

NATURAL CLIMATE SOLUTIONS FOR CANADA

STUDY BACKGROUNDER

A landmark study led by Nature United reveals that nature can deliver immediate impact in Canada's fight to tackle the climate crisis.

By protecting, better managing, and restoring nature, Canada can drastically reduce its greenhouse gas emissions, concludes Nature United's ground-breaking [Natural Climate Solutions for Canada](#). The new study published in [Science Advances](#) shows that Natural Climate Solutions can help Canada cut up to 78 megatonnes of carbon dioxide equivalent (Mt CO₂e) annually in 2030—an amount equal to the current greenhouse gas emissions from powering every home in Canada for about three years.

Natural Climate Solutions are vital for meeting Canada's 2030 targets and reaching net-zero by 2050. The study results are an urgent call-to-action for governments, industry, and community leaders to fund and implement Natural Climate Solutions by changing the way we protect, manage and restore lands and waters, through market transformation, policy incentives, and regulation.

ABOUT NATURAL CLIMATE SOLUTIONS

Canada is facing a climate crisis. We have entered an era of rapidly accelerating biodiversity loss and ecosystem degradation. Rising sea levels and melting ice caps; extreme weather such as powerful storms, heatwaves, and droughts; and widespread food insecurity are already threatening nature, communities, and local economies across Canada.

Natural Climate Solutions provide an immediate opportunity to harness the power of nature in the fight against climate change. Natural Climate Solutions are actions to protect, manage and restore forests, grasslands, agricultural lands, and wetlands that reduce greenhouse gas emissions. Our planet has always used natural carbon storage processes in plant matter, soil and oceans. Top examples of Natural Climate Solutions include protecting more natural areas to capture and store greenhouse gases, improving farming practices such as planting cover crops and nutrient management, and planting trees to restore forests.

Canada has vast natural landscapes and is uniquely positioned to take immediate action. With the second-largest landmass and a national warming rate that is two times the global rate, Canada needs to show leadership on climate action and avoid catastrophic warming. Natural Climate Solutions present an opportunity to be a global leader and inspire countries around the world to mobilize nature to mitigate emissions.

Natural Climate Solutions must be developed and implemented by governments, Indigenous and local communities, and industry. By advancing Natural Climate Solutions in partnership, we can also gain incredible social, environmental, and economic benefits:

- **Social:** Natural Climate Solutions make communities healthier and safer by contributing to cleaner water and air, food production, and more; protecting against droughts and flooding; securing cultural resources; and providing recreational spaces.
- **Environmental:** Natural Climate Solutions deliver tremendous air, water, soil, and biodiversity benefits, including protecting and restoring habitat for wildlife.
- **Economic:** Natural Climate Solutions are readily available and will immediately create new jobs in construction, skilled labour such as planners and engineers, and supply-chain management such as nurseries and transportation—stimulating local economies and contributing to a just and equitable economic recovery.

STUDY RESULTS

Natural Climate Solutions for Canada examined four land types (agricultural lands, forests, wetlands, grasslands) and 24 pathways that, undertaken in the next decade, have the potential to cut Canada’s emissions by up to 78 Mt CO₂e annually in 2030—representing 11% of Canada’s current annual emissions.

Each of these actions helps mitigate climate change by capturing and storing carbon emissions:

- **Agricultural lands** can deliver **37.4 Mt CO₂e per year**, which represents **48%** of total opportunity in 2030. Pathways include encouraging the widespread planting of cover crops to keep soil healthy and nutrient management strategies such as implementing efficient use of fertilizers.
- **Wetlands** can deliver a reduction of **15.5 Mt CO₂e per year**, which represents **20%** of total opportunity in 2030. Pathways include protecting peatlands or bringing back natural flows to wetlands and coasts.
- **Grasslands** can deliver a reduction of **13.4 Mt CO₂e per year**, which represents **17%** of total opportunity in 2030. Pathways include protecting grasslands from razing and empowering farmers to maintain riparian buffers to protect water sources from run-off.
- **Forests** can deliver a reduction of **11.9 Mt CO₂e per year**, which represents **15%** of total opportunity in 2030. Pathways include protecting carbon-rich old-growth forests, restoring forests, and planting trees.

Natural Climate Solutions are powerful and cost effective. The study highlights actions that are cost effective—with many available at less than \$50 per tonne of CO₂e. And these opportunities are available now. Protection, management, and restoration pathways will create new jobs and provide alternative revenue streams to Indigenous communities, farmers, ranchers and foresters to help stimulate our economy.

See: **MITIGATION POTENTIAL BY PATHWAY – [FIGURE 1](#)**

See: **MITIGATION POTENTIAL BY PROVINCE – [FACTSHEET](#)**

STUDY METHODOLOGY

Natural Climate Solutions for Canada is a peer-reviewed study involving 38 leading experts from academia, governments, and non-governmental organizations in Canada and the U.S. The study builds on the methodology and results from ground-breaking global and U.S. studies that were independently reviewed. Through the peer-review process led by *Science Advances*, a team of independent experts evaluated our Canadian research and provided feedback that was incorporated into the final version.

This study is the first-ever comprehensive evaluation of the potential of nature to mitigate greenhouse gas emissions in Canada. The estimates include the cost per tonne of CO₂e mitigation, as well as an assessment of the uncertainty associated with the mitigation estimates. Our research is unique in its inclusion of:

- ***Ambitious yet realistic results:*** The study represents achievable potential, rather than the maximum possible potential. Our results integrate social safeguards when estimating mitigation potential to minimize negative consequences on local livelihoods and economies. For example, the forestry pathway includes estimated mitigation potential without reducing logging beyond 10% of historical levels so as not to negatively affect forestry-dependent communities.
- ***Deductions based on the “albedo effect”:*** Albedo refers to the reflectivity of sunlight by a body or surface. In forests where the canopy is usually dark, increasing tree cover can cause localized warming by decreasing the amount of sunlight reflected, even as trees sequester greenhouse gases out of the atmosphere. To account for this, the study includes an “albedo deduction” to provide accurate estimates of mitigation. This inclusion contributes to the study results showing lower near-term mitigation potential of Canada’s forests.
- ***Long-term forecasting:*** The study identifies Canada’s annual mitigation potential in 2030 from actions implemented between 2021 to 2030. In addition, it includes the mitigation potential of the examined pathways through to 2050. This additional long-term forecasting provides an important look at immediate actions that can deliver significant long-term benefits. For instance, actions to restore forests by planting trees can deliver 0.1 Mt CO₂e per year in 2030. But by 2050, these forests will store large amounts of carbon and planted trees will be growing fast enough to offer substantial mitigation potential of 24.9 Mt CO₂e per year.

THE WAY AHEAD

Natural Climate Solutions present an immediate opportunity to rebuild a Canada where people and nature are united, and where ecosystems and economies thrive. The study identifies the most powerful and cost-effective investments over the next 10 years, providing clear guidance for the \$4.1-billion investment by the federal government in Natural Climate Solutions—including where and how the 2-billion tree-planting program will have maximum climate benefit. The results of the study will help decision-makers at all levels and across all

sectors understand where the greatest greenhouse gas mitigation potential exists through Natural Climate Solutions to inform Canada's fight to tackle the climate crisis.

Decision-makers in Canada must invest now in Natural Climate Solutions. Protecting, better managing, and restoring nature must be part of an integrated strategy to drastically cut greenhouse gas emissions—including a rapid transition to clean energy, low-carbon transportation, innovations in building materials and other technologies—and keep global temperature rise below 1.5 degrees Celsius.

Over the next decade, Nature United will work in partnership to accelerate funding, adoption, and implementation of Natural Climate Solutions. Our organization will work with Indigenous communities, all levels of government and across all sectors, building on our on-the-ground conservation successes in Canada. Nature United's immediate efforts will support developing the conditions for accelerating Natural Climate Solutions—for example, supporting Indigenous authority and investing in Indigenous-led conservation, and advising policy incentives to encourage new agriculture and forestry practices. Nature United will also invest in projects on the ground that not only reduce greenhouse gas emissions but also create models for collaborative Natural Climate Solutions projects across Canada.

DOWNLOAD

- [FULL STUDY](#)
- [MEDIA KIT](#)
- [INFOGRAPHIC](#)

ABOUT NATURE UNITED

[Nature United](#) is a Canadian conservation organization with a proven record of creating solutions for people and nature. We are the Canadian affiliate of [The Nature Conservancy](#) (TNC)—the world's largest conservation organization, with more than 3,600 staff worldwide, 400 scientists, and one million supporters. Building on three decades of conservation in Canada, Nature United has developed effective, long-term partnerships with Indigenous communities, governments, and industry to advance large-scale conservation that benefits nature and people—including protecting critical wildlife habitat, driving sustainable economic development, and safeguarding local food sources. As an organization, we believe that the increased authority and capacity of Indigenous peoples to steward their lands and waters is critical for the future of healthy ecosystems and communities.

Our vision is for a resilient Canada where people and nature are united, and ecosystems, communities, and economies are thriving.