



CARTOUCHE

Canadian Cartographic Association

CANADA'S LAND COVER

Version 2015



Natural Resources
Canada

Ressources naturelles
Canada

Canada

Adapted from Latfovic, R., 2019. Canada's land cover; Natural Resources Canada, General Information Product 119e, version 2015, <https://doi.org/10.4095/315659>. This poster was one of Canada's submissions to the 2021 International Cartographic Conference map gallery.

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Cartouche content compiled and edited by Glenn Brauen. Layout and design by Gordon Campbell.

FEATURE ARTICLE: Historical Geography of the Métis Nation versus GIS and Spatial Presentism
by Sandy Hoye and others

FEATURE ARTICLE: Entangled toponymies: Embracing pluralism in place naming
by Shane Doddridge

FEATURE ARTICLE: Vines, Grapes and Wines in Saguenay-Lac-St-Jean
by Majella Gauthier

PRESIDENT'S MESSAGE

Ted MacKinnon

Geomatics Specialist with the
Department of Natural Resources



Many thanks to Glenn and Gordon, for putting together another great issue of Cartouche. I also would like to thank Claire Gosson for her many years of service and dedication to the CCA and participation on the executive committee, most recently as secretary. I would also like to welcome Stephanie Pyne who has graciously volunteered to fill the secretary role.

After almost two years, it is hard to believe that we are still dealing with a global pandemic, yet engagement in the geospatial community continues to thrive. Perhaps it helps that the majority of us are generally technical in nature and easily adapted to using various digital technologies and services to stay connected with one another. In fact one could argue that this lifestyle change and the widespread use of emerging online tools have opened up opportunities for increased community engagement.

The past annual CCA Conference and the recent Mapping in Indigenous Contexts workshop are good examples of this. Despite being unable to come together in person like the CCA traditionally has done in the past, the community still came together to share, discuss and engage with one another. The events were well attended by people spread out all across the country, including many that have not engaged with CCA events before.

After several discussions, the Executive has decided that we will also host and operate the upcoming 2022 CCA Conference online. We hope that through your help we will be able to connect with more people and encourage them to participate in the event. Together we help show how strong the geospatial community here in Canada really is.

Ted MacKinnon
President
Canadian Cartographic Association

The mission of the Canadian Cartographic Association (CCA) is to promote the disciplines and professions of cartography and Geographic Information Science.

VICE PRESIDENT'S MESSAGE

Glenn Brauen

Associate Professor, Teaching Stream
in the Department of Human Geography
at the University of Toronto Scarborough



We are pleased to bring you a new issue of your association's newsletter. This issue includes recent association news including summaries from presentations and competitions at our online CCA2021 conference and AGM, interesting features from across the membership, and information from the executive.

Association is a building of relationships. An association like the CCA is little more than the relationships we build through the activities in which we jointly participate. Our mandate at the CCA is to promote interest in maps in all their forms, to foster understanding and knowledge of maps and mapping methods, and to support the exchange of information and education about all these topics. Our annual conference and our support for Cartographica, an excellent

The association's Interest Groups have also supported knowledge sharing and information exchange. The CCA constitution lists designated interest groups, with the chairs of these groups being members of the association's executive committee. Each issue of Cartouche lists the names of the active groups and their current chairperson. Figure 1 shows the interest groups listed in Cartouche since 2005 when there were 5 active groups up until the 4 groups listed in each issue now. Although the association constitution was updated only in 2006 and then again in 2020, the names of the active interest groups have changed more frequently over the years, with the CCA executive able and willing to name groups as suggested by the membership and especially those members willing to lead a group.

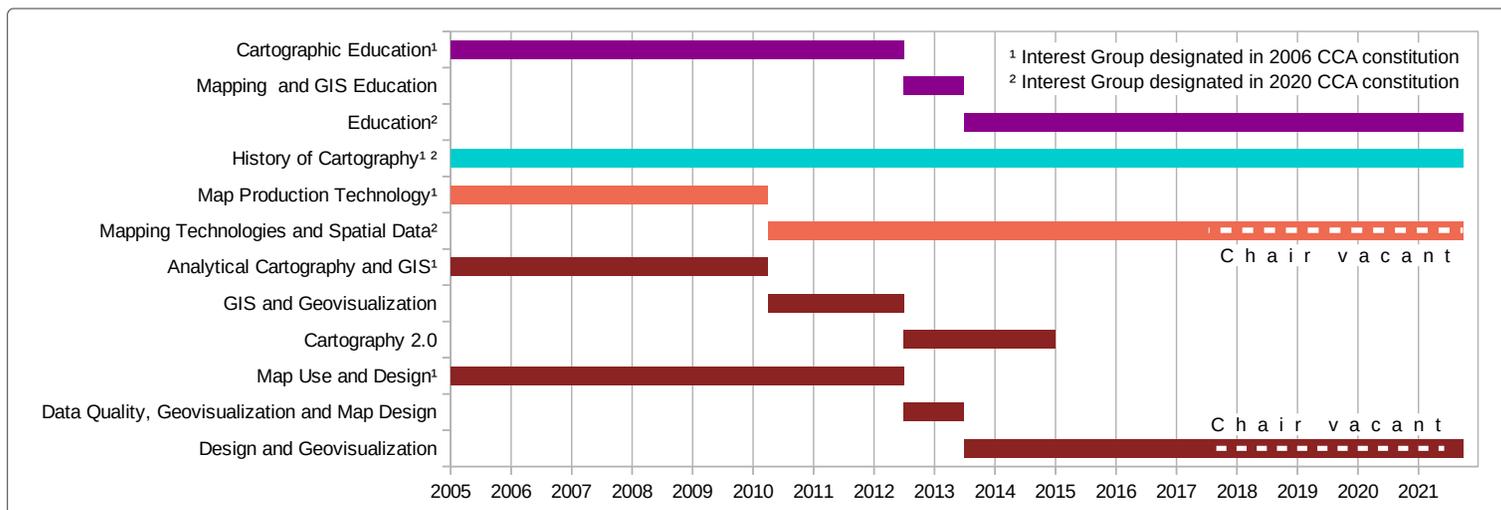


Fig.1 Association interest groups, as listed in Cartouche, 2005-present.

international scholarly journal, are key initiatives supporting our knowledge exchange and education objectives. The conference and other events, such as the October 27 half-day Mapping in Indigenous Contexts workshop organized by Shane Doddridge and Thomas Herbreteau, also become fora in which long-standing acquaintances can be renewed and new ones made. Hopefully soon, we will be able to conduct some of these meetings in person, at least partially.

Figure 1 also shows that 2 of our interest groups, "Mapping Technologies and Spatial Data" and "Geovisualization and Map Design", have had vacant chairs since 2017, at least until Thomas Herbreteau recently agreed to fill the Geovisualization and Map Design chair. Thanks Thomas! Claire Gosson has chaired the Education Interest Group

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since 2016, as part of her long service to the CCA, but recently stepped down from that role. Thank you, Claire, for all your contributions to the CCA, including in this position! This leaves us with 2 unfilled interest group chairs.

Interest in mapping technologies, spatial data, spatial visualization and map design remain high within our membership. Enthusiastic discussions flow easily whenever we host an event that focuses on any of these topics. This leaves me unsure why interest group chairs would remain vacant for an extended period. Although welcome to provide content for Cartouche and help in planning sessions at our annual conference, as are all members, we now expect fewer contributions from the interest groups and their chairpersons in this respect. Filling these chairs is still important to the association because it adds to the executive committee and these members assist in association decision making. If you are interested in filling one of these positions or would like to nominate someone for one of these roles, please contact me.

I see the CCA's main role as fostering discussion on the topics within our mandate. In this respect, this association really is what you make of it. I am interested in opinions about how the CCA might encourage and support discussions that fall within the existing interest group topics, or conversations you feel no one in the CCA is considering. If you think a topic is not being adequately discussed, please contact anyone on the executive to discuss your idea or just start conversations. Write a feature for Cartouche, present at the CCA annual conference, propose a special workshop, or connect with other members and map-interested people through our channels: @CdnCarto on Twitter, CCA on facebook (<https://bit.ly/3p4U8Hu>), or send email to the cca-list listserve (cca-list@lists.ubc.ca, sending from an email that is subscribed to the list; more information - <https://cca-acc.org/membership/listserver>).

I look forward to hearing from you.

Glenn Brauen
Vice President
Canadian Cartographic Association
glenn.brauen@utoronto.ca

CARTOUCHE

Cartouche is the Association's annual publication, featuring updates by the executive committee, news about conferences and events, member submitted articles and much more.

CCA members receive Cartouche as part of the membership. Current versions are sent directly to members, and past editions are added to the website:

<https://cca-acc.org/cartouche>

Event summary: Mapping in Indigenous Contexts

October 2021

Shane Doddridge

On October 27th 2021 the CCA hosted a half-day event, Mapping in Indigenous Contexts, which brought together five presenters working in the realm of cartography or geomatics in indigenous settings. The goal of the event, organised by CCA members Thomas Herbreteau and Shane Doddridge, was to contribute to the ongoing national dialogue about Canada's colonial past and present, as well as to celebrate the diverse range of exciting mapping work that is helping us take steps toward decolonisation and reconciliation. Many thanks to each of the presenters, listed below, for their enlightening talks.

Two key themes emerged from the presentations: (1) the historic and contemporary problems with "outsiders" (ethnographers, surveyors, cartographers, etc.) mapping the dynamic territories of indigenous peoples, and (2) the exciting modern applications of geomatics technology to better understand the past in indigenous settings, and to plan for the future. While maps have historically been tools for colonisation, their use as tools for decolonisation holds promise.

The workshop was presented as an online webinar using a Zoom license graciously provided by the Wolastoqey Nation in New Brunswick (<http://winnb.wolastoqey.ca/>). More information and videos of the presentations can be found on the CCA website (<https://cca-acc.org/mapping-in-indigenous-contexts.html>).

- Kenneth Favrholt: A Survey and Critique of Historical (and Modern) Ethnographic Maps of North America (with a focus on British Columbia)
- William Wadsworth (University of Alberta): Archaeological Remote Sensing with Indigenous Communities in Canada

CANADIAN CARTOGRAPHIC ASSOCIATION
Fall 2021 Special Event On

MAPPING IN INDIGENOUS CONTEXTS

Highlighting some contemporary Indigenous cartography, GIS, and remote sensing projects across Canada

REGISTER AT
cca-acc.org/mapping-in-indigenous-contexts.html

**WEDNESDAY
OCTOBER 27**

09:00-12:00	Pacific Mountain
10:00-13:00	Central
11:00-14:00	Eastern
12:00-15:00	Atlantic
13:00-16:00	Newfoundland

- Robert Gustas (University of Victoria): Using Shell Middens to Explore Indigenous Population Change in British Columbia
- Ted McKinnon (Natural Resources Canada): A look at how the Survey General Branch is supporting Indigenous Peoples' control of their lands
- Dan Cole (Smithsonian Institute): The Critical Importance of Historical Indigenous Cartography with Contributions to Euro/American/Canadian Cartography

Upcoming CCA Annual Conference and General Meeting



The Canadian Cartographic Association annual conference will be held online May 25-27, 2022.

We live in a world with complex and intertwined social, health, economic, demographic and natural challenges and opportunities, as COVID-19, wildfires, drought and floods (among other occurrences) have demonstrated in just the past two years. While we are awash with technologies and platforms that continually produce new data on some topics, data gaps remain concerning pressing issues. In addition, we must consider quality of data and fitness for purpose when data are available, and working with historical data that could provide context for many problems and discussions is often difficult. From concept to data collection to designing effective summaries and visualizations, how do mapmakers focus themselves and their audience on the stories geospatial data can help us tell? How does cartographic design apply in the diverse contexts in which location and spatial relations can help us understand our environment? How are design principles applied (i) in the forums and platforms on which our maps now appear and (ii) with the expectations users bring to maps and location?

The CCA welcomes presentation proposals that address any aspect of map design, production and use in all contemporary contexts, including but not limited to: design, tools and techniques; spatial data design, collection or digitization; emerging or established mapping platforms and processes; mapping applications including health, politics, demographics, economics, nature, tourism, or other worlds (real and imagined); Indigenous mapping; community mapping; politics of mapping; critical cartographies; history of maps and mapping; mapping technologies; open source mapping; open geospatial data; crowdsourced data and mapping; global positioning and grid systems; geospatial data providers and services; and any other aspects of cartography and GIScience.

The deadline for submission of presentation proposals is March 25. We are interested in receiving proposals for



any of the following presentation types (more details for each will be posted on our website):

- Standard presentation (15 minutes + questions suggested)
- Lightning talk (7 minutes + questions suggested)
- Poster / Map (for online gallery)
- Workshop

We will live stream and record presentations, allowing us to post videos later on the CCA website. Presenters and abstracts will be included in conference proceedings. Authors also may opt to summarize presentations for publication in an upcoming edition of *Cartouche*. Student presentations will be eligible for the CCA Best Student Paper / Presentation award.

Watch the CCA website (<https://cca-acc.org>) for updates concerning conference plans.

CCA Treasurer's Report

Byron Moldofsky

At the AGM last May I reported on the previous fiscal year 2020, and tabled the full report for that year. That report is available to members, and was sent out with the AGM minutes. If anyone needs a new copy, they are welcome to email me at: cancartassotreasurer@gmail.com.

Of course, 2020 was essentially a "lost" year financially due to COVID-19. The CCA's Conference/AGM is the largest determinant of revenues and expenses, and in 2020 our conference was cancelled. In its place we arranged one Online Day of Presentations which took place June 10, 2020, thanks mostly to the stalwart efforts of organizers Roger Wheate and Chris Storie. This incurred no costs and collected no revenue. It attracted approximately 165 participants and appeared to be a great success in serving our members and reaching out to like-minded potential members.

As most of you know, encouraged by this success, our conference this year (May 25-27, 2021) went completely virtual. I and other members of The Executive Committee spent time investigating different options for platforms to stage the conference and AGM. I am sure many of you members have had similar experiences in the past year and a half - if you had any Eureka moments which found perfect solutions, please let us know. The obvious default in the spring of 2021 was to go full-on Zoom - hard to believe two years ago Zoom was still a relatively obscure video-conferencing platform, used mostly in academic environments. But Zoom, while wonderful for online meetings, has some issues for full conference management. These included control over access, registration and payments, as well as the lack of some of the bells and whistles that dedicated conference software featured.

We decided to go with Pheedloop.com, a small but growing Canadian company, and their user interface and environment is what you experienced during CCA2021. Others in these pages will report on the content of the

conference - which was impressive - and possibly on the Pheedloop "UX/UI" - which had highs and lows. If we use it again next year, we should certainly manage to make significant improvement. In terms of the financial picture using Pheedloop, we made some mistakes which resulted in higher expenses than were necessary. The software requires one to buy credits for its different modules and for users, in advance of the day. For example, the user credits are sold in standard chunks, of 100 or 250 users. To be safe, we booked more user credits than we ended up using. Rookie mistake!

The overall cost of the conference, mostly Pheedloop payments, was around \$4500, and we brought in net revenue of about \$2200, mostly new registrations and memberships, and some sponsorships. So the conference cost us about \$2300, when our goal, which is usually achieved, is to break even. My inclination is to chalk it up to another unforeseen cost of COVID. And as I mentioned, I am sure we can do better next year.

The CCA also hosted a free half-day workshop October 27: Mapping in Indigenous Contexts. This was a resounding success and held entirely on Zoom, with the Zoom license used for the event graciously provided by the Wolastoqey Nation in New Brunswick. This event therefore had no financial impact but was a wonderful chance for us all to get together and learn about the interesting research and projects going on in Canada (and the US) in this sphere. There were some other financial details that were taken care of in 2021 related to our banking administration and long-term investments, but nothing that cannot wait for the 2021 report which I will deliver at the AGM this coming spring. Again any questions can be directed to my email (above). Also, 2022 will be my final year as treasurer of the CCA, so if any members are interested in joining the executive in this role and would like to learn more about it, please feel free to contact me directly.

CCA Annual General Meeting

May 27th, 2021

Summary of Discussions

The CCA held its 2021 Annual General Meeting May 27th, 2021, 5:30 PM ADT. Twenty-six association members were in attendance. Full minutes are available on the CCA website (<https://cca-acc.org/membership/agm>). A brief summary of discussions follows.

Welcome and Reports from CCA President:

Ted MacKinnon

Ted MacKinnon welcomed the participants and provided an overview of the association's activities for the past year. The 2020/2021 CCA year was shorter than most years because the 2020 AGM was held late after the 2020 annual conference was cancelled (COVID-19).

- We would like to try and increase engagement, possibly through the special interest groups. Two groups currently have no chairperson: Mapping Technologies & Spatial Data, and Geovisualization & Map Design.
- CCA ran a workshop at GoGeomatics's 2021 Geolgnite Conference. The workshop consisted of demos from Dave MacLean (COGS), Morgan Hite (Hesperus Arts), and Noah Stevens (3D Wave Design). About 80 people attended (of 240 registered).
- We have started to implement an online document depository for association documents.

Treasurer's Report and Summary of Finances:

Byron Moldofsky

- Overall revenues and expenses were down markedly in 2020 because the annual conference was cancelled.
- CCA has cash assets sufficient for continued operation.

Ted Mackinnon gave an overview of the 2021 annual conference and asked for feedback from CCA members attending the AGM.

- We added 21 new regular members as well as 9 new student members.
- Costs for using the Pheedloop platform were higher than the original plans. We learned quite a bit this year and should be able to adjust registration fees and/or costs if we use the same platform again.
- We invite feedback on the current online conference. We may need to do more activities remotely. The group organizing the conference learned a lot about the challenges in general and with the platform we chose. We do need to hear from presenters and attendees about what could have gone better.
- Feedback from members attending the AGM about the conference was mostly that the event appeared well run and the content was good. We would like to engage students more. Some suggested that virtual or hybrid events may well be what we should plan for from now on, possibly with more emphasis on regional meetings and a larger role for students.

Ted Mackinnon talked about planning for the 2022 conference. There is a good chance the next conference will be virtual or hybrid again next year because it will be difficult to plan for in-person until at least the new year. We should aim for another online conference at the end of May 2022. Although we are considering a venue for the 2022 annual conference, it will be difficult to identify locations that would want to commit now and we don't know whether it will be needed. Roger Wheate hopes that for 2024 we might be able to meet with the Mountain Cartography conference in Whitehorse.

Ted MacKinnon asked whether we should try to do a mid-year event. While nothing was definite, this discussion started the idea of doing a Fall half-day event that developed into the October 27 Mapping in Indigenous Contexts workshop organized by Thomas Herbreteau and Shane Doddridge (see separate item).

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Cartouche & Cartographica:

Glenn Brauen

Glenn Brauen provided reports for Cartographica, on behalf of Emmanuel Stefanakis, and Cartouche. We would like to put out a new issue of Cartouche earlier this Fall than last year.

Membership Report:

Roger Wheate

Roger Wheate provided a membership report. Membership has fluctuated based mostly on the annual conference.

We welcome new members, while the association's goals focus as much on promoting mapping.

** see membership column on later page for recent updates.*

New Business:

Ted Mackinnon

Under the heading of new business, Ted Mackinnon reported that we had 8 student mapping submissions on display at the conference with entries from Ryerson University, COGS and Selkirk College. Two awards were given (see separate item). Thank you to the competition judges: Anna Jasiak, Monica Lloyd, Roger Wheate and Claire Gosson. We discussed strategies for increasing the participation of students in our mapping competition, including Jean Thie's suggestion to contact Canadian Geographic about ways we could raise the profile of the competition.

Adjournment:

Ted closed the meeting with thanks to both Shane Doddridge and Thomas Herbreteau for making this conference a success.



Canadian Cartographic Association l'Association canadienne de cartographie

Canadian Cartographic Association Awards of Distinction

The Canadian Cartographic Association (CCA) Awards of Distinction program was initiated in 1994 to help recognize individuals or groups who have made exceptional contributions in the field of Cartography in one of three categories:

1. Exceptional professional contributions to the practice of cartography
2. Exceptional scholarly contributions to cartography
3. Exceptional contributions to the Canadian Cartographic Association.

Nominations for future awards may be forwarded by any CCA member to the [Past-President](#) or any member of the [CCA Executive](#).

Note: Awards of Distinction are not necessarily awarded every year.

Visit the [CCA website](#) to view lists of all the distinguished recipients from over the years, as well as links to other CCA awards and scholarships.

CCA2021 - Connecting the Dots for Multi-Dimensional Mapping

May 25-27, 2021

Virtual Conference Event Summary

Glenn Brauen

CCA hosted our 2021 annual conference online due to the prolonged COVID-19 pandemic using the Pheedloop platform. This provided several advantages compared to us managing zoom sessions on our own including the ability to register attendees, stream presentations, and be somewhat interactive with users. The event included 3 keynote presentations, an Esri workshop, an interactive panel, and more than 25 presentations. We had 210 registered attendees in total with simultaneous attendance, during our keynote talks, reaching a maximum of about 90. We automatically registered all CCA members for free, providing a nice member benefit, but this did complicate our ability to estimate how many participants to expect at any given conference session or keynote.

Byron Moldofsky's treasurer report in this issue provides a brief overview of the rationale and some of the financial implications of our decision to use the Pheedloop platform. Overall the platform worked well for us. Some presenters had technical difficulties with sharing their screens so we know we need to make practice sessions more available if we use this platform again. While the platform provided very good facilities organizing presentations, exhibits and poster sessions, it unfortunately provided two views of the presentation schedules, one of which adjusted to each user's timezone whereas the other would only show in Atlantic Daylight Time. These mismatched dual schedules did create confusion for attendees and presenters.

Thanks to Maxar Technologies for their Platinum Sponsorship of the conference. Maxar and some of the CCA's institutional and corporate members, COGS, Eclipse Geomatics and GoGeomatics, created virtual exhibits on the conference website. The conference included virtual poster and student map competition spaces. Thanks to the conference committee whose hard work helped make the event possible: Thomas Herbreteau, Shane Doddridge, Byron Moldofsky, Roger Wheate, Anna Jasiak, Gordon Campbell, Ted MacKinnon and Glenn Brauen.

We began each day of the conference with a keynote presentation, all of which were excellent and are described below along with a list of the research presentations, lightning talks and one workshop that were grouped thematically to fill out the daily schedules. The student map competition winners are described in a separate item in this issue.

More information, including presentation abstracts and links to videos of some presentations, is available on the CCA website (<https://cca-acc.org/conferences/2021-cca-conference>). We invited authors to provide a summary of their presentations



for this issue - please see those items immediately after this overview.

Keynotes

May 25: Anita Graser - Geospatial Data Analysis

Anita Graser framed her discussion within the context of geographic data science, discussing geospatial data analysis with a focus on visualization, showing a variety of examples, especially from her recent work on mobility data. She demonstrated open source technologies, many that integrate with QGIS (e.g., GeoPandas, Jupyter Notebooks, R), and emphasized the importance of interdisciplinary communication within teams to turn data into insight and understanding.

May 26: Tim Webster - Exploring Multiple Types of LiDAR Maps and Applications

Tim Webster provided an overview of the principles of lidar, describing the fundamental properties of the technology and details of various lidar platforms (airborne topographic, terrestrial, mobile, drone, bathymetric). He demonstrated the transformations of lidar data into a variety of terrain representations and discussed forestry, corridor mapping, and bathymetric, habitat and flood risk modelling applications.

May 27: Steve Liang - Empowering the Workforce of the Future with IoT and AI

Steve Liang discussed his vision for using Internet of Things (IoT = sensor networks) data, including geospatial data, and intelligent automation (affordable, accurate enough predictions) to help workers focus on tasks requiring higher-level judgement to improve safety, productivity and decision making. He presented a general process flow model that derives predictions from sensors and previous learning, communicates predictions and outcomes using maps, and recommends tasks for worker decision making. He presented applications of this process template including solutions for retail sales, process management, and health and safety monitoring automation.

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Presentations**May 25**• ***Cartographic Design:***

- Byron Moldofsky - Lives in Motion: Mapping migration within Southern Ontario between 1861 and 1871
- Jennifer Johnston - Exploring How Culture and Technology Influence the Colour Trends in Mapping
- Stephanie Ingmire - The Growth of Fantasy and Artistic Cartography
- Morgan Hite - Creating Shaded Relief With Skymodels

• ***Indigenous People and Places on Maps:***

- Chris Brackley - The challenge of meaningfully putting Indigenous People back onto maps of Canada
- Shane Doddridge - Navigating Theory in Toponymy: Approaching Indigenous Place Names in the Chilcotin Region of Canada

• ***Indigenous and Community Mapping:***

- Stephanie Pyne - Mapping for Reconciliation with Students over Multiple Projects and Platforms
- Victor Temprano - Community Consent & Control in Indigenous Mapping
- Julia Conzon, Peter L. Pulsifer & Shari Fox - Towards Co-Producing Web-Based Geospatial Technologies: A Proposal for Clyde River, Nunavut
- Glenn Brauen - Open source content management as a basis for community-engaged web mapping and experiential learning

May 26• ***LiDAR and Remote Sensing:***

- Kei Ayguci - Utilization of LiDAR data for forest resource management in Japan
- Lukas Jarron - Quantifying and Mapping Coarse woody Debris using Airborne Laser Scanning
- François du Toit - Use of Remote Sensing Technology for Phenotyping in Tree Improvement Programs in British Columbia
- Spencer Dakin Kuiper - Mapping Stream Attributes Important to Fish in Coastal British Columbia with Airborne LiDAR

• ***Remote Sensing and Earth Modelling:***

- Mingke (Erin) Li - Integration of Multi-source Terrain Data on Discrete Global Grids
- Charles Papasodoro - National Elevation Data Strategy Update
- Ryan Hamilton - MAXAR 3D: The Globe in 3D

• ***Workshop:***

- Aileen Buckley & Paul Heersink - Multivariate Mapping with ArcGIS

May 27• ***Urban Wayfinding and Planning:***

- Clare Seldon & Tony Pearce - TO360 Wayfinding in Toronto
- Clare Seldon - Kingsbridge's Unique Map Design
- Clare Seldon & David Kopulos - Ottawa Wayfinding to Support Post-COVID Tourism
- Jeff Allen - The Political and Imaginative Forms of Fantasy Transit Maps
- Jonathan Critchley - Using 3D Web Maps to Visualize Urban Policy Data and the Built Environment

• ***Mapping the Pandemic:***

- Clio Marsh Nikias, Robert Harris & Colin Lang - Using Cartography and Spatial Analysis for Effective Public Communication During COVID-19
- Panel: Yu Lan, Fox Underwood, Claus Rinner & Samuel Otterstrom - Mapping the Pandemic

• ***Climate Data and Modelling the Environment:***

- Noah Stevens - Democratizing Climate Data for the General Public
- Daniel Brendle-Moczuk - From Coast to Coast with NetCDF Files



CCA 2021 Presentation Summaries

Highlighting presentations by Morgan Hite, Stephanie Ingmire, Viktor Temprano, Clio Nikias (and others).

<https://cca-acc.org/conferences/2021-cca-conference>

Creating Shaded Relief With Skymodels

Morgan Hite, Hesperus Arts (morgan@hesperus-wild.org)

Shaded relief can help your map jump right off the page! In this article I'll explain how to use an uncommon method of generating shaded relief, but one that produces some beautiful results.



Fig. 1: Skymodel relief underlying a map of the central part of the Coast Range, British Columbia

Most of the familiar tools we have for generating shaded relief from digital elevation models (such as the built-in tools in QGIS and ArcGIS) ask us to choose the sun's elevation and azimuth. The Skymodel, described by Pat Kennelly and James Stewart in their 2014 paper, *General Sky Models for Illuminating Terrains*, is a more complex model of lighting. In the Skymodel, light comes from many directions at once, and different parts of the sky have different luminosities.

To generate Skymodel relief, we can use Jake Adams's Raster Chunk Processing (RCP) software. He has an excellent post on this (for Windows users) at <https://gisjake.blogspot.com/2018/10/rasterchunkprocessingpy-installation.html> This page contains links to download the software. I have written a page for linux users at <https://wanderingcartographer.wordpress.com/2020/05/08/shaded-relief-using-skymodels-courtesy-of-raster-chunk-processing/>

What's great about RCP is that it chops your big DEM into "chunks" that it processes separately. They overlap, so you don't get seams or artifacts in your final shaded relief. You can feed it truly enormous files, as long as you give a chunk size that your processor and RAM can handle. In effect you are substituting time for computing power. I have fed it DEMs that are 26,000 pixels on a side, and it has handled them gracefully.

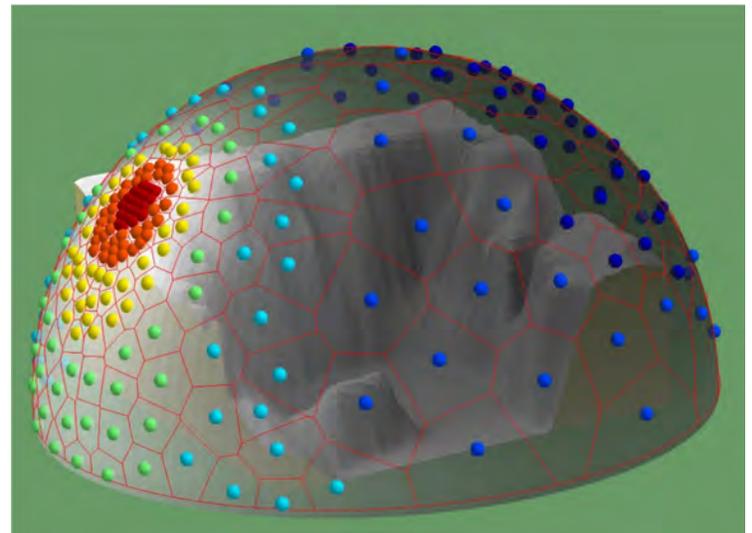


Fig. 2: Graphic depiction of a skymodel. Each sky-cell has a coloured dot representing the intensity of light coming from it.

It's a two part process. You begin by running a small program called *Skylum.exe*, which creates an illumination file. This small CSV file specifies the intensities of light coming from each of 255 directions. *Skylum* has over 20 presets you can choose from, given a sun azimuth and elevation that you specify. After the illumination file has been generated, be sure to remove the header lines.

Second, you pass this illumination file and your DEM

continued on page 14

to RCP using the command line. Your DEM should, as is typically true for generating any shaded relief, be in a local metric projection (e.g., UTM) and have square cells. RCP is a Python script, so your command line might look something like this:

```
$python3 raster_chunk_processing.py -m  
skymodel -s 4000 -o 200 -p 10 -l illum.csv  
--verbose myDEM.tif myDEM_skymodel.tif
```

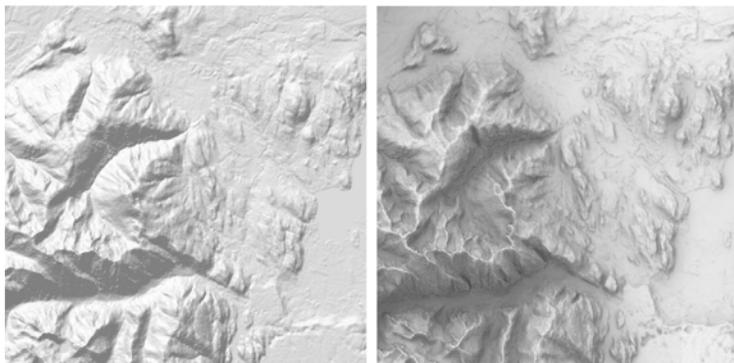
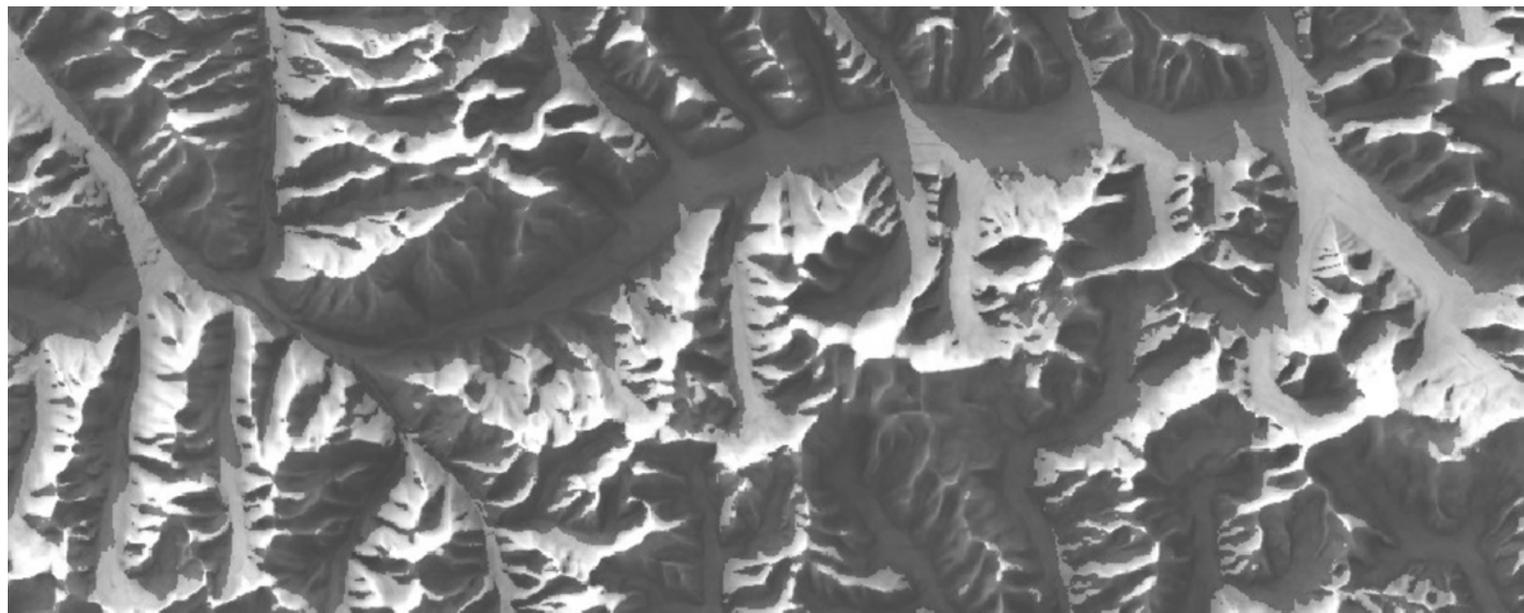


Fig. 3: Comparison of a hillshade calculated using Horn's slope algorithm (left) and a Skymodel hillshade (right). Horn's slope algorithm is the most common method of hillshading, used by the tools built into QGIS (gdaldem) and ArcGIS. It calculates illumination based on the aspect and slope of each cell in the DEM, given the sun's azimuth and elevation. The Skymodel, in contrast, produces much more subtle results and emphasizes ridgelines. The terrain is near Kitimat, British Columbia

Fig. 4 (below): Baltoro Glacier, Pakistan. Although most algorithms used for creating shaded relief do not actually calculate where shadows will lie, we can see here that Skymodels do.



The `-m` switch indicates you want a Skymodel, since RCP is a versatile piece of software that can do many things. The `-s` switch gives the size of the tiles that RCP should “chunk” your DEM into: you can experiment around with this to figure out the limits of your system. The `-o` switch gives the overlap in pixels. It can go as high as 600.

The `-p` switch tells RCP how many of your processors to use. (Hint: don't use all of them.) The `-l` switch indicates the illumination file name. The `-verbose` switch gives you more reporting. And the final two parameters are your DEM and the name of the output file. RCP writes a geoTIFF that you can drag immediately into your GIS software and begin adjusting brightness and contrast.

Let RCP work away—this can take some time—and then have a look at what you get.

As a final note, I should point out that RCP uses, by default, a vertical exaggeration of 5X. It's quite easy to change this: see either blog post, above.

I have found that I like to combine (using semi-transparency) the results of two different Skymodels: the “overcast” model (which, as you might suspect, has light distributed fairly even across the sky), and the “Type 13” model (described as “Standard clear sky, polluted atmosphere”). Seriously, there are so many parameters here that there are hours of experimentation possible before you find your favourite. So, enjoy! All of the software described above is free.

The Growth of Fantasy Cartography

Stephanie Ingmire / Shing

I am an illustrator that specializes in fantasy and artistic cartographic pieces. I began drawing maps in 2009 as a hobby and gradually grew it into a profitable endeavor. I typically illustrate maps for authors, role playing campaigns, board game creators, enthusiasts, and fans.

What is Fantasy Cartography?

Fantasy Cartography is a type of map design that is a visual representation of fictional locations. Oftentimes real-world geography and topography are mixed with fantasy elements to build a world to life. These maps are used in modern and classic fantasy literature. The main use of these maps are to provide context as to where the story characters are traveling too, provide comprehension of how far the characters have/will travel, and to help immerse the readers into the story.



Why Are We Seeing Map Growth?

2020 Coronavirus isolation and quarantine sparked new hobbies. According to a study done by NerdBear the top Covid hobbies are:

1. Watching TV and Movies
2. Reading
3. Working Out
4. Arts & Crafts
5. Board Games

These are all hobbies that relate to or can include maps, with writing and video games also being in the top ten list. Glamour Magazine also states “searches around escapism are booming. It’s one of the reasons searches for ‘fantasy map-making’ have tripled on Pinterest.”

The popularity of Tabletop Role Playing Games (TTRPG), yes the popular Dungeon’s & Dragons (D&D) game from the 70’s, has peaked. There are more TTRPGs than ever with more ways to play. Players are now able to play online with friends, which became a necessity for 2020. D&D and other TTRPGs have been praised for their inclusiveness with the LGBTQ and Pride community, and therefore have seen a resurgence in popularity with modern youth.



Critical Role is a Youtube show that features Matthew Mercer and his crew of voice actors playing their own Dungeons & Dragons style campaign. The show is so successful that they raised \$11 million dollars to create their own animated series on Amazon Prime.

The Rise of The Side Hustle

More people are turning their hobbies into side hustles to give them additional revenue streams. People want to do what they like and feel financially stable and emotionally established and therefore seek out self-success.

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Social & Streaming

Social media and streaming help people connect with others that hold similar interests. Established social media apps allow creators to create online stores and patron services. This makes it easier to build a fanbase and allow online shoppers to easily find your store to purchase goods, artworks, and commissions. More people state they prefer to help small businesses and creators when they can.

Even before COVID there was a rise in home-streaming services. Netflix, Amazon, and Hollywood have been riding on the success of “nerd culture.” Comic book and novel screen adaptations have seen phenomenal success. We live in a generation in which we turn to fantasy stories to help us escape our modern disasters. We love watching our heroes rise up from the ashes to seize their victory. Artists are encouraged when books and games which include cartography become on-screen sensations. This inspires us to dream big to see our own stories play out on screen.

Fantasy Cartography & Education

Map crafting promotes geography & geology because these use real-world places and geological formations. Maps prompt creative writing and reading as historical and fictional works use maps. Artistic benefits surge with use of creative thinking and problem-solving. Maps can be drawn using a variety of media, including digital & traditional pens. Techniques form a familiarity with art software and the minimal use of hands on art supplies.

To Continue Towards the Future

Fantasy and Artistic maps are going to continue growing because they are an easy, hands-on art style. They introduce our familiar world with the fantastic, encourage us to learn more about the Earth and, therefore, broaden our horizons.

Community Consent and Control in Indigenous Mapping

Victor Temprano, Native Land Digital

At Native Land Digital (<http://native-land.ca>), we strive to map Indigenous territories, treaties, and languages in a way that reflects community control and interests. As Native Land has grown over the years -- from a hobby project of mapping Indigenous territories, to becoming an Indigenous-led, Indigenous-run non-profit organization -- our understanding of what we are mapping and how it should be done has changed.

Our goal is not to create an academic or legal definition of Indigenous territories. Instead, our goal is to have Indigenous peoples see themselves represented in a way that makes sense to them and their understanding of their own histories. We allow many types of sources, attempting to focus on sources from communities themselves; these may range from specialized GIS maps to oral history from elders. To do this, we focus



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most strongly on ensuring communities are visible -- even if sources are hard to verify -- and prioritize seeking out and acting on feedback from contributors and community members. We treat our maps as an ongoing project, knowing that we need to be flexible and humble in order to do well.

Our engagement with Indigenous communities raises many questions about consent and control. How do we ensure that Indigenous people are able to raise their concerns with us, and that they will be listened to? How do we verify information when we have conflicting sources? Is it possible to determine “the most legitimate source” when it comes to any given community or person from a community?

Above all, we seek the development of personal relationships and personal communications with contributors, community members, and Indigenous people who are affected by our map. We constantly regard ourselves as being on journeys of learning, communicating, and relationship-building. These are our greatest joys and the best way to go forward.

We hope that in the future, Native Land could be a source of networking and communication between nations themselves, where people could share resources, developments, and other information about what is happening in their own nations. We look forward to the work to get there, and to the people and lands we will get to know along the way.



Using Cartography and Spatial Analysis for Effective Public Communication During COVID-19

Clio Marsh Nikias, Robert Harris and Colin Lang

The frequency of emergency events continues to rise in New Brunswick and the use of cartography and spatial analysis has become instrumental for agencies in all phases of emergency management. For over ten years the New Brunswick Department of Justice and Public Safety (JPS) GeoOperations team has been fully integrated into New Brunswick’s Provincial Emergency Action Committee, and fully equipped to be deployed at any moment. Our rigorous training program, culture of collaboration, and the development of standard operating procedures ensure our work is consistent and allow us to handoff to other team members with minimal effort.

zone boundaries, vaccination rates and availability, to name a few.

The GeoOperations team developed an excellent data structure for much of the COVID-19 data being collected by the Province. Not only was it adaptable to the needs of the moment, but it also incorporated quality control measures to keep everyone accountable. Using our robust dataset, we were able to provide daily updates to the executive team to use to assess the current situation. One of these maps is included below in Figure 2. This helped the epidemiologists confirm that the actual regular travel patterns of cross-border commuters were as expected. Other examples of our analysis included international and interprovincial travel, movement within health zones, and assignment of communities to health zones based on population patterns and habits.

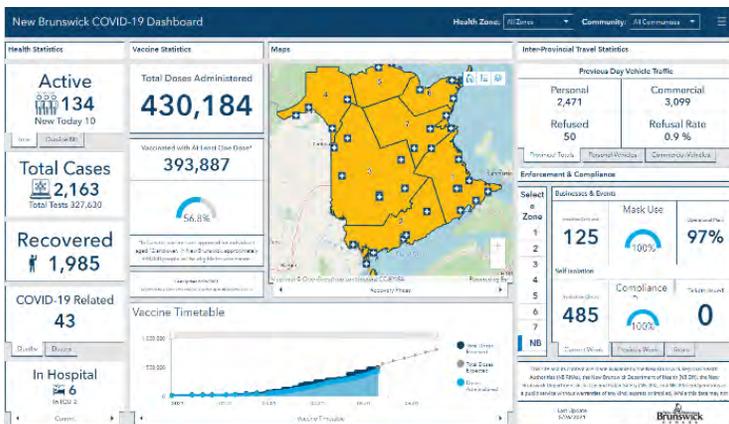


Figure 1. NB COVID- 19 Public Dashboard

In March 2020 the GeoOperations team began to support the Province’s COVID-19 response (the largest event to date in the province), eventually providing emergency public information through our public dashboard. Our team coordinated with other teams in the Departments of Health, Public Health, Justice and Public Safety, and the Executive Council. Within a few short weeks, we created an effective and interactive communications tool that can be seen in Figure 1.

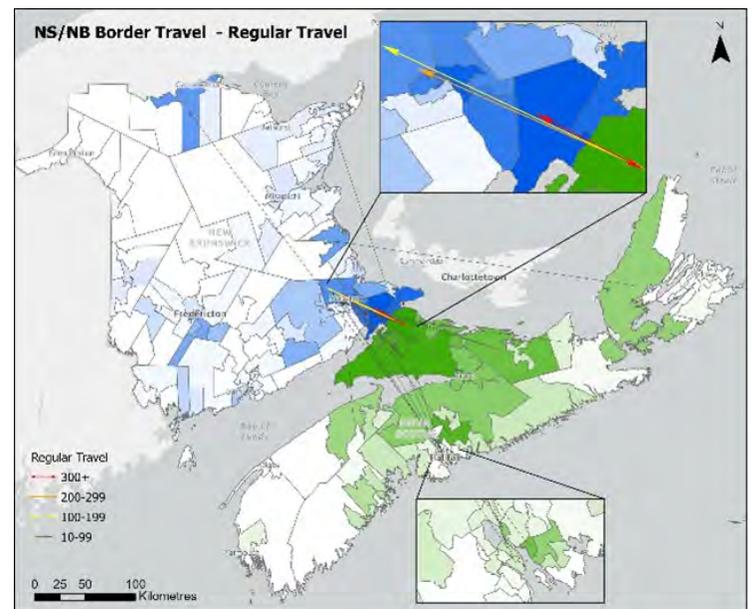


Figure 2. NS/NB Regular Border Travel

Our collective goal was to ensure the quality, consistency, and clarity of the data being provided to the public. In addition, we wanted to provide a complete picture of the situation within New Brunswick and the measures being taken. We worked hard behind the scenes to include data about travelers coming to the province, hospital occupancies, local changes in recovery phases, health

Throughout the pandemic the GeoOperations team has continued daily updates to the public dashboard while supporting the response to other emergency events. Our team is constantly honing its skills, improving our processes, and adapting to any new situations the Province may encounter. We have proven that GIS, cartography, and spatial analysis can be incredibly effective communications tools.



Featured Articles

In this issue we are pleased to present material from Sandy Hoye and others, Shane Doddridge, and Majella Gauthier.

Historical Geography of the Métis Nation versus GIS and Spatial Presentism

Sandy J. Hoye, Christina L. Williamson, Frank J. Tough, Victoria M. Anderson

As a discipline, historical geography seeks to reconstruct and explain simultaneous spatial-temporal change. The capacity of digital technology to compile vast quantities of archival data holds the promise of new, accurate and precise spatial understandings of the past. The particularities of the history and geography of the Métis Nation are often obscured by the generic use of “Indigenous” and the connotation that the Métis are simply a mixed population.¹ The Crown’s recognition of the Métis’ interest in the land resulted in granting individuals several different kinds of land entitlements (e.g., Métis Scrip).²

The documentation required by the Department of the Interior for entitlement claims captures personal information such as parents, spouses and children, places of birth, previous and current residences, and application locations (Figure 1). Several studies and court cases have made use of entitlement records to reconstruct Métis genealogies. However, for the most part, the mapping potential of these records has not been pursued by academics. Accurate mapping of the Métis geography requires a considerable investment of time.

Figure 1: The front page of the scrip application for Placide Morin of Devils Lake (now Morin Lake), Saskatchewan. 1. Place of Application (Devi's Lake); 2. Name of Applicant (Placide Morin); 3. Current Residence (Devi's Lake, Saskatchewan); 4. Place of Birth (Green Lake, Saskatchewan).

Figure 1

¹ The Métis National Council provides the following definition of Métis: “a person who self-identifies as Métis, is distinct from other Aboriginal peoples, is of Historic Métis Nation ancestry, and is accepted by the Métis Nation.” On the concern of the Métis being more than mixed, see Chris Anderson, *Métis: Race, Recognition and the Struggle for Indigenous Peoplehood* (Vancouver: UBC Press, 2014).

² The records created by the Government of Canada to administer the Métis-specific land and scrip grants through the Manitoba Act (1870) and Dominion Lands Act (1872). These documents can be broken down into three distinct categories: 1. Manitoba Affidavits (1875-1877), 2. Manitoba Supplementals (1885), and 3. Northwest Scrip Applications (1885-1925). In total, approximately 24,000 claims were processed by the Government of Canada—15,000 of which were made by Métis individuals born before 1870. The Métis National Council Historical Database (<https://www.metisnationdatabase.ca/>) compiles entitlement and census data relating to the Métis.

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The Métis Archival Project (MAP) Lab³ is in the final stages of georeferencing approximately 162,000 life events (such as birthplace and residence) pulled from over 20,000 carefully transcribed and verified archival entitlement records (Figure 2). To date, MAP Lab researchers have identified and confirmed the spatial-temporal accuracy of nearly 1,000 locations associated with Métis individuals (Map 1*).⁴ Perhaps unsurprisingly, many of these events occurred near significant nineteenth-century fur trade hubs, such as the Red River Settlement and Fort Edmonton, as well as newer

Métis settlements such as Prince Albert and St. Laurent/Batoche.

Based on archival records, Map 2 depicts movements in and out of St. Francis Xavier, one of the largest Métis parishes at Red River. Some of these movements reflect the Hudson's Bay Company's interregional economic organization of its operations. The livelihood of many Métis involved mobility (transporters, boatmen, guides, buffalo hunters, and pemmican producers). Such events associated with movement are evidence of use and occupancy.

Entitlement documents are amenable to spatial reconstruction. For example, by taking the spatial average of all of the life events of Métis scrip claimants who had lived at some point at St Francis Xavier, we generated a centre of gravity that captures the aggregate movement away from the parish over time. The resulting coordinate is located some 330 km west-north-west of St Francis Xavier (Map 2*). However, this set of life events coordinates was not easy to come by.

Most georeferenced digital data are biased towards the present; apparently, little effort has been made to discover and reconstruct past toponymies. For instance, Natural Resources Canada's (NRCAN) Canadian Geographical Names Database only presents official historical and contemporary place names. Thus, painstaking primary research is required to recover bygone and obsolete places, as well as Aboriginal and fur trade place names.

The process of creating a spatially and temporally accurate digital gazetteer can be demonstrated by the example of Placide Morin's 1900 scrip application. An individual whose geographical events concern a Devils Lake (Figure 2). Historically in the Métis Nation homeland, there were several Devils Lakes. No Devils Lake will be found on any contemporary map of north-central Saskatchewan. To narrow the search field, researchers plotted locations visited by the Manitoba-Saskatchewan Scrip Commission of 1900 (Map 3*). From the 1900 Scrip Commission Report, researchers

Verification - People Review Applicant

System ID: 38863
Application ID: 11709

First Names: Placide
Married Name: n/a
Last Name: Morin
Applicant: Yes
Relationship to Applicant:
Claimant: Yes
Gender: Male
Ethnicity: Halfbreed
Occupation: n/a

Deceased at time of Application? No

Researcher Comments

Locations

Linked Location	LocationName	Date	Type	
42	Devils Lake	Devil's Lake,	1900/07/05	Current Residence
42	Devils Lake	Devil's Lake,	1900/07/05	Place of Application
81	Green Lake	Green Lake,	1880/12/28	Place of Birth

Figure 2

Figure 2: The transcribed and verified data for Placide Morin listing his personal information, including all locational data Morin described in his application. All of this data is managed using Filemaker Pro. 1. Place of Application; 2. Name of Applicant; 3. Current Residence; 4. Place of Birth.

³ Conor McNally, "Métis Archival Project: 20 Years of Research and Rights," Digital Documentary, <https://vimeo.com/368150686>.

⁴ Verification and adjustment of the long/lat values was achieved by consulting diverse sources (old published gazetteers, manuscript and published maps, and satellite imagery) as well as by the clues left on the entitlement documents).

* Maps 1, 2, and 3 may be found beginning on page 22.

continued on page 21

determined that the Devils Lake applications were taken between the commissioners' visit to Sandy Lake and Green Lake.⁵ Therefore, we would expect to find Devils Lake along the Carlton-Green Lake trail somewhere between Sandy Lake and Green Lake.

Maps, lacking surveyed measurements, tend to display ambiguous shoreline morphologies. For example, an 1884

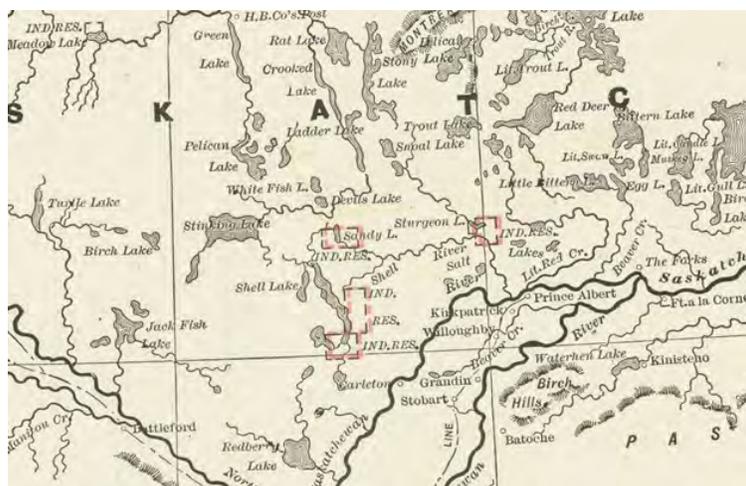


Figure 3

commercial map by George F. Cram depicted a Devils Lake north of the Sandy Lake Indian Reserve (Figure 3).⁶ In the vicinity of the Carlton-Green Lake Trail, some of Cram's hydrology was not readily interpolated onto a modern map. However, by comparing the hydrology of Cram's map to the Shell River 3-mile Sectional Map (1914), the correct lake was confidently identified (Figure 4). Morin Lake, a small lake adjacent to the trail, had an orientation, shape and approximate location corresponding to the historic Devils Lake.⁷

This result should not have been a surprise. At this locale, the vast majority of scrip applicants had the surname "Morin." Somehow, Devils Lake had acquired a new name based on the preponderance of Morins. The identification, location, and confirmation of Devils Lake/Morin Lake entailed skilled research. This one example illustrates the amount of effort required to create a comprehensive digital gazetteer that locates the historical and geographical events associated with the Métis.

Today there is much discussion about settler colonialism, but little effort has been made to empirically map Indigenous/settler interactions. Based on the systematic use of archival records, the MAP Lab is committed to developing precise historical geographies of the Métis Nation. In the future, our historically-informed mapping activity will demarcate the Homeland of the Métis Nation and will contribute to its ongoing legal and social struggles.

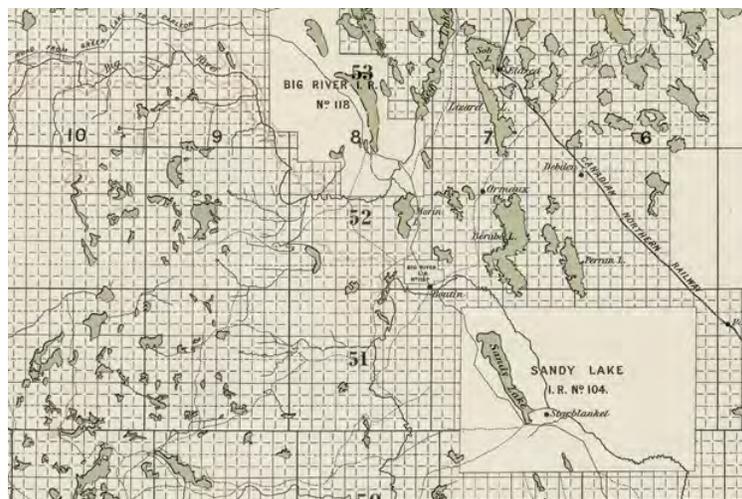


Figure 4

Figure 3: Detail of the Sandy Lake Reserve and Devils Lake northwest of Prince Albert. George F. Cram, *Map of North-west Territory*, 1884.

Figure 4: Note Morin Lake and the trail that passes along its eastern shore north of the Big River and Sandy Lake reserves. Detail of the 3-mile sectional map of Shell River, sheet 318. Sixth Edition, 1914.

⁵ Canada, *Sessional Papers, 1902. Annual Report of the Department of the Interior, 1901, Paper 25, "Half-Breed Scrip Commissioners Report,"* p. 8.

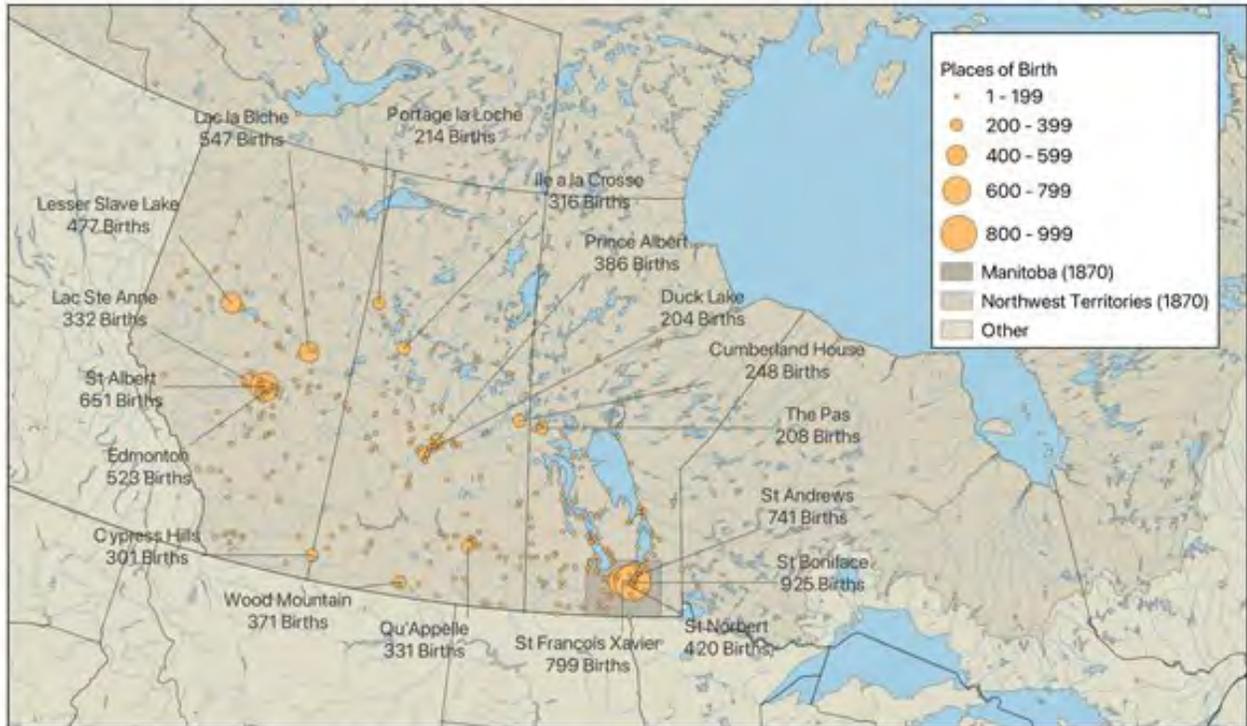
⁶ Now known as Ahtahakoop Cree Nation.

⁷ There are two other Morin Lakes in northern Saskatchewan today, north of this Morin Lake. They are located near Lac la Ronge and Cree Lake.

* Maps 1, 2, and 3 may be found beginning on page 22.

MAP 1

Select Métis Entitlement Claimants:
 Places of Birth 1782-1921 in Red River Country or the Northwest



Notes: This map depicts 359 locations that are places of birth of 17,375 individuals claiming Métis Entitlements. Birthplaces in the United States are not included in this map.
 Source: LAC RG15 Scrip Applications

MAP 2

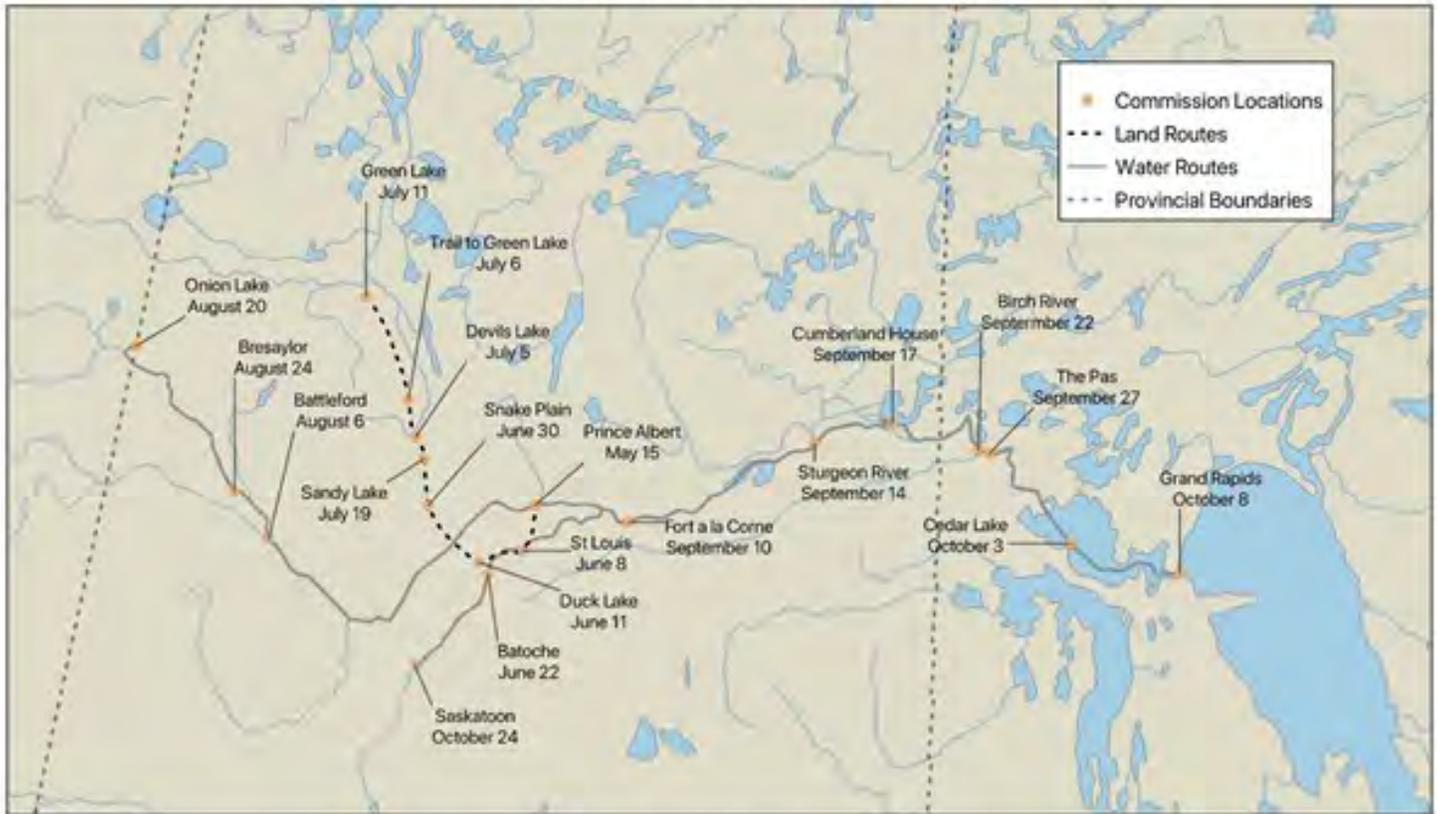
Mobility of Manitoba Affidavit and Northwest Scip Claimants:
 To and From St. Francis Xavier (ca. 1818-1912)



Notes: This map depicts the mobility of 992 individuals and their relationship to St. Francis Xavier, which includes their place of birth, death, marriage, and residences. The basemap depicts contemporary ecological regions and hydrography, which may not be historically accurate.
 Source: LAC RG15 Vol170-1371 and NA_CEC_Eco_Level2.shp

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MAP 3

Côté and McLeod's Land and Water Routes for
the 1900 Manitoba/Saskatchewan Scrip Commission

Note: The dates and locations are taken from the Canada, Sessional Papers, Annual Report of the Department of the Interior, 1902
Sources: LAC RG15 Scrip Applications and Three Mile Sectional Maps: Shell River No.318 (1914); Carlton No.268 (1915)

Info for interested content contributors:

Regarding papers, articles or member correspondence for publication in *Cartouche*, contact Glenn Brauen.

For blog entries or other content submitted for the CCA website, or proposals for presentations for the annual CCA conference, contact Ted MacKinnon.

When contacting one of the following for this purpose, please c.c. the other on the email.

Ted: t_mackinnon@yahoo.com Glenn: glenn.brauen@utoronto.ca

Entangled toponymies: Embracing pluralism in place naming

Shane Doddridge

Introduction

September 30th 2021 marked Canada's first National Day for Truth and Reconciliation—an important moment to reflect on our role as cartographers, both indigenous and non-indigenous, to improve cross-cultural understanding in Canada through our maps. What I seek to do with this essay, as with its presentation at the Canadian Cartographic Association annual conference in May 2021, is to question the premise that “indigenous” and “colonial” toponymies are stable, discrete, and necessarily oppositional systems. In doing so, I hope to contribute to an ongoing national dialogue about Canada's past, present and future as a complex set of interrelationships between the indigenous and the colonial.

I present the idea of entangled toponymies here as an emergent concept from my ongoing anthropological research through the University of Victoria, in partnership with the T̓silhqot'in National Government (TNG). The T̓silhqot'in are a Na-Dene speaking First Nation in west-central British Columbia (BC) (Figure 1). Through several TNG projects we have amalgamated, recorded, analysed and mapped over 1000 distinct T̓silhqot'in place names across a territory roughly the size of Denmark. We have also been working with the BC Geographical Names Office since 2016 to adopt T̓silhqot'in toponyms into the Provincial Gazetteer. While much has been done, several spatial and linguistic gaps remain to be addressed in the TNG's working place name inventory, and this is a central focus of my research.

Through this work I have encountered two theoretical problems that remain under-acknowledged in both anthropology and geography. First, how can we make sense of the innate variability of place names in oral toponymic systems, like that of the T̓silhqot'in? Second, what exactly constitutes a T̓silhqot'in—or for that matter an indigenous—place name? Both point towards a pluralistic view of toponymy that sees place names as reflections of complex interrelationships between

peoples and places through time, rather than artifacts to be collected or mere tools for political expediency.

This take on toponymy underscores the value of moving away from conventional inventories and paper maps towards digital interactive atlases to better represent dynamic cultural landscapes—something the TNG hopes to soon begin developing. Furthermore, embracing pluralism here also exposes some important connections between indigenous and colonial toponymies. While there are still many differences between state and ancestral place naming systems, I contend that by recognising and validating the relationships between these systems we also honour and celebrate the relationships between indigenous and non-indigenous communities.



Figure 1 - T̓silhqot'in homelands, in red

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Embracing plurality

Both linguistic and spatial variability are unavoidable in TNG's place name inventory, and both appear to result from the oral nature of T̄silhqot'in toponymy. By linguistic variability I refer to the different ways that place names are spoken and written by different people. Like many indigenous languages, Nenqayni Ch'ih (the T̄silhqot'in language) has only recently settled into a working orthography (writing system), beginning in the 1970s (Cook 2013). Even today users of the orthography employ it with subtle variations and the spelling of words is affected by this. One example is the word for "knife" which might be spelled binlugh or binluw̄—both endings having the same pronunciation. Further, some writers mark high tone vowels (i.e. binlúgh) while other's do not. Still others reject the working orthography altogether and spell words according to a simplified phonology (i.e. bilo).

The reason why spelling and orthography have not yet been standardised is due to the differences in how Nenqayni Ch'ih is spoken. This is often framed in terms of dialect (Cook 2013), but it also goes deeper. Again the word for knife would, in the nasal dialect, be spelled binlugh or binluw̄ (the /n/ marking a nasal sound on the previous vowel), and in the non-nasal dialect as bilugh or biluw̄. Finally, the use of hyphens to tie certain words together (i.e. -chugh "big") is a common but not universal practice. Thus for a place name like Binlugh-chugh ("big knife"—Beaver Lake) there are at least twenty acceptable spellings (see Table 1).

Variations in speaking are even more noticeable along generational lines. The eldest speakers use a complex "high" form of the language while successively younger generations increasingly simplify it. Other subtler variations are also common between families and even some individual speakers. For these reasons, and out of respect for each speaker, transcribers of Nenqayni Ch'ih have adopted the maxim to "spell it how you hear it." This approach works when transcribing the words of a speaker, or when writing from one's own voice, but it breaks down when selecting which spelling to use on a public road sign, on a paper map, to adopt into a gazetteer, or for use in a document. Things are further complicated when places have more than one T̄silhqot'in name (i.e. Binlugh-chugh is also called Wisges Bebiny), which also have a variety of acceptable spellings.

By spatial variability I refer to a couple of things. For one, the spatial extents of T̄silhqot'in toponyms are often blurry. Take a name like Tl'egwated—an ancestral place along T̄silhqox (Chilko River). Two speakers discussing where they camped at Tl'egwated would be referring to the same place, but the boundaries of that place would vary between speakers based on their own knowledge and experience. One may camp in a number locations and still be "at" Tl'egwated. At some undefined distance away camps would start to be considered "beside" or "downstream of" (etc.) that place (Tl'egwated Bechaz and Tl'egwated Gwedaz, respectively). These relational terms thus become the place names for these intermediary spaces (see Figure 2). Eventually one would be camping closer to another place (i.e. Xežeg), and start referencing it instead.

Rather than defining an external spatial boundary, these place names originate at some undefined epicentre of common experience and radiate outward, gradually fading into other places like data on a heat map. This is of course not unique to T̄silhqot'in contexts, but of many place naming systems across cultures. Second, T̄silhqot'in place names are variably scaled and variably attributed.

Working Orthography	-ugh ending	-uw̄ ending
Nasal Dialect (hyphenated)	<i>Binlugh-chugh</i> (most common)	<i>Binluw̄-chuw̄</i>
Nasal Dialect (hyphenated, tone)	<i>Binlúgh-chúgh</i>	<i>Binlúw̄-chúw̄</i>
Nasal Dialect (unhyphenated)	<i>Binlugh Chugh</i>	<i>Binluw̄ Chuw̄</i>
Nasal Dialect (unhyphenated, tone)	<i>Binlúgh Chúgh</i>	<i>Binlúw̄ Chúw̄</i>
Non-nasal Dialect (hyphenated)	<i>Bilugh-chugh</i>	<i>Biluw̄-chuw̄</i>
Non-nasal Dialect (hyphenated, tone)	<i>Bilúgh-chúgh</i>	<i>Bilúw̄-chúw̄</i>
Non-nasal Dialect (unhyphenated)	<i>Bilugh Chugh</i>	<i>Biluw̄ Chuw̄</i>
Non-nasal Dialect (unhyphenated, tone)	<i>Bilúgh Chúgh</i>	<i>Bilúw̄ Chúw̄</i>
Simplified Orthography (example)		
Hyphenated	<i>Bilo-cho</i>	
Hyphenated (tone)	<i>Biló-chó</i>	
Unhyphenated	<i>Bilo Cho</i>	
Unhyphenated (tone)	<i>Biló Chó</i>	

Table 1 - Variation in accepted T̄silhqot'in spellings

continued on page 26



Figure 3 - Some T̕silhqot̕in place names along T̕silhqox (Chilko R.) corridor

The way lakes are named is a good example. In many cases the lake and the area in which it is found share the same name (i.e. Gwedzin, “same day”—Cochin Lake, the area and the water itself). Places at or around lakes often have specific T̕silhqot̕in names (i.e. Naghataneged, “waves crashing ashore”—east beach of Konni Lake) when the water itself does not (Xeni Biny, “lake at Xeni”—Konni Lake). However some lakes are named for the water itself (i.e. Teginlin, “something in the water”—Stum Lake), but in these instances the name for the water is often also used as the name for the area around it. Other features like mountains also exhibit similar variation.

These linguistic and spatial variations drastically complicate how we build inventories or annotate maps. To select the most common name and spelling, or to settle on a practical scale/extent, is to exclude important nuances in how language and experience connect to the landscape. Alas it is still necessary in most applications to prevent drowning in the details, but cartographers working with indigenous toponyms should be aware that no dataset can be a final authority. The same can be said for place name datasets in general, state-sanctioned or not. For this reason an increasing number of indigenous groups are employing online, interactive atlases which are capable of storing and displaying more complex information, including audiovisual media. While these systems cannot and perhaps should not capture all variability, they do offer space for useful elaboration.

Defining “indigenous” toponymies

What defines a “T̕silhqot̕in” (or for that matter an “indigenous”) place name is not straightforward. Early anthropologists recorded the names they saw as “authentic.” These were names with origins from time immemorial, or at least before “interference” from external forces (i.e. the fur trade). However I question date-of-origin as an appropriate means of defining what constitutes an indigenous place name. While ancient names do represent the vast majority of TNG’s inventory there are many others that reference a period after Europeans contact. For instance ?Aliḡ Jack Betl’ech’id, “Alec Jack’s hay meadow,” is perhaps around a hundred years old, over a century after Simon Fraser made “first contact” with the T̕silhqot̕in in 1808.

Names like ?Aliḡ Jack Betl’ech’id also reference features that may not have existed before European contact, for example many T̕silhqot̕in drained marshes for use as hay

continued on page 27

meadows when economies shifted towards ranching in the late 19th century. Other examples are the names of the contemporary T̄silhqot'in Indian Reserves (see Table 2 and Figure 3). These communities, as landscape features, didn't exist as such until the creation of Indian Reserves by the Canadian government in the late 19th and early 20th centuries. In some cases ancestral names did apply to these areas beforehand, but they didn't reference the reserve community itself as a feature.

Reserve Name	Reserve Name Meaning	T̄silhqot'in Name	English Translation
Toosey	A historic T̄silhqot'in chief	<i>Tl'esqox</i>	"mud creek"
Stone/Stoney	Settler nickname for this group of T̄silhqot'in	<i>Yunešit'in</i>	"southern people"
Anaham	A historic chief, possibly T̄silhqot'in or Nuxalk	<i>Tl'etingox</i>	"creek flows through grass"
Alexandria	From the historic HBC fort named for Alexander Mackenzie	<i>?Esdilagh</i>	"peninsula"
Redstone	English translation of T̄silhqot'in place name	<i>T̄sideldel</i>	"red rock"
Nemiah	A historic T̄silhqot'in chief	<i>Xeni Gwet'in</i>	"people of <i>Xeni</i> "

Table 2 - T̄silhqot'in community names

Should these newer names then be considered inauthentic by virtue of their date of origin? Certainly not. These are widely considered ancestral place names that represent an important period of T̄silhqot'in history. Should then other names deriving from even more recent origins, such as street and building names on Indian Reserves, also be considered? In any case, date-of-origin does not stand as an effective method for defining what constitutes a T̄silhqot'in or an indigenous place name.



Figure 3 - Map of T̄silhqot'in nen (lands)

An alternative way to define T̄silhqot'in place names might be by means of language. This would mean names in Nenqayni Ch'ih would be considered "T̄silhqot'in," and those in English or another language would not. This definition would again capture the vast majority of TNG's recorded names, but not all of them. Some colloquial place names originating from and widely used in T̄silhqot'in contexts are English (e.g. Captain Georgetown, Tomahawk Spring, Rocky Point). In some

cases these have analogues in Nenqayni Ch'ih but not always. Many other Provincial gazetted names (arguably therefore colonial names) are relatively accurate anglicisations of Nenqayni Ch'ih place names (e.g. Yohetta/Yuyetah, Tatla/Tat'ah, Tsuniah/Ts'uni?ad, Chilko/T̄silhqox). About a fifth of all place names in BC derive

from indigenous names or other words, in some form or another (Akrigg and Akrigg 1997). Moreover some (albeit very few) place names including Yeqox Gunchagh ("big river"—Big Creek) and Datsan Biny ("raven lake"—Raven Lake) appear to be T̄silhqot'in translations of English names. Yeqox Gunchagh is now the common T̄silhqot'in name for Big Creek, but we have also recorded an older name, Gexlhanqox, "river of many snowshoe hare." This shift from an older more complex name to one that semantically mirrors its colonial appellation suggests that the newer name derives from a translation of the English one. In the case of Datsan Biny we remain uncertain about an older name but its current form is highly irregular compared to the rest of the inventory (i.e. Datsan Bebiny, "Raven's lake" would be more predictable). This irregularity is what suggests it is also a T̄silhqot'in translation.

Does then a more general cultural context, rather than language or date-of-origin, provide a better means of distinguishing between indigenous and colonial place names? This again breaks down when considering the many anglicised T̄silhqot'in names in the BC gazetteer. To further the point, other gazetted names reference T̄silhqot'in people and events. Battle Mountain, for example, references a T̄silhqot'in war that took place on that mountain before European contact. Also, while the T̄silhqot'in name for Alexis Creek is Tigulhdzin-chi ("tail of the lake with foul smelling water"), Alexis (?Elegesi) was a notable T̄silhqot'in Chief from the late nineteenth

continued on page 28

century, as were Nemiah (Nemaya), Toosey (Tusi) and possibly Anaham (?Anaghim). Are then the gazetted names Battle Mountain, Alexis Creek, Nemiah Valley, Toosey Reserve, and Anaham Creek/Anahim Lake colonial or indigenous? The answer appears unequivocally to be both.

Conclusion

John Ralston Saul (2008) asserted that Canada is at its very core an institution of indigenous inspiration, today as always, and I believe toponymy is an especially clear window onto how this inspiration manifests in our shared imagination of the landscape. The above examples point to more complex interrelationships between colonial and indigenous toponymies, as well as languages and histories, than is often highlighted. There are many sociopolitical reasons for why these entanglements remain obfuscated, but to disregard them is to downplay the history of indigenous peoples since European contact, as well as to neglect the living nature of cultures and languages. It is also to disregard centuries-old relationships between indigenous and non-indigenous peoples in Canada, for better and for worse.

Embracing a pluralistic view of place naming is therefore both necessary and useful. When unconstrained by the often restrictive categories of “indigenous” and “colonial,” these names together form a window onto a shared cultural landscape. How to map these landscapes remains a challenge, one that may be best met through digital interactive atlases or other alternative cartographic practices. For the TNG, such a project remains a dream.

There are of course many other directions this conversation can and should take in the T̓silhqot̓in context and throughout the colonial world. For now I hope

that by pointing to these complexities more Canadian cartographers will begin to question their faith in the authority of inventories and gazetteers, regardless of their source. I also hope that more cartographers will turn their attention to how we might better represent the interconnections between indigenous and non-indigenous aspects of our shared cultural landscape, both on our maps and in our communities.

Acknowledgements

This research was funded by the University of Victoria Anthropology Department, the T̓silhqot̓in National Government, and the Jacobs Research Fund. I would also like to acknowledge my T̓silhqot̓in language mentors, Bella Alphonse and William Myers. I’m grateful to Sarah Gash, Luke Doxtator, Jenny Philbrick, and JP Laplante from the T̓silhqot̓in National Government who continue to support and encourage my ongoing research. Finally, I want to thank Dr. Brian Thom and Dr. Reuben Rose-Redwood for their support and guidance. Sechanalhyagh gunlin.

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Growth in Vines, Grapes and Wines in Saguenay-Lac-St-Jean, Québec

Dr. Majella J. Gauthier, Professor Emeritus,
University of Quebec in Chicoutimi

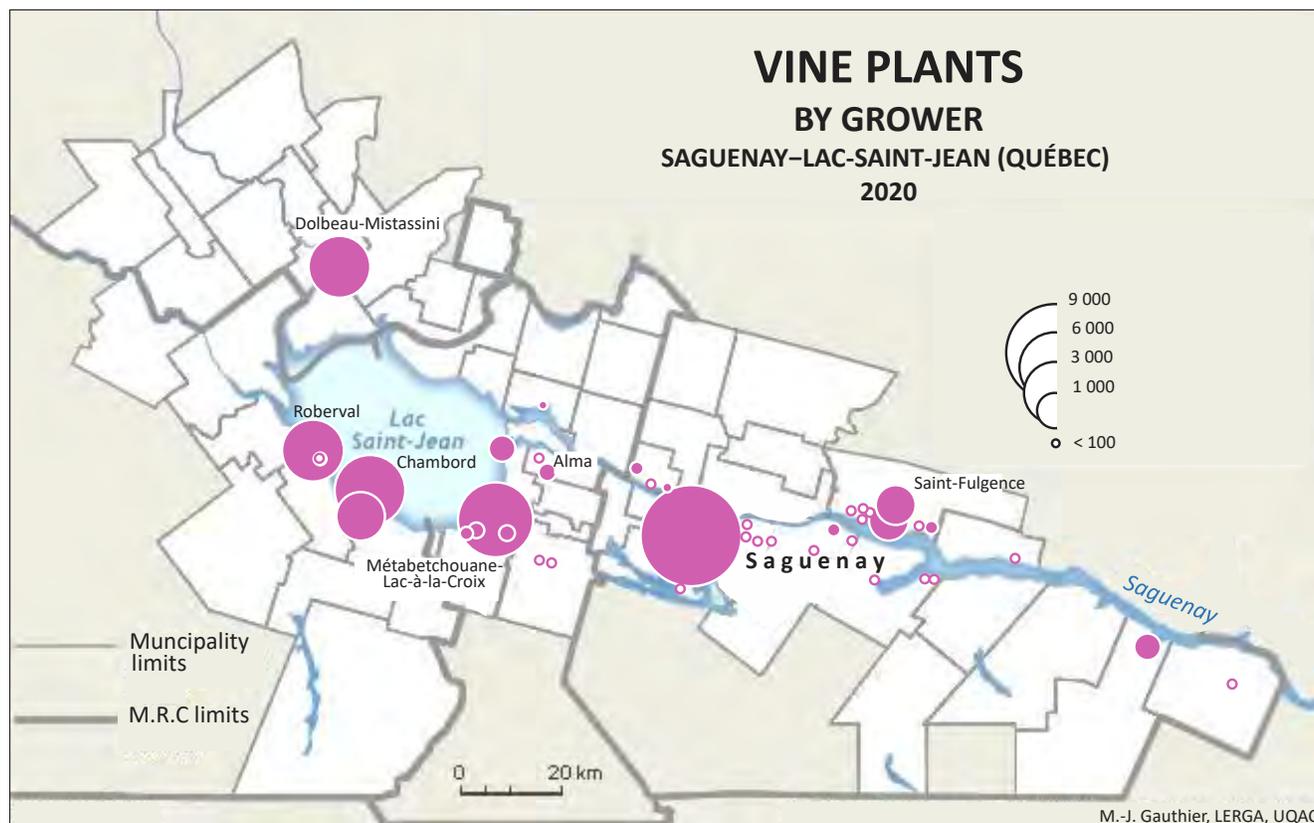
'We knew that some vineyards existed, but not as many as that', most people remarked upon seeing a map of the distribution of winegrowing activity in Saguenay-Lac-St-Jean, a region not far from the 49th parallel north.

The map sheds light on a new form of agricultural activity, which began in the early 2000's. Since then, already endowed with favorable microclimates, it has witnessed prolonged growing seasons - due to global warming, the development of new rustic grape varieties, and an increasing number of people who have become familiar with the industry, none of whom have had any experience of producing wine in the past.

The map shows the distribution of the vineyards, the larger ones close to the shores of Lake St. John, and the smaller ones along the banks of the River Saguenay. There are no fewer than 42 wine growers, with 36,600 grape vines, that produce annually more than 30,000 bottles of wine, some of which have earned awards.

Once again, we can see how maps play an important role in describing, relaying information about, and ultimately understanding our geographical space.

For more information, consult or download the report: <https://constellation.uqac.ca/7436/> (in French only).



Henry Walker Castner, 1932-2021, Honorary and Founder member, CCA

Obituary published in the Kingston Whig-Standard

Henry Castner was born in Louisville, KY to Charles and Ida Walker Castner. He passed on Friday, November 19, at the University of Chapel Hill Health Center at the age of 89. Henry attended Centre College of Kentucky and Vanderbilt University, receiving BA and BMeE degrees in 1955. He worked three years for Westinghouse Electric Company before returning to academics. At the University of Pittsburgh and the University of Wisconsin-Madison, he received advanced degrees in geography and cartography. In Madison he met and in 1964 married Claire Connors of Danbury, CT.

He spent 25 years at Queen's University, in Kingston, Ontario teaching and conducting research on map design and production, map perception, the history of Russian cartography, and most recently, the relationship between vision, mapping, and geographic education. He was a founder, and served a term as President of the Canadian Cartographic Association, and was later President of the North American Cartographic Information Society. He represented Canada on several different Commissions of the International Cartographic Association (ICA). On his retirement from Queen's in 1989, he became Emeritus Professor of Geography.

In retirement, he continued his participation in the ICA Commission on Cartography and Children, and was active in his community of Farrington Village by making maps of the Village for the annual Directory, and in helping to develop a system of walking trails. He presented a course, Travels with Henry, in which he shared his travel experiences, to two Education in Retirement groups.

He is survived by his wife, Claire; a daughter, Catherine (Erin) Thames Castner Lord of Quechee, VT; and her daughter, Finley Blue Castner Lord; a son, Henry Christopher (Kip) Castner of Baltimore, MD; a brother, Charles Beaumont Castner of Louisville, KY; and three nieces and three nephews.

In lieu of flowers, memorial gifts can be sent to the Chatham Habitat for Humanity, 467 West Street, Pittsboro, NC 27312; the Cabbage Patch Settlement House, 1413 South Sixth Street, Louisville, KY 40208; or to Queen's University, Kingston, Ontario, Canada, K7L 3N6 or <https://www.givetoqueens.ca/>

A memorial service will be held in the Auditorium at Carolina Meadows on Tuesday, January 4, 2022 at 2:00 p.m.



I learned of Henry's passing from Stan Lucyk with whom Henry had travelled in the Middle East. As a former colleague of Henry's at Queen's University I extend my heartfelt sympathy to Claire, Erin and Kip. His collegiality, friendship and good humour were valued greatly, and his contributions to cartography recognised and much appreciated.

Gerald McGrath (CCA President, 1976-77)

Henry beyond Cartography

Henry was much more than a graduate student supervisor. His teachings, mentoring, creativity and general curiosity went far beyond academic cartographic education; many of us thank Henry for giving us the confidence and boost we needed to kickstart our careers and our lives. In my case, Henry became a life long friend. He was ageless; we could talk about anything and everything. After retiring from Queen's, Henry never stopped learning and creating, maintaining interests



Henry Castner, 2015, Atacama Desert, Chile

in things and people cartographic, in geography through travels, and in life. He self-published 5 books in his retirement that I have and treasure: his famous hand drawn Christmas Card collection, spreading words and drawings of peace and goodness; his Sandcastles built with family on the shores of North Carolina; his work on nature trails and stream diversions in his Fearington NC local community; his Tribute to friends, family and colleagues through creative works of art; and *Travels with Henry*, a summary of his years of talks and slides of his various travels. One of these travels was with me to the Atacama Desert in northern Chile. It was really the trip of a lifetime, given the landscape and moonscape, the salt flats, flamingos and volcanos, and just being with Henry. We reached altitudes of 4200 meters, and although we all had some altitude sickness, Henry, in his early 80s, did not miss a beat. I miss him, and like many of us graduate students, I will be forever grateful to Henry for launching me on my wonderful career as a cartographer, and for our life-long friendship.

Sally Hermansen (Queen's BA 1982 and MA 1984 with Henry)
Professor of Teaching, UBC Geography

Henry W. Castner - Inspiring cartographer, supervisor and human mentor

I was doubly fortunate in coming to Canada just as the CCA was being formed, and to Queen's University where Henry Castner was one of the country's pre-eminent academic cartographers, actively accepting graduate students. In 1975, he was one of a 'group of 8' cartographers in Canada who led the breakaway from the Canadian Institute of Survey and Mapping to form a more focused association specifically for cartographers. Of course he made all his graduate students



Henry Castner and Sir John A. MacDonald, Charlottetown, PEI 2015

join. When I got my first of three sessional teaching positions, thanks to his inspiration and teaching, he turned my thesis into a published paper, and I took great pride in having his name as first author. I owe my following career to Henry and his involvement with the CCA. He served as President 1981-82 and set me off in my own CCA adventure by nominating me as a group chair in 1984.

We last met at the CCA 2015 meeting in Charlottetown, PEI which I was delighted he was able to attend. I shall greatly miss him and his wonderfully calligraphed mail envelopes. The most recent contained copies of the 1977, 78 and 79 CCA annual meeting programs (now linked on the CCA webpages). He commented that he was most proud of the 1977 program from Ottawa as it included a darkroom workshop run by his three graduate students: Bill Nelson, Ron Eastman and myself. I remain even prouder to have been one of his students.

Roger Wheate, UNBC (Queen's University MA 1975-78)

Student Map Competitions 2021

Students play a vital role in helping sustain the growth of the association, so it was good to see all those that participated in this year's mapping competitions and presented at the annual conference.

The CCA President's Prize recognizes excellence in student map design and production and is open to all students at Canadian post-secondary institutions who have completed and produced a cartographic project in the preceding school year. The President's Prize Competition consists of two prizes of \$250, one for entries from college-level or CEGEP students, and one for entries from university-level students in the thematic map category.

This year the CCA Executive was pleased to present the award to Yichun Du from Ryerson University, and Kevin Chen from the Centre of Geographic Sciences (COGS).

President's Prize (University)

Awarded to: Yichun Du

Map Title: *Cycling in Calgary: Is the current bike infrastructure meeting the demands within the city boundary?*

Institution: Ryerson University

President's Prize (College or CEGEP)

Awarded to: Kevin Chen

Title: *Acadian Deportation in 1755*

Institution: Centre of Geographic Sciences (COGS)

Carto-Québec Prize

The Carto-Québec Prize is a special annual competition for the best student-authored cartographic product in French. The award has been established through a gift from the former Association Carto-Québec to promote and recognize excellence in map design. The competition is open to all post-secondary students in Canada who have completed and produced a cartographic project in the preceding school year. The Carto-Québec Prize will consist of two awards of \$500, one for entries from college-level or CEGEP students, and one for entries from university-level students.

(Not awarded in 2021)

Web Map Award

This award recognizes excellence in web mapping and is open to all post-secondary students who have completed and produced a web map in the preceding school year. The CCA Web Map Award Competition consists of one prize of \$250 for entries from college-level, CEGEP students, or university-level students.

(Not awarded in 2021)



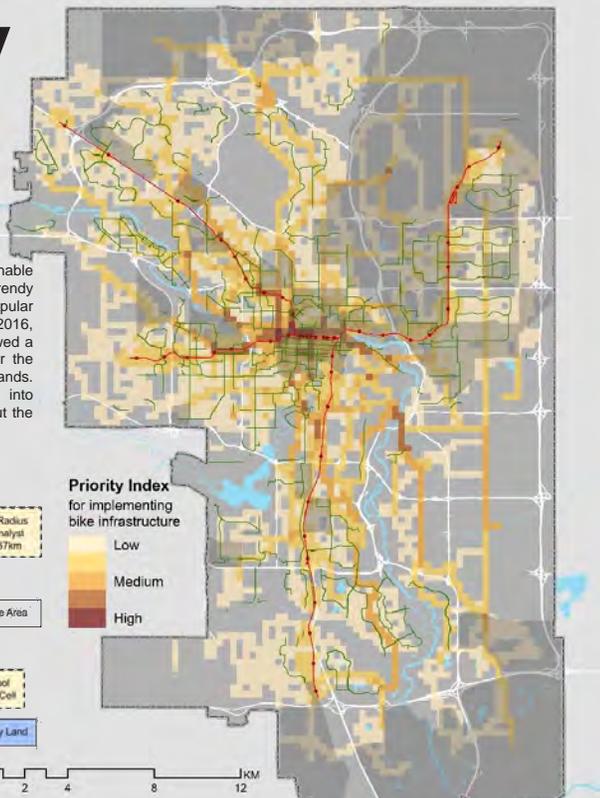
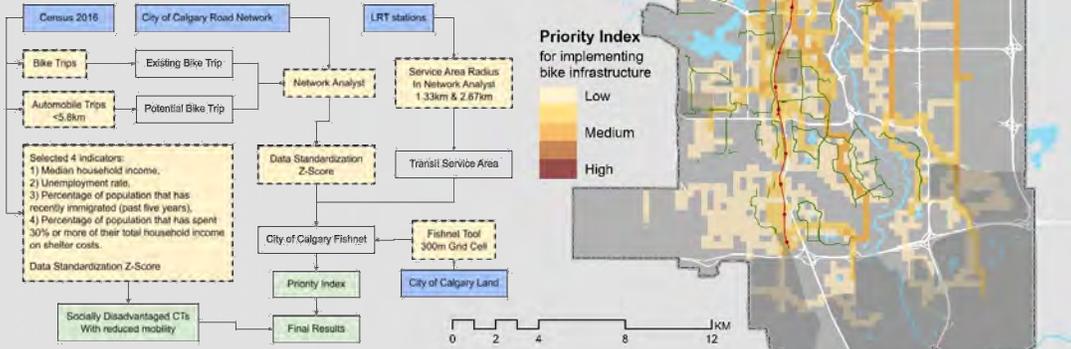
Kevin Chen

Cycling in Calgary

Is the current bike infrastructure meeting the demands within the city boundary?

Made by Yichun Du
Map Poster Assignment @RyersonGeo, SA8905, Fall 2020
December 1, 2020

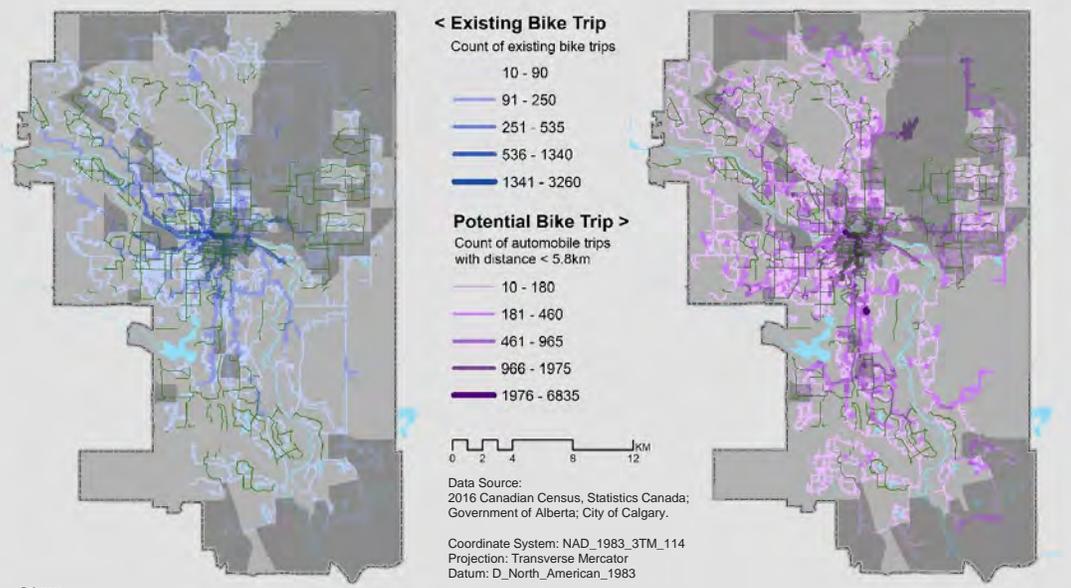
Cycling is considered a healthy, environmentally-friendly, and sustainable active mode of transportation¹. The culture of riding bikes is trendy nowadays, the rise of the shared mode of bike use is becoming popular among many large cities², including the City of Calgary, Alberta. In 2016, 29,030 cyclists were counted at 90 locations in the city, which showed a 5% increase from last year³. It is becoming questionable whether the current bike infrastructure in Calgary can meet the increasing demands. Meanwhile, people with reduced mobility should be taken into consideration as well⁴. Therefore, it is critical to decide where to put the infrastructure that can meet the demands and maximize the benefits.



The map on the top-right corner combined the priority index for implementing bike infrastructure and identified socially disadvantaged census tracts (CT) with reduced mobility together. With this combined final result, it became easier to allocate the places that lack the desired bike infrastructure. Also, the LRT lines with stations were visualized for a better reference of the concept that cycling and transit could be integrated as a sustainable mode of commute. The bottom two maps visualized the existing bike trips and potential bike trips in the city. All current bike lanes were put on all maps to give a sense of whether the infrastructure was well utilized. The CTs with reduced mobility were also shown on all maps in order to provide a sense of how those communities are served by the existing infrastructure and how they would be benefited in the future.

However, there were limitations regarding this study. For instance, census data at the CT level for extracting Origin-Destination information would lead to low accuracy. One of the major issues was that the trips that occurred within the same CT could not be visualized since the origin and destination would be automatically considered as one location. Also, for a winter city like Calgary, snow on bike lanes or trails could be an obstacle for people's choices on cycling. At this moment, we lack data regarding winter bike planning.

- Bike Lane
- LRT Station
- LRT Line
- Major Road
- Waterbody
- City of Calgary
- Socially Disadvantaged CT



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 3 Bike Data. (n.d.). Retrieved September 29, 2020, from https://www.calgary.ca/transportation/cycling/bike-data.html?redirect=%2fbikedata
 4 Criss, E., & El-Geneidy, A. (2019). If we build it, who will benefit? A multi-criteria approach for the prioritization of new bicycle lanes in Quebec City, Canada. *Journal of Transport and Land Use*, 11(1), 217-235. doi:10.5198/jlu.2018.1115



Best Student Presentation Prize CCA2021

The CCA Executive were pleased to award two Best Student Presentations from the Annual Conference held online in May 2021. One to Shane Doddridge from University of Victoria, and a second one to Julia Conzon from Carleton University. On behalf of the CCA we wish them both all the best in their careers in cartography, and hope that they continue to engage with the Association.

Shane Doddridge from University of Victoria,
“Navigating Theory in Toponymy: Approaching Indigenous Place Names in the Chilcotin Region of Canada”

The names of geographical features (toponyms) have long been studied across many disciplines, including geography, cartography, anthropology, onomastics, and linguistics. Unsurprisingly there remains little theoretical agreement about how best to approach a study of toponyms, especially in indigenous contexts. By exploring an ongoing collaborative project to map the place names of the T̓silhqot’ın First Nation in west-central British Columbia, this presentation attempts to navigate a path through (and hopefully beyond) some theoretical traditions towards landing on some practical cartographic applications.

Julia Conzon from Carleton University,
“Towards Co-Producing Web-Based Geospatial Technologies: A Proposal for Clyde River, Nunavut”

The production of web-based geospatial technologies has seldom incorporated diverse ontologies and epistemologies into their technical formulation, leaving critical methodological

gaps regarding how such diversity should be meaningfully and digitally represented for the intended users. This challenge is acute among Indigenous and Inuit nations because the development of geospatial technologies intending to represent (via modeling and visualizing) local knowledge have often excluded the users.

With strategies and principles pushing Indigenous and Inuit data sovereignty and decision-making, such as the United Nation’s Declaration on Rights of Indigenous Peoples and National Inuit Strategy on Research, community members and representatives must be included throughout the entire process, from project initiation to application. Therefore, as efforts towards reconciliation and self-determination accelerate, academics/practitioners working with Indigenous or Inuit communities will have to devise and deploy deeper iterative and collaborative methods to develop products that better align with knowledge systems of their intended users. In the case of Clyde River hamlet in Nunavut, they are actualizing Inuit self-determination through community-based initiatives. One such project is the Clyde River Knowledge Atlas (CRKA), which was published in 2018 by Clyde River’s Ittaq Heritage and Research Centre in partnership with Carleton’s Geomatics and Cartographic Research Centre.

With feedback from existing atlases hosted on CRKA and new data coming from a sea ice monitoring program, this research proposes following mixed methodologies applied within community-based research to co-produce an interactive web-based prototype atlas with Ittaq and community members, contributing to the discourse on meaningful Inuit Knowledge representation.

Report on the International Cartographic Congress, Florence/Firenze, Italy, 2021

After a six month delay due to COVID, the International Cartographic Association held its bi-annual conference in Florence, Italy December 14-18. The organizers created a hybrid online/in-person conference, that worked very well, because concerns about the Omicron variant arose during final preparations making it clear that many delegates were not going to attend in person. Canada was represented by Jack and Lan Joyce of ITMB Publishing Ltd., Richmond, BC, who also arranged Canada's map display. Unfortunately, some of the maps were seized by Italian Customs and never made it to the display area.



One of the University of Florence's 'old town' locations was the conference venue. The map display was hosted, in separate premises a few blocks away, by the Istituto Geografica Militar and the children's art display was hosted in a different building. This separation meant that few of the attendees saw the map display. The opening ceremony was held in the historic Palazzo Bella Signoria (1129), more commonly known as the Palazzo Vecchio, in the magnificent Hall of the Five Hundred. One felt truly blessed to be in the heart of medieval Florence, passing by Michelangelo's statue of David and sitting admiring huge wall paintings showing the Medici victory over Siena for the dominance of Tuscany centuries ago.



The conference included keynote addresses by Greg Scott, United Nations Statistics Division, and Menno-Jan Kraak, Professor of Geovisual Analytics and Cartography at the University of Twente / ITC. The full conference program is available here:

<https://www.icc2021.net/programme/>

The closing banquet was held in the Palazzo Borghese Aldobrandini (15th Cent.). Florence is the home of countless wonderful churches, museums, plazas, statues, and medieval buildings. In-person attendees had an unparalleled opportunity to visit such marvels as the Galileo Museum, the Uffizi Galleries, and the burial sites of such renowned individuals as Amerigo Vespucci and Elizabeth Barrett Browning. It is difficult for any conference to compete with the Ponte Vecchio or the Piazza Del Duomo but the 30th ICA Conference achieved marvels of its own, simply by successfully carrying out this conference in the face of a terrible epidemic.



Jack and Lan Joyce at the congress banquet

Jack Joyce,
ITMB Publishing,
Richmond, BC

Canada Map Display - International Cartographic Conference Map Exhibition - Florence, Italy - December 12-18, 2021

Roger Wheate, UNBC; Canadian national delegate to the ICA

The International Cartographic Association (ICA) meets biennially, where the program includes the International Cartographic Exhibition, featuring ~400 maps and other cartographic products from 30 countries (including Canada). These are all viewable online at: <http://www.geografia-applicata.it/en/icc-2021-virtual-exhibition>. You can also view the Barbara Petchenik Children's World Map Drawing Exhibition entries here: <https://icaci.org/petchenik>

Canada contributed 12 maps to the International Cartographic Exhibition, filling six panels. I was not personally able to attend, but am grateful that Jack and Lan Joyce (ITMB) kindly agreed to handle our display in Florence. Thumbnail images of our entries are shown below and the maps are included in the online exhibition linked above. Maps 1-2, 7-10 also can be viewed in more detail on their product webpages.

1. Africa Travel Reference Map 3rd Ed.; ITMB Publishing, Richmond, BC, Jack and Lan Joyce
2. Maui, Kauai, & Molokai (Hawaii) Travel Reference Map 1st Ed. (ITMB as above)
3. The world / Le Monde; Natural Resources Canada, Ottawa, ON (Ken Francis, Rory McAlpine, Peter Morton, Louis-Jean Foucher)



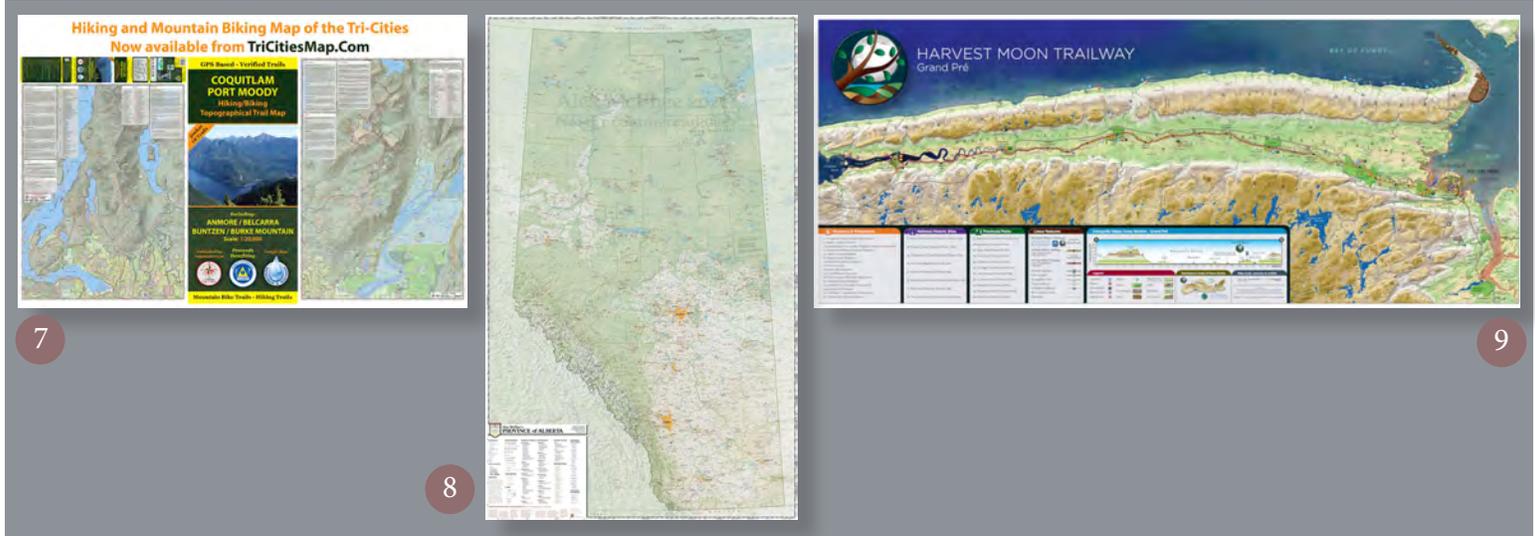
4. Vegetation Zones of Canada: A Biogeoclimatic Perspective / Zones végétation du Canada: une perspective biogéoclimatiques; Natural Resources Canada, Ottawa (design by Ken Francis)

5. Canada's Land Cover / La couverture terrestre au Canada (version 2015); Natural Resources Canada (R. Latifovic and Ken Francis)

6. Bella Coola Heli Sports Operating Area; Smart Map Services, Bob Plummer, North Vancouver, BC

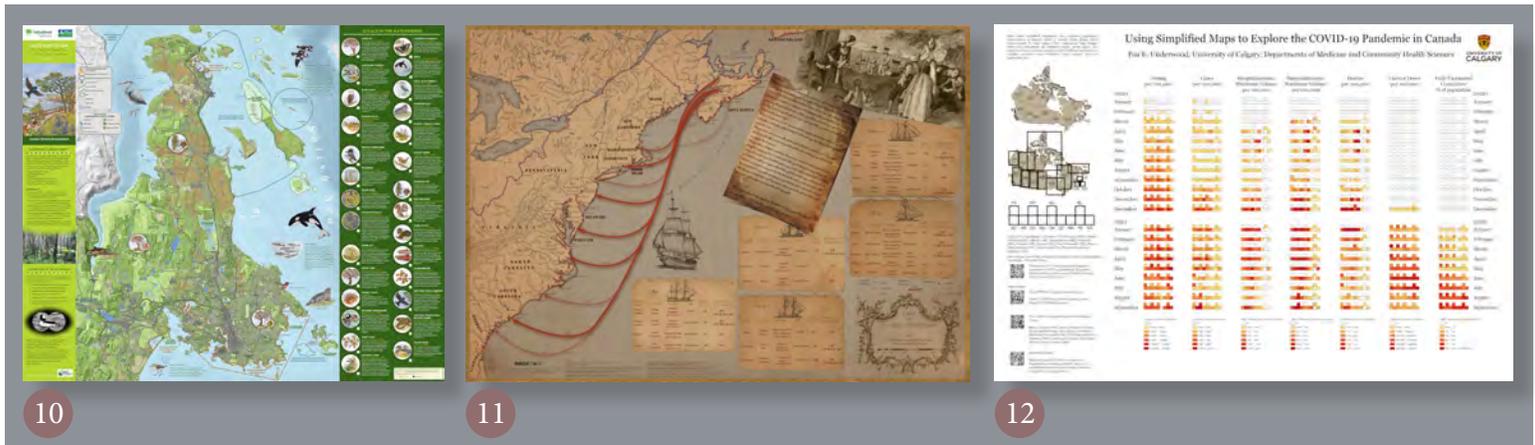


- 7. Tri-Cities hiking and biking topographical trail map, 3rd ed.; Canadian Mapmakers, Steve Chapman, Coquitlam, BC
- 8. Alex McPhee's Province of Alberta; Prairie Heart Maps, Alex McPhee
- 9. Harvest Moon Trailway (Nova Scotia); Lost Art Cartography, Marcel Morin



- 10. Nature in the City map: A NatureHood Guide to Many Adventures, 1st Ed., Victoria NatureHood - Capital Regional District, team leader: Kathleen Burton.
- 11. Acadian Deportation in 1755; COGS-NS, Kevin Chen (student)

12. Using Simplified Maps to Explore the COVID-19 Pandemic in Canada; Cartographica, Fox Underwood (University of Calgary)



MEMBERSHIP COORDINATOR

Roger Wheate

University of Northern British Columbia

Canadian delegate to the International Cartographic Association



Membership Report, 2021

Membership has grown significantly in the last year, from 93 to 131, mostly associated with the two virtual events: Annual Meeting May 25-27 (Connecting the Dots for Multi-Dimensional Mapping) and the (Mapping in Indigenous Contexts) event on October 27. Following on from the popularity of the 'Mapping from Home' half-day event in June 2020, virtual events are here to stay as they help draw cartographers together across our far-flung provinces, territories, states and other countries, enabling larger audiences to attend, freed from travel costs and time.

Members should drop me an email, if they have missed any recent journal issues, and print copy users please note that I have some extra back issues going back to 2004, which could use homes and help to lighten my bookshelves. Request for renewals for 2022 will accompany or follow this issue of Cartouche.

Welcome new members 2021:

Cath Evans, Butler, TN
Lakshmi Sattenapalli, Calgary, AB
Tope Akpomedaye, Calgary, AB
Tobi Baugh, Lethbridge, AB
Kevin Chen, Lawrencetown, NS
Jeff Clark, North Vancouver, BC
Sven Cowan, Vancouver, BC
Chris Craig-Neil, Toronto, ON
Sylvia Dixon, Chester, NS
Kyra Egan, Prince George, BC
Tim Elrick, Montreal, QC
Robert Gustas, Victoria, BC
Ugochukwu Iheanacho, Calgary, AB
John Joseph, Dubai, DU
Jude Keefe, Guelph, ON
Zackary King, Rose Prairie, BC
Ian Ladd, Calgary, AB
Matthew Ladd, Ottawa, ON
Anne Lalonde, Green Valley, ON
Lauraine Leblanc, CLAIR, NB
Christopher Li, Toronto, ON
Thea Mai, Victoria, BC
Janani Manivannan, Calgary, AB
Elliott Mann, Cranbrook, BC
Keegan Manson-Curry, Fredericton, NB
Daniel Melchionno, Edmonton, AB
Jeff Morrow, Middleton, NS
Reg Nelson, Thunder Bay, ON

Stéphane O'Carroll, Moncton, NB
Olaronke Onireti, Thunderbay, ON
Alex Onojeghuo, Edmonton, AB
Adeyinka Oridate, Calgary, AB
Alex Pinal, El Paso, Texas
Elizabeth Powles, Ottawa, ON
Stephanie Pyne, Ottawa, ON
Shawn Rea, Brickton, NS
Zenon Sedzikowski, Montreal, QC
Ryan Shackleton, Ottawa, ON
Tina Slunt, Kimberley, BC
Elizabeth Spencer, Victoria, BC
Ashlie Spice, Brazeau County, AB
Rosemary Spicker, Surrey, BC
Igraine Strelley, Grimsby, ON
Dave Taylor, Calgary, AB
Marikka Williams, Lindsay, ON
Amy Wilson, Port Alberni, BC
Julie Witmer, Kitchener, ON

Stay Informed:

Have you considered joining the CCA email listserve? Items of interest concerning all things cartographic can be sent to the list by anyone subscribed to the list. More information:

<https://cca-acc.org/membership/listserver>

Roger Wheate, UNBC
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Newsletter of the/Bulletin de Canadian Cartographic Association/l'Association canadienne de cartographie

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