

North/Nord Project Proposal: National Topographic Series

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References:

1. Fujikane, Candace. (2021). Mapping Abundance for a Planetary Future. Duke University Press
2. Heat Moon, W. Least. (1991). PrairyErth : (a deep map). Mariner Books.

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North: the Canadian Shared Print Network/

Nord: Réseau canadien de conservation partagée des documents imprimés

The NTS Series: Context & Importance

This project seeks to improve access to, visibility of, and long-term stewardship for three complete sets of the **National Topographic Series (NTS)** 1:50,000 scale maps, covering print editions produced between the 1950s and 2012. The project will also consolidate information about where digitized versions of the series can be found. This nationally significant cartographic series is held in many academic libraries as well as in provincial and national archives across Canada. Representing a spatial snapshot of Canada's evolving landscape over six decades, the NTS offers the most comprehensive and standardized cartographic coverage of the country — incorporating consistent elements such as scale, projection, geographic coordinates, symbology for natural and built features, color schemes, and elevation contours.

The production of these maps was not only a technical achievement but also a major postwar national effort involving engineers, surveyors, draftspeople, and pilots. Central to this process was the acquisition of aerial photography, which employed a significant workforce—particularly in the post–Second World War period. These aerial images formed the foundational data from which the maps were derived, enabling the integration of topographic features such as contour lines and elevational detail, and marking a pivotal moment in Canada's scientific and cartographic history.

These maps, offering detailed geographic and environmental data of Canada at a critical scale, remain invaluable resources for scholars, researchers, and practitioners across disciplines such as geography, history, environmental studies, and Indigenous research. Once widely distributed across Canadian libraries to facilitate broad access, the present state of these collections is uneven, with many institutions now holding only partial or fragmented sets. As these maps are no longer being produced, they have taken on archival significance, representing Canada's historical efforts to chart its own territory. They offer a compelling lens into the politics of cartography—revealing how power relations, settler geographies, positionality, and erasure are embedded in the very act of mapping. The National Topographic System (NTS), in this context, stands as a cartographic artifact of what some have termed “colonial math metrics.” Although these map fonds form the foundation of most Canadian academic map collections, their physical use has declined markedly; today, they are typically consulted only when digital versions are unavailable or when researchers require the spatial continuity of adjoining sheets.

Project Summary

This project seeks to improve access to, visibility of, and long-term stewardship for three complete sets of the National Topographic Series (NTS) 1:50,000 scale maps, covering print editions produced between the 1950s and 2012. While many Canadian organizations hold these print collections, not all are able to commit to long-term retention or storage in stable environments. The starting point for this project will focus on three institutions that have large NTS print collections and have committed to retain the 1:50K series for the retention period 2025 to 2050 in environments which are preservation positive. Those institutions are North/Nord members the Bibliothèque et Archives Canada/Library and Archives Canada, the University of Alberta and the University of Toronto, hereafter referred to as the retaining libraries.

As library practice has been to catalogue maps at the series level only, the creation of full item-level inventories for this series as currently held by the identified institutions will be a priority for the project. Map specialists at the University of British Columbia have produced such an inventory and the project will be aided by their expertise. These inventories will be used not only to describe in detail what is held, but as importantly, show where gaps exist. The project will seek to fill gaps in the retaining library's collections through cooperation with the wider North/Nord membership.

The objective of shared print work is to ensure material remains accessible for the long-term. The project will explore the extent to which access to these print maps is required and how it may be achieved, and where access to a digital version, either existing or created on demand, would meet the need.

This project will also document best practices for incorporating the commitments made by the retaining libraries in local collection management projects undertaken by other libraries.

By bringing together digital access and shared print stewardship, this project will support a more coordinated national approach to collection management. It reflects a broader commitment to collaboration, equitable access, and sustainable preservation practices within the Canadian library community. This North/Nord project will be foundational work for enhancing access and stewardship of the National Topographic Series with the aim of supporting a more robust discovery and integration through partnership with Scholars Portal and Canadiana.

Metadata created or enhanced as part of this project will be made available through an open collection in Borealis (Borealis <https://borealisdata.ca/dataverse/topomaps>) using an OAI-PMH endpoint. Full documentation will be provided from the Scholars GeoPortal's new (planned) National Topographic Maps website to the library and research communities, supporting both preservation and academic engagement.

Membership

Reporting to the North/Nord Steering Committee, the working group will be comprised of:

- 1-2 representatives from each retaining library
- 1 representative from UBC
- 1 representative from CARTO/ACMLA
- Canadiana/CRKN representative

Project management support and liaison with the Steering Committee will be provided by the North/Nord Coordinator.

Communication

The working group will provide regular updates on its work to the steering committee. These updates will be incorporated into the annual report to funders. The working group will also share

its progress directly with members via dedicated space on the North/Nord website and through an online presentation(s) given as part of the North/Nord community development series.

Through membership in the Shared Print Partnership, North/Nord will highlight this format specific project. It is anticipated that expertise developed by working group members will be of international interest.

In Scope

- Ensure three complete sets of NTS 1:50K series are retained under North/Nord and accessible to researchers and libraries in Canada, with one set available via Library and Archives Canada
- Develop a master list of all maps published as part of the NTS 1:50K series up to 2012 building on inventories assembled in a [Google Folder](#) as a part of developing this project proposal.
- Where applicable, facilitate shelf-validation in the retaining libraries to ensure that maps are present and in good condition, suitable for digitization if needed
- Establish agreements which facilitate the transfer of specific maps from North/Nord member libraries to fill gaps in retaining library collections
- Collaborate across participating institutions to improve item-level metadata for collections which have previously been catalogued at series level only
- Develop publicly available documentation outlining key outcomes of this project including retention lists, access provisions, availability of item-level metadata and information about digital collections
- Develop publically available best practice documentation for libraries wishing to conduct local collection management projects relying on the work on this national project
- Deliver presentation(s) given as part of the North/Nord community development series.
- Give a presentation to the shared print community on the outcomes of this project
- Establish a template for shared print map preservation across Canadian libraries

Out of Scope

- Digitization of collections or identify gaps in collections which have already been digitized
- NTS series other than 1:50K

Strategic alignment with North/Nord

This project aligns with North/Nord's strategic Vision & Mission that focus on safeguarding Canada's academic and cultural heritage. By protecting and preserving, as well as providing fair access to Canada's scholarly and cultural records, we can ensure Canada's ability to independently manage its knowledge resources.

Appendix A

Topographic Map Depositories in Canada

Many public libraries, universities, community colleges, cegeps, and government libraries in Canada and abroad are official depositories for maps of the National Topographic System (NTS) and National Atlas of Canada.

Alberta

- [Mount Royal University](#)
- [University of Alberta - William C. Wonders Map Collection](#)
- [University of Calgary - Map and Airphoto Collection](#)
- [University of Lethbridge - Library](#)

British Columbia

- [College of New Caledonia - Prince George Campus](#)
- [Greater Victoria Public Library](#)
- [Richmond Public Library](#)
- [Simon Fraser University – Library](#)
- [University of British Columbia - Walter C. Koerner Library](#)
- [University of Northern British Columbia](#)
- [University of Victoria - Map Library](#)
- [Vancouver Public Library](#)

Manitoba

- [Brandon University - John Langton Tyman Map Library](#)
- [University of Manitoba - Elizabeth Dafoe Library](#)
- [University of Winnipeg - Map Library](#)
- [Winnipeg Public Library](#)

New Brunswick

- [Mount Allison University - Libraries & Archives](#)
- [University of Moncton - Bibliothèque Champlain](#)
- [University of New Brunswick - Harriet Irving Library](#)

Nova Scotia

- [Acadia University - Vaughan Memorial Library](#)
- [Centre of Geographic Sciences](#)

- [Dalhousie University - Killam Memorial Library, Map and Geospatial Information Collection](#)
- [St. Mary's University - The Patrick Power Library](#)

Ontario

- [Brampton Library](#)
- [Brock University – James A. Gibson Library](#)
- [Carleton University - MacOdrum Library](#)
- [Hamilton Public Library](#)
- [Lakehead University - Geography Department Map Library](#)
- [Laurentian University](#)
- [McMaster University - Lloyd Reeds Map Collection](#)
- [Library and Archives Canada](#)
- [NRCan Library](#)
- [Ontario Legislative Library](#)
- [Ottawa Public Library](#)
- [Queen's University](#)
- [Ryerson University Library & Archives](#)
- [Toronto Public Library](#)
- [Trent University – Library & Archives](#)
- [University of Guelph - McLaughlin Library](#)
- [University of Ottawa - Library](#)
- [University of Toronto - Map & Data Library](#)
- [University of Toronto at Mississauga](#)
- [University of Toronto at Scarborough - Bladen Library](#)
- [University of Waterloo - Library](#)
- [University of Western Ontario - Western Libraries](#)
- [University of Windsor - Leddy Library](#)
- [Wilfrid Laurier University - Laurier Library](#)
- [York University](#)

Prince Edward Island

- [University of Prince Edward Island - Robertson Library](#)

Quebec

- [Cégep de Saint-Laurent - Bibliothèque \(in French only\)](#)
- [Bibliothèque et Archives nationales du Québec](#)
- [Bishops University - John Bassett Memorial Library](#)
- [Concordia University - Library](#)
- [McGill University – Library](#)
- [Université Laval - Cartothèque \(in French only\)](#)

- [Université de Montréal - Cartothèque](#) (in French only)
- [Université du Québec en Abitibi-Témiscamingue - Bibliothèque](#)
- [Université du Québec à Chicoutimi - Bibliothèque Paul-Émile-Boulet](#) (in French only)
- [Université du Québec à Montréal - Bibliothèques](#) (in French only)
- [Université du Québec à Rimouski - Bibliothèque](#) (in French only)
- [Université du Québec à Trois-Rivières - Bibliothèque](#)
- [Université de Sherbrooke – Service des bibliothèques et archives](#) (in French only)

Saskatchewan

- [University of Regina - Dr. John Archer Library](#)
- [University of Saskatchewan - University Library](#)

Newfoundland and Labrador

- [Memorial University of Newfoundland - Libraries](#)

Yukon

- [Yukon Archives](#)

Appendix B

Digitized collections at NRCan

https://ftp.maps.canada.ca/pub/nrcan_nrcan/raster/topographic/doc/cantopo/

CanTopo

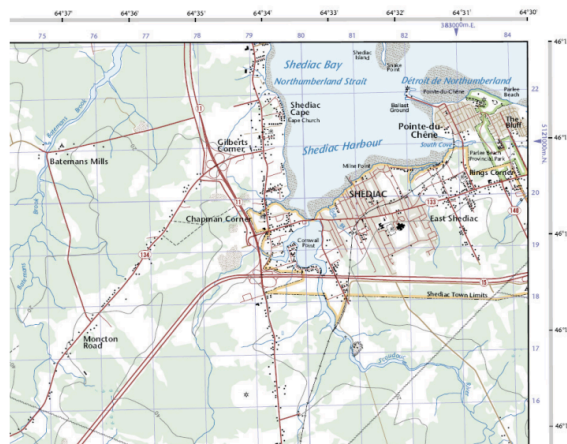
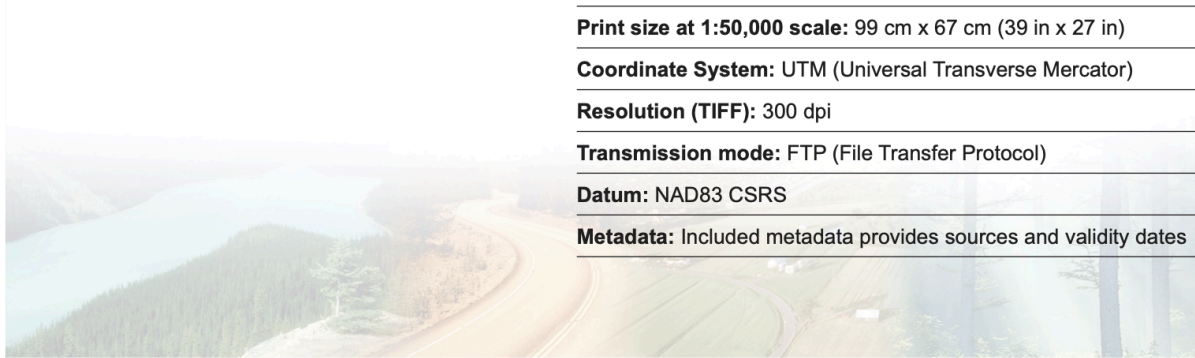
Natural Resources Canada now produces **CanTopo**, the next generation of digital topographic maps depicting key areas of Canada's vast and varied geography. These new digital maps contain improved topographic content from a variety of authoritative sources and are offered as a high-quality, print ready cartographic product.

Map users will notice improved accuracy when using the new maps along with Global Positioning System (GPS) receivers, as well as updated content for important features such as roads and water bodies. These maps include updated place names, metric contours, and improved positional accuracy.

CanTopo map files are available on-line from the GeoGratis web site (<http://GeoGratis.gc.ca>) in print ready formats. High quality paper copies of all Canadian topographic maps are also available through Regional Distributors of the Canada Map Office, and through Certified Map Printers who ensure local, high quality, on-demand plotting of topographic maps.

Common Use

CanTopo digital maps are multipurpose and can be utilized in a multitude of scenarios, such as emergency response, natural resource management, geographical education and recreational pursuits.



Partial example of a CanTopo digital map:
021-1/2, Moncton, New Brunswick – 1:50,000

Technical specifications

Scale: 1:50,000

Distribution formats: PDF (Portable Document Format)
GeoPDF (Geo-referenced Portable Document Format)
TIFF (Tagged Image File Format), GeoTIFF

Print size at 1:50,000 scale: 99 cm x 67 cm (39 in x 27 in)

Coordinate System: UTM (Universal Transverse Mercator)

Resolution (TIFF): 300 dpi

Transmission mode: FTP (File Transfer Protocol)

Datum: NAD83 CSRS

Metadata: Included metadata provides sources and validity dates

geogratis.gc.ca

Canada

Information regarding production of topo maps:
<https://archive.org/details/CMO-topo-001/page/n1/mode/2up>

COMPILATION DES RENSEIGNEMENTS

Planification

La photographie aérienne

Les levés

Calcul des données des levés, traitement, analyse et mise en mémoire

Le photogrammètre aérien

LES OUTILS

ESQUISSE DE LA CARTE

Adaptation

Photogrammétrie

Vérification sur le terrain

Manuscrit tenu et corrigé

Programmation des données du manuscrit

Reproduction du manuscrit sous forme de négatif en du plastique

Mise en mémoire des données du manuscrit

Tracé cartographique

Plastique gravé

Mise des caractères sur une planche d'écriture

Transformation de la planche d'écriture en négatif

Les négatifs

Correction des négatifs

Assemblage des négatifs et une seule plaque d'impression

La plaque d'impression

L'impression

La carte topographique complétée

PRODUCTION D'UNE CARTE TOPOGRAPHIQUE

LA CARTOGRAPHIE

LES RÉSULTATS DE TRAVAIL ET DE SURVEILLANCE

LES NÉGATIFS A IMPRIMER

L'IMPRESSION

LES OUTILS

LES RÉSULTATS DE TRAVAIL ET DE SURVEILLANCE

LES NÉGATIFS A IMPRIMER

L'IMPRESSION

PRODUCTION D'UNE CARTE TOPOGRAPHIQUE

LA CARTOGRAPHIE

LES RÉSULTATS DE TRAVAIL ET DE SURVEILLANCE

LES NÉGATIFS A IMPRIMER

L'IMPRESSION

LES OUTILS

LES RÉSULTATS DE TRAVAIL ET DE SURVEILLANCE

LES NÉGATIFS A IMPRIMER

L'IMPRESSION

Appendix C

Maps Published

NRCAN's NRCAN_NTS_50K_63K_Inventory in Google Drive folder has multiple tabs, one of them lists available NTS #'s which NRCAN was able to compile.

For a clearer picture, please check out this index map of Canada:

<https://doi.org/10.4095/288537>

This is the latest index map of all of Canada. However, it appears there isn't a download, so the previous version is here:

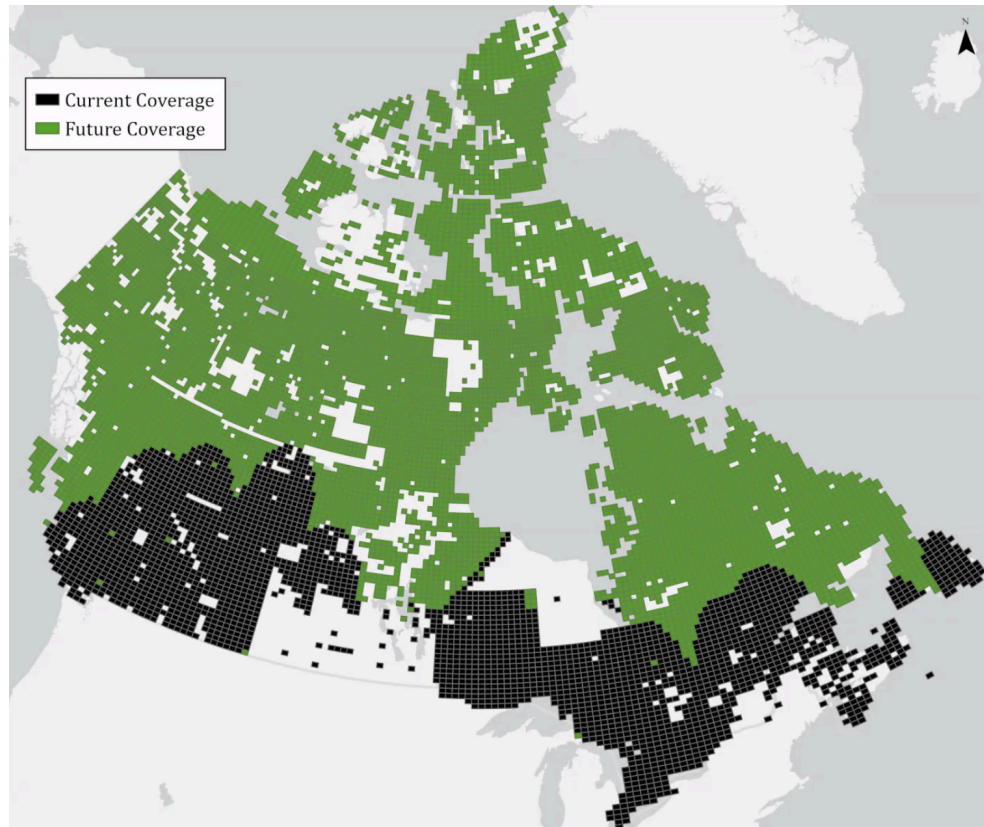
<https://doi.org/10.4095/288554>

After 2001 (the publication date of the 1st index map above), it was split into 6 indexes, covering different parts of Canada. You can search for these in OSTR by using:
"maps of the national topographic system of canada"

Use the quotes for better search results.

Appendix D

Scholars Portal has been able to develop a gap analysis (georeferenced above) as well as a list identifying collection gaps.



Georeferencing the McGill Collection: B white spaces are gaps (courtesy of Amber Leahey).