GLOBAL RESEARCH ALLIANCE
ON AGRICULTURAL GREENHOUSE GASES

Country report : Canada

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Specific contributions to IRG

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Canada recognizes the important role of the GRA and other international partnerships in helping to:

- Build common understanding of issues and solutions;
- Apply broader expertise and resources to complex problems;
- Leverage international science investments; and,
- Strengthen country-to-country relations.

Canada co-leads the Integrative Research Group with our colleagues from Australia and France and also actively participating in the Livestock and Crops Research Groups and various networks.

Participation as a funding partner in the European Joint Program (EJP) on Soils led by the European Commission. With ongoing interest in the development of the International Research Consortium (IRC) on soil carbon, as a Flagship project of the GRA.

EJP SOIL
European Joint Programme

Projects, initiatives and contributions to IRG's topics

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Canada's Primary Interests in Climate Change Research:

- Mitigating greenhouse gas emissions from agricultural fertilizers
- Enhancing C sequestration in agricultural soils
- Developing predictive GHG & C models at regional, national & global scales

Canada remains committed to the GRA and its objectives, engaging in GRA events, research groups and networks and scientific collaboration:

- Since 2018, GRA has been identified as an international science co-operation priority in our annual project call. Currently there are **twenty one** new and ongoing projects aligned to GRA objectives, totaling over **$8.7M CAD** in funding;
- Continuing to advance an integrated approach to reduce GHG emissions in agriculture by establishing a network of "Agroecosystem Living Labs" or ALL.

Projects, initiatives and contributions to IRG's topics

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- Through the Agroecoystem Living Laboratories (ALL) continue to build on a long history of collaboration with the United States Department of Agriculture's (USDA) Long Term Agroecosystem Research (LTAR) Network.
- AAFC works with the French National Research Institute for Agriculture, Food and Environment (INRAE) to exchange research, knowledge and experiences in implementing networks of ALL.
- AAFC collaborates on an European Commission project called ALL-Ready which will lay the foundations for a potential future network of agroecology living labs and related research networks across Europe.

Opportunities, future actions and funding

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The Government of Canada is investing more than **$4 billion over the next 10 years** (2021-2031) to establish a Natural Climate Solutions Fund and supporting activities to build a more resilient economy and a healthier, greener future. It includes three types of activities to enhance and secure nature-based carbon sequestration:

1. Restoration of degraded ecosystems;
2. Improved land management practices especially in agriculture and forestry; and,
3. Conservation of high carbon-storage ecosystems at risk

Government of Canada investments, including the Agricultural Climate Solutions program, and using Living Labs approach to deliver improved management practices of agricultural lands.

Opportunities, future actions and funding

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Agricultural Climate Solutions

- Agricultural Climate Solutions (ACS) is AAFC's new program under the Natural Climate Solutions Fund.
- ACS is an investment of up to **$185 million over 10 years** for the establishment of a strong network of regional collaboration hubs across Canada.
- ACS will help address environmental concerns in the agriculture sector, including increasing carbon sequestration, mitigating greenhouse gas emissions, and creating environmental co-benefits for biodiversity, water quality and resilience.
- ACS will contribute to achieving Canada's ambitious GHG emission reduction targets for 2030 and net-zero emissions by the year 2050.
- Funding available through ACS will be deployed in several phases. A first call for grant proposals was announced and a second call will be offered in 2022.