in Indigenous communities.

Action 72: Integrated Climate Lens

Lead department: Environment and Climate Change Canada
Implements objective: Foundational 10
Status: Existing Action

Recognizing that the path to net-zero and climate resilience will involve economic and social considerations, the Government of Canada is implementing an Integrated Climate Lens (ICL) to help ensure government decisions and investments account for climate change risks and adaptation considerations. The ICL is an analytical process that provides a rigorous and consistent method to assess both the climate change adaptation and mitigation implications of

government policies, programs and initiatives as well as a means to assess economic, social and inclusivity factors. The ICL will help to ensure that federal decision-making is aligned to national adaptation objectives.

Action 73: Greening Government Strategy

Lead department:	Treasury Board of Canada Secretariat
Implements objectives:	Foundational 10; Nature and Biodiversity 1, 4; Infrastructure 2, 4; Economy and Workers 5
Status:	Existing Action

The federal government is transitioning to climate resilient and net zero operations. Through the Greening Government Strategy, updated in 2024, federal departments must review and update (if necessary) climate risk assessments of services and activities every 5 years, take action to reduce significant climate risks, and strengthen support for public service employees. In addition, departments with real property must develop portfolio plans that provide a road map to achieving climate-resilient critical real property by 2035. Significant climate risks need to be addressed on all new and renewed leased spaces. In addition, departments are required to include criteria that addresses climate resilience in high-value procurements and of critical services or activities by 2027.

The Greening Government Strategy is also advancing goals and objectives across NAS systems, such as nature and biodiversity, infrastructure, and economy and workers. It commits federal departments to: (1) identify potential federal Crown lands or waters that may contribute to the commitment to conserve and protect 25% of Canada's lands and oceans, and to utilize nature-based solutions; (2) conduct system-wide assessments of climate risks, requiring all new federal infrastructure to be climate resilient; and (3) work towards including climate resilience in procurement with the aim of increasing the resilience of supply chains.

Endnotes

[1] Molnar, M., Olmstead, P., Mitchell, M., Raudsepp-Hearne, C. and Anielski, M. (2021): Figure 5.8 in Ecosystem Services; Chapter 5 in Canada in a Changing Climate: National Issues Report, (eds.) F.J. Warren and N. Lulham; Government of Canada, Ottawa, Ontario. https://changingclimate.ca/national-issues/chapter/5-0/5-3/5-3-1/es_5-8_v2/

[2] Appropriate justifications for deploying the federal spending power include to address specific market failures and for efficiency and equity-related reasons, including to support action in emergent areas or where resources required can't reasonably be borne by a single set of implicated partners or stakeholders.

[3] Government of Canada (2021). Canada in a Changing Climate: National Issues Report, Sector Impacts and Adaptation [Infographic], https://doi.org/10.4095/328426

[4] Climate change risks to the financial sector include both *physical risks*, such as increasing extreme weather events and long-term gradual climate shifts, and *transitional risks*, which are related the financial risk of adjusting to a low-greenhouse gas emissions economy.

[5] Health regions are legislated administrative areas defined by provincial ministries of health. These administrative areas represent geographic areas of responsibility for hospital boards or regional health authorities. Health regions, being provincial administrative areas, are subject to change. For complete Canadian coverage, each of the northern territories also represents a health region. (Statistics Canada, 2018) (Source: Health regions and peer groups (statcan.gc.ca))

[6] Evidence-based adaptation measures are those that have been reviewed in the scientific literature and have been shown to be effective in protecting health.