



Introducing GEM-GeoNorth

GEM-GeoNorth is a geological research program led by the Geological Survey of Canada (GSC) of Natural Resources Canada (NRCan).

GEM-GeoNorth will deliver innovative, cutting-edge and relevant geoscientific research in northern Canada, focusing on the unique challenges and opportunities facing economic development in the North.

From 2020 to 2027, GEM-GeoNorth will leverage innovative approaches to transform the generation and use of Northern geoscience for a digital world, and produce new knowledge to help refine the context around geological resources.

This modern geoscientific research will be publicly available to all Indigenous and Northern governments and organizations, institutions and associations to use at their discretion. It will help contribute to a strong Northern economy through stable, long-term investment in responsible resource development.

Our commitments

GEM-GeoNorth will produce and provide new, public geoscientific data, knowledge and maps for northern Canada. This comprehensive and collaborative research will help inform land-use decisions, exploration for geological and mineral resources, and environmental assessments. It will help unlock new economic development opportunities and technological advancements in the North.

What is geoscience?

Geoscience is the study of the Earth. This area of study provides knowledge of the Earth's minerals, soil, and lands, which can help identify and assess the potential for mineral, petroleum, geothermal, and water resources, while also aiding decisions regarding land-use, natural hazards mitigation, and environmental sustainability.

Additionally, GEM-GeoNorth scientists will incorporate more complementary climate change research into their studies, which will enhance our understanding of the rapidly changing environments, landscapes and coasts in the North, and how to mitigate these changes. This complementary climate change research will consider existing and future infrastructure related to mineral resource development, along with associated projects.



Program actions:

- Continued collaboration with territorial and provincial geological surveys and governments
- Strengthened leadership of Northerners and Indigenous Peoples in co-developing research priorities and knowledge products
- Increased training of highly qualified personnel, including Northern and Indigenous geoscience professionals and students
- Renewed grant funding for Northern educational institutions and organizations to conduct geoscience and/or develop capacity building opportunities

Program goals:

- Mobilizing the geoscience networks in the provinces, territories and academia to advance regional geo-mapping of the North
- Contributing new geoscientific knowledge and data toward climate-resilient Northern infrastructure development plans, environmental stewardship practices, and climate change adaptation strategies
- Increasing industry investment in exploration and sustainable development of mineral resources
- Expanding access to Northern geoscientific resources and tools to maximize decision-making

Collaborations throughout the country

GEM-GeoNorth works with partners across Canada to develop new geoscientific knowledge, tools and data, and to promote educational and capacity-building opportunities.

Collaboration is an essential component of the program, and GEM-GeoNorth collaborates across many fields: With provinces and territories, Indigenous and Northern governments and organizations, landowners, industry associations, academia, as well as its Advisory Group of Northerners (AGN).

What is the AGN?

The AGN provides recommendations on aligning research priorities, knowledge products, and capacity-building opportunities with Northern and Indigenous perspectives. Its membership represents the diversity of the North.



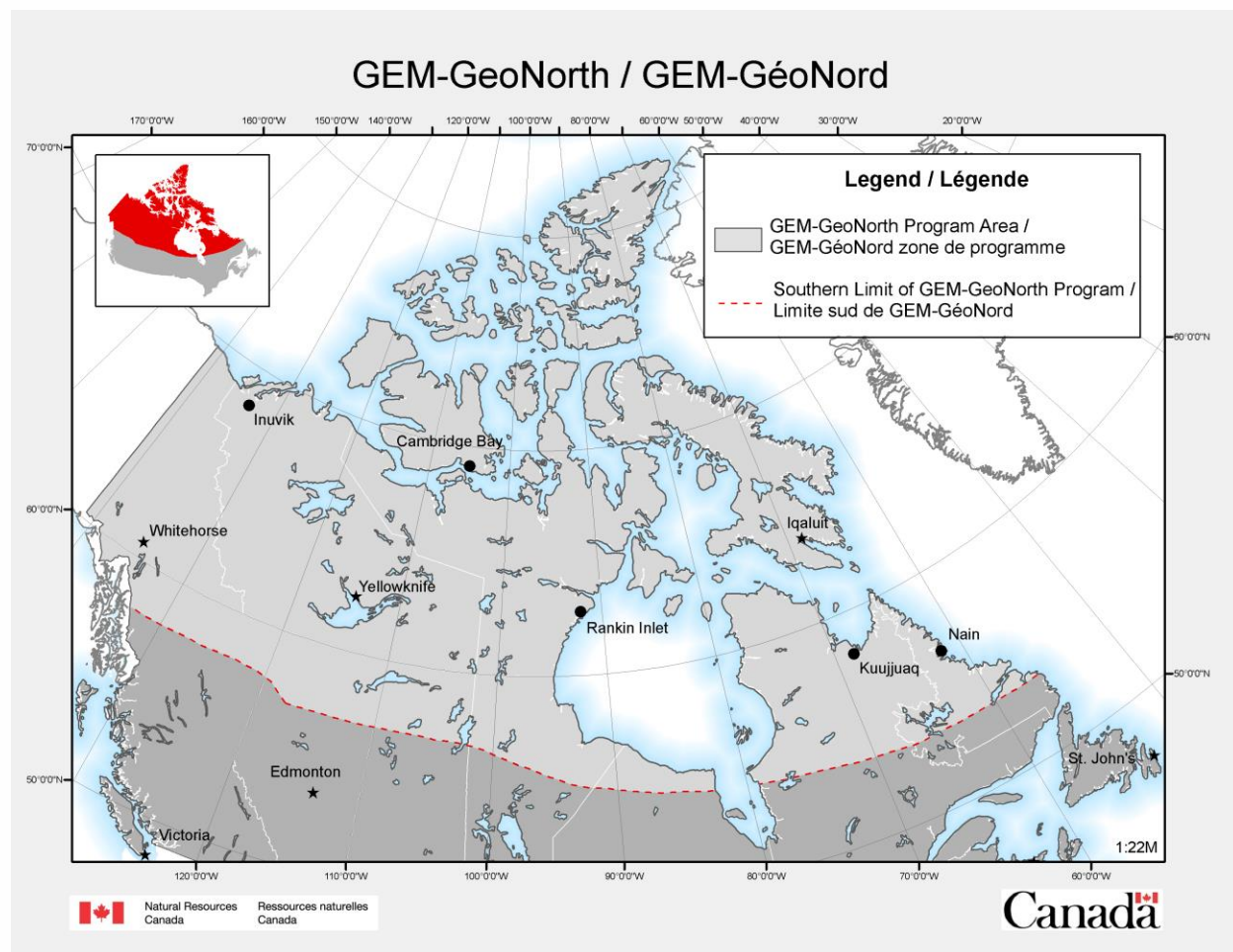
Co-development with Northern and Indigenous organizations

GEM-GeoNorth hopes to work closely with Northern and Indigenous governments and organizations on co-developing program priorities. The purpose of this process is to include the perspectives and priorities of interested Indigenous landholders, governments and representative organizations in the planning of research on their

territories. A first for the GSC, the GEM-GeoNorth team is excited to embark on this process and to continue to build upon relationships throughout the North.

Building on prior NRCan research

GEM-GeoNorth is a continuation of the **Geo-Mapping for Energy and Minerals (GEM) program**, but with a broader scope to reflect today's realities and priorities in northern Canada. GEM was a 12-year mapping program to bridge the significant geoscience knowledge gap in the North, focusing on the area north of the 55th parallel of Canada.



The first 12 years of GEM brought geological understanding of the North to a minimum foundational level by identifying what geological processes occurred in the region over the approximately 4.5 billion years of the Earth's dynamic history. Despite great progress made in GEM, northern Canada still remains under-mapped relative to southern Canada. GEM-GeoNorth will continue to fill this knowledge gap, with greater detail around priority areas.

For more information about GEM-GeoNorth, please contact:

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