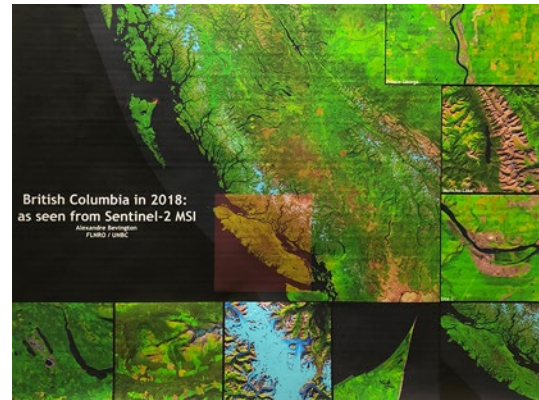


CARTOUCHE

CANADIAN CARTOGRAPHIC ASSOCIATION



Highlights From CCA Conference 2019

FEATURE ARTICLE: Challenging the Conventions of Modern Mapmaking by Jennifer Johnston

FEATURE ARTICLE: Reinventing the Globe by Mark Jeffery

FEATURE ARTICLE: The Highly Formalized Cartography of the Geological Survey of Canada by Robert Cocking

FEATURE ARTICLE: A New Series of Map for Mount Edziza Provincial Park, BC by Morgan Hite

CONTENTS

CONTENU

Messages/Messages

- 4 President/Président
Monica Lloyd
- 5 Vice President/Vice-Président
Ted MacKinnon

Annual Conference/Conférence annuelle

- 6 Report from CCA2019
Roger Wheate
- 10 Workshop Summaries
Monica Lloyd
- 13 CCA Award of Distinction
Presented to Chris Brackley

Features/Les articles

- 11 Challenging the Conventions of
Modern Mapmaking
Jennifer Johnston
- 16 Reinventing the Globe
Mark Jeffery
- 19 The Highly Formalized Cartography
of the Geological Survey of Canada
Robert Cocking

- 21 A New Series of Map for Mount
Edziza Provincial Park, BC
Morgan Hite

Reports/Rapports

- 24 Report from ICC 2019
Yaïves Ferland
& Emmanuel Stefanakis
- 29 ICC Children's Map Competition
Canadian Entries
- 32 Report from NACIS 2019
Roger Wheate

Other/Autre

- 33 President's Prize
CCA Conference 2019
- 35 Conference Schedule
Upcoming Conferences
- 36 Membership Report
Members & Journals
- 37 CCA Executive List
With contact info

On the cover of this issue:

i	ii	iii
iv	v	vi
vii	viii	ix

- i. UNBC Agora - former location of Glacial Lake George shoreline - 10,000 BC
- ii. Section of Banff Park Map, by Jeff Clark, Clark Geomatics
- iii. Attendees stroll around the Giant Floor map of Indigenous Canada
- iv. Eclipse Geomatics (Smithers, BC) virtual reality sandbox
- v. Chris Brackley: keynote address

- vi. BC 2018 Image mosaic by Alex Bevington, FLNRORD, BC Government
- vii. Giant Floor map, sans attendees, viewing north across BC
- viii. David Douglas botanical gardens, UNBC campus
- ix. Globe by Mark Jeffery, goodwoodglobes (see feature article)

PRESIDENT'S MESSAGE

Monica Lloyd

Centre of Geographic Sciences - NSCC

Monica Lloyd is the President of the Canadian Cartographic Association and an instructor of Geographic Sciences (Cartography Concentration) at the Centre of Geographic Sciences, Lawrencetown, NS.



It is with great pleasure that we share the 96th edition of Cartouche. This newsletter would not be possible without volunteers from our CCA executive and from our cartographic community. As many of you know, putting together this newsletter takes a creative spirit, contributions from the mapping community and editing efforts from our Cartouche team. It with pride that we share your mapping stories with the greater mapping community. For it is through sharing our stories, work and passion for the cartographic process that we continue to make great maps and inspire new cartographers. Thank-you all for your contributions and efforts to making this edition possible.

Our 2019 conference was held on the traditional territory of the [Lheidli T'enneh First Nation](#) ("The People of the Confluence of the Rivers") at the [University of Northern British Columbia \(UNBC\)](#). Roger Wheate, Scott Emmons and the UNBC organizing committee put together an excellent conference highlighting the work of BC cartographers and GIS professionals. Attendees learned about projects involving drone and LiDAR mapping, Indigenous peoples, [Canadian open data](#) and free geospatial data resources, creative mapping processes by Jeff Clark of [Clark Geomatics](#), intricate wood carved globes by Mark Jeffery of [goodwoodglobes](#) and much more. The [Eclipse Geomatics](#) team from Smithers, BC displayed their interactive [Augmented Reality \(AR\) Sandbox](#) where users could change the terrain with their own hands. Chris Brackley ([As The Crow Flies Cartography](#)) shared his cartographic process on the [Indigenous Peoples Atlas of Canada](#). The [giant floor map](#) he created was on display during the conference. It was a treat to watch Chris share the map-making process with students from local schools. Chris was awarded the 2019 CCA award for Exceptional Professional Contributions to the Practice of Cartography. Thank-you Chris for telling Canadian stories through maps and for inspiring us with your passion.

CCA is a small group committed to bringing people together to promote interest in maps and research. With help from our current vice president, Ted MacKinnon, we have updated our website with a fresh new look, but it needs more mapping content. If you have a mapping story, cartographic process or map you would like to share, please send it along to president@cca-aac.org.

Mark your calendars for our 2020 conference to be held May 25–29, at the University of Victoria, Victoria, BC. This will be a joint conference with the [Canadian Association of Geographers](#) and [Association of Canadian Map Librarians and Archives](#). This year's theme is "*Resilience on a Dynamic Planet*." A call for presentations will be sent out soon. We look forward to seeing you there.

~Monica Lloyd



Monica exploring the botanical gardens at CCA2019 UNBC

VICE PRESIDENT'S MESSAGE

Ted MacKinnon

GISP – Geomatics Specialist, Natural Resources

Ted MacKinnon is the Vice-President of the Canadian Cartographic Association and a Geomatics Specialist with the Department of Natural Resources.



I would like to thank everyone who helped organize the 2019 CCA conference in Prince George. This year's conference was an example of one of the strengths of the CCA, having great annual conferences. Regardless of where it is hosted in Canada, you can be reassured that it will be informative, interesting, enjoyable, and provide a great opportunity to network with the geospatial community. Canada has a very large geography, and few people get the opportunity to experience all that it has to offer, so it is always important that we make the effort to travel to conferences, especially ones hosted, in places that we may have never been.

In 1975, 82 professionals came together in Ottawa to discuss a report that favoured the formation of an Association for Cartography. This inaugural meeting led to the creation of the CCA. It was founded to be essentially cartographic in the widest terms rather than an association of cartographers and hence welcome into its membership anyone with a serious interest in cartography.

At the 2005 CCA conference in St. John's, Newfoundland Dr. Henry Castner reminded everyone during his opening speech that many Canadians have strong interests in maps and mapping but don't always fit within the traditional definition of cartography. He referred to this group as "Unfranchised Cartographers" and went on to explain how he thought the strength of the CCA was due to their contribution.

These days few people who regularly create maps, consider themselves a cartographer; instead we find individuals from a vast array of different professions who create maps (such as Wildlife Biologists or Forest Technicians) as part of other occupations. I myself fall within that group, and although I do frequently create maps, the bulk of my everyday work is more surveying, GIS, and remote sensing related.

These days, maps are more popular than ever, as people start to realize the value of location and its relation to everything around it. Thanks to advances in technology and the widespread use of the Internet, almost anyone can produce, publish and share maps, even if they have never heard of the word "Cartography." Therefore, we may be witnessing an exponential growth of "Unfranchised Cartographers" or maybe, a completely new category of map users that the CCA could be trying to attract. What does the CCA need to do to appeal to this new generation of mapmakers?

Having been involved with many different associations and groups over the years, I know that countless resources are often invested into creating strategy related documents that both help them grow as well as remain relevant in today's society. However, instead of trying to strategize how the CCA can inflate its membership and bring the association back to the glory days (when it had hundreds of members), I believe that we need to consider quality over quantity.

Judging by the presentations that continue to appear at the CCA conference every year, I think it is safe to say that cartography in Canada remains strong. Regardless of what industry mapmakers are included with, it's nice to know that many Canadians have interests in maps and perhaps more so thanks to advances in technology. Looking forward to the upcoming joint conference in 2020 and hope to see everyone there. In the mean time, I encourage everyone to check out some of the changes that we have recently made to the CCA website, and share your feedback with us. Whether it is good or bad, or you have ideas of what you would like to see published, then we would love to know what our members think.

~Ted MacKinnon

Report from CCA Annual Conference 2019

University of Northern British Columbia, Prince George, BC



CCA2019 UNBC
Prince George May 22–24



Roger Wheate
University of Northern British Columbia

Annual meeting 2019

We were pleased to welcome almost 100 members of the CCA and Northern BC GIS users group to the 2019 annual meeting, held at Canada's newest and northernmost University on the traditional territory of the Lheidli T'enneh First Nation (the people of the confluence of the rivers), where the Nechako joins the Fraser River.

The first day featured two full day workshops focusing on remote sensing imagery and open source GIS software, coordinated by two of the organizing committee (see following summary by Monica Lloyd). Prior to the social event at the campus Thirsty Moose pub, some two dozen delegates strolled along the Cranbrook Hill Greenway trail to the Dakelh Pit House, constructed as part of a campus First Nations course.

A major highlight of the conference was the Canadian Geographic Giant floor map (11 x 8 metres) of Indigenous Peoples Atlas of Canada, on display through the conference in the University Library and the subject of the opening keynote address by its designer, Chris Brackley (As the Crow Flies Cartography). The same room housed a Virtual Sandbox kindly provided by Johanna Pfalz, Eclipse Geomatics, also for the conference and some weeks beyond. Both were hugely popular with conference attendees, local and university communities.

This was followed by a session on Indigenous Mapping, then digital technology and data, and online mapping. Day one wrapped up with a banquet

style event at the Northern Lights Winery on the edge of the Nechako River, co-sponsored by our local companies: SparkGeo and TDB – many thanks Will and Dick). We dined in style and sampled the fruit wines from this Canada's northernmost winery. Chris Brackley was presented with the CCA award for Exceptional professional contributions to the practice of cartography.

Day two included sessions on human and wildlife landscapes, historical mapping, LiDAR and photogrammetry, and BC mapping. Then followed a downtown tour of local features and wall murals. The Terry Fox bronze statues is one of our local favourites as he chose our Labour Day Classic road run as the test for his Marathon of Hope in 1980. A social event and Pecha Kucha coordinated by Alex Bevington, concluded the main conference, with a field trip the next day to historic Barkerville.

Overall there were 32 oral presentations including the keynote, with four summarized in this issue, and most of the talks shortly available online via our webpage: <http://cca-acc.org> along with the program. Special thanks to Jennifer Johnston (Inspirit Cartographics) for making the longest trip from UK and Mark Jeffery (goodwoodglobes) for the most arduous trip from the Kootenays with automobile misadventures. Many thanks to both for providing written versions of their talks in this issue along with Robert Cocking (GSC Vancouver) and Morgan Hite (Hesperus Arts).

CCA 2019 UNBC -Report cont'd

At the annual general meeting, members voted to join the Canadian Association of Geographers (CAG) and Association of Map Librarians and Archives (ACMLA) for the annual meeting next year at the University of Victoria, May 25-29 2020. This will enable continuation of the positive energy developed through this year's meeting in our westernmost province before returning east to Fredericton, NB in

2021. We are also considering the possibility of the 2022 meeting in Whitehorse, YK.

Many thanks to the organising committee: Scott Emmons (UNBC), Alex Bevington (BC Government), Dick Mynen (TDB consultants), Dana Schwehr (SparkGeo on behalf of Will Caddell), and UNBC graduate students: Aita Bessola, Karen Dietrich, and Audrey Faber for their outstanding team work.



CCA 2019 UNBC Prince George Workshop Summaries

~ Monica Lloyd

An Introduction to accessing and using freely available Remote Sensing Data

Opening day of the Prince George conference two workshops were offered: (1) An Introduction to accessing and using freely available Remote Sensing Data: Google Earth Engine, facilitated by **Alex Bevington**, BC Government Researcher and PhD Candidate; and (2) Enterprise Spatial Data Collection & Management using Open Source tools: QGIS, facilitated by **Scott Emmons**, UNBC.

Both workshops were informative and trending in the most current tools available for remote sensing data and open source GIS applications. Two UNBC labs were filled with keen learners interested in picking up new tools of the trade.

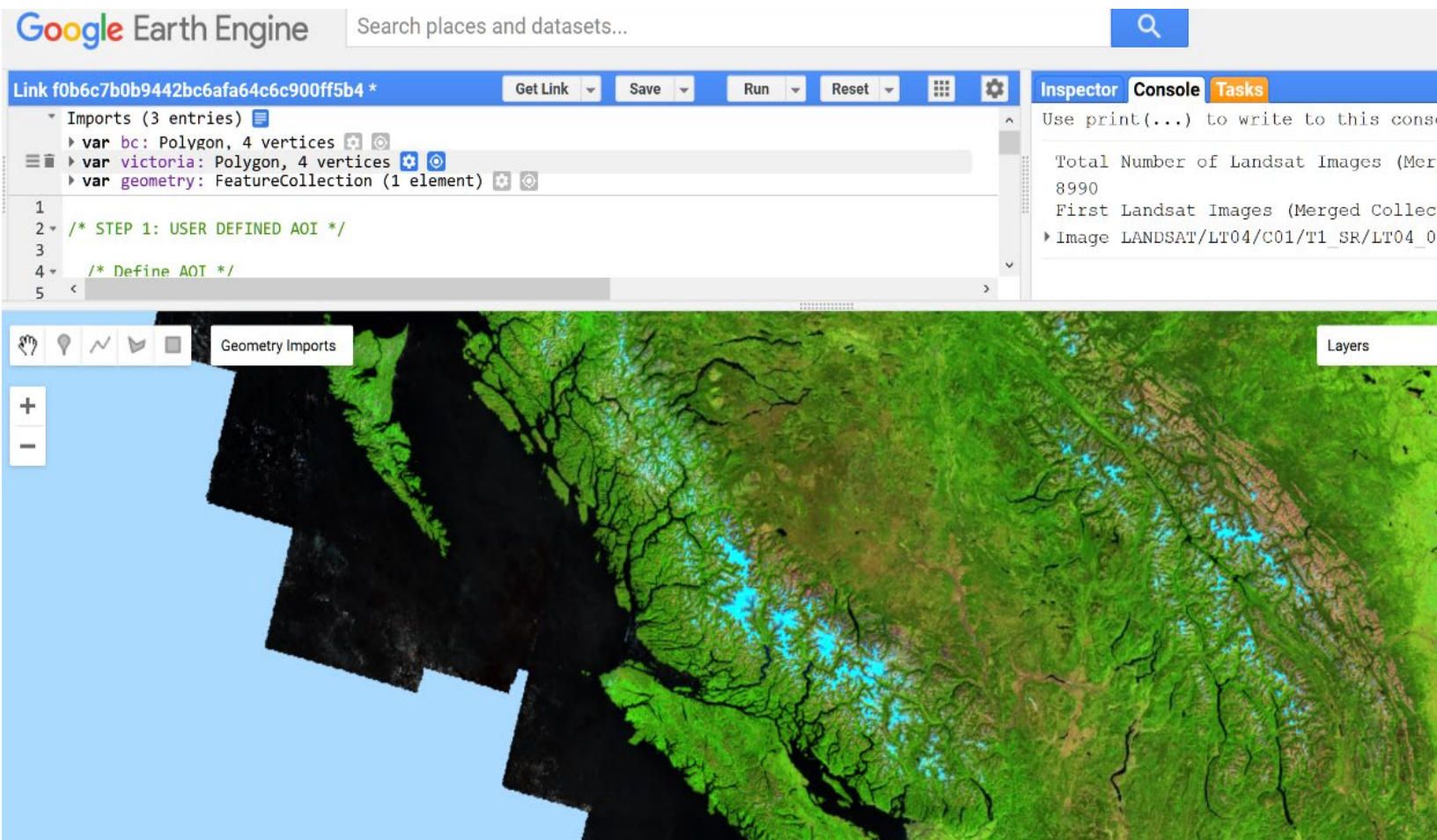
Alex brought learners up to speed with the latest sensors in Remote Sensing. He began with time lapse imagery



using [Google Earth Time Lapse](#). This web application contains “a global, zoomable video that lets you see how the Earth has changed of the past 35 years.” (Google Earth Engine).

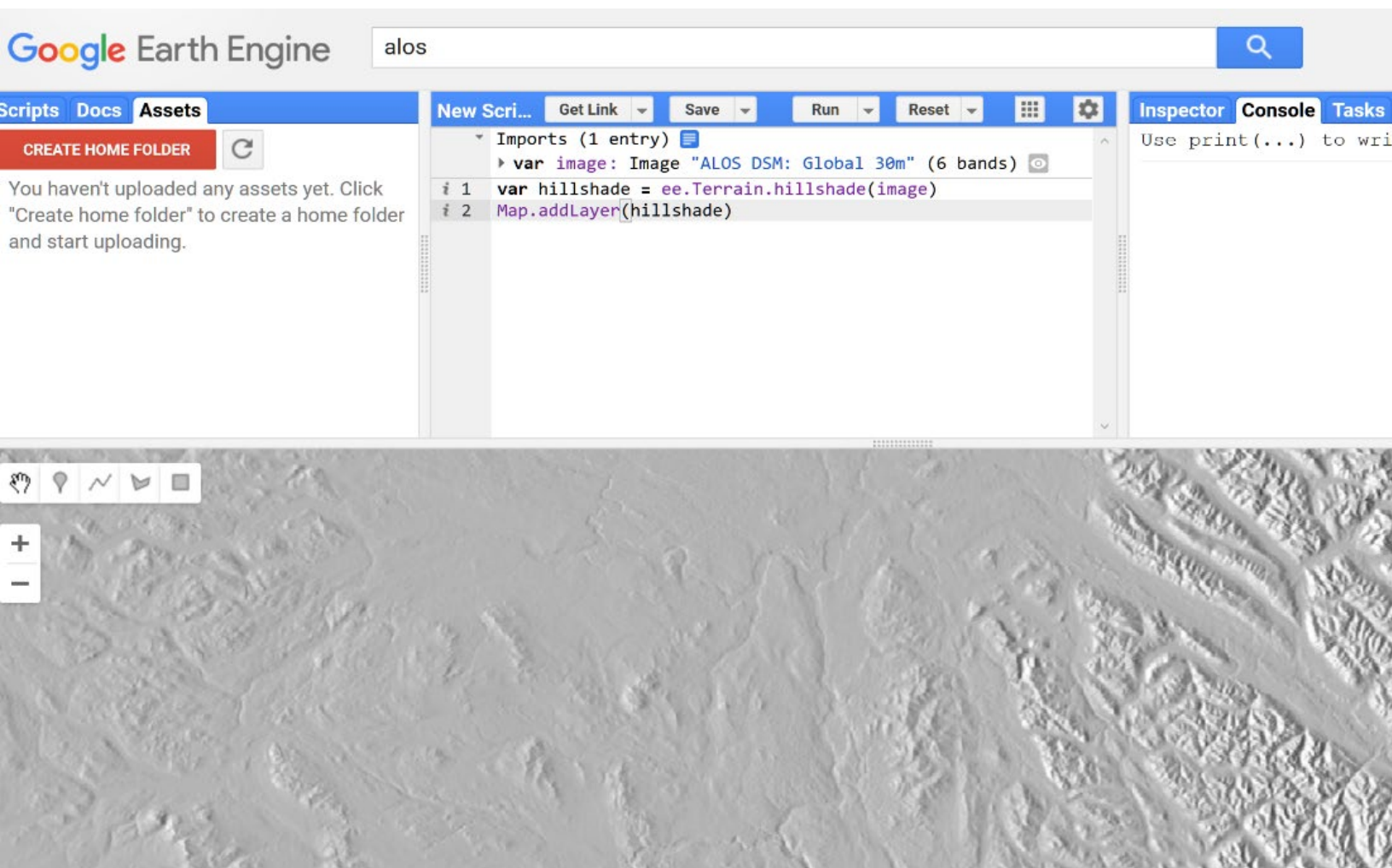
We then looked at another web application called [Time Machine](#) that “enables simultaneous exploration of space and time across massive datasets.” (Time Machine).

Alex guided us through mining remotely sensed data using [Sentinel-hub EO Explorer Browser](#). This application “combines a complete archive of Sentinel-1, Sentinel-2, Sentinel-3, ESA’s archive of Landsat 5, 7 and 8, global coverage of Landsat 8, Envisat Meris, Proba-V and MODIS



CCA 2019 UNBC - Workshop Summary cont'd

Google Earth Engine Examples - screen shots from workshop



products in one place." (EO Browser). As a refresher, he showed us a handy tool for viewing [Landsat RGB band combinations](#). From here he exposed us to a more advanced [RStoolbox: Tools for Remote Sensing Data Analysis in R](#).

The most interesting part of this workshop was working with [Google Earth Engine](#) to extract and process imagery. This tool is worth a look and when mastered could save you time searching and processing remotely

sensed imagery. Google Earth Engine accounts are hand processed and take a couple days to set-up. Once your account is approved and created, you can search and process images using their own Earth Engine code and JavaScript and store results directly to your Google Drive.

Alex's Resources:

[Introduction to Satellite Remote Sensing](#)
[Advanced Satellite Remote Sensing](#)

CCA 2019 UNBC - Workshop Summary cont'd

Enterprise Spatial Data Collection & Management using Open Source tools

Scott gave a nice overview and introductory tutorial on using [QGIS](#). If you have not had a chance to explore this open source GIS it is also worth spending some time on. It is familiar to use for most GIS users with less of an overhead cost than other proprietary GIS applications. The open source user community is growing. Resources and forums are widely available to help you solve your technical problems. As a matter of interest [FOSS4G Calgary](#) (Free and Open Source Software for Geospatial) conference will take place August 26-28, 2020.



Once users became more comfortable with QGIS, Scott provided a high level talk about his favourite tools for setting up an Enterprise GIS open source stack: [PostgreSQL](#) backend database; [PostGIS](#) spatial extension

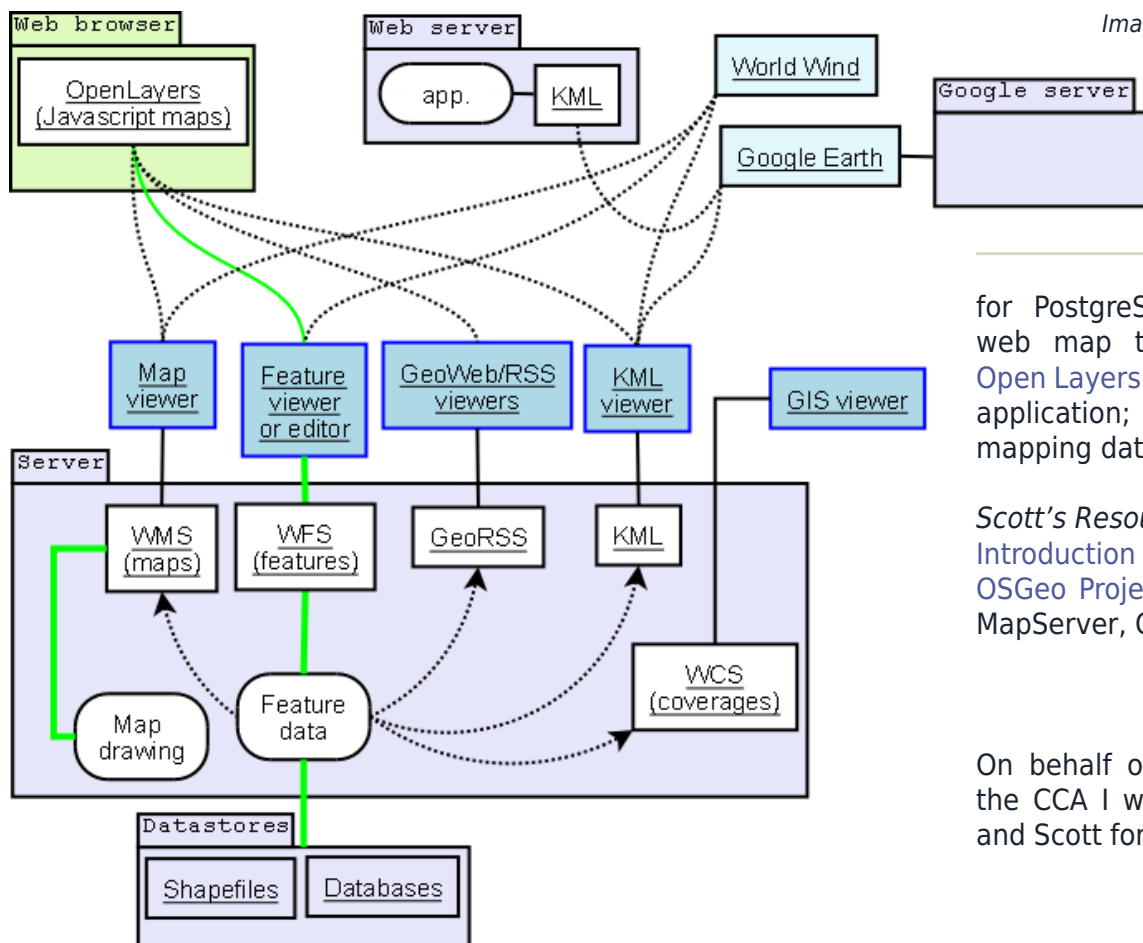


Image: SEWilco - Own work, Wikipedia

for PostgreSQL; [MapServer](#) for serving web map tiles, web feature services; [Open Layers](#) for building the web mapping application; [QGIS](#) for geoprocessing and mapping data.

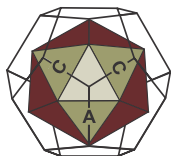
Scott's Resources:

[Introduction to QGIS](#)

[OSGeo Projects](#) (QGIS, GDAL, GeoServer, MapServer, OpenLayers, etc.)

On behalf of workshop participants and the CCA I would like to thank both Alex and Scott for their informative workshops.

~ Monica Lloyd



Canadian Cartographic Association l'Association canadienne de cartographie

5th May 2019: The Executive Committee of the Canadian Cartographic Association is pleased to grant an

Award of Distinction for Exceptional Professional Contributions to the Practice of Cartography to

Chris Brackley

Chris has worked successfully in the field of cartography for many years. In 1999 he established his own business "As the Crow Flies Cartography." He has worked with many clients including the University of Toronto Cartography Office, the Neptis Foundation, the Ontario Green Belt Foundation, and many local community organizations and commercial publishers. Since 2011, ATCFC has been the cartography firm behind the many unique maps and posters published by Canadian Geographic magazine, and the Royal Canadian Geographic Society. His cartographic work ranges from old-fashioned, historic, 3D and birds-eye view style maps of imaginary and real-world locations to

scientific maps and illustrations, posters, and giant floor maps. The latter maps are particularly popular with the public and are used in educational settings through Canadian Geographic's Education Giant Floor Map program.

Chris' maps are unique, use innovative techniques, are easy to read and understand, and are beautiful. They simply fulfil all requirements of 'good maps'. As one of only few independent cartographers Chris manages to follow his passion and create maps that are artistically engaging, socially constructive and earth friendly. Samples of his work can be seen on his website at www.atcfc.ca



(left to right) Chris Brackley with CCA Executive members Monica Lloyd & Byron Moldofsky

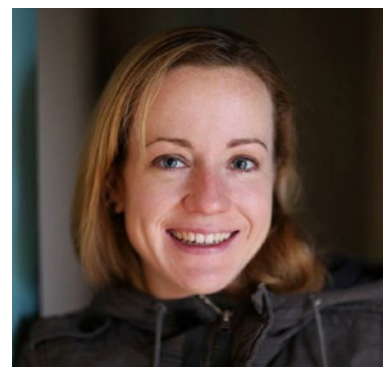


FEATURED ARTICLES

In this issue we are pleased to present material from four of the featured speakers at the CCA 2019 Conference: Jennifer Johnston (Inspirit Cartographics), Mark Jeffery (goodwoodglobes), Robert Cocking (GSC Vancouver) and Morgan Hite (Hesperus Arts).

Challenging the Conventions of Modern Map Making

Jennifer Johnston
Inspirit Cartographics



Technology has provided new and quicker ways to visualise geographic data. However, as more and more map makers and map making companies move towards ever greater automation we lose the human element and artistic quality that has captivated map lovers.

I wonder if maps created by modern means hold the same value as older maps created before computerisation? Or is it that as quickly as these modern maps can be produced they are equally quickly deleted? Is there a way to use modern tools and preserve that element that causes people to hold on to maps, put them on their walls and even shell out dollars for an old tattered page?

What is Modern and Where is it Failing?

Modern is “characterized by using the most up-to-date techniques, ideas or equipment” and “denoting a recent style or trend in art, architecture, or cultural activity marked by a significant departure from traditional styles and values.” - *Oxford Dictionary 2019*

The most up-to-date techniques include GIS software, GIS data, computers, satellites, GPS, Remote Sensing and automation.

I don't have a problem with any one of these tools. They all serve helpful purposes.

The problem arises when the traditional styles and values of cartography are lost.

Things like label placement, fonts and text styles, intuitive design, clarity, generalisation, hierarchy of features and information are important tools in communication that go beyond language.

You may not be able to read Japanese characters but you should be able to understand a well designed Japanese map.

Automation ↑, Human Involvement ↓

Humans connect to things with greater human involvement. As automation increases, human involvement decreases.

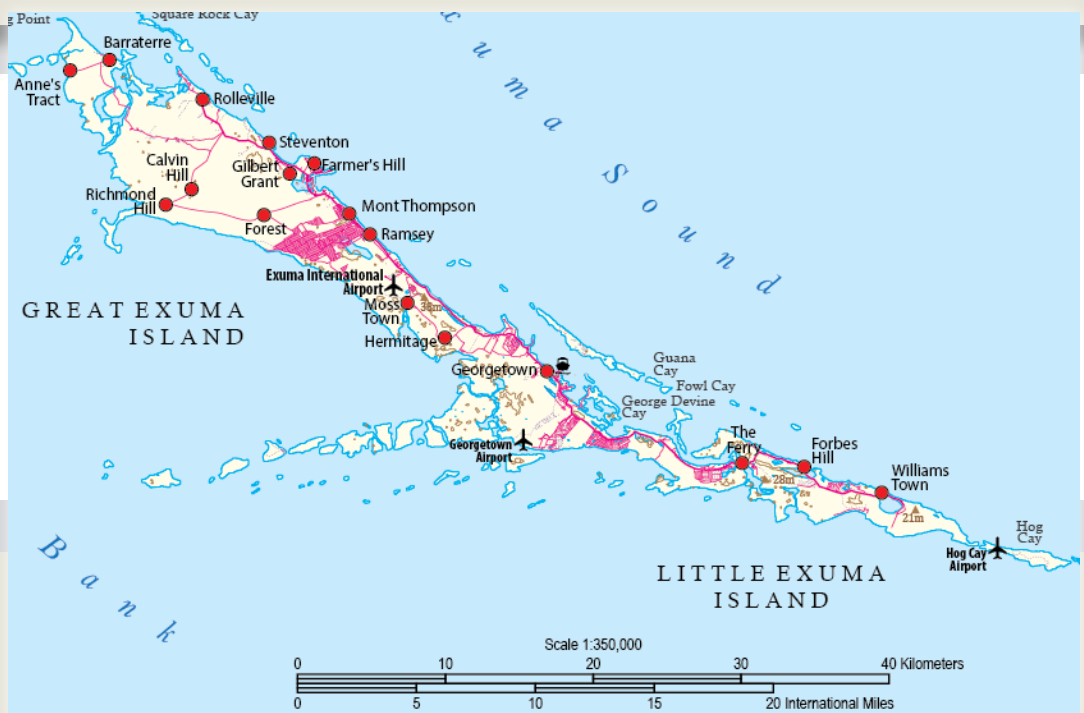
Some problems that are encountered as computers dominate the map making process are:

- 1) Cartographic style conventions get lost.
- 2) Too much or too little information is shown.

Map A
(source: www.exumamap.com)



Map B
(source: *Inspirit Cartographics*)



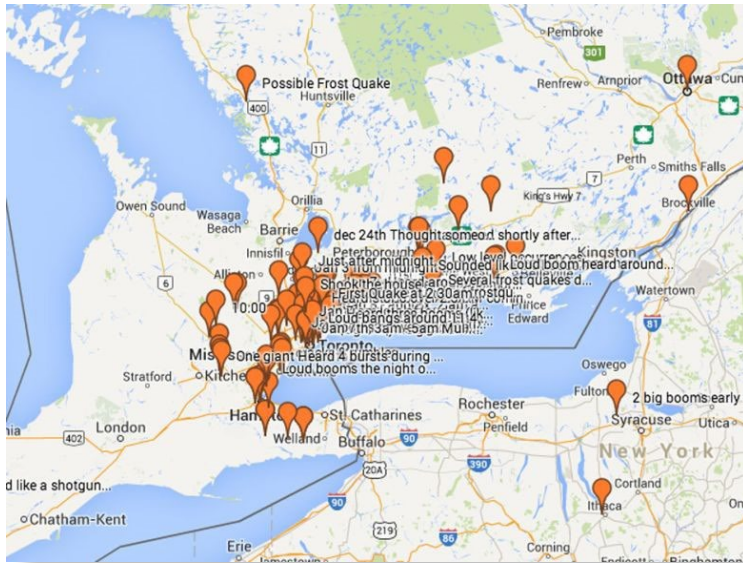
- Both of these maps were made on the computer using GIS software and GIS data.
- Map A has less human involvement and Map B has more human involvement.
- Map A doesn't show all of the Exuma Island chain and it doesn't suggest that there is more to it.
- Land features and towns are labelled in blue (traditionally representing water features) and with a serifed font (traditionally used for natural features

like mountain ranges and plateaus).

- The towns and the airports should be in a sans serifed font to indicate that these are man made features.
- I can't guess why an airport, an island and a town are labelled in red.
- On Map B you can see that one road is slightly thicker than the others so it must be the main road on the island, though not a major road like a motorway.

- Water features are serifed and italicised to suggest the fluidity of the natural features.
- More natural colours like greens and browns are typically used for natural features like national parks, contours and mountain peaks.
- More artificial colours like pinks and purples are used to represent the built environment.

Cluttering and the Lack of Human Connection

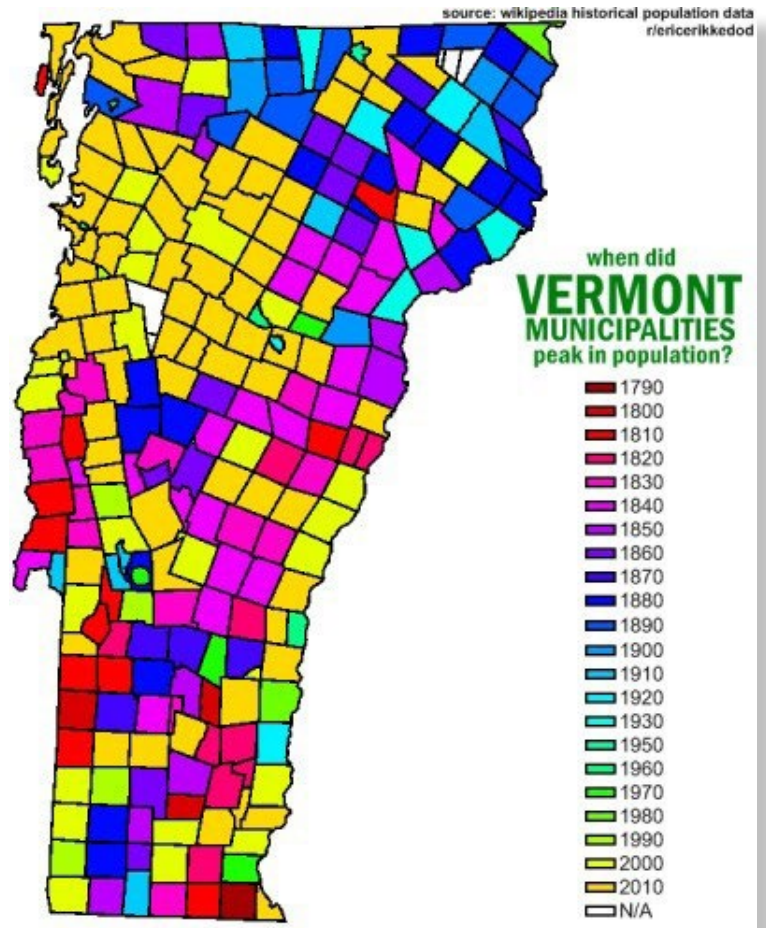


A custom map created in Google

Source: The National Post Toronto

3) The problem of cluttering is also common.

- You can't read or make sense of the information presented on this map. You would have to zoom in to each and every individually dropped pin and click on it.



Source: Maptitude 1 Blog

4) The lack of human connection.

- Without being able to read the title I would have no idea what this map is about
- I have no idea what municipalities these are or where they are relative to Burlington (the largest city) or Montpelier (the state capital).

“...the **balance** of the art and science of map making...”

The computer is a tool, it should not be the cartographer.

The computer is excellent at speeding up the process and making updating existing maps a lot easier. But it's key to remember computers and software packages are just tools. Relying on software

packages is much more convenient but it can also be restrictive. You are limited to only being able to do what the software allows you to do. You are confined to the prescribed functions and styles. It's important to remember that you can use as many tools as you like to create maps with character that communicate their purpose with artistic value.



Source: Inspirit Cartographics

Cartography Definition

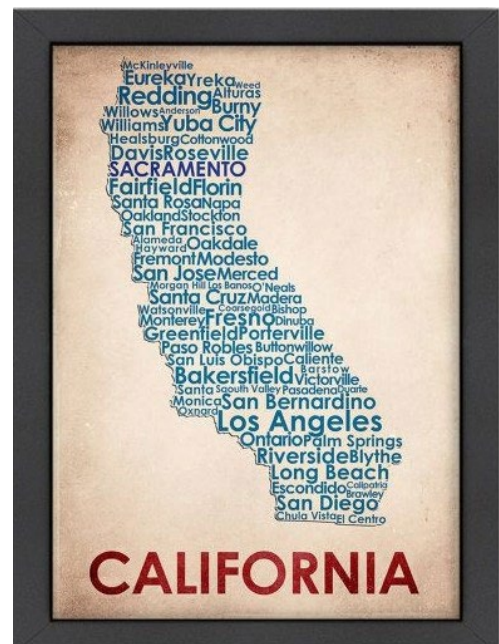
Cartography is defined as “the science and the art of map making” -*Cambridge English Dictionary 2019*

We have just looked at what happens when we lean too far to the science side. Now let's look at what happens when we lean too far to the art side.

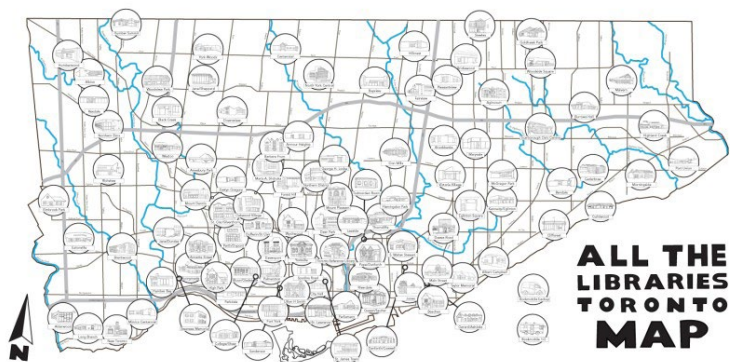
Lost Conventions and Function

1) Again, cartographic styles and conventions get lost.

- the California map would be cool to hang in your living room but its communication through font size is that Bakersfield is larger than San Francisco and we know that's not the case
- it also suggests through design that LA and Sacramento span the state.



Source: Flatiron Designs

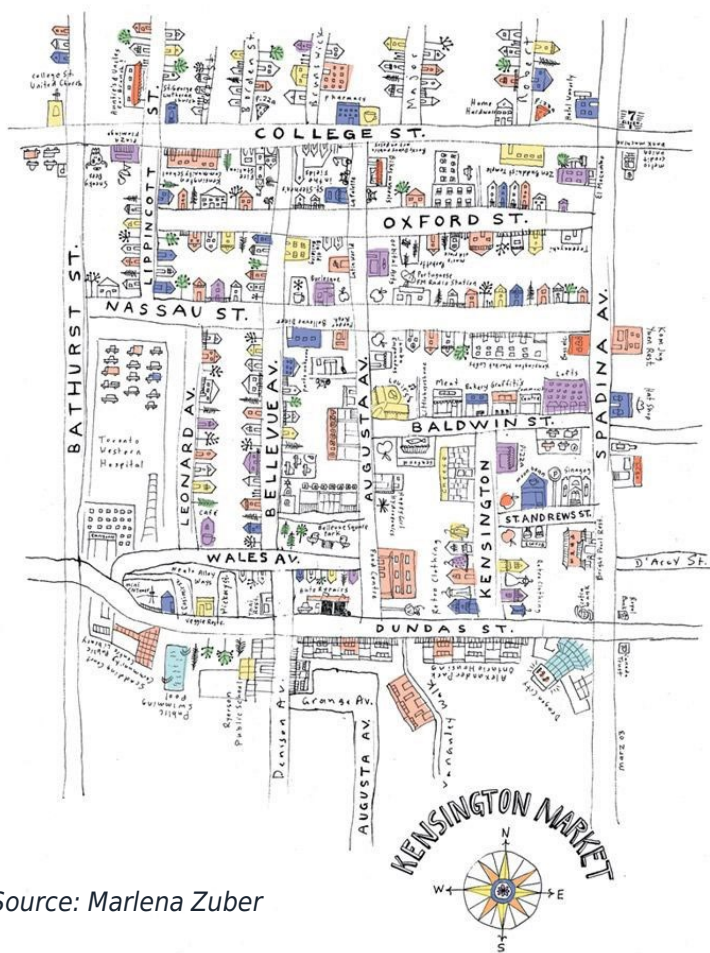


2) Functionality is lost.

- while this one looks more conventionally like a map you couldn't use this to find these libraries.
- they're piled on top of one another and obscuring roads. Even knowing this city really well, this map doesn't help me find these libraries.

Source: Toronto Public Library

Scale and misleading Information



Source: Marlena Zuber

I do love this Kensington Market Toronto map as its hand drawn scribblyness reflects the character of the neighbourhood but its not to scale and it's misleading.

- you can't gauge how far it is from Dundas St. to College St.

- and you can't tell that Bathurst, College, Spadina and Dundas are main roads with street cars, whereas the streets making up Kensington Market are small lanes.



Source: Cargo Collective

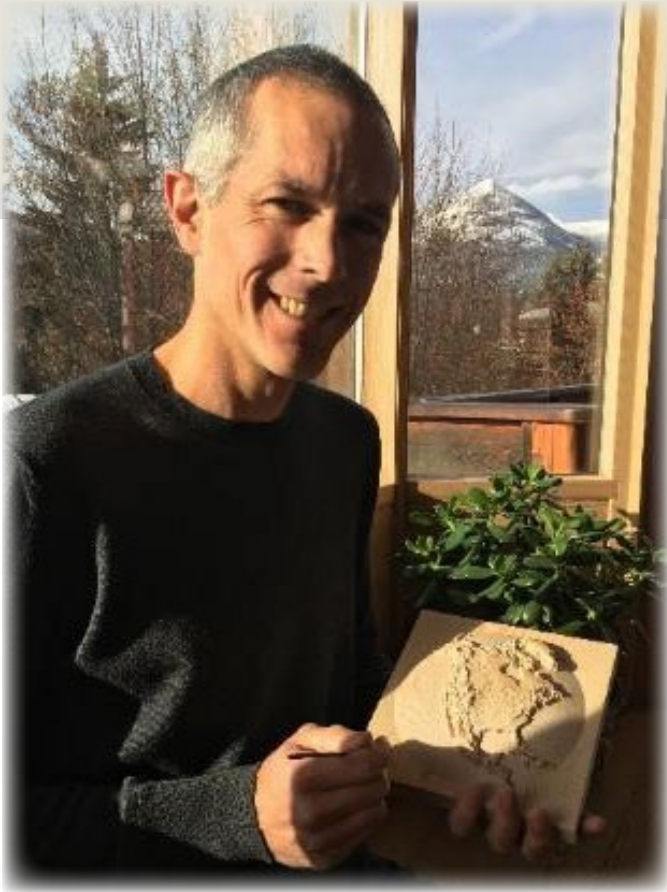
The Lisbon map has place symbols sprawling over several city blocks. Too few streets are shown, it's been over simplified, it's not to scale, it's missing key landmarks and major street names.

It's too abstract to be useful and it came from a site advertising "Map makers for hire".

Conclusion

In conclusion, my definition of cartography is it is *the balance of the art and science of map making*. And it is still the cartographer who is essential to the map making process.

Reinventing the Globe



Mark Jeffery
goodwoodglobes

<https://goodwoodglobes.com>

falling down. Flat Earthers have explanations for everything. How do satellites stay up? – they're suspended from weather balloons. How did NASA get all those lovely photos of the Earth? – they paid artists to paint them. Why don't the oceans flow over the edges of the Earth? – they're held in by an ice wall, also known as Antarctica.

I have to admit, the Earth does look flat. I've never actually met a Flat Earther face-to-face, but I've wondered what I might say to them if I did. The thing is, I don't think there's anything I could say to them to change their minds, because I don't think they trust people like me to tell them the truth. Why not? Well, let's take a look at the record of people like me when it comes to telling the truth.

Just a quick warning before I start: I'm going try to do the impossible: I'm going to try to defend people who believe that the Earth is flat. Do not try this at home.

In February 2019, I launched a crowdfunding campaign for goodwoodglobes. I raised \$5,000 towards the cost of a CNC router which I'm now using to make three-dimensional wood-carved maps and globes.

My campaign video – which you can see at <https://igg.me/at/goodwoodglobes> – included the line: "This Earth refuses to be flat." As you might imagine, with a statement like that, I attracted some attention from people who believe that the Earth is flat. What I hadn't expected was how other people mocked these Flat Earthers.

Flat Earthers believe that the Earth is flat, and that the sun and the moon rotate above the Earth, apparently on long stalks to prevent them from

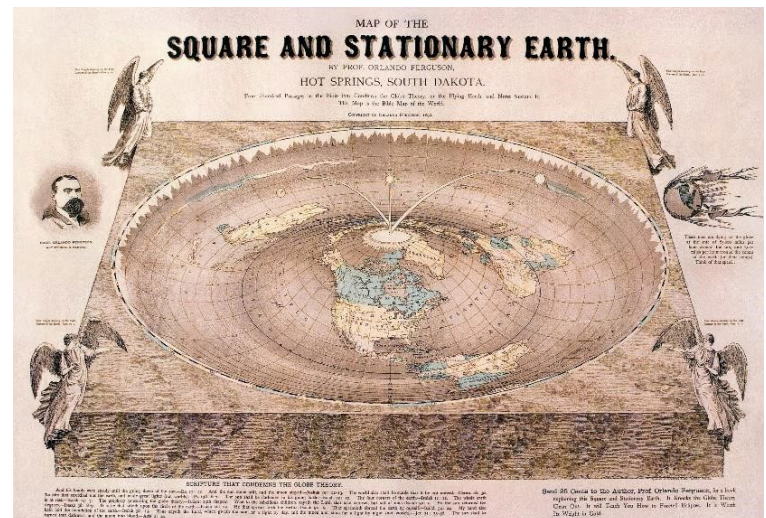


EXHIBIT #1: Here Be Dragons. Take a look at maps of the world from the 15th century. They show dragons everywhere from Asia to the Atlantic, with inscriptions like: "Here there are even men who have large four-foot horns, and there are even serpents so large that they could eat an ox whole."

BAD HABIT #1: If we don't know, we just make it up.



EXHIBIT #2: Terra Australis Incognita. Maps of the world from the 16th century show fewer dragons, but tend to show a Terra Australis Incognita. No-one had laid eyes on a southern continent in 1570 (that's why they called it incognita, unknown). Why did we put an imaginary continent on our maps? – the theory was that land in the Northern hemisphere should be balanced by land in the Southern Hemisphere.

BAD HABIT #2: We like our theories so much, we let them shape our reality.

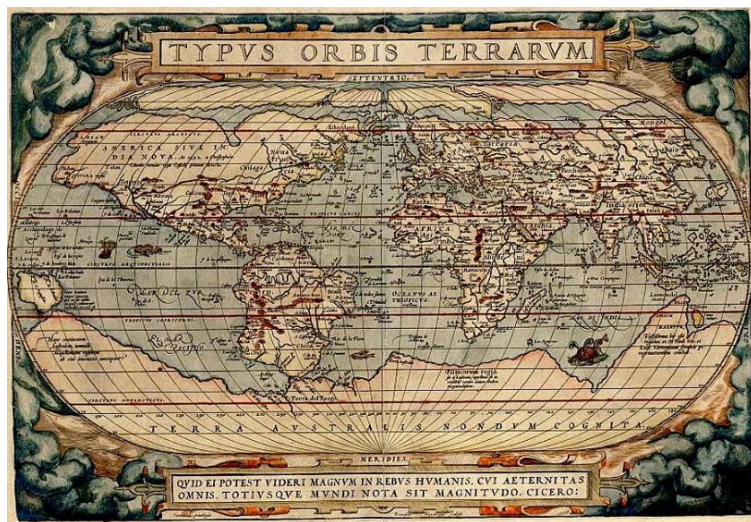


EXHIBIT #3: Projections. In 1569, Gerardus Mercator created this famous world map. He devised a projection where if you sail your ship at a constant bearing you follow a straight line on the map, revolutionizing nautical navigation. As we all know, Africa is not the same size as Greenland,

as it appears on Mercator's map; it's 14 times the size. This projection has had a real impact on our perceptions of the world. Take just one example: it seems entirely appropriate that the queen of the "British Islands" be declared Empress of India, given that on so many British maps of the world using the Mercator projection, the Indian subcontinent is not much bigger than those "British Islands"; except that, in reality, it's again 14 times the size.

BAD HABIT #3: We twist the truth to our own ends.



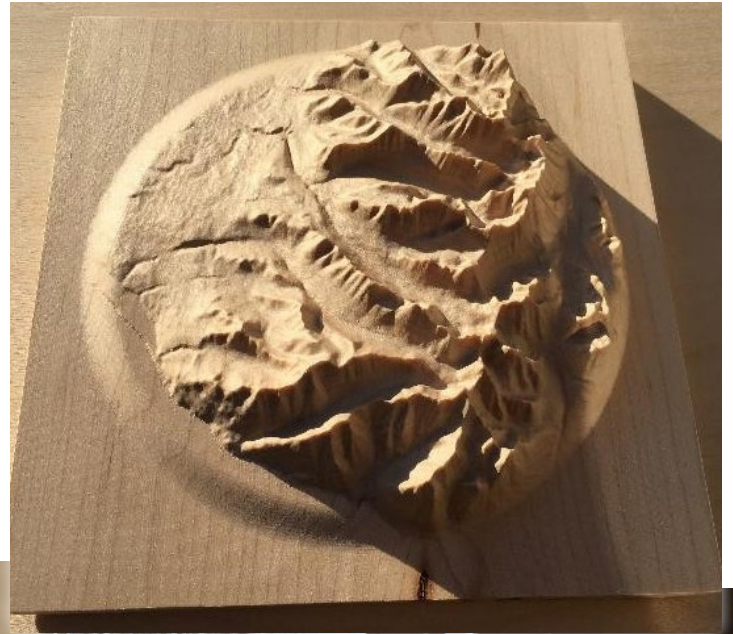
EXHIBIT #4: Waterworld. In 1997, just as I was heading to Antarctica as a meteorologist for the British Antarctic Survey, my employer published a map entitled: "The British Isles after the loss of the Antarctic Ice Sheet". It showed a much-diminished archipelago, with not much left of the east of the country and nothing left of London. It was an interesting map, but it begged the question: are we going to lose the Antarctic Ice Sheet? Well, probably not: global warming may actually increase precipitation over Antarctica causing the ice sheet to thicken. Are we losing glaciers in BC? Yes! and it's a tragedy! but how are we going to persuade people like the Flat Earthers that this is true when we've already lied to them about the loss of the Antarctic ice sheet?

BAD HABIT #4: We overestimate and overstate how much we know.

Here's the thing. The British Antarctic Survey was trying to do the right thing in warning people about climate change. Mercator was trying to fix nautical

navigation, not distort people's perceptions of the world. The cartographers who invented the Terra Australis Incognita were only trying to extrapolate from limited data. And the painters of dragons were just trying to make sense of sailors' tales. However, you can see how this all might look to Flat Earthers tired of being told things by people like me that turn out not to be true.

Please do not mock the Flat Earthers. Flat Earthers are wrong, obviously – the Earth is round (there, now I've said it) – but they're not fools. They're just convinced that people like me are trying to pull the wool over their eyes... and sometimes, just sometimes, they have a point.



The Highly Formalized Cartography of the Geological Survey of Canada

Robert Cocking, with input from Carol Wagner and Will Chow, Natural Resources Canada, Vancouver

The Geological Survey of Canada (GSC) is a federal government geology research organization founded in 1842, initially to find coal to support the brewery industry in Nova Scotia.

For more than 100 years, GSC cartography was done manually using pen and ink and later, Scribecoat etching. In 1992 the GSC hired its first GIS technicians to begin the transition to digital cartography. These GIS technicians used ArcInfo, the original command line-based GIS from ESRI. The early days of this work were unorganized as each cartographer/GIS staff used different database structures which often depended on the geologist with whom they were working. Despite that, most geology databases used conventions such as a 'Unit' text field describing the rock as well as 'Dip' and 'Azimuth' integer fields for storing bedding angles and directions. In the late 1990s, AML (Arc Macro Language) code was written to standardize and simplify many of our tasks such as map layout, legend creation, and border creation.

The introduction of ArcGIS and a custom interface written in Python made our job much easier. This replaced the command line with a more Windows-like feel. Some tools had to be recreated in that environment, which took a lot of time. Certain key staff had to become experts in Python and C++. We experimented several times with contracting out programming tasks but that strategy failed as the contractors did not fully understand our requirements.

To make data collection and map production more efficient, we have developed many standards for data collection, data models, and cartography:

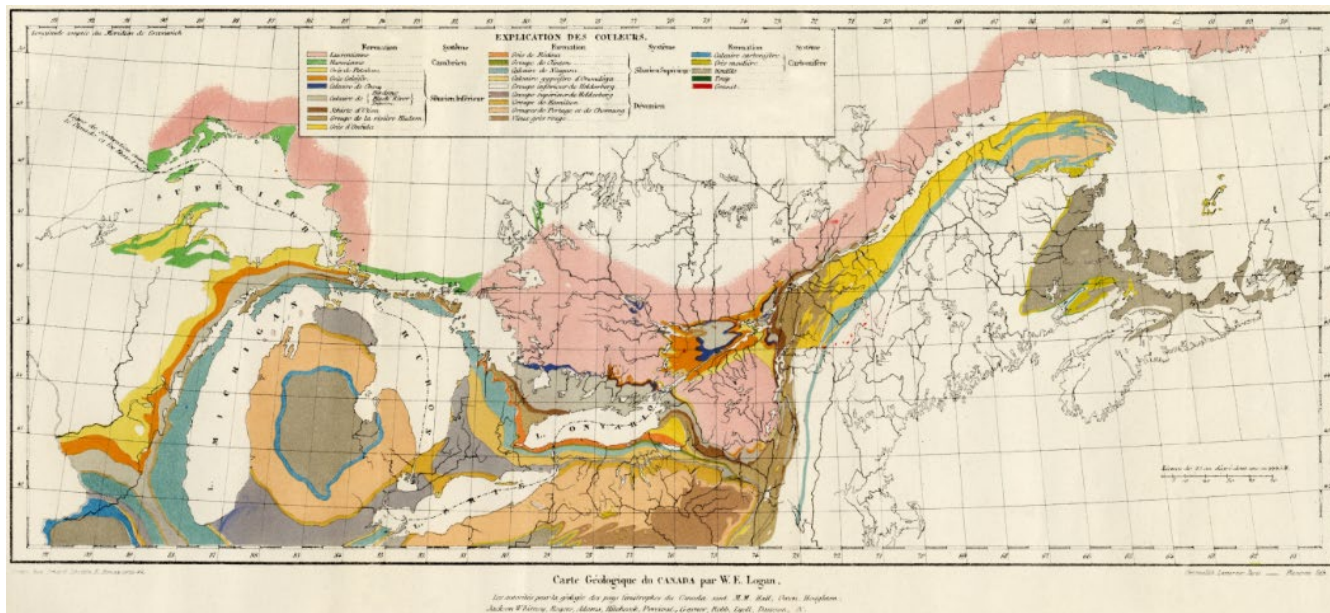
- Custom geologic data collection software that works on Win10. In the beginning, data collection was simply the writing of geologic observations in a book—which allowed sketching and had no software issues to resolve—but it also had no standard structure. Modern digital data collection provides a solid standard for how the data is collected.
- Two data models: one for bedrock data, one for surficial data (soon, a marine data model). These data models provide a fixed structure for geological data ensuring that our data can be easily merged and shared with the Canadian public.
- Symbolology for all the surficial and bedrock features (and soon, marine features). This has been a challenge since geology symbolology is more complex than most mapping applications.



- An ArcGIS map template to enforce our consistent standards for map layout and design
- Formal documentation describing exactly how our maps should look

Every GSC map gets a scientific review by one or two geologists not involved in the project to ensure scientific standards were followed. Every GSC map also gets a cartographic review by a senior cartographer to ensure our map and data standards are followed (including grammar and spelling). The Canadian Geoscience Map (CGM) format has become our most common publishing series and has effectively replaced our old 'A Series' which had more rigorous scientific and cartographic oversight. CGMs were created to assist in the timely and accurate publication of our maps and data. Previously, we rarely published our data with the maps. The introduction of CGMs made data publication a requirement.

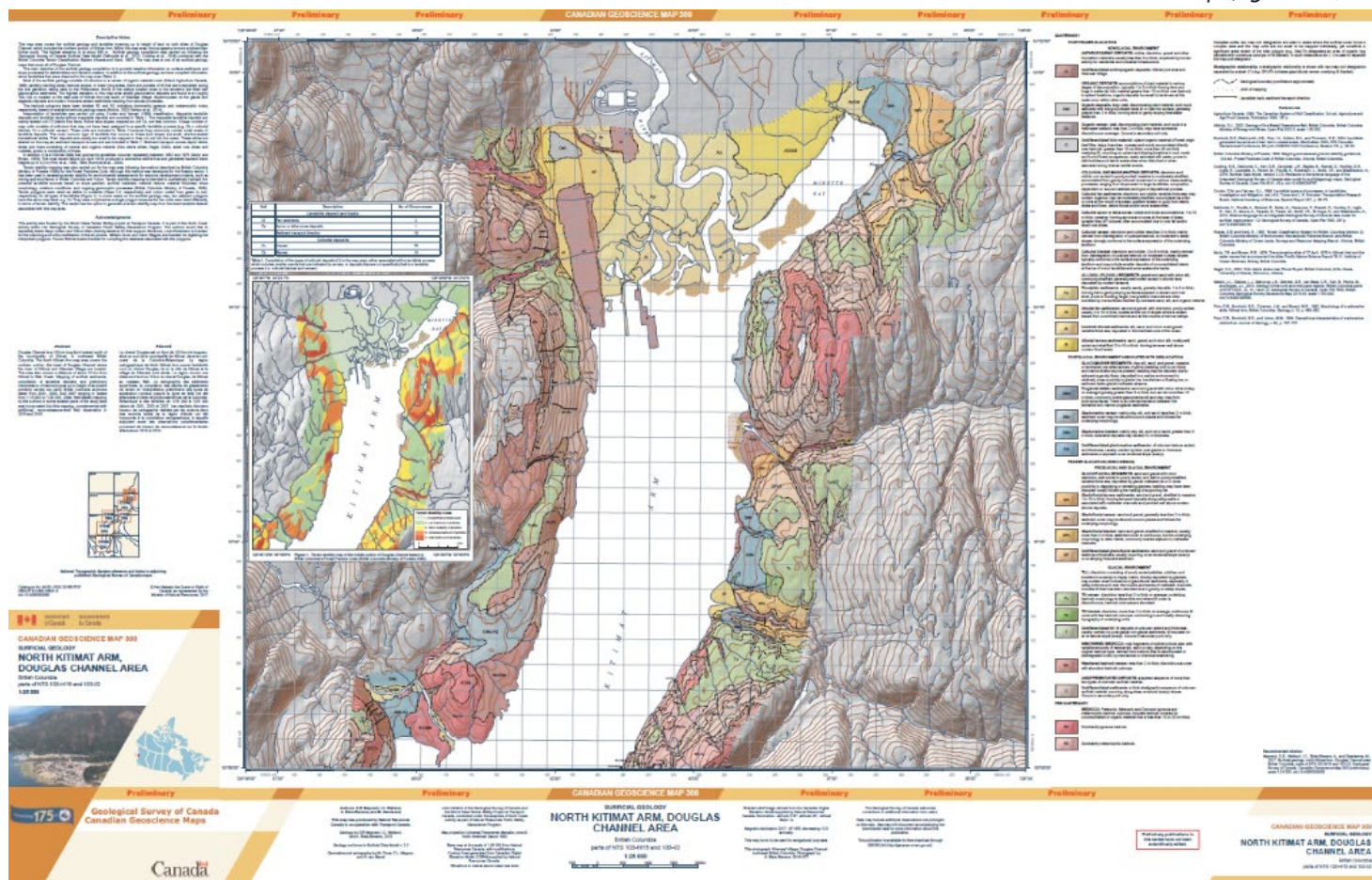
Below: First geological map of eastern Canada by William Logan, 1869



ArcGIS Pro will eventually be taken up, but that is probably a few years away since we will need to, once again, reproduce our cartographic tools in the new GIS interface. The use of the very capable and free QGIS has been slowly growing at the GSC, assisted by OpenQuake and other great plugins. QGIS is typically used for project

planning and data editing rather than final map production as it lacks a defined style for symbolizing geological features. ArcGIS will probably always be used for final cartographic work due to the CGM template and quality requirements.

Below: Modern Canadian Geoscience Map (cgm 305, 2017)



A new series of map for Mount Edziza Provincial Park, BC

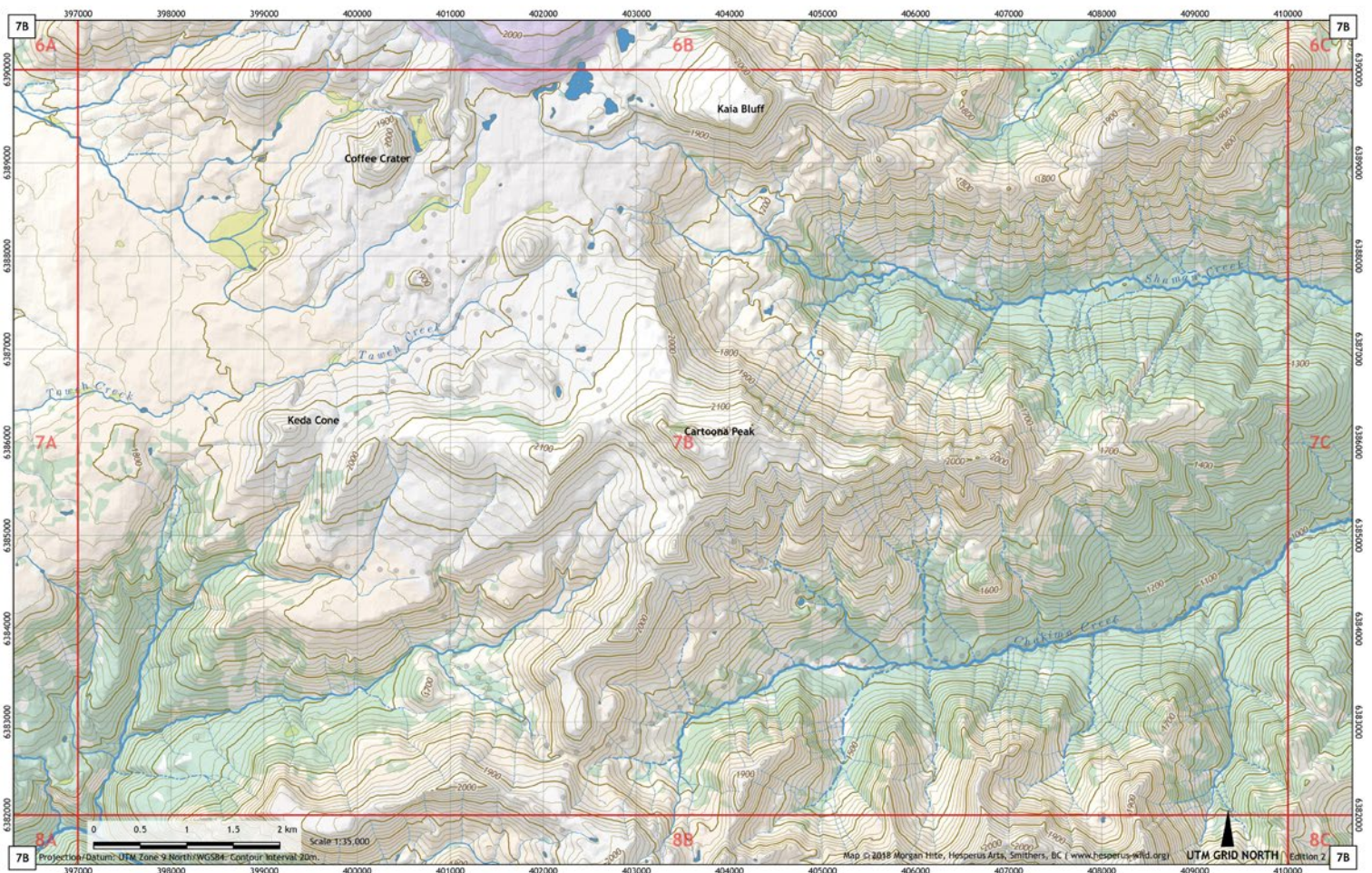
Morgan Hite, Hesperus Arts

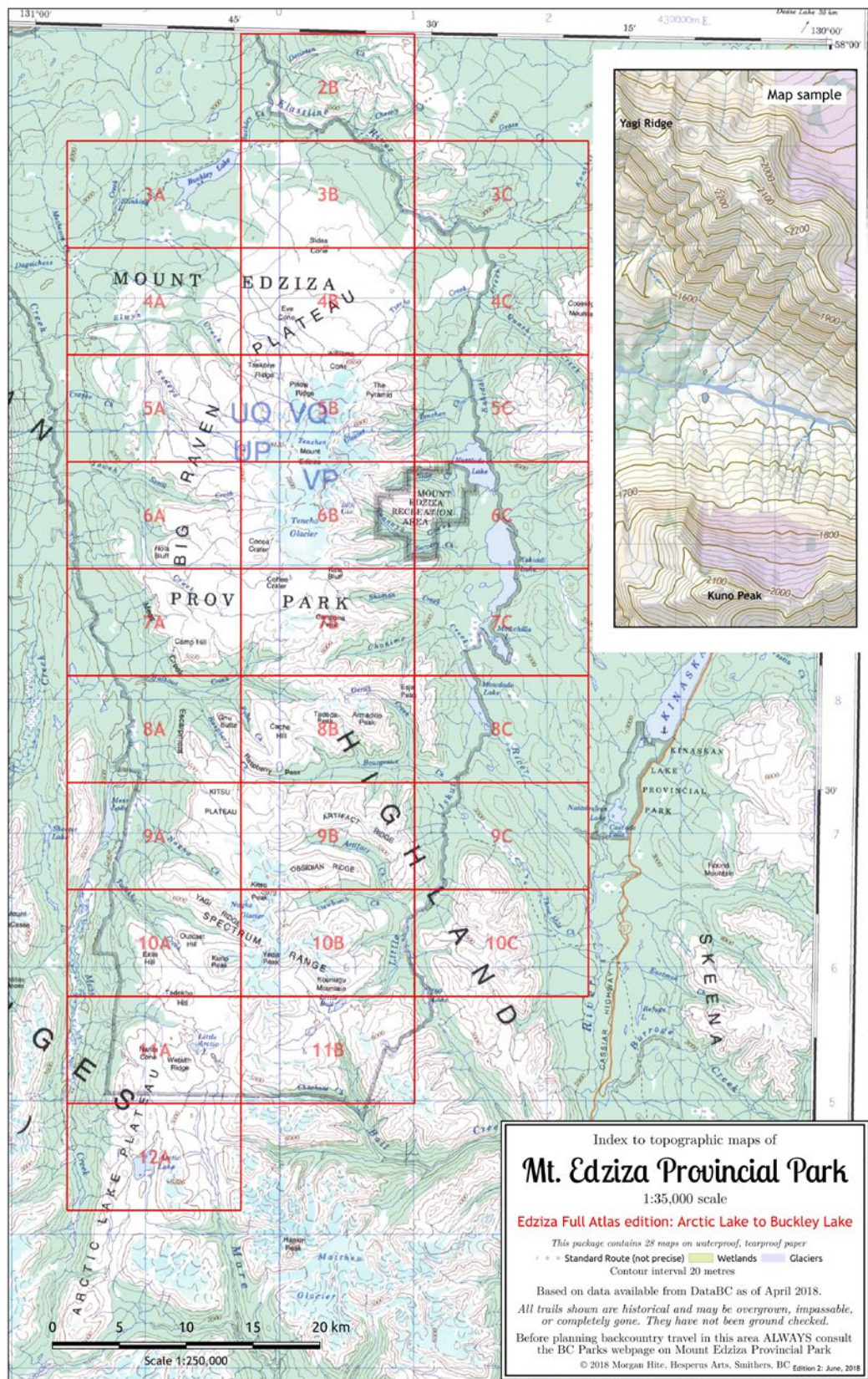
British Columbia's Mount Edziza Provincial Park is in a remote area of northern BC. a park with no roads and no maintained trails leading into it. The main feature of the park is a stratovolcano, Mount Edziza, which has been quiet for the last thousand years or so. It has a two-kilometre-wide, ice-filled caldera.

What few visitors there are mostly arrive by float plane from nearby Tatogga Lake, a tiny settlement on the Cassiar Highway. They may come to climb the volcano, or to hike a route along the lava fields on the west side of the peak. One might backpack south from Buckley Lake to Mowdade Lake: roughly 70 kilometres done over the course of a week. Another route, less often hiked, is from Little Ball Lake north to Mowdade. A few hardy souls each year will go all



the way from Little Ball to Buckley. The hiker's first map option would probably be the classic NRCan topographic map at 1:50,000. These





http://hesperus-wild.org/GIS_carto/edziza.html

retail at about fourteen dollars each online. The Buckley Lake to Mowdade Lake hike requires four sheets in the "104G" quadrant: 9W, 10, 15E and 15W. Each one covers roughly 27 x 29 kilometres. But these maps are old. 104G/15E dates from 1957 and still comes in east and west halves. Elevations are in feet with a 100 feet contour interval. 104G/10, the centre of the route, dates from 1974 and is in black and white, which many people find hard to read.

Slightly more up-to-date TRIM maps at 1:20,000 are available free from the province as PDF files. The data comes from the 1980s in this area, but the cartography employs shaded relief and the contour interval is twenty metres. The scale is fabulous for hiking. However you need to print these yourself, and the map size is 44 x 28 inches. The cost of a single sheet will typically be about forty dollars, and the Buckley to Mowdade Lake route requires six sheets.

I wondered what would happen if I produced maps on a paper size which is cheap to print: 11 x 17. Many offices have printers that handle this size paper, and print shops rarely charge more than a dollar a page, even for colour. Moreover, waterproof or tearproof papers are available in this size. It turns out that, mapped at 1:35,000, with some overlap between sheets, the

hiking route from Buckley to Mowdade Lake takes only nine pages. Using the latest, freely available provincial data, I can create current maps at a fraction of the price of those printed on larger sheets of paper.

The “Atlas” feature of QGIS is central to this process. Once I create a layer of rectangles that covers the park, the Atlas automates stamping out a map for each rectangle. The data includes a digital elevation model at 0.75” (25m), water features (including glaciers and wetlands) from the provincial Freshwater Atlas, park boundaries, 20m contour lines (generated by QGIS from the DEM), the CanVec vegetation layer and places from NRCan’s Geographic Names layer for BC.

The intention is to generate the maps automatically, without making adjustments or touch-ups to any individual maps, and there are a few drawbacks to this approach. Label placement is automated and awkward. Geographic Names is a point layer, so in the case of labelling linear features (like ridges or rivers) and areal features (like mountain ranges) the location of the label is somewhat arbitrary. But, serendipitously, this areas does not have many named features, so the automatically placed labels are, for the most part, acceptable.

One big hole in the available data is trails. British Columbia does not maintain a layer of trails outside of certain recreation sites. The reality on the ground is that maybe 5% of trails in BC are officially recorded. Trails did appear in the old CanVec coverages, but these are now mostly historic. For these maps I was fortunate enough to receive a GPS track from a hiker who did the route from Buckley to Mowdade (it is marked with cairns across the lava fields) but as a general rule this mapping approach—automatically generated maps from current data on 11x17 sheets—will appeal mostly to hikers who do not expect to find trails.

I print these on “Paper Tiger,” a waterproof, tearproof paper. The maps are retailed online and through two outdoor stores in Smithers, BC. One gets an index to mapsheets, which shows the rectangles that cover the park, and sheets that cover the north and/or south half of the park. In the course of 2018-2019 I sold twenty-six sets.

To migrate this approach to any other area in BC is quite easy. I simply copy the QGIS project, and substitute in all the data sets for the new area. Mount Edziza Park did not require any road layers, but the provincial road data -- the “Digital Road Atlas” is frequently updated and free.

Morgan Hite presenting at CCA2019



International Cartographic Conference (ICC 2019), Tokyo, July 2019

As I was unable to attend this time as the Canadian delegate, I was pleased to receive conference reports from Yaïves Ferland and Emmanuel Stefanakis, who agreed to represent Canada at ICC2019. Their twin perspectives are documented below.

~Roger Wheate

(le texte en français suit)

The 29th International Cartographic Conference (ICC 2019) with the 18th General Assembly (GA) of the International Cartographic Association (ICA/ACI) were held in Tōkyō, Japan, on July 15th to 20th, 2019. This outstanding conference marks the 60th anniversary of the ICA. See: www.icc2019.org. After the first part of the GA, Imperial Highness Crown Prince and Princess Akishino honored with their presence the opening ceremony to welcome the conference delegates. Our colleagues Yaïves Ferland (Université Laval) and Emmanuel Stefanakis (University of Calgary) acted as official and deputy Canadian delegates, attending the GA sessions.

Under the theme 'Mapping Everything for Everyone', about 950 - 1000 scientists from over 75 countries gathered to attend 160 technical and poster sessions, settled by 30 commissions with selected themes, in which they presented more than 750 papers, plus four keynote speeches. Abstracts, advances and proceedings are fully accessible at: <https://icaci.org/icc2019/>. Seven participants with a Canadian affiliation presented twelve papers within eight conference themes, from Art and Atlas to GIS, Cartographic Theory, and Toponymy. These authors came from the universities of Calgary, Laval, Montréal, New Brunswick, Vancouver Island, Waterloo, and York.

The conference also hosted three complementary events: the traditional International Cartographic Exhibition (382 maps, charts, atlases, globes,



Yaïves Ferland and Emmanuel Stefanakis

digital products and services, other educational cartographic products, tactile maps... from 32 countries), the famous Barbara Petchenik (1939-1992) Children's World Map Drawing Competition (exhibition of 188 drawings from 33 countries, which will be archived and accessible at the Carleton University Library, in Ottawa; <https://childrensmaps.library.carleton.ca>), and a Technical Commercial Exhibition (22 booths). Dr. Janet Mersey (University of Guelph, retired) curated the Canadian submission to the international map exhibition, which consisted of ten maps displayed on six panels, three atlases, and one educational program. Karen Van Kerkoerle (cartographic specialist at Western University, in London, Ontario) coordinated Canada's mapping competition for children and submitted four finalists to this international event. Note that the ICA also edits the International Journal of Cartography.

Up to 20 of these ICA commissions had organized 13 workshops, held the days before in different locations, even in China. As usual, some technical, cultural and post-conference tours were proposed to attendees, plus an early morning orienteering event. The book titled 'Mapping a Sustainable World' was launched, a notable outcome of the International Map Year 2015-2016. This co-publication of the ICA with the United Nations Committee of Experts on Global Geospatial Information Management (UNCE-GGIM) Section comes both as a hard-copy version and as an e-book. There was also an ICA World

Report from ICC 2019 Cont'd

Cartographic Forum session, where past Presidents of the North American Cartographic Information Society (NACIS) and the British Cartographic Society (BCS) each gave a short talk on their experiences in leading these organisations. Finally, ICA offered a record of 50 grants for young researchers.

There were three venues for the conference, all located on an artificial island called Odaiba (Aomi area) in the beautiful bay of Tōkyō, where some disciplines will be performed during the 32nd Summer Olympic Games, next year. This attractive site is well deserved, among other means by a monorail line arriving from the city core by the Rainbow Bridge, from where Mount Fuji can be seen occasionally. The main venues were the National Museum of Emerging Science and Innovation (Miraikan, with a huge Globe displayed) and the Tokyo International Exchange Center (Plaza Heisei), and the Telecom Center Building, where the cartographic exhibitions took place. In parallel, the Japan Cartographers Association met at the Tokyo Metropolitan Industrial Technology Research Institute, on the other side of the street.

The GA elected the new Executive Committee (EC) of the ICA. Timothy Trainor, from the United States (former Chief Geospatial Scientist at U.S. Census Bureau), becomes the new President to succeed Menno Jan-Kraak, from the Netherlands. The outgoing Secretary-General and Treasurer László Zentai, from Hungary, moves to a seat of Vice-President and is now replaced by Thomas Schulz, from Switzerland. In addition, Vít Voženílek (Czech Republic) was re-elected to the EC, and also elected as Vice-Presidents: Andrés Arístegui (Spain), Temenoujka Bandrova (Bulgaria), Philippe De Maeyer (Belgium), Liqiu Meng (Germany), and Terje Midtbø (Norway).

Of eight candidates, all Europeans, running for seven ICA Vice-President mandates (2019-2023), only Dr. David Forrest, both British and Canadian citizen,

was not elected to renew for another term. A board member of the British Cartographic Society, of which he is a Fellow and former President, he is currently Senior Professor of Geomatics at the University of Glasgow, Scotland. In the 1980s, with a MA in Cartography from Queen's University in Kingston, Ontario, he was Assistant Professor of Geography at Memorial University of Newfoundland and served as Secretary of the Canadian Cartographic Association. Like more than half of 73 member countries, the Canadian national report was not yet ready for the conference. The problematic representation of countries who do not attend the GA impedes reaching quorum and the decision process, thus most proposed necessary amendments to the ICA Statutes were not adopted.

On the last day of the conference, a Canadian citizen had a heart attack while presenting his paper, then passed away. Godfried Theodore Patrick Toussaint (1944-2019) was sharing his work in a session convened by the Commission on Visual Analytics and titled "Design and Computation in Geovisualization". Professor Toussaint, considered to be the father of computational geometry in Canada, was currently the Head of the Computer Science Program at New York University Abu Dhabi (NYUAD), United Arab Emirates. He did research on various aspects and problems of computational geometry, discrete geometry, pattern recognition, cluster analysis, motion planning, visualization, and others. More details about him at: <https://icaci.org/tag/obituary/> and at: https://en.wikipedia.org/wiki/Godfried_Toussaint.

Following this successful ICA conference in Tōkyō (textually, the "Eastern Capital"), the next one will meet in Florence (Firenze), Italia, in 2021. There was only one city bidding to host the 31st ICC in 2023, thus Cape Town, South Africa, was chosen with satisfaction.

Report from ICC 2019 Cont'd

La 29e conférence de l'Association cartographique internationale (ICC 2019), comprenant sa 18e assemblée générale (AG), a eu lieu à Tōkyō au Japon, du 15 au 20 juillet 2019. Cette remarquable rencontre souligne le 60e anniversaire de l'ICA (voir à : www.icc2019.org). Dès après la première séance de l'AG, Son Altesse impériale le Prince héritier et la Princesse Akishino nous ont honoré de leur présence lors de la cérémonie d'ouverture de la conférence et accueilli les délégués internationaux. Les collègues Yaïves Ferland (Université Laval) et Emmanuel Stefanakis (University of Calgary) agissaient en tant que délégués (officiel et substitut) du Canada lors des séances de l'AG.

Sous le thème traduit de « Tout cartographe pour tous », environ 950 à 1000 scientifiques de plus de 75 pays ont assisté aux 160 séances techniques et d'affiches montées par la trentaine de commissions de l'ACI; selon les thèmes retenus, plus de 750 communications et quatre discours-clés ont été prononcés. Les résumés et les actes soumis à l'avance sont disponibles à : <https://icaci.org/icc2019/>. Les sept participants provenant du Canada ont présenté leurs travaux sous huit thèmes de conférence, allant de l'Art et des Atlas en passant par les SIG jusqu'à la Cartographie théorique et la Toponymie. Ces auteurs sont affiliés aux universités de Calgary, Laval, Montréal, Nouveau-Brunswick, l'Île de Vancouver, Waterloo et York.

La conférence comportait aussi trois événements complémentaires. D'abord son exposition cartographique internationale présentant 382 cartes, atlas et globes, divers produits et services numériques, ainsi que d'autres produits cartographiques tels que des plans tactiles... provenant de 32 pays. Puis la célèbre compétition dédiée à Barbara Petchenik (1939-1992) de dessins d'enfants sur fond de carte du monde provenant de 33 pays, dont les dessins primés seront conservés et accessibles à la bibliothèque de la Carleton University à Ottawa (voir : <https://childrensmaps.library.carleton.ca/>). Enfin, une exposition commerciale et technique comptait 22 kiosques. La Dre Janet Mersey (retraîtée de l'University of Guelph, en Ontario) prit

soin de la contribution canadienne de dix cartes présentées sur six panneaux, de trois atlas et d'un programme éducationnel. Pour sa part, Karen Van Kerkoerle (la cartographe spécialiste de la Western University, à London en Ontario), a coordonné la compétition de dessins d'enfants au Canada et a soumis ceux de six finalistes. Par ailleurs, notons aussi que l'ACI publie l'International Journal of Cartography.

Jusqu'à 20 commissions de l'ACI ont organisé 13 ateliers au cours des jours précédents, en divers endroits, dont en Chine. Comme de coutume, plusieurs excursions techniques et culturelles étaient proposées aux congressistes pendant et après la conférence, y compris un jeu d'orientement matinal. On a aussi lancé le livre 'Mapping a Sustainable World', résultat notoire de l'Année internationale de la carte 2015-2016, co-édité par l'ACI et une section du Comité d'experts des Nations-Unies sur la gestion de l'information géospatiale à l'échelle mondiale (UNCE-GGIM) (disponible en imprimé ou en version numérique). Il y eut aussi une séance du Forum sur la cartographie mondiale de l'ACI, pendant lequel des ex-Présidents de la North American Cartographic Information Society (NACIS) et de la British Cartographic Society (BCS) ont brièvement parlé de leur expérience à la direction de ces organisations. Enfin, l'ACI a offert jusqu'à 50 bourses de voyage à de jeunes chercheurs venus à la conférence.

La conférence se tenait dans trois édifices rapprochés sur une île artificielle appelée Odaiba (dans Aomi) située dans la jolie baie de Tōkyō, où certaines disciplines auront lieu lors des 32e Jeux olympiques d'été, l'an prochain. Ce site d'attraction est très bien desservi, entre autres par un monorail venant du centre-ville par le pont Reinbō (« Arc-en-Ciel »), duquel on peut apercevoir parfois le Mont Fuji. Ces trois sites sont : le Musée national des sciences émergentes et de l'innovation (Miraikan, où on voit un immense globe), le Centre d'échange international de Tōkyō (Plaza Heisei) et le Centre Télécom, où se trouvaient les expositions cartographiques. À la même occasion, de l'autre côté de la rue, l'Association des cartographes du Japon

Report from ICC 2019 Cont'd

s'est réunie à l'Institut de recherche en technologie industrielle de la région métropolitaine de Tōkyō.

L'AG a élu le nouveau Comité exécutif (CE) de l'ACI. Timothy Trainor, ex-Scientifique géospatial en Chef au Bureau du recensement des États-Unis, devient le nouveau Président succédant à Menno Jan-Kraak, des Pays-Bas. Le Secrétaire-Général et Trésorier sortant László Zentai, de Hongrie, passe à un siège de Vice-Président et laisse la place à Thomas Schulz, de la Suisse. Outre Vít Voženílek (République Tchèque), réélu, les nouveaux Vice-Présidents du CE sont: Andrés Arístegui (Espagne), Temenoujka Bandrova (Bulgarie), Philippe De Maeyer (Belgique), Liqiu Meng (Allemagne) et Terje Midtbø (Norvège).

Parmi les huit candidats, tous Européens, concourant pour les sept mandats de Vice-Président (2019-2023), nous pouvons regretter que seul Mr. David Forrest, à la fois citoyen britannique et canadien, n'a pas été réélu à son poste. Membre du conseil de la British Cartographic Society, dont il est Fellow et ex-Président, il est présentement professeur sénior de géomatique à l'University of Glasgow, en Écosse. Dans les années 1980, avec une maîtrise en géographie (M.A. Cartography) obtenue de Queen's University, à Kingston en Ontario, il fut professeur assistant de géographie à la Memorial University de Terre-Neuve, et il a servi comme Secrétaire de l'Association canadienne de cartographie.

Le rapport national du Canada à l'ACI n'était pas prêt pour la conférence, cela comme plus de la moitié des 72 autres pays membres. Le problème de la représentation des pays qui ne participent pas à l'Assemblée générale rend impossible l'atteinte du quorum d'assemblée et donc du processus de prise de décision, des modifications nécessaires aux

statuts de l'ICA proposées par la CE. cela peut être adopté.

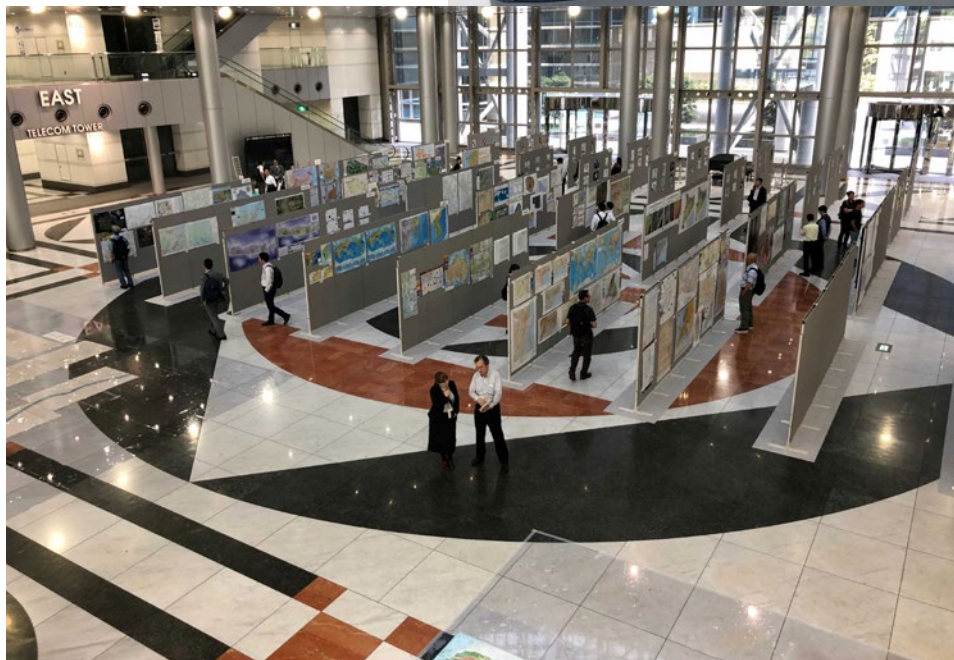
La dernière journée de la conférence, un chercheur canadien est décédé subitement d'une crise cardiaque pendant sa présentation orale dans une session organisée par la Commission de visualisation analytique, intitulée "Design and Computation in Geovisualization". Godfried Theodore Patrick Toussaint (1944-2019) était considéré comme le père de la géométrie algorithmique au Canada et il était maintenant à la tête du programme de science informatique à la New York University Abu Dhabi (NYUAD), aux Émirats Arabes Unis. Il a mené des recherches sur divers aspects et problèmes de géométrie discrète et algorithmique, en reconnaissance de formes, en analyse de grappes (clustering), en planification de mouvement, en visualisation et bien d'autres. Pour plus de détails sur le défunt, voir à: <https://icaci.org/tag/obituary/> et à: https://en.wikipedia.org/wiki/Godfried_Toussaint. Suite au succès de cette conférence de l'ACI à Tōkyō (signifiant textuellement, la « capitale de l'Est »), la prochaine rencontre aura lieu à Florence (Firenze) en Italie, en 2021. Comme il n'y avait qu'une seule soumission pour accueillir la 31e conférence de l'ACI en 2023, celle de la ville du Cap (Cape Town), en Afrique du Sud, a été acceptée avec satisfaction.

Yäives Ferland
Sciences géomatiques
Université Laval

Emmanuel Stefanakis
Geomatics Engineering
University of Calgary



ICC 2019
Canadian
submissions to
the map gallery:
organised, and
photo taken
by Janet Mersey

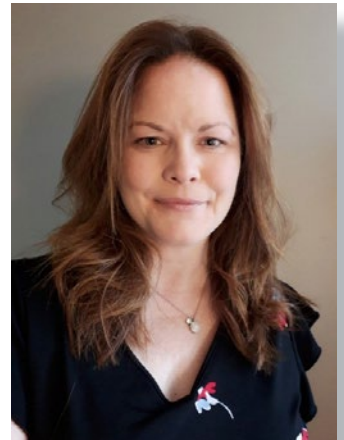


Photos from ICC 2019
Courtesy of Emmanuel Stefanakis

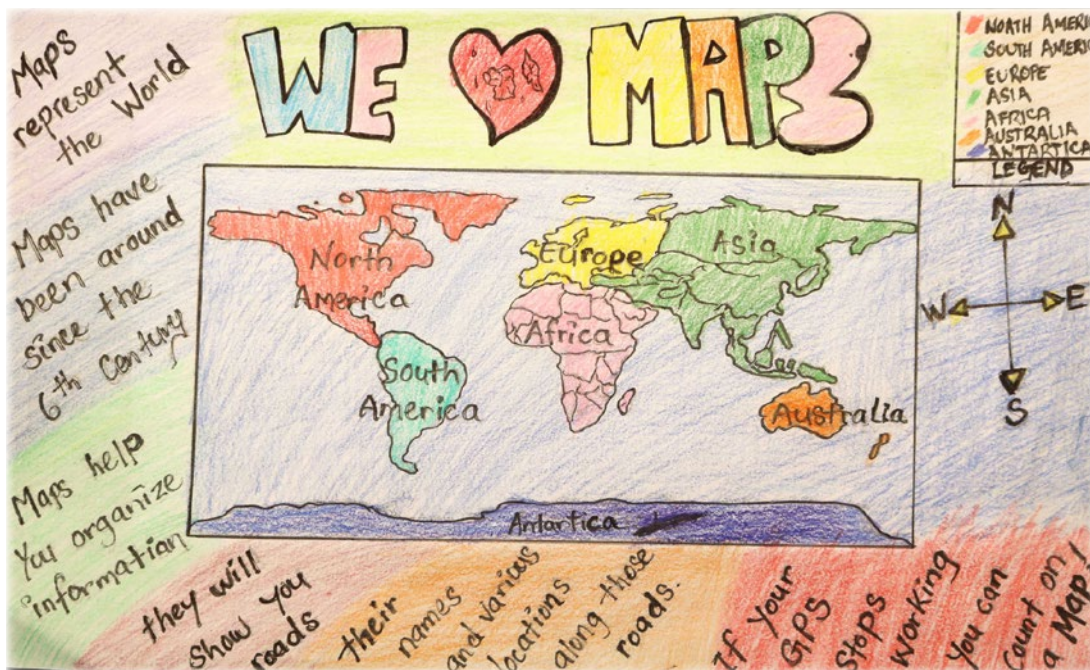
Canadian entries to the ICA Barbara Petchenik Children's map competition



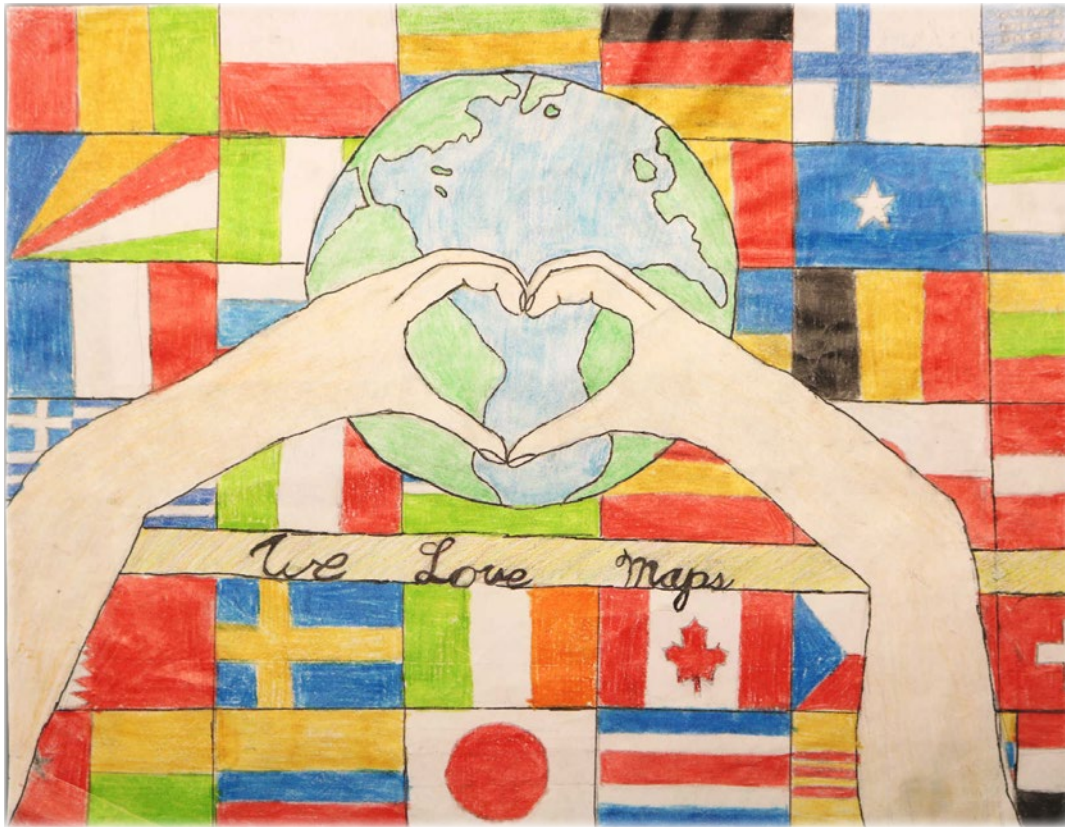
CCA coordinator:
Karen Vankerkerle,
Western University,
London, ON



Hailey Harrison (14)
Mount Hope School
Mount Hope ON (Canada)
(untitled)



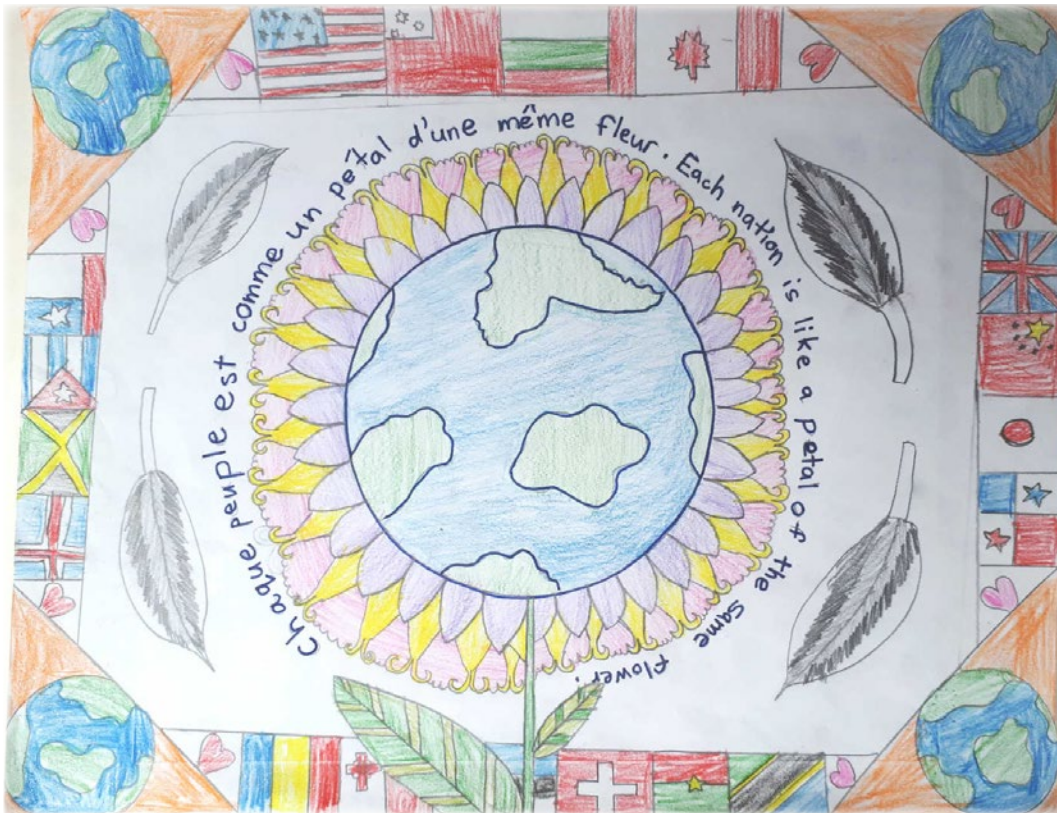
Katie Dunbar and Anna
Kietzmann (both 10)
Victoria BC (Canada)
We Love Maps
Size 21.5 x 28 cm



Sana Prasad (8)
Hatzic Elementary School
Mission BC (Canada)
We Love Maps



Ela Ratzin (11)
Maple Grove Public
School
Barrie ON (Canada)
Flags of the World



Eva Wang (7)
Knoxdale Public School
Ottawa ON (Canada)
Each Nation is Like a Petal
of the Same Flower



Keiralyne Beauchamp (11)
York River Public School
Bancroft ON (Canada)
We Love Maps

NACIS Annual Conference Tacoma, WA, October 16-19 2019

~ Roger Wheate

The NACIS annual conference attracted a record 463 attendees with at least 16 Canadians mostly from nearby Vancouver BC (7) or distant NS (a team of 5 from COGS), and 4 from northern BC / Alberta / Yukon, including the keynote speaker.

The pre-conference Practical Cartography Day comprised 23 speakers, each talking for 10-15 minutes highlighting tips for scripting and software. The main conference was structured around three concurrent sessions, and while attendees will miss 67% of the talks, they can view them online shortly afterwards. The map gallery featured > 50 exhibits of exceptional map design both by students and professional cartographers.

Social events occurred each evening at a local craft brewery, or the hotel in the case of the final banquet. The Saturday following offered several workshops - 3 half day and one full day on practical mapping topics. Meanwhile the mountain cartographers escaped to the hills for their traditional weekend retreat, in this case to Mt. Rainier, where the rain paused enough for some fine forest breathing. A rainy week did not dampen conference spirits, and we even glimpsed the distant Mt. Rainier one morning.

NACIS offers several contrasts with CCA meetings, the first being larger size which means more talks and maps, but it also requires a larger venue which involves higher registration fees. I especially notice a greater focus on the use of Adobe Illustrator and web mapping, along with some outstanding examples of progressive cartography in the media including the New York Times and Washington Post, which we seem to lack in Canada, where we have a harder time extracting cartography from the sea of GIS and Geomatics. Nevertheless the Canadian contingent presented multiple maps in the gallery including the student winner for map design: Alex McPhee, University of Alberta.

An unexpected bonus to a great conference was a visit to the Karpeles Manuscript Museum; this is one of 11 located across the US in secondary cities, housing the world's largest collection of original manuscripts and documents, including some maps. This is a highly recommended detour if you visit one of those cities: they have free entrance and are not overwhelming in scale.

The 2020 conference will be held in Minneapolis, and 2021 in Oklahoma. Some members anticipate also returning to Canada after the successful 2017 meeting in Montreal.



3D magnetic jigsaw of Olympic Mountains; Lunar cartography ... from NACIS map gallery

President's Prize Maps 2019

President's Prize

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.

A thematic map is a map that is meant to communicate a specific subject matter within a particular geographic area. They are often defined as special purpose maps and can be either quantitative or qualitative in nature. The International Cartographic Association (ICA) defines the thematic map this way: "A map designed to demonstrate particular features or concepts. In conventional use this term excludes topographic maps" (Dent 1999, 8).

President's Prize (University)

Awarded to: Nebojsa Stulic

Map Title: "East Asians in USA: Demographic Trends of Diverse Population"

Institution: Ryerson University

President's Prize (College or CEGEP)

Awarded to: Thomas Zuberbuehler

Map Title: *The Flying Bluenose*

Institution: Centre of Geographic Sciences (COGS)

Carto-Québec Prize

The Carto-Quebec 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-Quebec 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 2019

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 2018 CCA Web Map Award Competition consists of one prize of \$250 for entries from college-level, CEGEP students, or university-level students.

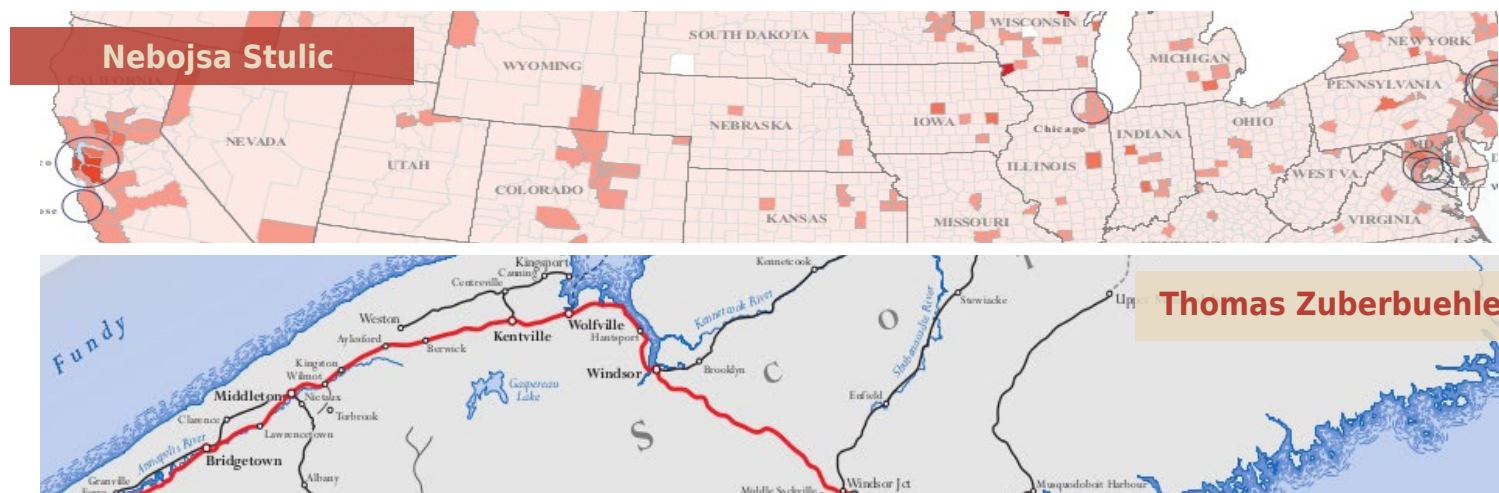
Awarded to: Mike Newton

Map Title: *Northover Ridge Trail Loop August 2-4, 2018*

Institution: University of Victoria

URL: <https://arcg.is/mT09v>

Overview Link: <https://arcg.is/1q0CD>



Best Student Presentation

Awarded to: Ben Peltó, UNBC

Awarded to: Emily Bornestig, UNBC

Nebojsa Stulic

EAST ASIANS IN USA

DEMOGRAPHIC TRENDS
OF DIVERSE POPULATION

Populations of East Asian origins in the United States are most often hailing from three countries: China, Japan and Korea. They represent a diverse and growing community consisting of both long established and naturalized citizens and those who immigrated in recent years. Americans who trace their roots to one of these East Asian countries account for 8.38 million people or around 2% of the total U.S. population. They are represented in biggest numbers, and experiencing significant growth, in large metropolitan areas in cities like Los Angeles, New York and San Francisco.

Country Origins

Based on 2017 estimates, Chinese Americans are the most populous Asian population group in United States who also experienced greatest growth in terms of new immigration. Contrary to this, U.S. population of Japanese descent was mostly born in the United States and immigrated in the 19th century.

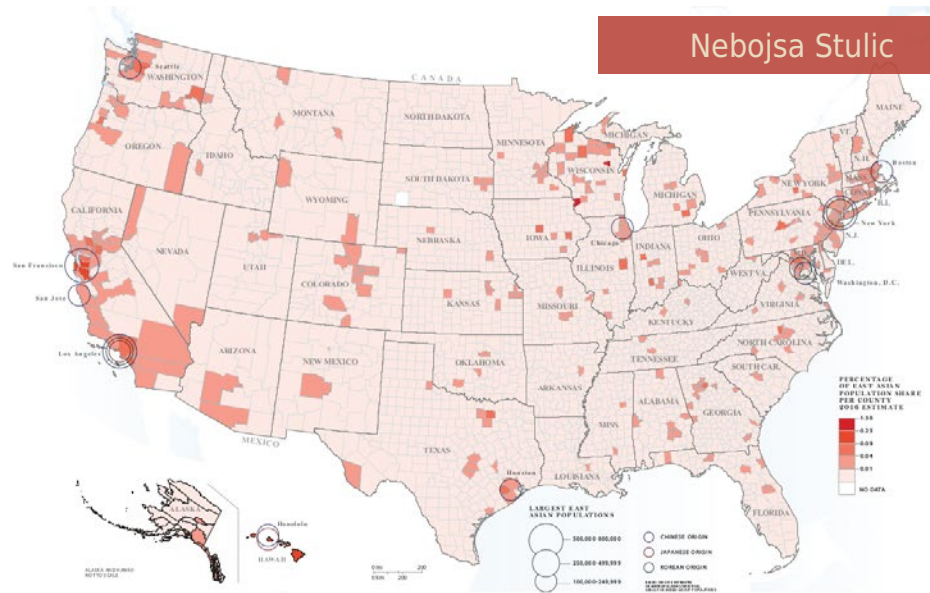
China
5,226,000

Japan
1,467,000

Korea
1,688,000

- Native-born U.S. citizens
- Foreign-born U.S. citizens
- Non-U.S. citizens

Each square represents
100,000 people



Conferences 2020

April 6-10, 2020 – Denver, CO: American Association of Geographers, annual meeting
<https://www2.aag.org/aagannualmeeting/>

April 14-18. Snow Mountain Ranch, Colorado: 12th Mountain Cartography workshop
<http://www.shadedrelief.com/workshop/>

April 21-23 Istanbul: 2020 8th International Symposium on the History of Cartography: Mapping the Ottoman Realm: Travelers, Cartographers and Archaeologists
<https://history.icaci.org/istanbul-2020/>

May 20-22, Esri campus, Redlands, CA: AutoCarto 2020
23rd International Research Symposium on Computer-based Cartography
<https://cartogis.org/autocarto/autocarto-2020/>

May 25-29 Victoria, BC: CAG / ACMLA / CCA annual meeting.
<http://cca-acc.org>
email: wheate@unbc.ca

June 15-20, Nessebar, Bulgaria: 8th International Conference on Cartography & GIS 2020
<https://iccgis2020.cartography-gis.com/>

July 13-17 Yellowknife, NWT: 41st Canadian Symposium on Remote Sensing: Landscapes of Change; Remote Sensing for a sustainable future
<https://crss-sct.ca/conferences/csrs-2020/>

September 15-18, Poznan, Poland: 11th International Conference on Geographic Information Science
<https://www.giscience.org/>

September 20-22 Vienna, Austria: EuroCarto2020
<https://cartography.tuwien.ac.at/tag/conference/>

October 14-17 Minneapolis, MN: NACIS2020
<https://nacis.org>

Conferences 2021

19-23 July Florence, Italy: 30th International Cartographic Conference
<https://icaci.org/icc2021/>

May 2021 Fredericton, NB: CCA annual meeting

October 2021 Oklahoma, OK: NACIS2021

University of Victoria
May 25-29, 2020

In conjunction with the Association of Canadian Map Libraries and Archives (ACMLA) and the Canadian Cartographic Association (CCA)



MEMBERSHIP COORDINATOR

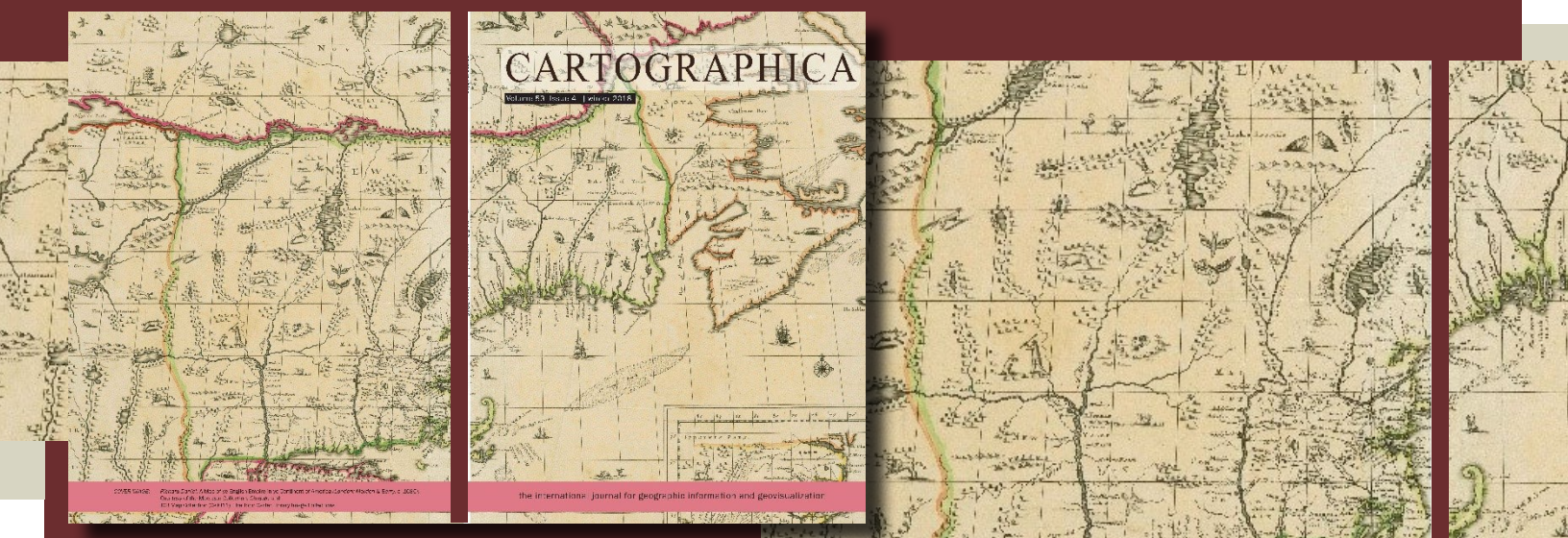
Roger Wheate

University of Northern British Columbia



Membership Report, 2019

We welcome 54 new members from the CCA2019 annual meeting held at UNBC, Prince George in May 2019, boosting the total membership numbers to 129. We hope to see many of you again at the 2020 annual meeting held at the University of Victoria, May 25-29.



Cartographica

Printed journal copies

I have back copies of most issues dating back to the current format in 2004. Please email me if you'd like to lighten my bookshelves and fill in your collection, or for special issues and articles.

Online Journal Access

Members who have requested online access should be able to browse and download articles and issues at the journal site:

<https://utpjournals.press/loi/cart>

Email me at the address below if you have any problems with journal access or missing copies

Roger Wheate, Membership coordinator
wheate@unbc.ca

Newsletter of the/Bulletin de Canadian Cartographic Association/l'Association canadienne de cartographie

CCA Executive/Exécutif de l'ACC

President/Président **Monica Lloyd**

Centre of Geographic Sciences
Nova Scotia Community College
Lawrencetown, NS B0S 1M0
E-mail: president@cca-acc.org

Vice President/Vice-président **Ted MacKinnon**

GISP - Geomatics Specialist
Natural Resources
Amherst, NS B4H 3Y1
E-mail: t_mackinnon@yahoo.com

Past President/Président-sortante **Julia Siemer**

Department of Geography and Environmental
Studies
University of Regina
Regina, SK S4S 0A2
E-mail: pastpresident@cca-acc.org

Secretary/Secrétaire **Claire Gosson**

38 Ridgeburn Gate
Ottawa, ON K1B 4C3
E-mail: secretary@cca-acc.org

Treasurer/Trésorier **Byron Moldofsky**

177 Brookdale Ave
Toronto, ON M5M 1P4
E-mail: treasurer@cca-acc.org

Interest Group Chairs/ Présidents des groupes d'Intérêt

History of Cartography/ Histoire de la cartographie **Byron Moldofsky**

E-mail: byron@geog.utoronto.ca

Education/Éducation **Claire Gosson**

E-mail: secretary@cca-acc.org

Mapping Technologies and Spatial Data/ Technologie cartographiques et données spatiales

Vacant

Design and Geovisualization/ Cartographie analytique et design

Vacant

Appointees/Personnes nommées

Cartographica (submissions/ proposition d'articles)

Emmanuel Stefanakis

University of Calgary
Department of Geomatics Engineering
2500 University Drive N.W
Calgary, AB T2N 1N4
Email: emmanuel.stefanakis@ucalgary.ca

ICA Delegate/délégué à l'ACI

Roger Wheate

Faculty of Natural Resources
University of Northern British Columbia
Prince George, BC V2N 4Z9
E-mail: wheate@unbc.ca

Membership Coordinator/ Coordonnateur des adhésions

Roger Wheate

Faculty of Natural Resources
University of Northern British Columbia
Prince George, BC V2N 4Z9
E-mail: membershipcoord@cca-acc.org

Communications

Anna Jasiak

E-mail: annajasiak20@gmail.com

Webmasters

Monica Lloyd

E-mail: monica.lloyd@nsc.ca

Byron Moldofsky

E-mail: treasurer@cca-acc.org

Cartouche Editorial Team/ Équipe éditoriale de Cartouche **Roger Wheate**

Faculty of Natural Resources
University of Northern British Columbia
E-mail: wheate@unbc.ca

Gordon Campbell

GIS Consultant
IR Mapping / Nova Scotia Geomatics Centre
Amherst, NS
Email: gordon.fraser.campbell@gmail.com

Co-ordinator, National Map Exhibit/ Coordonnateur de l'exposition cartographique nationale

Janet Mersey

Associate Professor
University of Guelph
Department of Geography
Guelph, ON N1G 2W1
E-mail: jmersey@uoguelph.ca

Barbara Petchenik International Children's Map Competition/ Compétition internationale Barbara Petchenik de cartes dessinées par des enfants

Karen VanKerkoerle

Cartographic Section
Geography Dept., SSC, Western
London, ON N6A 5C2
E-mail: kvanker@uwo.ca

Student Representatives/ Représentants des étudiants

Thomas Zuberbuehler

Centre of Geographic Sciences
Nova Scotia Community College
E-mail: studentrep1@cca-acc.org

Shane Doddridge

Department of Anthropology
University of Victoria
E-mail: shane.doddridge@gmail.com

Cartouche is published semi-annually by the Canadian Cartographic Association. Members are welcome to submit articles for publication. Articles and notices submitted for publication are subject to editorial approval. Please address your submissions to the editor. All other articles will appear in the language of submission. While every effort is made to ensure accuracy of content, the editor cannot be responsible for errors in compilation, or loss of any item submitted. Opinions expressed in the editorials, submitted articles and letters are not necessarily those of the Canadian Cartographic Association. The Canadian Cartographic Association gratefully acknowledges the financial support given by the Social Sciences and Humanities Research Council of Canada.

Cartouche est publié semestriellement par l'Association canadienne de cartographie. Tous les membres peuvent soumettre des articles à l'éditeur du bulletin (voir coordonnées ci-dessus). Les articles et annonces soumis sont sujets à l'approbation de la rédaction. L'éditeur du bulletin ne peut être tenu responsable pour des erreurs de compilation ou la perte d'article. Des efforts particuliers sont déployés pour éviter de tels problèmes. Les opinions exprimées dans le cadre des éditoriaux, des articles et des lettres publiés dans le bulletin, ne reflètent pas nécessairement celles de l'Association canadienne de cartographie. L'Association canadienne de cartographie remercie particulièrement le Conseil de recherches en sciences humaines du Canada pour son apport financier.





More photos from CCA2019, including the walking tour of downtown Prince George, the banquet, the post conference trip to historic Barkerville, the Eclipse virtual reality sandbox, and the interior of the pithouse on UNBC campus