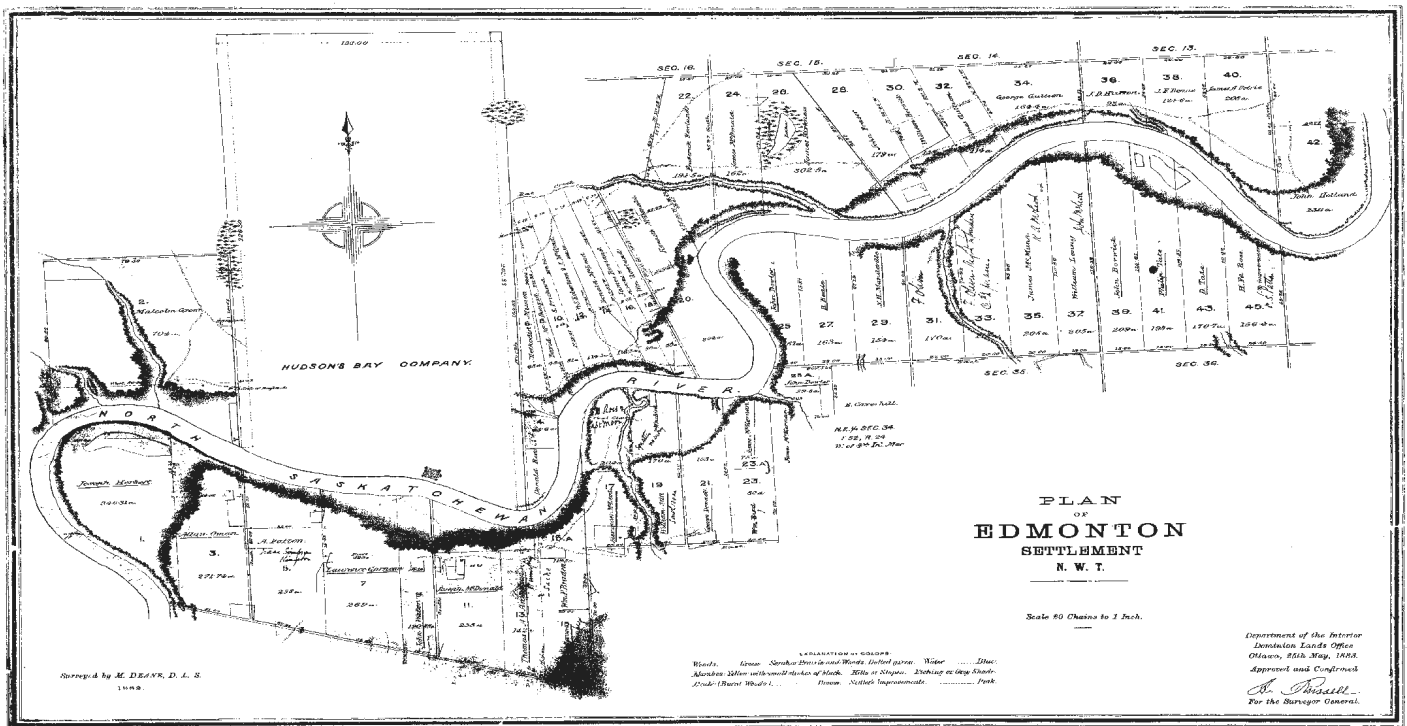


BULLETIN

ASSOCIATION DES CARTOTHÈQUES ET ARCHIVES CARTOGRAPHIQUES DU CANADA



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Plan of Edmonton Settlement N. W. T. 1858. (Historical) Dominion Lands Office, 1858.



Plan of Edmonton Settlement N. W. T. 1858. (Historical) Bureau des Terres Indiennes, 1858.

Map de la ville d'Edmonton, N.W.T., 1858. (Historical) Bureau des Terres Indiennes, 1858.

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ASSOCIATION DES CARTOTHÈQUES ET ARCHIVES CARTOGRAPHIQUES DU CANADA**

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Full (Canadian map field)... \$45.00
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Institutional... \$65.00 (\$50 US)
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ACMLA Bulletin index available at <http://toby.library.ubc.ca/resources/infopage.cfm?id=187>

Views expressed in the Bulletin are those of the contributors and do not necessarily reflect the view of the Association.

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The Association of Canadian Map Libraries and Archives gratefully acknowledges the financial support given by the Social Sciences and Humanities Research Council of Canada.

L'Association des carto­thèques et archives cartographiques du Canada remercie le Conseil de recherches en sciences humaines du Canada pour son appo­rt financier.

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ON THE COVER...

Plan of Edmonton Settlement N.W.T. M. Deane. [Ottawa], Dominion Lands Office, 1883.

Published in 1986 by ACMLA. Reproduction sponsored by the Glenbow-Alberta Institute, Calgary, Alberta.

ACML Facsimile Map Series No. 123 (ISBN 0827-8024)

PRESIDENT'S MESSAGE

Welcome!

As this is my first president's message, I would like to take this opportunity to express how much I am looking forward to serving the membership as the new president of ACMLA. When I joined ACMLA at the 2001 conference in Montreal, I immediately felt welcome and connected, and I had access to an instant community of mentors. So it was a pleasure to see our membership award Lorraine Dubreuil and Cathy Moulder, with the Honorary Membership Award, for their contributions to our Association. Colleen Beard kindly accepted the award on behalf of Lorraine and Cathy.

2013 CARTO Conference

This year marked the 5th joint conference with the Canadian Association of Cartographers since 1998. CARTO 2013 was held at the beautiful campus of University of Alberta. This successful conference was made possible through the cooperative efforts of members of both of our associations. I would thank everyone who made this conference possible. Larry Laliberté, and the local arrangements team, Bonnie Gallinger, Alison Faid, Grace Telder-Romanow, and student volunteers who did a fabulous job in hosting the conference. We all viewed the Thompson map up close during the icebreaker, and on the last night were treated to a beef roast dinner along the shores of the North Saskatchewan. The program committee created a solid program that was both informative and thought-provoking, and I would like to thank our co-chairs Susan McKee (ACMLA) and Claire Gossan (CCA), and the other members of the program committee Alberta Auringer Wood (ACMLA/CCA), Andrew Nicholson (ACMLA), Andreas Korsos (CCA), and Roger Wheate (CCA) for the efforts.

2013 Annual General Meeting and the New Executive Board

The 2013 Annual General Meeting took place on June 12th. It was a productive meeting, and you can find the minutes of the 2013 AGM in this issue of the Bulletin. The Executive and Committees can be found on our website. At the 2013 AGM, the nominated Executive Board was confirmed by the membership. The 2013-2014 board includes 1st Vice President; Siobhan Hanratty, 2nd Vice-President; Wenonah Fraser Van Heyst, Treasurer; Deena Yanofsky; Secretary, Courtney Lundigren; and President, Rosa Orlandini. I would like to extend a big thanks to Andrew Nicholson, who served on the ACMLA Executive for 9 years. If you have any questions or would like to participate in an ACMLA committee, please contact any member of the Executive. You can find our contact information on the ACMLA website.

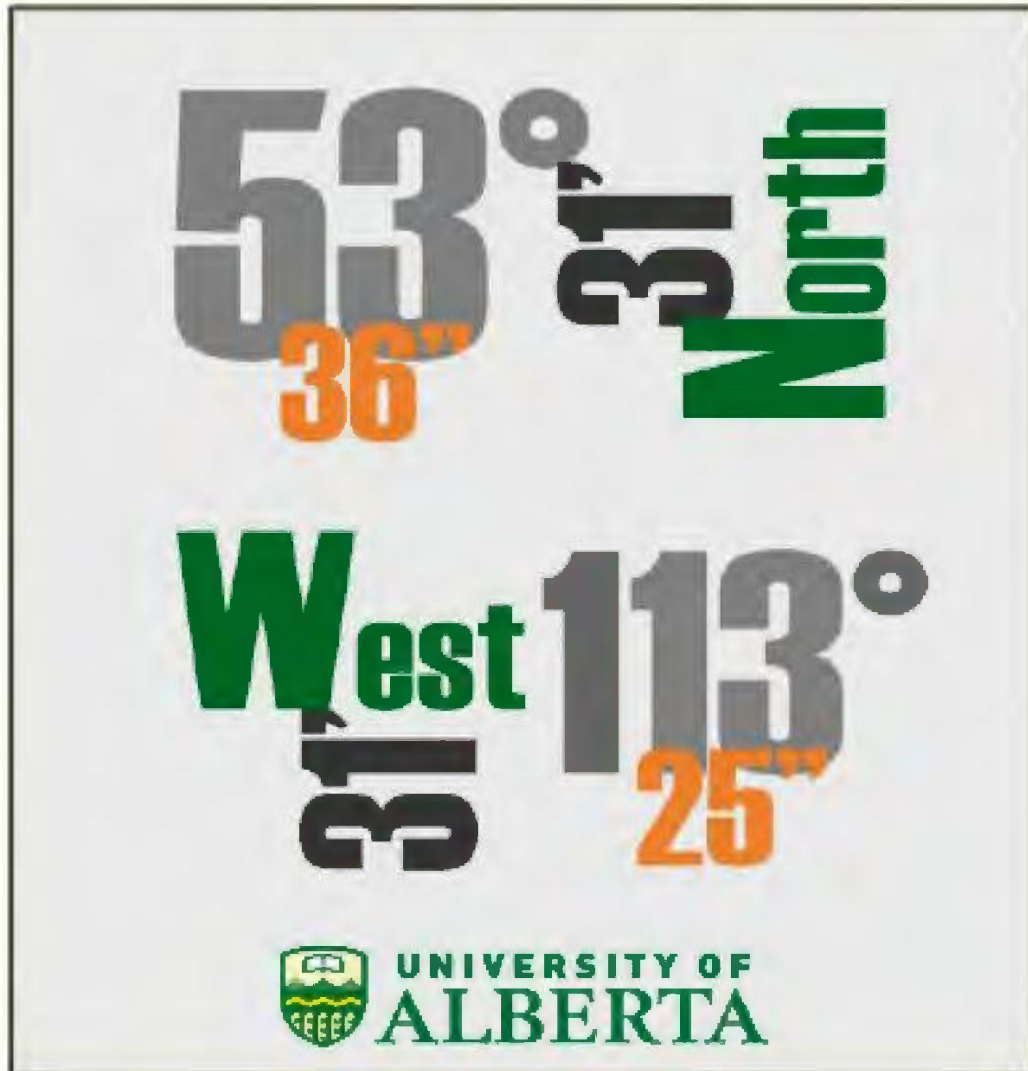
New Membership Renewal System

Believe or not, just a year ago our membership system was a Rolodex and spreadsheet of names and the process of renewing memberships was slow and cumbersome. In a span of a few months, Leanne Trimble, the chair of the membership committee, with the assistance from Deena Yanofsky, Sherri Sunstrum and I, researched and implemented a flexible online membership system that allows PayPal payments. Now our members can renew and pay for their memberships online, and also register for our conferences. Thank you Leanne for your hard work and leadership on this project!

Future Directions Survey and the By-Law Review Task Force

I would like to extend a thank you to all members who participated in the Future Directions Survey that was conducted a couple of weeks before the conference. At the Annual General Meeting, the executive presented the findings of the survey. The results of the survey are now available, in French and English, on our website.

President's Message continued on page 76



Vers le Nord-Ouest

Préserver le présent en voyageant vers le futur



North by West

Preserving the Present as We Journey to the Future



The image in the banner is the University of Alberta and surroundings. Source: 1:20,000 Aerial Photography City of Edmonton, May 2012

CARTO 2013 CONFERENCE REPORT

June 11th - June 14th, 2013

Tuesday June 11th : Pre-Conference Workshops

BASIC MAPS CATALOGING WORKSHOP: AACR2 and RDA:

Paige Andrew, Maps Cataloguing Librarian
Pennsylvania State University Libraries

Reviewed by John Huck, University of Alberta

The CARTO 2013 pre-conference map cataloguing workshop was given by Paige Andrew, a well-known educator and map cataloguer from the University of Pennsylvania. There were eight participants representing a range of backgrounds: experienced cataloguers, map librarians, and other professionals, some of whom were taking notes for cataloguers at their home institutions.

With the workshop limited to a morning and an afternoon, Mr. Andrew chose to focus on the fundamental aspects of cataloguing sheet maps. Participants learned how to identify main maps and ancillary maps, choose the best title to transcribe when presented with several, record the physical description of a map, and determine mathematical details of scale, extent, and projection. RDA introduces some minor changes to map cataloguing and these were reviewed briefly. A book, written by Mr. Andrew and Mary Larsgaard, is forthcoming, for those eager to immerse themselves in the topic.

Mr. Andrew had brought with him a selection of paper maps to serve as exemplars of the various types of situations a cataloguer might encounter, and he worked out the attendant cataloguing problems on a white board, an approach that he has found is more effective pedagogically than demonstrating on a computer. Participants were given the chance to examine these maps and, later, to try their hand at applying their newly acquired map cataloguing skills.

CREATING AND SHARING MAPS WITH ARCGIS ONLINE

Paul Heersink, Esri Canada

In this 3 hour workshop, participants learned how to share GIS data by creating dynamic Web maps and applications with ArcGIS. Free online content, applications and ArcGIS viewers are all available to create a rich, interactive experience for users without access to any software other than a web browser. The workshop began by exploring the Esri-hosted Web maps that can be created and shared on ArcGIS Online. Attendees were taught how to download and make use of Esri's Story Map templates. Emphasis was placed on how to use the viewer application builders to create rich Web mapping applications without writing any code.

GOOGLE FUSION TABLES AND BEYOND: THE WORKSHOP THAT ALMOST NEVER HAPPENED

Summarized by Daniel Brendle-Moczuk, University of Victoria

ACMLA's 47 annual conference originally had a workshop entitled Google Fusion Tables which had to be cancelled due to unavailability of the leader. Daniel Brendle-Moczuk, via email, proposed that the session go ahead with interested participants. Seven people showed up. We began with Fusion Tables but moved on to CartoDB and GeoCommons.

(This summary was written after the fact and may miss elements discussed in the workshop but will add some comments as a result of re-examining the services visited. Although we did not look at "Terms and

Conditions” for any of the above services, this would be a good place to start to examine the differences.)

We began with introductions and everyone commented on their experience with Fusion Tables. Most folks had limited experience. Morgan Hite, artist, cartographer, and writer, volunteered to stand at the “instructor” computer at the front of the room as we began to explore Google Fusion Tables. We did not try any of the APIs with any of the applications. Customization is probably possible with APIs.

Google Fusion Tables

Google Fusion Tables appeared in 2009 and are still labeled by Google as “experimental”. Will it become “standard”? How long will it be around? There are also two versions of Fusion Tables: “classic” and “new look”; some features are only available in one of the two versions. We used “new look”.

Google Fusion Tables Overview/Summary:

-upload delimited text files (.csv, .tsv, or .txt), Keyhole Markup Language files (.kml), Google Spreadsheet, .gpx files or create a new empty table. 100Mb file size limit.

(These files should be on the computer you are working on as a file from a network drive seems to take an extremely long time to load. You have the choice whether your uploaded data is downloadable by others.)

While Fusion Tables are forgiving with commas, dashes, exclamation marks, and semi-colons in the cells, and spaces in the column headings, some data formatting might still be required:see < <https://support.google.com/fusiontables/answer/171183?hl=en&topic=27017&ctx=topic> >

Two points worth noting are: 1. If you need to concatenate (merge) columns, you need to do this outside of Fusion Tables in a spreadsheet application. 2. “Fusion Tables handles percentages as strings. If you want to use percentages as numbers, you’ll need to change your data into actual numbers before you import.”

-(only) two possible base maps

-a few standard Google point symbols

-"For some styles you can automatically generate a legend”; otherwise you need to use the Google API to create a legend. You cannot set precise values in Legend; default rounding for example, 200-250; 250-300 should of course be 200-250; 251-300. (In May 2012, someone asked how to create a Legend and received a response of that is a “good feature request”.)

-limited number of symbolizations (What most GIS’s refer to as “graduated” symbolization, Fusion Tables calls “buckets”)

-can draw a polygon in a GIS, Google maps, or Google Earth and then import it

-can use Fusion Tables boundaries resource data < https://support.google.com/fusiontables/topic/27018?hl=en&ref_topic=2592765 >

-need to use shpescape.com to import shapefiles

-geocoding is possible (2,500 line requests per day)

-multiple layers seems only possible if you use Fusion Tables Layer Wizard < <http://fusion-tables-api-samples.googlecode.com/svn/trunk/FusionTablesLayerWizard/src/index.html> >

-easy to mount a map to a webpage by using “publish”

We then moved on to...

CartoDB < cartodb.com >

"CartoDB is a cloud based mapping, analysis and visualization engine that lets users build spatial applications for both mobile and the web. CartoDB was launched in April 2012 and version 2.0 rolled out in November 2012." It uses several FOSS (Free and Open Source) technologies: < <http://cartodb.com/attributions> >

CartoDB Overview/Summary:

-easy drag and drop or upload of .csv, .gpx, .kml, .xls, zipped shapefiles, and zipped .tifs (free account is limited to 5mb and 5 tables; not very much room for these days)

-uploaded table in CartoDB states in what format the data is stored; date, number, string

-7 possible base maps

-several visualization (symbolization) wizards

-only features of the same type can be uploaded to the same map; (without using the API)

-multiple layers are possible using code: < http://developers.cartodb.com/tutorials/toggle_map_view.html >

-geocoding (they refer to the process as georeferencing) is possible but seems to take a long time (I only had 85 points)

-no "automatic" legend yet; need to use code for example: < https://github.com/Vizzuality/CartoDB-Tutorials/blob/master/cartodb-js/drafts/add_a_legend.md >

We then proceeded to...

GeoCommons < <http://geocommons.com> >

GeoCommons launched in 2007 and was acquired by Esri on July 2012. Because Esri has ArcGIS Explorer, how long will GeoCommons exist?

GeoCommons Overview/Summary:

-upload .csv, kml, .shp (.xls files must be converted to .csv); numerous questions are asked to describe your data.

-13 possible base maps

-many symbolization options

-multiple layers of either points, polygons, or polylines are possible

-legend is included

-geocoding limited to 5000 rows

-several analysis functions

-time (slider) function

Summary

Overall, none of the above are GIS's but they offer a relatively easy and quick way to mount a map on the web. The CARTO/CCA 2013 participants generally agreed that without using any APIs, the features of GeoCommons exceeded those of Fusion Tables or CartoDB. Although raster datasets (.tifs) are supported by CartoDB, the size would be prohibitive for a free account. There are, of course, other web mapping application options such as MangoMap, MapBox, QGIS Cloud, etc. but these will have to be explored and discussed at another CARTO.

MAKING MAPS TO SUPPORT RESEARCH USING ARCGIS

Charlene Nielsen

Reviewed by Jennifer Ann McGetrick, University of Alberta

Charlene Nielsen of the University of Alberta's Department of Biological Sciences led participants to become more familiar with learning to use the industry standard ArcGIS 10 suite of software in "Making Maps to Support Research". Three tasks were demonstrated over the course of the two hour workshop. Namely, the three tasks entailed devising publication quality study area maps, simplifying maps as graphics for presentations, and generating multiple field site maps.

Charlene began with a simple introduction to the principles of mapping using Geographic Information Systems (GIS). For lay digital cartographers, GIS maps are comprised of digital files called "layers" that can be modified and superimposed with one another. The result of working with layers can be highly sophisticated maps that present detailed and extensive spatial analyses and relationships. Charlene anchored her introduction in an overview of geographic coordinate systems, projected coordinate systems, and geographic transformations. This overview was highlighted according to the importance of always using uniformly projected data in the analysis phase of research map production. She provided a brief overview of map elements, followed by a quick orientation to the data and layout views in the ArcMap software environment. Charlene also provided a series of additional learning resources, including links to relevant ArcGIS Desktop online help topics, and an appendix of example skill-building projects.

After the presentation of introductory material, Charlene led the workshop through the three tasks specific to creating high quality research maps. These tasks were designed to apply to participants' own datasets, as well as to open access spatial data Charlene supplied from the City of Edmonton Open Data Catalog, Statistics Canada, Geobase, Geogratis, Esri, and ArcGIS online.

The first task, "Establishing Your Map Document", demonstrated adjusting data frame properties, modifying layers, labelling attributes, designing a map layout, saving with relative pathnames, and exporting from ArcMap to a variety of digital file formats. The next task, "Exporting Your Map", delved further into translating digital cartography from the technical GIS format into comprehensive and comprehensible research maps. Charlene demonstrated the conversion of ArcMap's graphic features and native MXD file format into picture files of a suitable appearance and resolution for use in publications and presentations, according to each researcher's objectives, medium, audience, and journal requirements. Finally, "Making a Map Book" demonstrated how to generate separate map pages within a single ArcMap file. Utilizing ArcMap's grid index tool to regularly demarcate polygon sections of specific width and height (A1, A2, B1, B2, and so on), each page in the Map Book can be used to represent a different view of the larger study area. The pages of the Map Book can be customized with dynamic data driven text and page information, allowing rapid generation of data and metadata for smaller scale areal comparisons.

Overall, the workshop provided a strong basis for both understanding and applying cartographic principles in the digital environment. Charlene Nielsen's comprehensive workshop materials, including step-by-step PDF instructions and all of the data used in the examples, can be downloaded at bit.ly/carto2013.

Workshop materials available for download at bit.ly/carto2013

Wednesday June 12th: Conference Presentations

Keynote Address

A MAP AND NINE MAKERS

Barbara Belyea

Professor Emeritus of English

University of Calgary

Full paper presentation printed on page 35.

Aaron Arrowsmith published *A Map Exhibiting all the New Discoveries in the Interior Parts of North America* (1795), based on maps forwarded to him by the Governor of the Hudson's Bay Company. In the French tradition of Guillaume Delisle and D'Anville, the London cartographer mapped the edges of the known world without leaving town. Nine mapmakers in the field contributed to six states of Arrowsmith's map of North America over the next twenty years. This presentation followed a "thread" in the process by which Arrowsmith's composite map was drawn and updated.

SYMBOL INTO FACT - HISTORY OF THE CONTOUR LINE

Dan Duda (Memorial University)

In this day and age when a general map can be created with a few clicks of the mouse, I wonder if anyone thinks about where the cartographic symbols and standards come from that are built into the software? Arguably, that question can be about any software being used - do we understand and know why those few clicks do what they do? Even before the Digital Age, do we know how cartographic standards were established? In this presentation, Dan looked at how contour lines became an accepted symbol in depicting elevation or water depth. The story began around 500 years ago, and the practice of using them was not fully accepted until the end of the 19th century.

THE SERIES THAT CANADA LOST: THE 1:125,000 / TWO-MILE MAPS

Roger Wheate (University of Northern British Columbia)

Lou Sebert, honorary member of both the ACMLA and CCA, published articles on almost every Canadian topographic map series, but curiously not the 1:125,000 series and its predecessor the two-mile maps (1:126,720). These were started in 1908 and gradually replaced by the metric equivalent after 1960; in some provinces maps were also produced at 1:100,000. Although the series was orphaned by the two adjacent NTS scales, maps continued to be produced by the provinces of British Columbia, Ontario and Quebec almost until the end of the millennium. They were especially popular for forestry and tourism based on their attractive compromise of information and scale. I will show examples of what Lou Sebert describes as the beautifully contoured maps of British Columbia and contend that the information content relative to scale makes this the topographic map series we could and perhaps should have maintained. The number and details of topographic features displayed greatly exceed those at 1:250,000, while covering a more suitable extent of the Canadian landscape than in the 1:50,000 series. Some map sheets incorporated shaded relief, including what may be the quintessential Canadian topographic map sheet.

MAPPING TO HIGHLIGHT THE OREGON COUNTRY

Morgan Hite

Full paper presentation printed on page 39.

For an exhibit on the effects of the War of 1812 on the Pacific Northwest, the Osoyoos Museum produced twelve maps documenting changes in the "Oregon Country" from 1792 to 1872. Designed for students and the general public, the maps show the operations of fur trading companies, the routes of the more

prominent explorers, international treaties, and changing borders (not to mention the origin of the infamous 54°40' line). Yet the process was not simply one of illustrating widely agreed-upon historical fact: much of what we set out to map was unclear or ambiguous, and choices had to be made about where to draw lines or place points.

FROM PAPER TO ANIMATION: TRANSFORMING HISTORICAL MAPS INTO TIME-ANIMATED PRESENTATIONS

Rebecca Bartlett (Carleton University)

This presentation was created to highlight the possibilities of using historical paper maps or other sources of geospatial information and creating temporal animations using geographic information systems (GIS) technology. This was demonstrated using two projects that I was involved with while studying GIS technology in 2011-2012 and which cover vastly different timeframes: Road paving on Prince Edward Island (PEI), 1929-1993, and the 8th Canadian Infantry Brigade at the Battle of Vimy Ridge, April 9th, 1917, 5:30-8:00 AM.

The basic workflow for both projects is as follows: scan a paper map, georeference the digitized map (digitally locate and orient the map on the virtual surface of the earth), digitize relevant features (make digital copies of the physical features portrayed on the original map), add a temporal component, and finally animate. Both projects discussed were completed using ArcGIS 10 and exported to KML, which is the most common file format used by Google Earth.

The first project discussed was the PEI road paving animation, the work for which took approximately 60 hours and was part of a larger project looking at rise and decline of rural general stores on PEI between 1864 and 1984 with the provincial transportation networks providing context. The source of the temporal data was a scan of a large (1 x 1.5 metres) one-of-a-kind hand-annotated map that was provided by the PEI Department of Transportation & Infrastructure, on which an anonymous employee marked each road with the year in which it was paved. Once the map scan was georeferenced, the National Road Network (NRN) shapefile for PEI was overlaid to eliminate the need to digitally trace every road on the map. The NRN also includes information such as road name, community, and is accurately geolocated. Of the more than 17,000 road segments found in the PEI NRN file, approximately 7,000 segments were attributed with a *PaveYear* attribute from information on the original map and only those segments are found in the final animation. The animation was created in ArcGIS 10 using the options found in the *Time* tab in *Layer Properties*. The third-party tool *Arc2Earth Professional* was used to export the file to KML format.

The second animation presented was the front line animation of the 8th Canadian Infantry Brigade at the Battle of Vimy Ridge that I completed as an individual project, and the work seen in the presentation took about 90 hours to complete. It was inspired by seeing battle progression animations on historical television programs that usually amounted to moving arrows or flowing amorphous blobs that seemed neither geographically or temporally accurate. I wanted to create my own geographically and temporally accurate amorphous blobs and as I was familiar with the Battle of Vimy Ridge and primary source data is available on it, I chose it as the research focus.

The work began by acquiring from the Canadian War Museum a scanned 1:10 000 map of Vimy-Roclincourt, Edition 8A, with trenches corrected to February 10, 1917. The trenches were vital to the project as many of the brigade objectives were trenches or trench junctions. Once the map was georeferenced, the trenches were manually digitized.

Scanned battalion and brigade war diaries from *ArchiviaNet.com* were used to collect location information for the front-line battalions (1st, 2nd, and 4th Canadian Mounted Rifles) during the battle on April 9th, 1917, and those locations and the times at which the battalions reached those locations were compiled in a Microsoft Access database. The resulting known locations with associated

times were the jumping-off trench (where the brigade were located at the start of the battle), the intermediate objective (Black Line), the final objective (Red Line), and two intermediate point locations. The location and time data in the Access database were exported and connected with the digitized geospatial data in ArcGIS so that each line and point had a battalion and time associated with it.

Since the presentation was non-technical, I did not describe the process of creating the amorphous blobs. However, the final result are moving front line “blobs” in 15-minute intervals between 5:30 AM (H-hour, or the start of infantry movement) and 8:00 AM (the time the last battalion of the 8th Brigade reached its final objective) on April 9th, 1917. In order to do so, I needed to assume a constant rate of movement as there were sometimes an hour or more between reported positions. Like with the PEI paving project, I used the Time tab in the Layer Properties to set the time animation and used Arc2Earth Professional to export the final animation to KML. The final project is downloadable and/or viewable at <https://sites.google.com/site/bartlettbecca/>.

In conclusion, there are innumerable possibilities to combine one-of-a-kind historical maps or even non-traditional sources of geospatial data (such as the war diaries) in innovative ways to create compelling data visualizations. As someone with a background and interest in the study of history, the marriage of history and GIS is a natural one as time and place are integral to both. Not only does good data visualization enhance comprehension but it provides new opportunities for presenting archival materials in an innovative manner.

CHALLENGES OF CREATING A NATIONAL TOPOGRAPHIC BASE MAP

Paul Heersink (Esri Canada)

Building a seamless, multi-scale topographic web base maps poses numerous challenges, particularly when a number of different data sources are used. This assessment is based on the experience of staff at Esri Canada who have built maps for the Community maps Program and for a distinct Canadian web topographic base map. The guiding principles for the creation of these maps were the following: 1) use of contributor supplied data; 2) avoid the editing of data whenever possible; 3) automate the labeling process and 4) begin with a minimum number of layers. Issues were grouped in 1 of 2 related categories: data and labeling. Common data issues included incomplete data, out of date data, inconsistent data classification, misalignment of data, data inconsistency across scales, and lack of data suitable for each scale. Labeling issues included the lack of bilingual name fields in the data, labels not associated with features and labels appearing repeatedly on a cached map (the latter a result of using the Maplex labeling engine in the caching process in ArcGIS). Possible solutions to these issues include the creation of a scale-sensitive, up-to-date database consistent for all parts of the country, the creation of databases that allow more flexible database-driven labeling, and the design and promotion of national standards for data collection and creation.

MAP PROJECTIONS ON THE WEB: MAP SCALE, REGION AND PURPOSE SHOULD FACTOR INTO PROJECTION SELECTION DECISIONS

Glenn Brauen (Carleton University)

Projections are a fundamental design element of maps. In the making of paper maps, selection of an appropriate projection based on factors such as the intended purpose, scale, and regional focus of the map is among the earliest decisions made. Despite the importance of this concept for the design of paper maps, factoring good projection selection into the design of web maps seems to get much less attention. High profile commercial mapping applications provide only the nearly ubiquitous “Web Mercator” projection and mapping tools that do support projection selection often do so in an overly constrained fashion. This presentation advances the modest argument that projections in web maps should be selected according to the same criteria as when designing paper maps. For interactive maps that enable a user to zoom through a range of scales

and pan the map across a selection of regions, this means that defining a map to use a single projection is not adequate. Attempting to move beyond the contemporary design paradigm, this presentation will outline a conceptual framework for a web map that introduces the possibility that projections are selected dynamically as a user zooms and pans the map across the territory and through a range of scales. A prototype multi-projection web map was demonstrated, design shortcomings of current, paradigmatic web mapping tools were briefly outlined, and open questions concerning the design and use of such web maps were discussed.

PROVENANCE AND SIGNIFICANCE OF THE DAVID THOMPSON MANUSCRIPT MAP OF NORTHWEST NORTH AMERICA AT THE NATIONAL ARCHIVES, UK

David Malaher

Full paper presentation printed on page 44.

The subject manuscript map by David Thompson around 1826, FO-925-4622, has been in the UK for more than 170 years without drawing much attention by the Foreign Office, explorers and surveyors, or scholars interested in colonial history or cartography. The objective of this presentation was to promote the map measuring 190 x 330 cm to archivists and potential researchers in Canada so that its contents and structure can be considered for future study. The presentation used the latest in high resolution digital photography to make comparisons with a similar map by Thompson around 1814 held at the Archives of Ontario F-443 which has been used extensively in Canada for studying the state of geographic and cartographic knowledge of that time. The AO map is now withdrawn from general use due to its worn and faded condition whereas fortunately, the TNA map is in superb condition and completely legible. Provenance of the TNA map was discussed, revealing a complex chain of events and by-product maps involving Thompson, his employers the Hudson's Bay Company, North West Company and British Boundary Commission of 1816. By comparing these factors with the AO map a much deeper appreciation will be gained for the TNA version. Examples were shown of the extensive, unique notes on the TNA map with their wide ranging content of geology, anthropology, hydrology and botany. A further comparison was made with the well-known John Mitchell map of southeastern North America in 1755. Together with the Thompson TNA map, these two large maps cover more than 60% of the continent. The significance of the Thompson TNA map is that it has new content compared to the older standards, which can open up new fields of knowledge about that period in Canada's past.

RECONSTRUCTING HISTORY: THE DIGITAL REPRODUCTION OF DAVID THOMPSON'S MANUSCRIPT MAP OF NORTHWEST NORTH AMERICA AT FULL SCALE

Andreas Korsos

Housed within The National Archives in Kew, England, exists the most pristine version of David Thompson's map of northwestern North America in existence. The second surviving version of the map was first handed to William McGillivray of the North West Company in 1814; it was eventually handed over to the British Foreign Office (BFO) by Thompson, and although there has been discussion and speculation as to why and when he provided the BFO with his '*Map of North America from 84 Degrees West to the Pacific Ocean*'; there is no tangible substantiation. Clearly, further research is required to determine the why and when questions that have arisen; however brought located in England, it has been hidden from view for 170 years. The rediscovery of this remarkable map and the subsequent efforts to create and bring it to the forefront of cartographic historical research in Canada will be discussed. The presentation will confer the planning, processes, challenges and eventual recreation of this significant map, measuring approximately 190 cm x 330 cm, that will also be displayed at the conference. Specifically discussed will be the 176 high resolution images (approx.70 GB) acquired from The National Archives, and the subsequent piecing together of those same images to one seamless digital file within a contemporary geographic information system.

POLICIES IN HOLDING NATIONAL ARCHIVES (UK) DIGITAL IMAGES OF DAVID THOMPSON MAPS AT A CANADIAN UNIVERSITY ARCHIVE

Rosemary Malaher

General questions regarding policies of document ownership and reproduction have arisen because of the private acquisition of the digital files of the David Thompson map held by the National Archives of U.K. While the problems discussed have arisen recently, the technology involved is not really cutting edge. Libraries and archives have been grappling with similar situations for several years now. The fact that this case involves a venerable institution in Great Britain may add complications, owing to different archival traditions. We should, therefore, lay out the features associated with this particular document so that they can be discussed in a reasonable manner.

Historians of the exploration of Western Canada uncovered a manuscript map drawn by David Thompson in the records of the Foreign Office (FO) held at what is now called The National Archives (TNA) in Kew, England, formerly known as the Public Record Office (PRO). With the celebration of the Bi-Centennials of David Thompson's major explorations his admirers were drawn together at several events including scholarly conferences, regional gatherings, canoe brigades and reenactments. Also, a major commitment was made by the Champlain Society to re-issue his writings edited by William Moreau. In the process of these activities, greater attention was drawn to the FO map at Kew, which, because of its remote location, has been maintained in unusually good condition. Now, with cartographers, surveyors and others, joining the historians taking an interest in the map, the question of its availability to a North American audience has become a priority.

The advantage of digital imaging is paramount. For example in 2002, when David Malaher and I first wished to obtain a copy of a specific Thompson map, the survey sketch measuring 5 feet by 5 feet of Lake of the Woods done for the Boundary Commission in 1824, also held at Kew, the copy required 12 photographs to reproduce. Five years later, when Andreas Korsos acquired a digital reproduction of the FO map, it was broken into only ten images, (although it was more than twice the size of the earlier Lake of the Woods map) with each image of 36 MB. This copy was subject to the usual archival restrictions for photographs, credits to be given, no commercial copies, etc. In the fall of 2012 Korsos was able to obtain an enhanced copy made up of 176 high resolution images of 400 MB each, a total of 70 GB. The rapid technical advances in digital photography now provide researchers with a serious tool for minute examination of the details of the map.

This digital copy of the map, currently on an external drive, will potentially be donated to a Canadian university so that it can be accessed by scholars. The University of Manitoba has agreed to mount the map in a prominent place for public viewing. This is no small condition, since the full size of the map is 10 ½ feet long and 6 foot 3 inches tall.

In accepting the digital map, the Archives and Special Collections Section will have to consider its own management of the files. The data will require back up and storage, as well as dealing with problems of new formats and migration as technical innovations evolve. There are also staffing requirements to handle requests. These complications are not new to map librarians. They affect the budget of any archive, and hence, the ability to accept such a donation.

The current attitude to control and/or availability of documents, however, still needs to be worked out. With regards to making the digital copy available, archives generally fall into two camps. In one case, many institutions and organizations are putting everything on the web, making past records and publications universally available. This is good for the researcher, who is able to draw on a vast store of material. In the second case, control by prepayment,

through JSTOR, or subscription, is required which is understandable if the revenue is critical to the maintenance of the service. A good example of the former is the Rumsey Collection of maps, which is freely available on the web.

In examining the copying policy of The National Archives, stated on their web-site at www.nationalarchives.gov.uk/legal/recordcopying.htm, we find that a fairly simple stipulation applies, "Most public records in The National Archives are in Crown Copyright. There are no restrictions on the use of copies for non-commercial research or private study. Copies, and copies of those copies, may be made and used for education purposes. This covers both teaching and preparation for teaching and/or examination by either teacher or student." Permission is required for publication, exhibition or broadcast.

When accepting the donation of the digital images, the Canadian institution will have to clarify how the policies of TNA can be met. A discussion regarding the possibility of posting the map on the web will have to take place. Can it be available for viewing? Should there be the ability to view while at the same time restricting downloading? What undertaking will apply to the second level of users? What control is possible?

Our attention can now focus on possible future research which could be carried out using this map and issues arising from it. For example, although there are two newer sections set into the base map which could only have been inserted after Thompson had completed his work for the Boundary Commission, about 1825 or '26, it is believed that the major part of this map was drawn in about 1816. Aside from these obvious replacement sections, can it be established what methods were used to draw such a large map, and in what order the sections were drawn? This map could stand a rigorous comparison with Thompson's own version of the map now at the Archives of Ontario. The 1816 map has a wealth of additional material adding to its historical interest. These notes and marks could be compiled and analyzed. Part of this examination would be evidence of Thompson's survey methods.

An important opportunity will arise to compare Thompson's map to other contemporary and subsequent maps. There are signature errors in the Thompson map which persist in later published maps, and reveal the origin of information used to produce later maps. How far afield and for how long did these idiosyncrasies occur? Further to this, through the correspondence available in the Barclay papers in the Maine Historical Society and at TNA researchers can attempt to discover how many maps Thompson produced and where they are located. Detailed analysis could also be done on his map of the Oregon Region, also filed at TNA but the study of this map is subject to the travel problems which Korsos is hoping to overcome by housing the copy of the great map of Western Canada here, on this continent.

It was through his own personal interest that Korsos purchased the high resolution copy of the David Thompson 84 degree map. His intention to have it held by a Canadian institution is admirable. His wish is that it should be displayed in its full size to pique the curiosity of those who see it. It will likely make a strong impression with its scope and detail and encourage further research into the historic mapping of Canada, and the importance of David Thompson in the history of Western Canada.

POSTER PRESENTATIONS

THE IMPACT OF HADRIAN'S WALL ON THE MOVEMENT OF PEOPLE IN ROMAN BRITAIN

Kathryn Murphy (University of Alberta)

After conquering Britannia in AD 43, the Roman Empire continued its expansion north across the island, building roads and forts where needed. During a visit in AD 122, Emperor Hadrian ordered the construction of a wall, 80 Roman miles long across the narrowest point of the island, defining the northern frontier of the Roman Empire. There are many theories regarding the purpose of the Wall, including movement control, taxation and defence. The aim of this research was to study the effects of Hadrian's Wall on the north-south movement of people living in the area during the Roman occupation of Britain. With ArcGIS software, I focused on using cost surface analysis to identify the least cost pathways as they approach the Wall, and viewshed analysis to examine the extent of visible landscape from Hadrian's Wall. Using the data collected, I created various maps of possible pathways taken by travellers, and found that these pathways cross the Wall close to several gateways. Based on these findings, I concluded that travellers could have followed least cost pathways without having to expend large amounts of energy to cross Hadrian's Wall.

VIRTUAL POSTER: FROM IN-PERSON TO ON-LINE: USING OPEN SOURCE APPS FOR INTERACTIVE MAP ACCESS AND DISCOVERY

Eva Dodsworth and Jonathan Morgan (University of Waterloo)

At the University of Waterloo, students request the capability to visualize and access geospatial and other cartographic collections and indexes online. From mounting interactive air photos indexes, to uploading local historical maps, to offering a one stop shop for municipal open data, the University of Waterloo Library has recently created three interactive mapping web projects - all to aid in the discovery and access of their cartographic collections. This poster session showcased the online projects and the resources used to build them.

MAKING THE FIRST SURFICIAL GEOLOGY MAP OF ALBERTA

Joan Waters (Alberta Geological Survey)

The Alberta Geological Survey has published the first province-wide surficial geology map of Alberta. Before this map, only 90% of the province was covered with a patchwork of maps produced by different agencies over the last half century. Those maps are of varying scale and detail, constructed using different legends and data-sources. To address demand for a seamless, consistent surficial geology map covering the province, a multi-year compilation project was initiated. Areas without map coverage were mapped specifically for this project at 1:500,000 to 1:1,000,000 scale using remotely sensed data such as LiDAR and SPOT imagery with limited field checking. Additionally, previously published maps were digitized and polygons were reclassified according to a unified legend. This resolved many unit discrepancies occurring along map boundaries. Additional discrepancies had to be resolved by reclassifying and modification of polygon boundaries based on various data sources. The combined new mapping with the modified and digitized archival maps provides a seamless map coverage of the province. Because of the varying scales of the input maps, this seamless mosaic had to be generalized. This coverage was fused to the DEM to create a cartographically appealing product.

LOCAL DATA SUCCESS STORY: UNIVERSITY OF CALGARY AND THE CITY OF CALGARY

Susan McKee (University of Calgary)

In 2004, the University of Calgary Library (MADGIC) signed the first license agreement for a few GIS data files from the City of Calgary. This was the culmination of a long period of requests and negotiation. Before 2004 there was nothing available except by purchase; students and researchers were frustrated when their data requests for local projects were turned down. Today, almost ten years later, Spatial and Numeric Data Services (formerly MADGIC) has a very open relationship with the City of Calgary and manages hundreds of data sets, in constant use by University of Calgary students and researchers. This poster presentation will discuss the background, types of data files, challenges, and the popularity of local data at the University of Calgary.

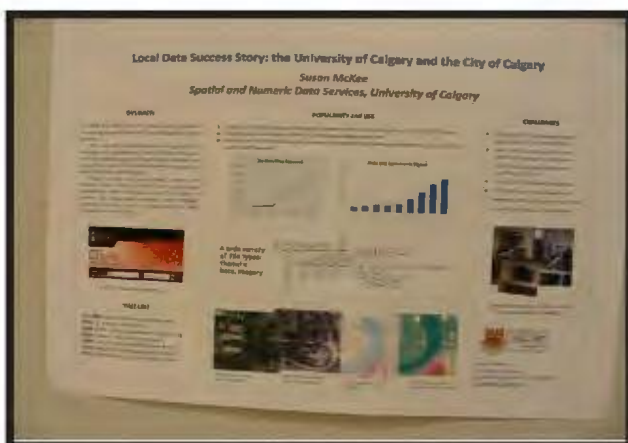
MAPPING THE AGRICULTURAL ENVIRONMENT OF ALBERTA, CANADA

Gerald Stark (Government of Alberta)

The department of Alberta Agriculture and Rural Development (ARD) has, for many years, been involved with fostering proper environmental stewardship practices within the agricultural industry in Alberta. In order to achieve this, cartographic and GIS skill sets have been used to compile, analyse and present agriculturally related themes in a visual form for ARD decision makers and other department professional staff to use in their work. The three main themes related to the agriculture and the environment, are soil, water and air. This poster presents various examples of these three themes that ARD has produced over the past several years.

Some of the posters on display

Photos : Alberta Wood



Thursday June 13th: Conference Presentations

Keynote Address

THE STORIES MAPS TELL: EXPLORING ONLINE MAPS THROUGH THE ADVENTURES OF CANADIAN CANOE VOYAGEURS

Aileen Buckley

Esri

All maps tell a story, and with the latest tools, anyone can make maps to tell their stories. Traditional cartographers are increasingly being joined by “neocartographers” who haven’t had any formal training in cartography to populate the web with millions of maps. Neocartographers often map stories that are personal and subjective with little consideration of cartographic quality, and they are sometimes their own audience. They use publically-generated data and open source tools to make the maps they want to make showing things the way they want to. In contrast, traditionally-trained cartographers follow cartographic conventions, use authoritative data sets, master complex software, and always strive for objectivity and accuracy. The tension between the unconventional style of neocartographers and the prescribed methods of traditional cartographers provides fertile ground for exploring maps in today’s online environment. Using a combination of neo- and traditional cartographic approaches, I tell the stories of Canadian canoe voyageurs as written by Dr. Gerald Patterson in “Free and Moving” (2013). Dr. Patterson’s canoe voyages were inspired by his “fascination with the stories about the 18th-century trading routes in northern Saskatchewan” and the vague tales he had heard about “the vast reaches of Tundra prairies in the Northwest Territories and the great rivers that cut through them on the way to the Arctic Ocean”. The online story maps that accompany “Free and Moving” attempt to capture these inspirations and the adventures of Dr. Patterson and his fellow voyageurs.

ESS GEOSPATIAL PORTAL: THE NEW GEOGRATIS

Eric Kramers (Natural Resources Canada)

The GeoGratis website began in 1998 as an FTP site with rudimentary web descriptions. In 2002, there were 46 collections for users to access, which grew to 113 with approximately 170,000 metadata records in 2013. Users seeking data products from Natural Resources Canada were required to use multiple portals such as GeoPub, Mirage (Map Image Rendering Database for Geoscience) and GeoGratis. This presentation will showcase the new GeoGratis platform. This new site offers one point of entry to all Earth Sciences Sector’s (ESS) geo-products and services, including topographic maps at 1:50 000, digital geoscience maps and Atlas of Canada maps. It gives users and developers alike a consolidated view of ESS geoscience and geospatial digital assets through various services and application programming interfaces (API’s).

WHERE TO GO TO FIND OPEN DATA ON THE WEB

Ted Mackinnon (Natural Resources Canada)

One thing I am sure that almost anybody in geomatics would agree with is that major components of any geospatial projects is the data and like most things in our society, tend to evolve over time. Geomatics is no different and many things have changed over the years.

I have been working in geomatics for over 15 years in a variety of disciplines (GIS, Cartography, LIDAR, Remote Sensing and GPS Surveying) and have experienced first hand how data has evolved over that period. In the early days, we would generate our own digital data sets through various methods such as digitizing topographic map sheets, aerial photography interpretation and field survey work. Then

over the years, there was a trend for companies and governments to produce large data sets that individuals could purchase to use for base maps or to use in a GIS instead of having to create their own.

These days we are very fortunate that it doesn't have to be that way anymore thanks to plenty of great resources available with Canadian data. Today the trend is to make data available for free, with no limitations, helping to increase the use of spatial data and promote building maps and applications. This trend is also widely known in geomatics as 'open data'.

Open data refers to a concept that certain data should be freely available to everyone to use (especially when created through public funding) and republish as they wish, without restrictions from copyright, patents or any other forms of control. It is not really a new concept although most people often make it seem that way, similar to the way fashion trends come back time after time. In Canada, open data concepts date back to when the sharing of satellite imagery became common practice and then further developed when sites like GeoGratis and Geobase became available, changing the way we thought about data. In 2011, the Federal Government started an Open Data site mainly as a central location for having government data available in industry standard recognized formats. Last year, they stated that they have committed to a 3-year plan to expand it by adding more data, designing a better interface and improving the level of standardization.

In 2005, I started a GIS based website (CanadianGIS.com) to help provide users with information on all aspects of the Canadian Geomatics industry because at the time I felt that there were no other decent web sites on the web that were targeting Canadian needs. CanadianGIS.com shares Canadian GIS information including Canadian education programs, conferences, events, careers, networking, spatial data sources and is a go-to place to find information related to geomatics for Canadians. A major section of CanadianGIS.com has been dedicated to promoting Canadian data sets and now contains over 75 different sources of geospatial data.

Canada is a big country, almost ten million square kilometers, so there is no wonder that any single data site has not been able to provide all the geospatial data needs for all Canadians. The Federal Open Data Portal, GeoGratis, Geobase and the Geography Network are all great sites and do provide plenty of data but there will always be multiple places that individuals need to resort to when doing their data searches. Larger populated areas like Alberta, British Columbia and Ontario tend to have more sources of both provincial and municipal data sets, but some of our small populated places like Prince Edward Island and New Brunswick also do a pretty good job of making data available to the public.

Now, there are some people on the web that argue that most data sites in Canada are not really 'open data' according to the traditional definition because, although the data is supplied to the public freely, it is done under various conditions. Regardless, if it is official 'open data' or freely available data, it is still good for the industry and therefore I have included all types of Canadian available data in the data section (<http://CanadianGIS.com/data>) separated into two main groups: national data and provincial data (which also have municipality data included when available). Most times, the larger sites will provide most data needs but at larger scales so it is best to spend some time learning what each site has to offer.

Check out some of the great Canadian data sets made available through various data portals and help further encourage Governments to make geospatial data available publically. And if anybody notices any data resources not included then let me know and I will gladly add it to CanadianGIS.com.

“COMMENCING AT A POINT...” : HISTORICAL GEOGRAPHY AND GIS AS METHODS OF RECONSTRUCTING THE BOUNDARIES OF THE NUMBERED TREATIES OF THE OLD NORTHWEST

Frank Tough (University of Alberta)

In the last several decades, considerable academic and applied research has contributed to better understandings of the so-called Numbered Treaties between First Nations and the Crown. Many aspects of treaty negotiations and implementation have been ascertained. More cogent interpretations have developed. However, treaty boundaries have not been scrutinized. Each treaty provides a written description of the treaty territory. Most readers eyes glaze over when they come to the metes and bounds descriptions of the intended treaty territory. Modern day maps of treaty territories convey a sense of certainty and order to the bounds of treaty territory. In fact, certain segments of the treaty boundaries as explained by the written version of the treaty are difficult to map and some segments introduce errors. None of the existing published maps of the Numbered Treaty boundaries can be relied upon. Despite the fact that the Crown was interested obtaining surrender of Indian title to priority areas, an inherently geographical problem, the geographical and cartographic knowledge at the time of treaty negotiations was limited. While some of the published maps should now be regarded as unreliable representation of the treaty territory or the Crown's intent, the written text of the treaty, the boundaries established by antecedent treaties, early treaty maps, and historical cartographic sources, permit a historical geographical approach to empirical aspects of this spatial problem. GIS tools contribute necessary precision to solve this problem. Not only can this technology be used to map treaty boundaries on current maps, but also certain boundary references such as height of land and sources of watercourses can now be plotted with accuracy and precision, whereas at the time of negotiations, some segments of the boundaries were unknown and thus could only be represented in proximate terms on contemporary maps. Based on the original written text of the treaties, this presentation demonstrated a systematic method for mapping treaty boundaries that produces better results.

EXPLORING THE DEVELOPMENT OF DIRECT-TO-DIGITAL MAPPING TECHNOLOGIES IN THE CONTEXT OF FIRST NATIONS TRADITIONAL LAND USE RESEARCH

Steven DeRoy

Mapping spatial information to collect indigenous knowledge (IK) and use has almost always involved drawing out information on paper maps. Today, much IK research takes place outside of the university setting, in the context of indigenous rights and resource development projects, and involves multiple actors, including First Nations, academics, consultants, industry, and government. This presentation will describe The Firelight Group's development of a direct-to-digital mapping methodology and how it addresses the changing contexts of IK research. We will pose questions regarding the implications of this method, including notions of accuracy, changes in the interview setting, and the role of geo-spatial technologies in IK research.

TRACKS, TRAILS AND TRACES: MAPPING HISTORICAL MOVEMENT OF METIS COMMUNITIES IN ALBERTA

Kisha Supernant (University of Alberta)

Historical maps are important sources of data for a variety of disciplines. Recent efforts to translate historical maps into current technologies have reinvigorated the use of these data for analysis. In this paper, I explored how trail systems in Alberta, digitized from township maps, have important implications for understanding movements across the landscape by settler and Aboriginal communities in the historic period. I looked specifically at the use of trail systems for understanding the archaeological signature of Metis overwintering sites during the latter half of the nineteenth century. Trails may

provide some indication of areas where Metis overwintered but that lack a known archaeological component. Combining historical maps of trail systems with archaeological research has great potential to add to a more complete picture of the full extent of the Metis cultural landscape in the Canadian West.

PRESERVING NORTHERN RESEARCH DATA: EXPERIENCES FROM THE INTERNATIONAL POLAR YEAR

Chuck Humphrey (University of Alberta)

While the International Polar Year (IPY) Data Policy included a fundamental principle of data sharing, Canada did not have research data management infrastructure in place to support this principle. Data Management within the Canadian IPY Federal Program Office addressed this gap through a request for proposals in May 2010 to establish the IPY Data Assembly Centre Network. In July 2010, six institutions were selected to form a collaborative network to ingest, preserve, and make available the data from Canadian-funded International IPY research projects. This cross-sector, multi-institutional collaboration developed a preservation backbone and a data discovery and access point through the Polar Data Catalogue. Processes were implemented to ingest and process research data for inclusion in the Network and five of the participating institutions made a longer term commitment to this infrastructure in 2012, becoming the Canadian Polar Data Network (CPDN). These partner members drafted and approved a governance charter in January 2013, making the transition to a more permanent Network. This presentation reviewed the lessons learned from these experiences and highlighted the importance of this collaborative infrastructure for Northern research data.

DEVELOPING GUIDELINES FOR THE USE OF THE NORTH AMERICAN PROFILE METADATA STANDARD FOR SCIENCE DATA: THE CANADIAN POLAR DATA NETWORK EXPERIENCE

John Huck (University of Alberta)

Recently, academic libraries have begun to participate in data curation and preservation activities. This is partly a continuation of the open access movement, and partly because of the emergence of e-Science. Observational data is similar to geographic data in a number of ways, and so it is not surprising that relatively mature geospatial metadata standards are being adapted to describe non-geographic data. This presentation describes the experience of the Canadian Polar Data Network in developing a set of implementation guidelines for the North American Profile (NAP) of ISO 19115:2003. The network chose this standard because it has already been adopted by the arctic science community and is gaining traction internationally. A working group developed the guidelines, taking into account existing metadata infrastructure within the network and considering questions such as where the information for the records would come from, whether to use controlled vocabularies, and how to take advantage of NAP's hierarchical structure to aggregate related datasets. The work was challenging, in no small part because the NAP standard itself is complex, but also because decisions about the standard necessarily involved broader discussions of policy around such issues as preservation and access conditions. The paper provided insights to professionals who may be called upon to participate as geospatial experts in projects of a similar nature.

LINKING LOCAL, NATIONAL AND INTERNATIONAL DATA COLLECTION AND MANAGEMENT EFFORTS ACROSS THE NORTH

David Hik (University of Alberta)

Data from the circumpolar regions has increasing global importance in the face of the rapid environmental, economic and social change. Observational networks in the North are still sparse, but recent improvements to Earth observation by satellites and ground stations have increased the amount of information available

to meet the requirements of local, national and international users. The preservation and utilization of these data is an important issue and there has been increasing attention to both data management and necessary data infrastructure, especially during the recent International Polar Year. These coordination and capacity-building efforts are continuing under the auspices of several international organizations including the Arctic Data Coordination Network (ADCN), the Sustaining Arctic Observing Networks (SAON), the International Arctic Scientific Committee (IASC), the Arctic Council, and the ICSU World Data System. For example, IASC has recently adopted a framework for requiring data management plans describing how the data will be ethically shared and preserved over time. Significantly, there is also increasing interest and investment in these issues at local, regional and national levels. In this presentation, I discussed some recent developments that addressed improvements to the allocation of resources supporting the preservation and use of Arctic data.

Friday June 14th: Conference Presentations

OPEN GOVERNMENT CONCEPTS

Mark Diner (Government of Alberta)

This brief presentation covered the concepts of Open Government including transparency through access to data and Information, citizen participation and collaboration. We looked at examples around the world and also highlighted how maps are important tools in success with Open Government.

THE NEW LOOK OF THE ALBERTA SOIL INFORMATION VIEWER

David Spiess (Alberta Agriculture and Rural Development)

The redeveloped Alberta Soil information Viewer, based on the Agricultural Region of Alberta Soil Inventory Database (AGRASID), is the next evolution of online tools that Alberta producers have had access to since 1998. In the early 2000s, a project to migrate AGRASID onto the Internet began. The migration project was broken into two parts. The second part was the development of an Internet map viewer to provide the general public with a means to access an essential but limited sample of AGRASID soil landscape information for the agricultural region of Alberta. A reasonably stable production version of the viewer was first deployed on the ARD website in October of 2005 and has accommodated some 3000 visits per month. In 2011 when it was determined that the hardware and software framework needed to be replaced, the existing tools were re-evaluated and enhanced, and additional functionality was added. The redevelopment project started in the early spring of 2012. Project completion is expected prior to March 31, 2013. Some intended uses include:

- Reference for pipeline surveys,
- Environmental impact studies
- Environmental farm planning and assessment by agricultural producers

SURFICIAL GEOLOGY MAPPING USING INTEGRATED REMOTE SENSING AND DIGITAL FIELD MAPPING TECHNOLOGIES

Steven Pawley (Alberta Geological Survey)

The Alberta Geological Survey (AGS) is continuing its regional surficial geology mapping program in northern Alberta. These maps describe the distribution of surface geological materials and associated landforms, providing information to support infrastructure development, mineral exploration, forestry and land-use planning. Traditionally, surficial maps are produced by establishing the composition of landforms

through field observations, combined with the manual interpretation of airphotos to classify landform type, distribution and extent. This approach works well in the agricultural white zone in Alberta, where the limited vegetation cover allows an unimpeded view of the landscape. However, these methods have proven ineffective in remote areas of the boreal zone where field access is limited and the dense vegetation cover obscures underlying landforms. To overcome these difficulties, a new approach was developed using high resolution airborne LiDAR (Light Detection and Ranging) data in concert with optical satellite and digital stereoscopic imagery digitization. The integration of remote sensing technologies provides a more complete view of the landscape, enables efficient 'heads-up' digitization, and further enables the use of quantitative, predictive methods for rapid mapping. Map production is also enhanced by digital geological field mapping and data collection using ruggedized tablet PCs. A significant advantage of this technology is that draft versions of field maps can be assembled and continually evaluated in a 3D environment while mapping. In turn, this further enhances the map quality and confidence in the geological interpretations.

THE AGRO-CLIMATIC INFORMATION SERVICE: OVER 50 YEARS OF ALBERTA WEATHER AND CLIMATE DATA AT YOUR FINGERTIPS

Ralph Wright (Alberta Agriculture and Rural Development)

Over the past decade, Alberta Agriculture and Rural Development (ARD) has installed over 150 all season weather stations across the agricultural areas of the province. These stations report hourly, bringing the total number of Federally and Provincially run stations across Alberta to over 350 in total. ARD has made data from all of these stations available online, with hourly and daily observations at your fingertips brought together into one fun and easy to use interface called the Agro-Climatic Information Service (ACIS). ACIS is home to several viewers. These include a map archive dating back to 1961 that receives more than 40 new maps each week, describing precipitation patterns, soil moisture, temperature, snow packs and more. Also, track storm systems using radar overlaid on Google Maps, as of 10 minutes ago. View regional maps showing current temperatures, 24-hour maximums and minimums and other elements. Or, graph and download meteorological data back as far as 2005 through Google map interface. This presentation explored the ACIS viewers which can be found at: weatherdata.ca.

PROPOSAL FOR A CANADIAN HISTORICAL GEOGRAPHIC INFORMATION SYSTEM

Marcel Fortin and Byron Moldofsky (Univeristy of Toronto)

Historical GIS Projects are gaining in popularity across Canada. Later in 2013 a book will be published by the University of Calgary Press featuring fourteen such projects spanning across the entire country. With this increase in use in historical geospatial data comes the impetus to ensure that nobody is reinventing the wheel, or better yet redigitizing the wheel. Historical census polygons, historical urban street and building data, historical national infrastructure data such as the building of the railway and the highway networks, historical topographic map layers - these are data layers that have been created and recreated by numerous projects. They should not have to be re-created anew every time researchers in a different part of the country start an historical study. Without a set of standards and protocols for creating, sharing, distributing, crediting, and archiving these data however, it is difficult to rationalize this process. We look at some examples which may be useful models for such a system, and hope to inspire debate on potential methods for development and funding.

“OPEN DATA AND OPEN LEARNING”: BRINGING WEB-BASED GIS INTO A FIRST YEAR ENVIRONMENTAL STUDIES COURSE

Andrew Nicholson (University of Toronto Mississauga)

In recent years, Open Data Initiatives have swept across Canadian municipalities, with cities such as Edmonton and Calgary now releasing samples of their locally collected geospatial and numeric datasets for public use. With this open availability to data, new and innovative opportunities for GIS education and geo-literacy promotion in schools have also come forth. Utilizing such data and online GIS tools, students can now research and answer many geographically related questions about their local areas.

These developments have led to new opportunities for learning at the University of Toronto Mississauga in which instructors and students utilize both “open data” and freely accessible online mapping tools. This in fact occurred recently in an Environmental Studies course, in which students were asked to map Natural Area Survey data which had been made “open” by the City of Mississauga. Rather than using specialized software or download expensive mapping tools, students were able to use ArcGIS Explorer Online, a free online mapping tool, to upload the Natural Area Survey data and map the results of the survey. For example, students could map out natural areas that had problems with vandals or garbage being dumped on the site, *and then identify the neighbourhoods most affected.*

They could also map out species populations by years to track increases or decreases in numbers. To help them, the Library provided detailed instructions on how to use the ArcGIS Explorer tool. The Library also created a small set of ArcGIS Explorer Online Help Videos for students to help answer the questions posed in their assignments that relate to the data and how it is mapped across the city. The use of such open data and online mapping tools opens up all sorts of research and teaching possibilities.



With many of these resources now cloud based, exercises and course assignments involving mapping can both be scalable and customized for online learning.

Mississauga Open Data - <http://www.mississauga.ca/portal/residents/publicationsopendatacatalogue>

ArcGIS Explorer - <http://www.arcgis.com/explorer/>

ArcGIS Explorer Videos - <http://tinyurl.com/oknlwdb>

COLLECTION NUMÉRIQUE DE CARTES DE LA NOUVELLE-FRANCE / DIGITAL COLLECTION OF MAPS OF NEW FRANCE

Jean-François Palomino (Bibliothèque et Archives nationales du Québec)

My paper presented a project actually in progress in Bibliothèque et Archives nationales du Québec (BANQ), which consists of a catalogue of maps of New France. Elaborated within the context of my activities as a map curator at BANQ, and with the collaboration of the Bibliothèque nationale de France, this catalogue will gather descriptions and images of maps of French North America drawn before 1800. It has the ambition to virtually gather maps disseminated among various institutions - libraries, archives centers, museums - in Europe and North America. It will bring new cartographical sources to the attention of researchers. It will encourage research on Quebec Province history, and also partnerships between institutions. It will interest a young public to the history and geography of its country. Many collections are concerned by this project, notably the Bibliothèque nationale de France where we can find the collection of the Service hydrographique de la Marine, and also the one of the great mapmaker Bourguignon d'Anville. The presentation showed the relevance of this catalogue; it will also be a good pretext to exchange with colleagues, map curators, and researchers on the intellectual and technological challenges of this kind of project.

NEOGEOGRAPHY OF EDMONTON'S RIVER VALLEYS

Matthew Dance (University of Alberta)

Place can be defined as the meanings that are created at the confluence of location and activity (Relph, 1976). The places that comprise an urban environment are increasingly networked through the ubiquitous disbursement of connected, hand-held, location-aware mobile devices (Castells, 2004). This, coupled with the evolution of the GeoWeb supporting volunteered geographic information (VGI), is defining a key method of citizen engagement with spatial data and information. Specifically, citizens are able to communicate place-based information through these technologies. These emerging phenomena give rise to some pertinent questions: (1) To what extent are GPS systems able to capture users' understanding of location, and (2) How do people contribute spatial information to the GeoWeb? Using a case study method that centered on Edmonton's river valley trail network, 17 informants were interviewed regarding their use of GPS devices in the capture and communication of spatial information, and their corresponding knowledge of place. Our findings indicate that people possess and are able to articulate place knowledge that is deep and personally meaningful, especially in regards to parts of the river valley they use and enjoy most often. However, location-aware mobile devices do not currently provide the tools necessary to communicate users' deep understanding. We conclude that current web based maps that support VGI only allow for a small portion of knowledge to be uploaded. This knowledge is restricted to the structure or form of a place, rather than its meanings or context.

ECONOMIC TOPOGRAPHIES: READING THE EDMONTON RIVER VALLEY

Kisha Supernant and Erika Luckert (University of Alberta)

Rossdale, a pretty little well-heeled community nestled in the Edmonton river valley, is the oldest continually inhabited spot on this branch of the North Saskatchewan River. It was the site for pre-Treaty 6 Aboriginal settlements, the second Fort Edmonton, the inauguration of the Province of Alberta, a burial ground, an ice house, a fair ground, a ball park, a power plant. In the early twentieth century, it offered working-class housing near the coal seams of the North Saskatchewan; in the early twenty-first century it is characterized by expensive "vinyl Victorians" scenically situated alongside a bike path. Rossdale's historical importance makes it ripe for deep mapping, which is what the digital urbanisms project Edmonton Pipelines www.edmontonpipelines.org

aims to do. Grouping historical and present moments according to the themes of Trade, Traffic, Play, Power, Dwell, View, Haunt, and Name, the Rossdale project reads multiple times, and their diverse narrative, inside of a single delineated space. Bringing the past up to the level of the present through the use of creative cartography promotes the discovery of new, interconnected narratives between the past and present. This presentation will showcase one of the digital maps we have made using Open Data from the City of Edmonton. Drawing on tax records from the past 100 years, we have mapped residential property values in Rossdale against the literal topography of the river valley. We are thus able to demonstrate, through a cartographic visualization, changes to the value of riverside properties. These changes align with the transformation of the river itself, from an important site of traffic and trade, to an aesthetic centerpiece for the Capital City Recreation Area.

CONNECTING COLLECTIONS THROUGH PLACE AND SPACE

Larry Laliberte (University of Alberta)

Over the past ten years, many historical library collections have been digitized (textual, numerical, photos, maps) and made available online. However, they often exist on standalone platforms isolated from other digital collections. Using the 1913/14 Fire Insurance Plans (FIPs) of Edmonton as an example, this presentation highlights how thinking spatially about local digital collections and combining the power of GIS and geovisualization can open up interesting ways of linking collections.

The project involved georeferencing over 90 FIPs sheets that had been scanned and placed online by Library and Archives Canada. Once all of the FIPs were georeferenced points was added at the centre of every building footprint, which resulted in over 4000 points. Each point contained attribute information about the building, including height, material and address. What makes the 1913 FIPs valuable is that they contain both the old and new addresses for each location as the FIPs were published when Edmonton was changing its address system. The geocoding of the information from the FIPs took over 200 hours and as such comprised the bulk of the work.

Once completed the process of adding the complete 1911 micro census (digitized as part as the Alberta Land Settlement Infra-structure Project (ALSIP) began. The 1911 census file contains a wealth of information, including, age, place of birth, language, religion and marital status among others. However, what makes the 1911 census useable in terms of the spatial database is that there is a Habitation field that contains addresses, and as such, all of the attributes could be joined to the actual building locations. Of the 24,852 individual 1911 census attributes for Edmonton 13,665 were joined, for a 55% sample.

The building of the spatial database of address for 1913 Edmonton based on volume one of the FIPs, is the first step of the project. Eventually, the aim is to pull other information into the database, via searching addresses in other University of Alberta Library digital collections, including the Henderson's Directories, Newspaper Archive, Prairie Postcard Collection and the Peel Maps collection <http://peel.library.ualberta.ca/index.html>. Other future research involves looking at best practices in migrating the address database, and any associated attributes out of the current ArcGIS platform to web based, open source visualization software like Neatline. <http://neatline.org/>.

SOCIAL EVENTS

ICEBREAKER
Tuesday June 11th
Rutherford Library

All photos courtesy of Alberta Wood



BANQUET
Thursday June 13th
Old Timer's Cabin



CARTO 2013: A U.S. MAP LIBRARIAN'S PERSPECTIVE

Paige Andrew

Not all went well but the CARTO 2013 annual conference co-sponsored by the Association of Canadian Map Libraries and Archives and the Canadian Cartographic Association was truly outstanding to this United States-based map librarian and long-time ACMLA member! Poor Internet connectivity on occasion, being rudely awakened by a fire alarm and tossed outdoors in the chilly air at 6 a.m. (thank goodness it wasn't raining!), and not seeing the Rockies at all while in Edmonton were all mere nuisances in retrospect. The people, special conference location, and great programs more than offset these things – and did I mention the wonderful Canadian hosts, attendees, moderators, presenters, and “locals”? Needless to say, I returned to State College, Pennsylvania, home of the main campus of the Pennsylvania State University, energized and inspired.

My conference experience began on the “giving” side of things, delivering a day-long basic maps cataloging workshop to nine eager attendees who were fun to work with because they not only were good listeners, but were interactive students, able and willing to ask good questions that made the day a lot of fun. Kudos go to Larry Laliberte in working with me on many logistics during the weeks leading up to teaching my workshop, including a room that worked really well for dealing with lots of actual maps to handle and hands-on exercises. (and thanks go to Stéfano Biondo for suggesting me as a workshop instructor to the planning committee) While that was a positive experience in and of itself, the day ended with the highlight “ice breaker” event at the Rutherford Library. The “old” Rutherford Library site was a perfect setting that allowed for the kind of informal socializing that always leads to strengthening one's professional network, as well as catching up with colleagues. Viewing a full-sized reproduction of the historical and rare 1814 David

Thompson “Map of the North-West Territory of the Province of Canada” while listening to David Malahar describe his connection to it (along with his wife Rosemary and colleague Andreas Korsos) as a background for the next day's formal presentations about the map was the icing on the cake of that day.

While I was unable to stay for the entire rest of the conference, I am very pleased that I made the decision to attend the first two full days at least. It turns out it was well worth the viewing, listening, and learning experience! Initially, before coming to the conference, I went through the sets of offerings for Wednesday and Thursday and picked what I thought would be of use, and/or of personal interest to attend, looking to see if I could find a little “down time” and maybe visit the historic part of Edmonton. Since I am a long-time maps cataloger, there wasn't much on the slate that applied to my own area except Thursday afternoon's session “The Challenges and Opportunities for Data Collection and Management in the North” that focused on metadata aspects. Well, that didn't happen after all. In fact, I attended every session over those two days, and while some topics were more applicable to my professional needs, all of them were interesting whether I ever use them or not.

As a co-founder and continuing co-editor of the *Journal of Map & Geography Libraries*, I have been fortunate to learn about many things related to cartography, historical geography, and geospatial activities of all kinds (I am also a geographer by education), and this is why all the other sessions turned out to be so valuable to me. Once again, as a “student” and receiver of information from those in our professions of cartography and librarianship and inter-related areas, spending time to look and listen enriched me even more. For instance, I am now aware of a new geospatial service and concept offered by

Esri thanks to Aileen Buckley's presentation on how to make "story maps" (and, I'm still amazed at how adeptly Aileen handled a technology glitch shortly after she started), I learned what GeoGratis is and is all about, as well as geoportals in general, and thoroughly enjoyed seeing how Rebecca Bartlett has combined online maps with software to make them time-animated, and thus more useful to the researcher and others. Of special interest to me personally, since I am a native of Seattle, Washington and thus have good knowledge of the history of the Pacific Northwest including British Columbia and the Yukon Territory, was Morgan Hite's research on the changing boundaries of the Oregon Country in the 18th and 19th centuries in his presentation, "Mapping to Highlight the Oregon Country".

I could go on about how other presentations touched some aspect of my professional needs and interests, but suffice it to say that I learned many new things across a broad spectrum of research topics and outcomes, and wish to thank all of the presenters over the two days I attended the conference. I can only imagine how well Friday morning's sessions completed an all-around fantastic conference! The way my personal conference experience ended with the superb banquet dinner at the Old Timer's Cabin (<http://www.northernalbertapioneers.com/>) on Thursday evening really topped off a great week in Edmonton on a sweet note! More socializing and networking over a fantastic meal and dessert; what a way to put a wrap on things before heading home Friday morning (and having one last nuisance to contend with – getting stuck overnight in Philadelphia because local storms delayed getting my connecting plane in to the airport on time to get me home to State College).

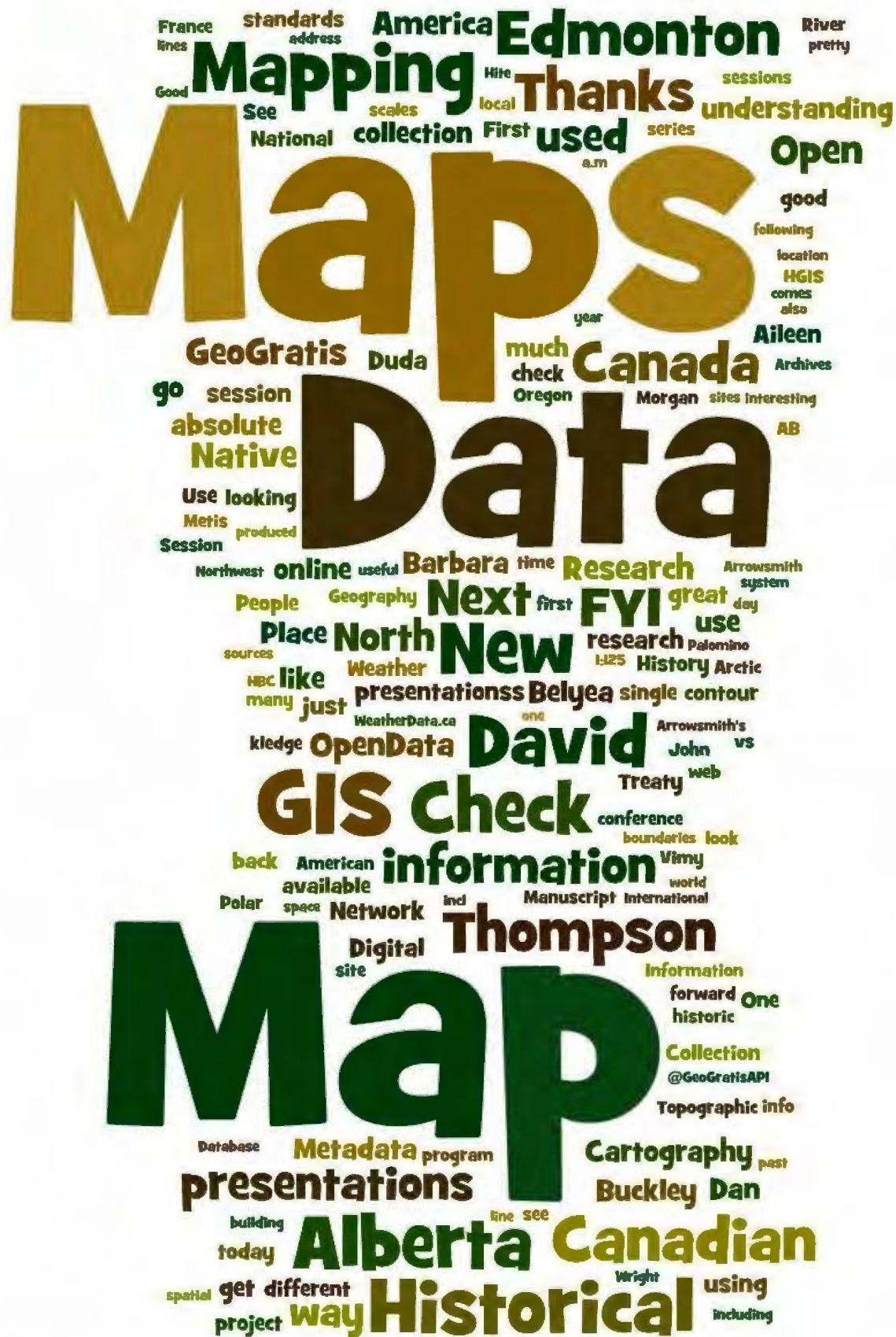
I want to personally congratulate and thank anyone and everyone who spent time and lots of effort planning, organizing, and carrying out the CARTO 2013 conference, and thank all whom I had the

pleasure of meeting or re-connecting with. I have been in the librarianship profession for over twenty-five years, attending and often presenting at dozens of conferences and meetings in many places, and this was one of the best experiences I have had the pleasure to learn from and enjoy. While not my first ACMLA annual conference, the other two also providing treasured memories as well, it most certainly will not be my last and I look forward to joining my many Canadian friends and colleagues in the future!

Sincerely,
Paige G. Andrew
Maps Cataloging Librarian
Pennsylvania State University Libraries



Paige G. Andrew
Photo: Alberta Wood



Twitter Feed Wordle
Courtesy of Sophia Hoosein

Association of Canadian Map Libraries and Archives /
Association des Cartothèques et Archives Cartographiques du Canada

ANNUAL GENERAL MEETING

University of Alberta
June 12, 2013
12 – 2 pm.

1. Establishment of Quorum; Call to Order

Quorum was established and the meeting called to order at 12:10 p.m.

2. Resignation of Secretary; Appointment of Acting Secretary

Dan Duda introduced Courtney Lundrigan as the Acting Secretary.

3. Opening Remarks from the President, ACMLA

Dan Duda welcomed members to the AGM and thanked the Local Arrangements Committee, as well as the Program Committee, and conference sponsors.

4. Approval of Agenda

The agenda was approved (Moved: David Jones; Seconded: Sue McKee; Carried).

5. Minutes of Previous Annual General Meeting:

http://www.acmla.org/docs/minutes/ACMLA_AGM_2012.pdf

The 2012 AGM minutes were accepted (Moved: David Malaher; Seconded: Maxine Tedesco; Carried).

6. Business Arising

a. Changes to the Canada Not-For-Profit Corporations Act

Dan Duda summarized the change in not-for-profit organizations set forth by the federal government. David Jones asked what the date was for the changes – Dan Duda clarified that there will be another AGM before the deadline, so any proposed changes would be made available to membership for discussion and voting before the October 2014 deadline.

b. Bylaw Review Taskforce

To be addressed under item 12 (a) – Future Directions Survey.

c. Letter of Concern (LAC)

Dan Duda announced that the Executive Board is drafting a letter of concern to Minister James Moore about the cuts to Library and Archives Canada, as well as the National Archival Development Program. It will be distributed to membership when it is completed.

d. ACMLA Archives

Dan Duda outlined the ongoing concern about finding a more permanent home for the ACMLA Archives, containing bird's eye, facsimiles, and a small collection of publications. While Memorial University of Newfoundland is willing to house the materials, there were concerns that moving the collection too far from Central Canada would make it less accessible to members and researchers.

7. President's Report

a. Honorary Members

Dan Duda announced that Cathy Moulder and Lorraine Dubreuil were honoured for their service to the association. Colleen Beard accepted the awards and spoke on behalf of both recipients. Both expressed their gratitude to the association and membership for nomination and receipt of the awards.

b. A Special Thank You

Dan Duda thanked Leanne Trimble for her leadership and work in switching the membership payment and conference registration to an online system.

b. Roundtable on LAC and Canadian Heritage

Dan Duda thanked Rosa Orlandini for finding out about the meeting and thanked Nancy Lemay for attending on behalf of the ACMLA. As a result, ACMLA was able to sign the Joint Statement on Qualities of a Successful Librarian and Archivist of Canada. He also thanked Deena Yanofsky for representing us at the Canadian Geomatics Roundtable.

8. First Vice President's Report: http://acmla.org/docs/commrpts/1stVP_report_13.doc

a. Future Conferences

Rosa Orlandini stated that we are currently looking into locations for next year's conference.

b. Committees

Rosa Orlandini addressed the Awards Committee. There were no entries for the Student Paper Award. The Cathy Moulder Paper Award was awarded to Cathy Moulder for (get paper name from Rosa's email). Rosa directed members to Eva Dodsworth's report online. Bibliographic Control Committee currently has no members – David Jones has stepped down and Janina Mueller has accepted a new position and also stepped down. Rosa discussed the importance of having representation on the Canadian Cataloguing Committee with the switch to RDA. Rosa called for volunteers from the membership. Mentoring Committee – Colleen Beard will stay on. There were three successful pairings this year. The Copyright Committee was inactive this year. Membership Committee – RO acknowledged Leanne Trimble's role again in switch to digital membership management system.

9. Second Vice President's Report" http://www.acmla.org/docs/commrpts/2ndVP_report_13.pdf

a. Committees

Wenonah van Heyst addressed publications. The Bulletin has continued to be published and acknowledged Eva Dodsworth's contributions as the Bulletin Editor, as well as those who contribute content to the Bulletin. Historical Maps – Membership consists of Dan Duda, Gordon Beck, and Cheryl Woods. Wenonah directed members to her online report, but highlighted that Gordon Beck would be stepping down as a distributor and we also need a home for the historical maps. She asked members if they would want to sell the historical maps. Wenonah announced the reproduction of some of the bird's eye views in a British atlas. The Publications Officer was Virginia Pow, and Larry Laliberte took over in her absence – thanks to both. Wenonah pointed members to her report to see the report from the Web Committee. She acknowledged Siobhan Hanratty's work in updating the website. Wenonah announced that Siobhan would be stepping down, and would be replaced by Jacqueline Kreller-Vanderhooy. Wenonah suggested there should be more bilingual content on the website, and called for volunteers to help make that happen.

10. Treasurer's Report

a. 2012 Financial Report

Deena Yanofsky announced that budget was balanced and that we have a growing balance, some related to publications sales and profits from the conference/AGM.

b. Proposed Budget

At last year's AGM, Deena promised to present a report of budget to date in the fiscal year, in addition to the proposed budget. Alberta Auringer Wood asked about a discrepancy between RBC balance and the current balance. Deena clarified that the RBC balance is a figure that was inherited from the previous treasurer that no one has been able to explain over time, but that it is constant and has not affected any of our fiscal responsibilities. Deena pointed out that there is a budget line for operations of the bylaw review task force to allow for legal guidance, if required. The switch to online membership and conference management system has introduced fees that will now be a constant in our budget. Deena announced that we would address the association's financial assets in the event of a switch to the association's structure and status as a not-for-profit.

Motion to accept: David Jones; Seconded: Alberta Auringer Wood; Carried.

Discussion: David Malaher asked for clarification about the proposed budget for 2013 versus the budget to date in the fiscal year. Deena clarified that the proposed budget is based on predictions, rather than concrete costs. Alberta Auringer Wood stated that the proposed budget does not reflect the fiscal budget to date with regards to the conference and asked for an estimated figure on the conference, which should be incorporated into the budget. David Malaher stated that there was a difference in revenue-neutral compared with number of dollars spent versus number of dollars brought in. David Jones suggested putting in "net" to cover the hypothetical profits we get from the conference and AGM. Dan Duda suggested perhaps changing the fiscal year to coincide with the AGM in restructuring might make a difference. Cynthia Dietz suggested having forecasted conference costs to justify any potential loss, should one occur. Rhys Stevens suggested that referring to it as a "conference surplus."

11. Past President's Report

a. Travel Assistance funding and changes at SSHRC

Andrew Nicholson summarized the SSHRC funding structure changes as they affect the association's ability to provide travel funding for its members. The current alternatives are on hold, and announced that the association released some of its funds to facilitate conference attendance. 8 requests were made and all received some funding to attend. The Executive will monitor the situation at SSHRC annually and reminded those who had received funding to submit travel receipts to Deena 45 days after the AGM. Marcel Fortin asked for clarification on how the travel funding was distributed amongst members who applied. Andrew explained that a process similar to that for the SSHRC was followed, with special consideration for how applicants would be contributing to the conference.

12. New Business

a. Future Directions Survey

Dan Duda announced that 44 people had responded to the survey sent out before the conference in order to regain momentum and discussions about restructuring the bylaws. Dan opened the floor for members to discuss this. Results from the survey were shared with members. Paige Andrew asked if the Bulletin was currently peer reviewed – Dan confirmed that it was not. Eva Dodsworth stated that moving to peer-reviewed would be structurally different. David Malaher asked whether the option of

dissolving the association would mean giving up the financial assets. Marcel Fortin asked whether we could invest the money in a consultant to assess the association's structure and suggest a way forward. Barbara Znamirovski suggested that some of the funds could be invested in digitization. Courtney Lundrigan and Rosa Orlandini stated that it was brought up with the Executive, and that sustainability was an issue and must be accounted for in distributing association funds. Paige Andrew disagreed with the possibility of having a consultant, and thought that any structural changes to the association should be decided among the members. Cynthia Dietz disagreed with consultant work, and suggested having someone from membership present potential uses for the money. David Jones suggested trying a projects-focused use for the excess funds. Colleen Beard asked about the intentions of the bylaw review task force – what are the next steps? Deena Yanofsky said that the taskforce would be held to deadlines – they would have until September 15 to make a recommendation to the Executive for the future structure of the association. After that, a smaller taskforce (probably 3 – 1 executive member, 2 members-at-large) would rewrite the bylaws or implement the agreed-upon structure by mid-January, with time to engage legal advice before the AGM. At the AGM, the structure would be voted on with 4 months to tweak before the Not-for-Profit Corporations Act deadline in October 2014. Marcel Fortin was concerned that it would not be enough time, which is why he suggested a consultant. Cynthia Dietz asked for clarification on what the task force was designed to do. Dan Duda clarified that it was hoped to be a grassroots movement that never took hold. Alberta Auringer Wood asked to have the task force's mandate clarified. Andrew Nicholson read the motion presented, moved, and seconded at last year's AGM. David Jones asked that something to be sent out to the membership to remind of the deadlines. Rosa Orlandini reminded the membership that they would be voting on the proposed structure changes put forth by the taskforce.

13. Nominations Report

Andrew Nicholson reported that 1 nomination was received for each Executive position. He made 3 calls for nominations from the floor. Voting took place for each position and the 2013-2014 ACMLA Executive Board was declared:

President – Rosa Orlandini
(Moved: Marcel Fortin; Seconded: Eva Dodsworth)

1st Vice-President – Siobhan Hanratty
(Moved: Stefano Biondo; Seconded: Leanne Trimble)

2nd Vice-President – Wenonah van Heyst
(Moved: David Jones; Seconded: Colleen Beard)

Treasurer – Deena Yanofsky
(Moved: Stefano Biondo; Seconded: Gord Beck)

Secretary – Courtney Lundrigan
(Moved: Eva Dodsworth; Seconded: Tom Anderson)

Past President – Dan Duda
No vote required.

Dan Duda thanked members for voting and Andrew Nicholson for his service to the Executive Board over the last 10 years. Paige Andrew asked if there was a liaison to the Map and Geospatial Data Committee, and recommended one be put in place. Cynthia Dietz volunteered to be the liaison. David Jones asked for a liaison with the International Cartographic Association and suggested that this be a role for the Past President.

14. Adjournment

Moved: Colleen Beard; Seconded: Gord Beck

ACMLA AWARDS

The ACMLA Executive was honoured to recognize two of their members for the following awards:

Honourary Member

The Association of Canadian Map Libraries and Archives (ACMLA) bestows an honorary life membership on a member who has made an outstanding contribution to the field of map librarianship or to a more significant understanding and appreciation of maps. To quote Heather McAdam (Honours Award recipient 2007), “these are individuals who have assumed leadership roles within the Association and have championed the Association beyond the confines of institutional walls.”

Award Recipient : Cathy Moulder

Award Recipient : Lorraine Dubreuil

Cathy Moulder Paper Award

The Cathy Moulder Paper Award is awarded to an individual who has researched, written and published a paper of significant value in the *ACMLA Bulletin*. The paper is considered for its solid contribution to map librarianship, curatorship or archiveship

Award Recipient : Cathy Moulder

Article Title : *The Maps of the Society for the Diffusion of Useful Information*

ACMLA Bulletin Number: 142, Fall 2012.

Awards were presented at the AGM at the CARTO 2013 Conference. Neither Lorraine nor Cathy were in attendance, so on their behalf, Colleen Beard had accepted their awards.

Congratulations Cathy and Lorraine!



*Dan Duda and Colleen Beard
Award acceptance, AGM 2013*

Photo: Alberta Wood

A MAP AND NINE MAKERS

Barbara Belyea

belyea@ucalgary.ca

Keynote Address for CARTO 2013

Edmonton Alberta

Aaron Arrowsmith's *Map Exhibiting all the New Discoveries in the Interior Parts of North America*, published in 1795, adhered to Enlightenment standards of cartography developed over the previous century.¹ Its spatial representation was anchored in mathematical coordinates, the features inscribed on it were precisely located using the latest navigational tools, and its claim to universal validity – that its scientific exactness surpassed and rendered obsolete all other systems of spatial representation – was a claim of European intellectual superiority. Hence its continuing importance and interest: present-day cartographers espouse the same principles.

Arrowsmith's map was a compilation of other maps. For the next two decades after its initial publication, the London cartographer relied on the work of seven explorers: Philip Turnor, David Thompson, Peter Fidler, Samuel Hearne, George Vancouver, Alexander Mackenzie and William Clark – all trained surveyors, most of them more than competent.² The work of a ninth cartographer was also forwarded to Arrowsmith.³ The ninth mapmaker was not at all like the others. He was a Siksika leader who drew the Missouri watershed for Peter Fidler. His name was Akkomokki.

In 1801 Fidler asked his Siksika visitor for information about what lay beyond Chesterfield House, built at the southwestern limit of the fur trade's continental expansion. Akkomokki answered this question by drawing a map. He drew a line of landmark mountains, a Missouri River network, and two large rivers on the other side of the Rockies. Akkomokki also located thirty-one "tribes" inhabiting the territory of his map and traced the route of a raiding party. In 1802 Fidler requested four new maps: another from Akkomokki, one each from Siksika leaders Kioocus and Akkoweek, and a fourth from an unnamed cartographer thought to be Atsina. Fidler's special interest in Native cartography

may have begun with these maps. Right away he realized that the simplicity of Native maps was deceptive: they could be very informative if one made an effort to understand them, as he explained in a covering note to the company directors: Native mapmakers "conveys much information where European maps fail ... though they are utterly unacquainted with any proportion in drawing them."⁴

The Hudson's Bay Company directors allowed Arrowsmith to consult Fidler's documents. Arrowsmith incorporated Akkomokki's sources of the Missouri as thirteen short solid lines, and linked them in a hypothetical Missouri watershed. The dotted lines reflected his uncertainty: for this region Akkomokki's map was all the London cartographer had to work with. Since it was not drawn according to the conventions of scientific cartography, Arrowsmith translated its features as best he could into his own idiom. His interpretation led to approximation, even invention.

Translation operates on the premise that communication can take place despite formal change. What knowledge can be maintained in shifting from one cartographic idiom to another? What if anything is lost in translation? Arrowsmith's 1802 states show a line of mountains and a fictional watershed. All the tribes, all but one of the hill features in the plains, and all but four of the mountain landmarks on Akkomokki's map have disappeared. Most important is the transformation of space from whatever it signified on Akkomokki's map to the astronomically determined coordinates of Arrowsmith's. Anyone familiar with European cartography will try to read Akkomokki's map in the same way. Two exercises in cartographic translation are helpful in understanding Akkomokki's map: they are June Helm's pioneer analysis of two Chipewyan maps and Ted Binnema's account of the landmark peaks on Akkomokki's map.⁵

Helm indicates what is involved in the process of

spatial translation as she struggles to understand Chipewyan maps antedating Hearne's exploration of the Coppermine River. Helm remarks that "scale and relative directions become progressively skewed. ... One yearns to transfer [the maps'] features onto an elastic surface that could be stretched into directions, proportions and distances that accord with the actual lay of the land." She redraws features of one map as they would be configured in European cartographic space, thus correcting its original "distortions" and "confusions."

Binnema rejects any suggestion that Akkomokki's map is crude or unrepresentative. He maintains, that "the key to understanding [this] map is the assumption that [it] is accurate." Accurate yes, but not universally understandable. Binnema considers Arrowsmith's "perplexity" when he was faced with the menorah-like structure of streams on the Native map and Meriwether Lewis's famous distrust of Fidler's "varacity." Like Arrowsmith and Helm, Binnema solves the problem by redrawing Akkomokki's map. The original straight line of mountains bends to join up the landmark peaks in the right directions, and tributaries of the Missouri follow recognizable courses from the mountain edge to the main stream. Binnema concludes: "Now translated, [Akkomokki's] map can be used to greater advantage to extract the valuable evidence it holds."

The "valuable evidence" of any map is its capacity for representation. Helm's translation exercise is based on her assumption that the "proportions and distances" operative on European maps depict "the actual lay of the land." Binnema suggests that we must acknowledge the accuracy of Akkomokki's map (and by extension other Native maps) – that however confusing its features are to us, they also represent "the actual lay of the land." We need to take Binnema at his word: Native maps are "accurate." At the same time, their capacity for representation is so radically different from scientific cartography that efforts to replot their "evidence" in European terms miss more than they gain. Unlike Helm and Binnema, I think we can begin to understand Native maps only if we resist translating them into European map space: if we consider instead, without reference to scientific cartography, how they are constructed, how they operate as route-finding

guides, and how they are carriers of cultural values.

Looking again at the Chesterfield House maps and the Chipewyan maps of Helm's analysis, we can recognize a salient, shaping feature common to them all. On each map an essentially straight line represents a key landform that is both a barrier and a guide to travel in the region: the Arctic coast and the eastern edge of the mountains. This line acts like a magnet to pull the other map features into its field. Cardinal directions are not operative; as readers of European-style maps we are literally disoriented. Other features also exert an attractive field: the curving river patterns of the Missouri drainage, the large triangle of Great Slave Lake. Since the lake and river lines are joined to the dominant straight line, the effect is to strengthen, not weaken, the attractive power of each feature. They act in concert, not opposition, and the result is a balanced, unified design.

For explorers Native maps repeatedly proved their usefulness as practical route-finding guides. On the version of Akkomokki's map copied into Fidler's journal, a line indicates a trail looping past the Sweetgrass Hills to the Gates of the Mountains, then around the Little Belt Mountains, down the Smith River to the Missouri, and back to the Sweetgrass Hills. You can follow Akkomokki's map if you forget about cardinal directions and move from feature to feature, keeping the succession of landmark peaks to your right. The routes shown on Native maps of the region were well travelled and evident on the ground. William Clark followed the trail through the Gates of the Mountains that Akkomokki and Kioocus had drawn a few years before. A year later he followed the same loop through "a gap in the mountain" that Akkomokki and Kioocus had traced around the Big Belt Mountains. Fifty years later an Assiniboin drew a map at Fort Buford showing exactly the same trail. Kioocus also indicated a road that ran close to the Bearspaw Mountains, over the Cypress Hills and across the North Saskatchewan River. Crazy Mule's map, drawn in 1880 and found among the papers of US Cavalry officer John Gregory Bourke, shows a trail from the Yellowstone River to the Bearspaw Mountains.⁶

Where do the roads on these maps lead? What do they connect? What social landscape do they reveal?

Akkomokki's map provides some clues. Small circles along the line of mountains indicate "all the tribes" who lived there. Binnema consolidates their often colourful names – "wrinkled ... Hairy... scabby ... Wolf ... Blue Mud ..." – into recognizable present-day nations: Flathead Salish, Shoshone, Crow, Cheyenne, Arapaho. Akkomokki and Kioocus were drawing road maps of their war raids among these nations. Fidler's journals record the departure and return of two winter war parties, absent 49 and 62 days. Both groups of young men moved south beyond the relative safety of their home ground and searched for comparable war parties from hostile nations. They moved quickly, up to fifty kilometres a day, and then roamed back and forth hoping for a fight. "[Those] that never killed an Enemy," remarked Fidler, "are looked upon by their Countrymen as little better than Old Women."⁷ After long talks with the Mandan chief Sheheke, Clark showed the "war path of the Big Bellies Nation [Atsina]" on his 1805 map.⁸ Lewis was convinced that "no part of the Missouri [west of the Mandan villages] furnishes a permanent residence for any nation, yet there is no part of it but what exhibits appearances of being occasionally visited by some nation on hunting excursions."⁹ Nations living at the edge of this vast deserted region were hunting all right – hunting each other.

Delimiting this no-man's-land were places of spiritual energy and strength. Before they crossed the Milk River, war parties following Akkomokki's path would have visited the image-covered hoodoos of Writing-on-Stone. Along the front ranges, rock-art sites around Flathead Lake would not have been far away. Beyond the Gates of the Mountains a wide-mouthed cave was an important source of ochre and of "furious" Blackfoot-Flathead conflict for the right to mine it. Dozens of sites along the Yellowstone and Musselshell rivers lay in territory dominated by Crow enemies. Rock-art sites are not evenly distributed but occur in clusters. The trail on Akkomokki's map would have brought war parties close to each of these zones of concentration, the power centres of the plains nations and their mountain neighbours.¹⁰

Native maps and rock art expressed a common belief in such power. Both forms ignore, even defy, the surfaces on which they were created. There are no consistent measurements on Native maps; their

component features are related to each other, not to the space on which they are drawn. It is as if the drawing surface were there and not there. Similarly, rock surfaces encourage a play between massiveness and permeability. The energy lines of certain figures trail away into cracks and fissures. Favorite locations for rock art are caves and overhangs, where the face is porous and uneven – where images can suggest their transitional status and otherworld connections. On exposed faces such as the hoodoos of Writing-on-Stone images fade "into" the rock as they are weathered. Intense meditation allows access to the spirit world via the layers of figures built up on this permeable wall. The surface dissolves and disappears, leaving a web of images as landmarks and routes on a spiritual journey, just as lines and figures form the design of Native maps, leaving the space on which they are drawn undefined and insignificant.¹¹

In Arrowsmith's time and for a century after, Native maps were seen as providing what the Royal Society called "local knowledge," in contrast to the universally valid "useful knowledge" reported by and to its members. They had provisional value for route-finding, nothing more. Of course this assumption masks its own cultural limitations and leaves no room for values from anywhere else. Like all maps, those drawn at Chesterfield House were saturated with the cultural aims and values of their makers, chief of which was a conviction that spiritual power and insight must be expressed as virtuous action. For young men of the great plains societies, war was the only road to virtue. Akkomokki's maps and other Native maps of the region recorded the lines of force operative among certain Plains societies, connecting their centres of spiritual intercession, directing the raids which proved the courage of their young men. The social organization of this landscape did not suddenly reflect a new reliance on guns and horses, nor was it a response to white men appearing over the horizon. Instead it expressed a spiritual tension emanating from clusters of traditional sites that had been venerated since time out of mind. River lines, mountain lines and roads on the Native maps make sense only by their intersection and consequent connectedness. The roads on these maps trace a pattern of human conflict and its justification: they are links to spiritual power.

Given the importance of visual imagery in the life-world of plains societies, it is surprising how seldom reference to it can be found in traders' and explorers' journals. Exceptionally, Clark reported on rock drawings several times, Fidler at least once, and both explorers awed onlookers when they used scientific instruments. They suspected that Fidler was a shaman, able to see into the future and detect enemy movements far away. When it was his turn to ask about the country that lay beyond his own knowledge, Fidler may or may not have been aware that his curiosity resembled theirs. I like to think he was. Native maps, he wrote to London, "conveys much information where European maps fail ..." He forwarded Akkomokki's map though it was bound to be misunderstood. Arrowsmith salvaged what information he could from it: a line of mountains and thirteen watershed sources. Thus translated, the map misled Lewis who doubted Fidler's "varacity." But Lewis overlooked an aspect of cartography that profoundly interested Fidler: the fact that every map is limited as much as enabled by its premises and techniques. There is no universally valid way to map the world. Arrowsmith did not record "all the New Discoveries" on his map. Instead he recorded only those he understood, or thought he understood. Akkomokki's map was a curiosity, a makeshift, a possible source of error requiring correction by scientific surveys or at least translation into a familiar cartographic idiom.

NOTES

- ¹. LAC NMC 97818: Aaron Arrowsmith, *A MAP Exhibiting all the New Discoveries /in the Interior Parts of / NORTH AMERICA, /Inscribed by Permission /To the Honorable Governor and Company of Adventurers of England /Trading into Hudsons Bay, /In testimony of their liberal Communications ...* London, 1795-96.
- ². HBCA G.2/32: Philip Turnor, "... MAP /of Hudson's Bay and the Rivers and Lakes /BETWEEN the Atlantick and Pacifick OCEANS." 1794, reproduced in Belyea, *Dark Storm Moving West* (Calgary: University of Calgary Press, 2007), 42-43; see also Richard I. Ruggles, *A Country So Interesting* (Montreal: McGill-Queen's University Press, 1991): 52-60 and plate 18 (Turnor's cartouche); Aaron Arrowsmith, *A Map of Mackenzie's Track from FORT CHIPEWYAN to the NORTH SEA in 1789, and A Map of Mackenzie's Track from FORT CHIPEWYAN to the PACIFIC OCEAN in 1793*, in *The Journals and Letters of Alexander Mackenzie*, ed. W. Kaye Lamb (Toronto: Macmillan, 1970), facing 67 and 239; George Vancouver, *A Voyage of Discovery to the North Pacific Ocean and Round the World*, 4 vols. (Amsterdam and New York: N. Israel and Da Capo Press,

1967); William Clark and Samuel Lewis, *A /Map of /LEWIS and CLARK'S TRACK /Across the Western Portion of /North America ...*, 1814, www.davidrumsey.com (9 March 2013).

- ³. HBCA G.1/25: Akkomokki, "An Indian Map of the Different Tribes that inhabit on the East & west Side of the Rocky Mountains with all the Rivers & other remark[able] Places ...", 1801; HBCA B.39/a/2: Peter Fidler, rough journal of Chesterfield House, 1801-02, ff. 85v-86r, 92v-93r; HBCA E.3/2: Peter Fidler, journal of several explorations, 1792-1793, ff. 104v-105r, 106v-107r.
- ⁴. HBCA A.11/52: Peter Fidler to the Hudson's Bay Company Governor and Committee, 10 July 1802.
- ⁵. June Helm, "Matonabee's Map," *Arctic Anthropology* 26 no 2 (1989): 28-47; Theodore Binnema, "How Does a Map Mean?" in *From Rupert's Land to Canada*, ed. Theodore Binnema, Gerhard J. Ens and R. C. Macleod (Edmonton: University of Alberta Press, 2001): 201-24.
- ⁶. Smithsonian Institution NAA INV 8691100/MS 2600-B-1. "Map of the North Side of the Missouri river from Fort Union ... to Fort Benton ... drawn by an Assiniboine warrior at Fort Union Dec. 27, 1753" ; Glen Fredlund, Linea Sundstrom and Rebecca Armstrong, "Crazy Mule's Maps of the Upper Missouri, 1877-1880," *Plains Anthropologist* 41 no. 155 (1996): 5-27 – the maps are in the Jocelyn Art Museum, Omaha.
- ⁷. HBCA B.34/a/1: Peter Fidler, Chesterfield House journal, 1800-01(19 December 1800).
- ⁸. Clark, "A MAP of part of the Continent of NORTH AMERICA," 1805, in *The Journals of the Lewis and Clark Expedition*, ed. Gary E. Moulton, 13 vols. (Lincoln: University of Nebraska Press, 1983-2001), Atlas: plate 32a.
- ⁹. Lewis, *The Journals of the Lewis and Clark Expedition*, ed. Moulton, 4: 222-23 (30 May 1805) and 8: 131 (26 June 1806).
- ¹⁰. James D. Keyser, "Writing-on-Stone: rock art on the northwestern plains," *Canadian Journal of Archaeology* 1 (1977): 15-80; Keyser, "A Lexicon for Historic Plains Indian Rock art: increased interpretive potential," *Plains Anthropologist* 32 no. 115 (1987): 43-71; Julie E. Francis and Lawrence L. Loendorf, *Ancient Visions* (Salt Lake City: University of Utah Press, 2002); 16-17, 39, 130; Stuart W. Conner and Betty Lu Conner, *Rock Art of the Montana High Plains* (Santa Barbara: University of California Art Galleries, 1971): list of sites; Keyser, "Turner Rockshelter: a Blackfeet redoubt in the heart of Crow country," *Plains Anthropologist* 53 no. 201 (2007): 9-27.
- ¹¹. Michael A. Klassen, "Áísínai'pi (Writing-on-Stone) in Traditional, Anthropological and Popular Thought," in *Discovering North American Rock Art*, ed. Lawrence Loendorf, Christopher Chippindale and David S. Whitley (Tucson: University of Arizona Press, 2005): 15-20, 29-33; J. David Lewis-Williams, "Rock Art and Ethnography: a case in point from South Africa," in *Talking with the Past: the ethnography of rock art*, ed. James D. Keyser, George Poetschat and Michael W. Taylor (Portland: Oregon Archaeological Society, 2006): 35; cf. Francis and Loendorf, *Ancient Visions*, 20-32, 39, 180-83.

MAPPING TO HIGHLIGHT THE OREGON COUNTRY

Morgan Hite
 Presentation for CARTO 2013
 Edmonton Alberta
 Wednesday June 12, 2013

Overview

The two of us who created this project, Ken Favrholt and myself, Morgan Hite, both happen to live in places directly affected by the Oregon Country history. Ken, who is the curator of the Osoyoos & District Museum, lives in Osoyoos, BC, at 49° north. I, a GIS consultant, live in Smithers, BC at 54° 40' north. Keep these two latitudes in mind as you read further.

Ken created a major exhibit for the Osoyoos Museum called *The War of 1812 in the West: The Oregon Country Legacy*. This exhibit had a number of components: two travelling exhibits (one bilingual for display at National Historic Sites); bilingual learning materials; a commemorative event to be held in October 2013 in Kamloops, BC; and a virtual exhibit on the Osoyoos Museum website. This virtual exhibit is the subject of this presentation. It can be found online at www.thewarof1812inthewest.ca.

The website (available in both English and French) consists of eight panels explaining the history of Oregon Country around the War of 1812, as well as an atlas showing a longer history of the Oregon Country in nine maps. It is this mini-atlas I am discussing here.

Ken asked me to portray the evolution of borders and fur trade posts in the Oregon Country beginning in 1792, when George Vancouver first visited the area, until 1872 when the international



English home page, with the link to the mini-atlas circled in red.



Each map has its own page

The Spanish colony of Mexico has become an independent country (1821). Although they discuss dividing the Oregon Country in various ways, the American and British are unable to come to a compromise and agree to extend the joint use of the area indefinitely. The North West Company has now been taken over by the larger Hudson's Bay Company.

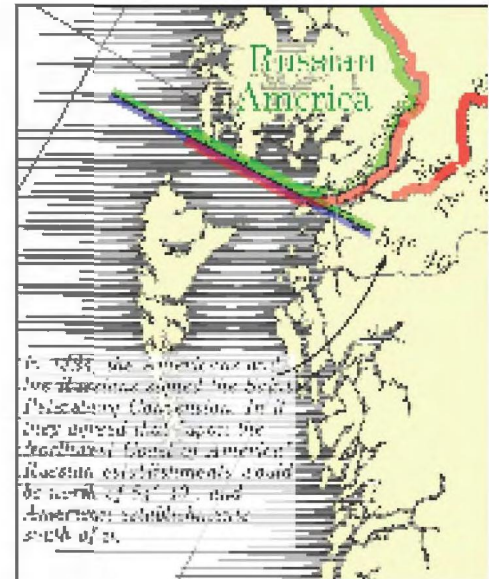
1841: A few Americans are beginning to settle just south of the Columbia, in the Willamette Valley. The area north of the Columbia, including the Hudson's Bay Company regional headquarters at Fort Vancouver, is widely regarded as British. The HBC is exporting timber, grain and fish from the Oregon Country to the Far East and Sandwich Islands (Hawaii). The U.S. Exploring Expedition or "U.S. Ex. Ex." travels around the Pacific to build national prestige; in the summer of 1841 it explores Puget Sound and names a number of its features. This remarkable port will be a desirable prize once the Oregon Country gets divided up, and with settlers arriving there is increasing pressure to draw the line somewhere.

1846: Despite populist pressure to get "The Whole of Oregon or None!" the U.S. signs the Oregon Treaty with Britain. Oregon Country is divided at 49° North, although all of Vancouver Island, the site of the Hudson's Bay Company's new headquarters at Fort Victoria, goes to Britain. One treaty detail will cause trouble later: the border, after reaching salt water, is specified to go down the middle of the "channel which separates the continent from Vancouver's Island... to the Pacific Ocean." Unfortunately the channel is strewn with islands, and it is unclear to whom these belong. The U.S. half of the Oregon Country remains unorganized at this time, but American settlers in the Willamette Valley already have a capital in the works at Oregon City.

1862: The U.S. is in the midst of its Civil War. Oregon has been made a state, and the remainder of the Oregon Country on the U.S. side, where a few Hudson's Bay Company posts continue to operate, is organized as the Washington Territory. North of 49°, gold has been discovered in the Lower Fraser River region and the Cariboo, prompting the British government to formalize the mainland Colony of British Columbia. Its northern boundary is formed by the Nass and Finlay rivers. Farther north, gold discoveries in the Stikine River area have likewise resulted in the creation of the Stickeen Territory. In the wake of the Mexican-American War, California (already a state), and the territories of Nevada and Utah, now belong to the U.S. San Juan Island remains in the joint military possession of the U.S. and Britain while an international arbitration commission examines the boundary problem.

1872: The Colonies of Vancouver Island and British Columbia have been combined, together with the Stickeen Territory, to form the Province of British Columbia within the newly designated Dominion of Canada. On the U.S. side, the territories of Washington and Idaho have been made out of the old Washington Territory, with a piece being contributed to the Montana Territory. The U.S. has purchased Russian America (1867) and this area is provisionally designated the Department of Alaska. Through international arbitration the border through the San Juan Islands has been determined to go down Haro Strait, leaving San Juan Island itself in the United States. Hudson's Bay Company operations within the U.S. have ceased.

As far as we know, this is the only map series of Oregon Country history available on line. It will hopefully be of great value to students on both sides of the border.



Detail from our 1825 map

borders assumed the shapes we are familiar with today. To get to this atlas, follow the “Maps” link at the top of the site main page.

Each of the maps is presented in a frame that the user can zoom and pan in (built using Zoomify). Down the side there is text explaining the major events that have happened since the last map.

I'll just quickly go through the history of Oregon Country, before considering the cartography and data.

Events in the Oregon Country

1792: Robert Gray, a Boston merchant, is the first to sail into the Columbia River, which he names for his ship, the *Columbia Rediviva*. George Vancouver also sends a party to explore the river. Other major colonial players in the area are the French, who claim Louisiana, roughly defined as the Mississippi/Missouri drainage basin; the Spanish, who have claims north from Alta California; and the Russians, who are soon to establish a settlement at what is now Sitka, Alaska.

1806: Simon Fraser and Alexander Mackenzie both cross the Rockies for the North West Company, a fur trading concern out of Montreal that competes with the Hudson's Bay Company. The United States has purchased Louisiana from France and Lewis and Clark are sent to explore it and possible routes to the Pacific. They winter at the mouth of the Columbia, which is increasingly seen as the best port for exporting furs from the interior.

1812: John Jacob Astor, an American fur trader, sends a ship around Cape Horn (and an overland expedition) to establish a base for his Pacific Fur Company (PFC) at the mouth of the Columbia. Fort Astoria, as it is called, is partially staffed with Montrealers, but competes with North West Company (NWC) posts further inland. When word of the war of 1812 reaches the west, the PFC, fearing seizure by a British warship, sells all its assets to the NWC. David Thompson, another NWC employee, explores and maps the Columbia River basin.

1819: In the aftermath of the War of 1812, the American and the British agree that their mutual border will be the 49th parallel as far west as “The Stony Mountains” -- today's Rocky Mountains. West of here, the Oregon Country is to be freely travelled and exploited by citizens of either country for the next ten years. In the fur trade business, the Pacific Fur Company is gone and only the North West Company remains. The U.S. and Spain have signed the Adams-Onís Treaty, under which the northern limit of Spanish possessions is set at 42° north. This line now becomes the de facto southern limit of Oregon Country.



Detail from our 1819 map

1825: In 1824 the Americans and the Russians make an agreement to separate their establishments on the Pacific coast. They draw the line at 54° 40' north, the latitude of the southernmost tip of the Alaska islands. The following year, the British and the Russians go a step further and establish a boundary between their possessions: beginning at 54° 40', it turns north and parallels the coast ten miles inland.

Cartography

All of the maps were made in Quantum GIS (QGIS), and finished in Inkscape. Both of these are free, open source software packages. All nine maps are the same projection and frame. The projection is a Lambert Conformal Conic, with both standard parallels at 49° and the central meridian at 95° west. They were designed to be printed on a letter-sized sheet, in which case the scale would be 1:8 million.

Nineteenth century maps typically have shading offshore, and I was able to create a similar effect through vignetting. This technique involves making a series of buffers from the land polygon (which in this case was Natural Earth 1:10 million physical data) and then filling them with successively lighter or more sparse fill. I used buffers at 5, 10, 20, 40, 60, 80, 100, 120 and 160 km from the shoreline, and then filled them with horizontal line fill, staggering the line spacing.

The font used for all notes and place names was LMRoman12, which has a nice antique look.

Data

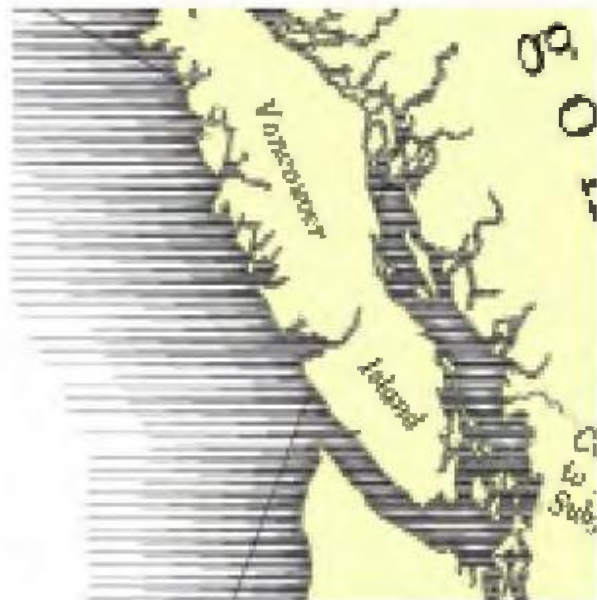
All of the base map data (land, rivers and lakes, graticule) came from the free Natural Earth 1:10 million physical data set (www.naturalearthdata.com). International boundaries, where they coincide with current boundaries, were taken from Natural Earth's cultural dataset. Historical boundaries were created from scratch.

Fur Trade post data was based on Bruce Watson's 2010 book *Lives Lived West of the Divide* (UBC Okanagan). This is an extensively researched compendium of the locations individual fur traders might have been found in a given year, as well as the locations of the fur trade posts. This data layer of fur trade posts for the Oregon Country between 1792 and 1872 is available for download at my website in both KML and shapefile format (www.hesperus-wild.org/GIS_carto/warOf1812.html).

One interesting point concerns the northern boundary of Oregon Country. The 54° 40' line does not appear in the history of this area until 1824, some six years after the joint-exploitation area is created by the treaty of 1818. Nevertheless, many maps (including school maps and one currently on



Map by Henry Tanner, Philadelphia, 1825. Note coastal shading.

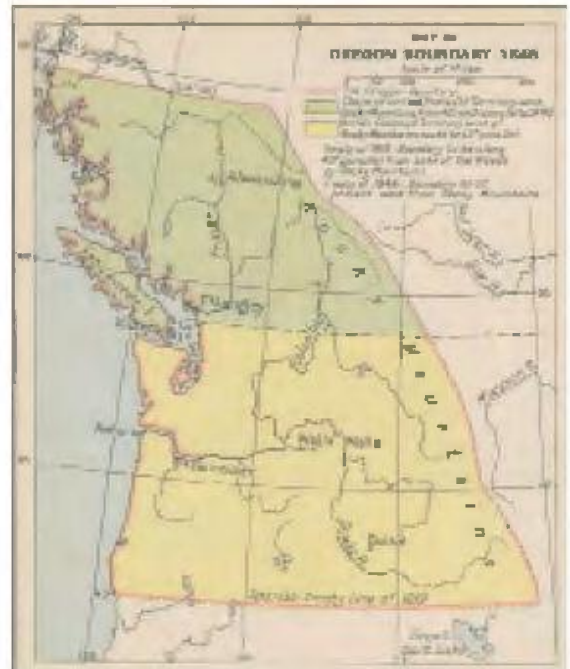


Offshore vignetting generated in QGIS.

Wikipedia's Oregon Country page) either show Oregon Country ending at 54° 40', or suggest that north of 54° 40' one is no longer in Oregon Country. This trend began in the 1840s, with many map-makers drawing a line along 54° 40' from the coast to the Rocky Mountains and labelling it as the treaty line of 1824. In many instances there are different colours on either side of the line, and soon, particularly among American cartographers, Oregon Country is only south of this line.

In fact, Oregon Country had no northern limit specified in the 1818 treaty (being merely the land west of the "Stony Mountains"). In theory it may have extended to the Arctic Ocean, but what was the practical Oregon Territory? We decided that for our purposes, we could regard the Hudson's Bay Company's Columbia Department, the business unit that handled all the fur trade posts west of the Rockies, as being synonymous with Oregon Country. It's practical northern limit was how far north the fur trade extended from its two northernmost posts: Fort Connolly and Fort Babine. This was as far as the Nass River (commonly called Simpson's River at the time) in the Pacific watershed, and the Finlay River in the Arctic watershed. Both are well north of 54° 40'!

So watch out for those maps that show Oregon Country bounded on the north by 54° 40'...



Oregon Country from Burpee's 1927 Historical Atlas of Canada, showing 54° 40' as the northern boundary of the area

Morgan Hite

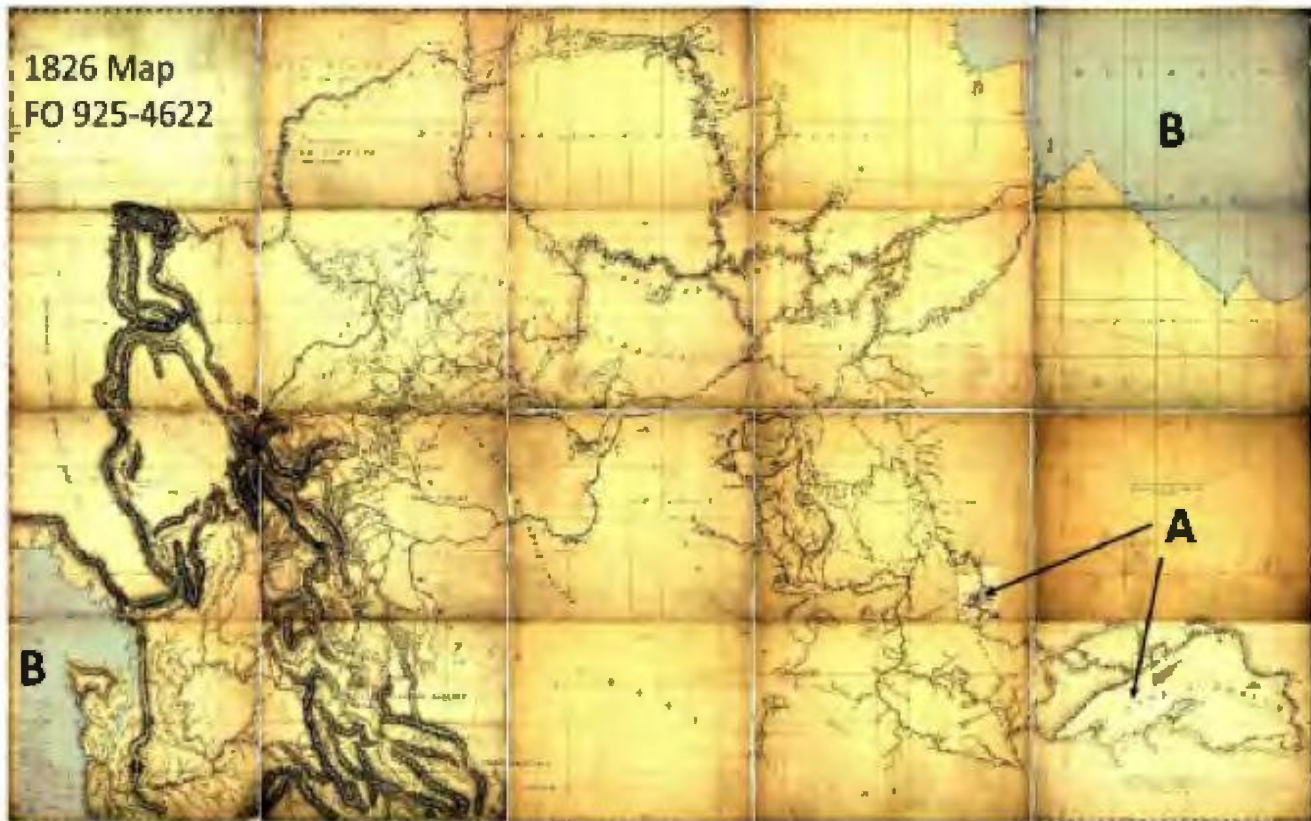
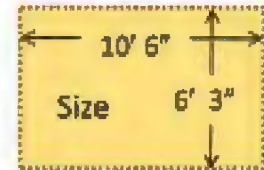
Morgan Hite has always loved maps. He became intimately familiar with topographic maps while hiking the Appalachian trail in 1982, and taught map reading for ten years at the National Outdoor Leadership School. As a cartographer he specializes in topographic trail maps, but his interests are broad, including historical maps (particularly the ancient and medieval world), and studying the techniques of artists who make maps of imaginary lands.

PROVENANCE OF DAVID THOMPSON'S MAP FO 925-4622 AT THE NATIONAL ARCHIVES, UK

David Malaher
Presentation for CARTO 2013
Edmonton Alberta

1826 Map

- A:** New patches inserted by Thompson ~ 1826
- B:** Hudson Bay & Pacific Ocean coloured digitally



Source of the Map

The map in Figure 1 is held in The National Archives of the United Kingdom at Kew, London, in file FO 925-4622.

The National Archives (TNA) is a UK government department and an executive agency of the Secretary of State for Justice. In 2007 when the map first came to the attention of Andy Korsos¹ the TNA was four separate organizations: the Public Record Office (PRO), the Historical Manuscripts Commission (formerly the Royal Commission on Historical Manuscripts), the Office of Public Sector Information (OPSI) and Her Majesty's Stationery Office (HMSO).

¹Andreas N. Korsos is a professional cartographer and principal in Arcturus Consulting Ltd. of Edmonton, AB, Canada

The physical map is at Kew where it was photographed in 10 digital images which were sent to Korsos who then joined them into a single digital file from which the reproduction map in Figure 1 was made in Canada. Each of the 10 digital images is approximately 36MB in size.

Name of the Map

TNA has no formal name for the map, only its file number F0 925-4622. There is no cartouche on the study map but on an earlier map by David Thompson of the same territory, at the same scale, the title is "Map of the North-West Territory of the Province of Canada, From Actual Surveying from 1792 to 1812." This map is held by the Archives of Ontario (AO) in Toronto in file F443-6.

In some writings the AO map is called a "Great Map" which is unofficial but generally accepted to mean a Thompson map from 84° longitude in the east to 124° or 126° in the west (Sault Ste. Marie to the mouth of the Columbia River) and 45° to 60° north latitude at a scale of approximately 15 miles to the inch.

For purposes of the study described in this paper, the author and Korsos have given the map the name "Thompson's 1826 Map of North West North America". The date 1826 is included in the name in order to distinguish the Kew map from the AO map. Further study of the map may warrant changing the date but at this time there is evidence to support 1826 as the time when Thompson inserted two new panels into the map, as discussed below. It is possible that Thompson could have started working on the base map as early as 1816 and he may have continued working on it up to the time he added the two new panels.

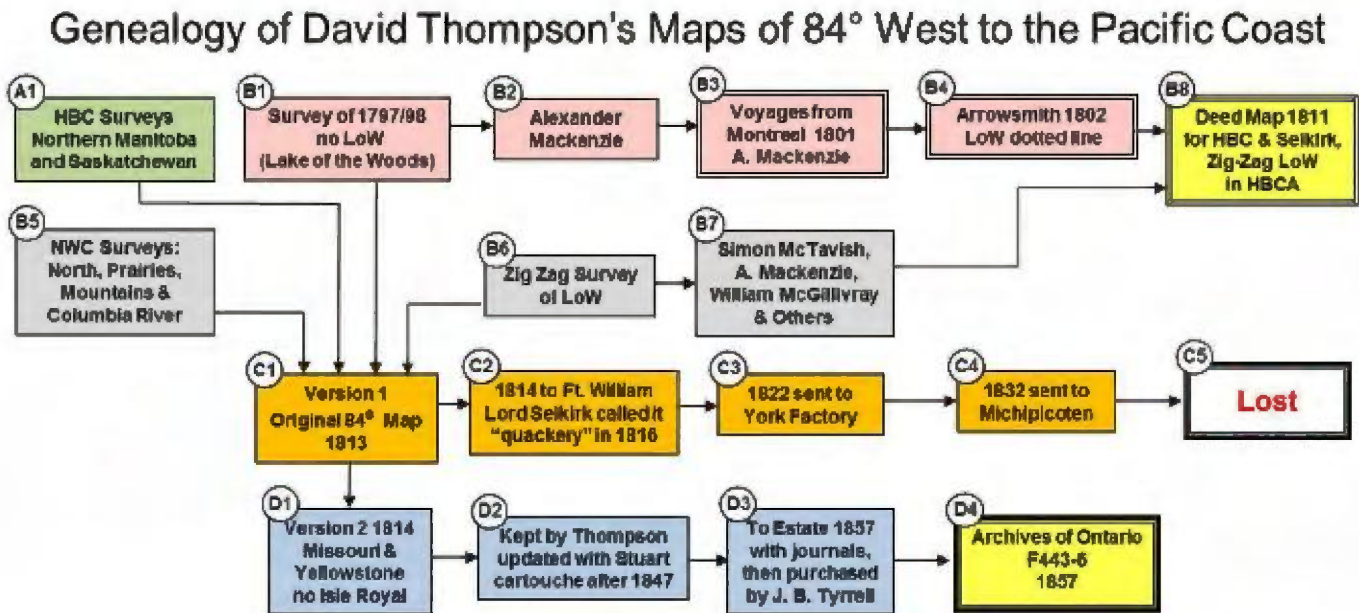
Condition of the Map

Nearly 200 years old, clarity of features is excellent on the map at Kew. Digital photographs show remarkable detail all across the map. Unfortunately, the similar map at the AO is so worn and faded that even private viewing is now restricted. A major incentive for studying the 1826 map is its overall high quality.

At some time, thought to be in the 1950s, archivists reinforced the map on the back side with woven fabric and white shellac and then cut it into 10 separate sections. Each section is comprised of 2 adjoining sheets of Thompson's original set of 20 sheets; Figure 1. Weaknesses and holes in the original paper had been caused by early folding of the whole map which led to a strip approximately 1 cm wide being removed altogether at each cut. Overlaps and glue lines made on the original map were so well that only very careful examination reveals which sheet overlaps the adjacent sheet.

At the TNA the 10 sections of map are kept together folded in a strong cardboard box. These are the sections photographed in 2008 for Korsos. It is feasible for researchers to approximate an assembly of the 6' 3" x 10' 6" map on a large map table in the reading room but a full scale, one-piece replica map would be very handy for researchers to view, whether rolled up or mounted on a wall.

Figure 2 Thompson Map at the Archives of Ontario F443-6



Provenance of the Map

Much remains to be done concerning the provenance of the Thompson 1826 Map. Progress up to the time of the CARTO 2013 conference of June 11 to 14 is illustrated in Figures 2 and 3 with the name “Genealogy of David Thompson’s Maps of 84° West to the Pacific Coast.” Provenance of the AO map is also under examination and further information on both maps is closely linked.

In summary, it appears that three Great Maps were produced by Thompson in the time between his retirement from the North West Company in 1812 and 1826, his final year as Astronomer for the British on the British-American Boundary Commission. The first map, C1, went to the North West Company for posting at Fort William in 1813 and was lost after the merger of the Hudson’s Bay Company and the North West Company in 1821². The second map, D1, that Thompson produced remained in his possession until his death in 1857 and is now at the AO. The third map, E2, the primary subject of this paper, is at TNA in Kew.

Research to-date reveals that although Thompson created three Great Maps the last one was a new presentation with several significant changes of latitude and longitude for geographical features and trading posts, application of major updates for Lake Superior and Lake of the Woods, and the addition of several notes referring to local events and people.

These three maps are seen in Figures 2 and 3 as C5, D4 and E5, respectively, which also show the sources and flow of information to create the three maps. Virtually all of these sources and flows can be challenged and may be found to be incorrect. However, by structuring the events in this manner it gives warning that making a change in one place is liable to cause a conflict or give rise to a change in another place.

² Jean Morrison, *Superior Rendezvous Place: Fort William in the Canadian Fur Trade*, 2001, p.118 Version 1 was lost in transit around 1832 at Michipicoten or thereabouts.

The bulk of the information for Version 1 and all subsequent versions came from Thompson's surveys from 1792 to 1797 for the HBC and for the NWC from 1797 to 1812. His large survey of NWC posts from the Assiniboine region through Minnesota and Lake Superior in 1797/98 is shown separately, B1, because that information was also passed on to Aaron Arrowsmith, likely by Alexander Mackenzie himself, to help in producing a map, B3, for Mackenzie's book *Voyages from Montreal in 1801*³ and was also used to update Arrowsmith's general map of North America in 1802.

Similarly, the survey of Lake of the Woods, B6, which resulted in a pronounced zig-zag shape for the lake, was done by an unknown party at an unknown time, but the unique shape is pivotal in understanding the differences between maps B8, D4, E5 and F3. Map B8 is the HBC Deed Map of Assiniboia for their grant to Lord Selkirk in 1811. See Figure 2B. Thompson is the prime suspect as the source of B6 but we have no information on his taking the time to survey the lake while working for the NWC. He may have used the zig-zag shape in 1813 on map C1 but the first time we can see it is on the 1814 map, D4. See Figure 2C.

The most questionable place in the chain of B information is the flow of survey information to Arrowsmith. Around 1800 Alexander Mackenzie, or the NWC, could have provided Thompson's information to Arrowsmith but by 1810 neither of them would have cooperated with the production of a map of Assiniboia which would then be used to obstruct their access to fur country west of Lake Superior. Nevertheless, the Selkirk Deed Map, B8, does contain a substantial amount of Thompson's information from his survey of 1797/98 and this curious puzzle has yet to be solved.

When Selkirk saw Version 1, C2, hanging at Fort William in 1816 he exclaimed in his notes that the map was an "egregious piece of quackery" and he complained that such a poor surveyor as Thompson would not make a suitable astronomer for the British boundary survey team⁴. Selkirk specifically mentioned the erroneous north-to-south positions of Fort William and Pye Island, also seen on Version 2 which indicates that, for this feature at least, Versions 1 and 2 were similar.

Figure 2D: Fort William to the south of Pye Island is opposite to their true positions. For a full view see the replica Thompson map, G4, sold by the Gift Shop at Fort William Historical Park.



Figure 2B Lake of the Woods as it is on Arrowsmith's map in 1811, B8, for the HBC Assiniboia Deed to Lord Selkirk.

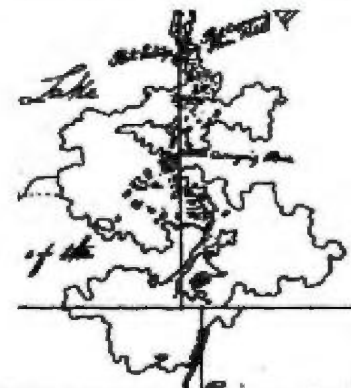


Figure 2C Lake of the Woods by Thompson in 1814, D4.

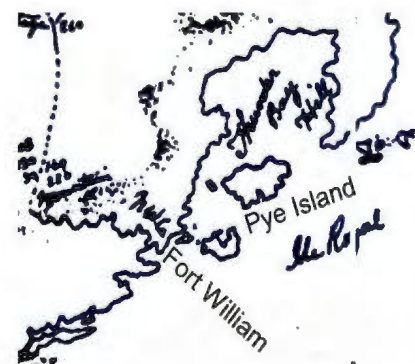
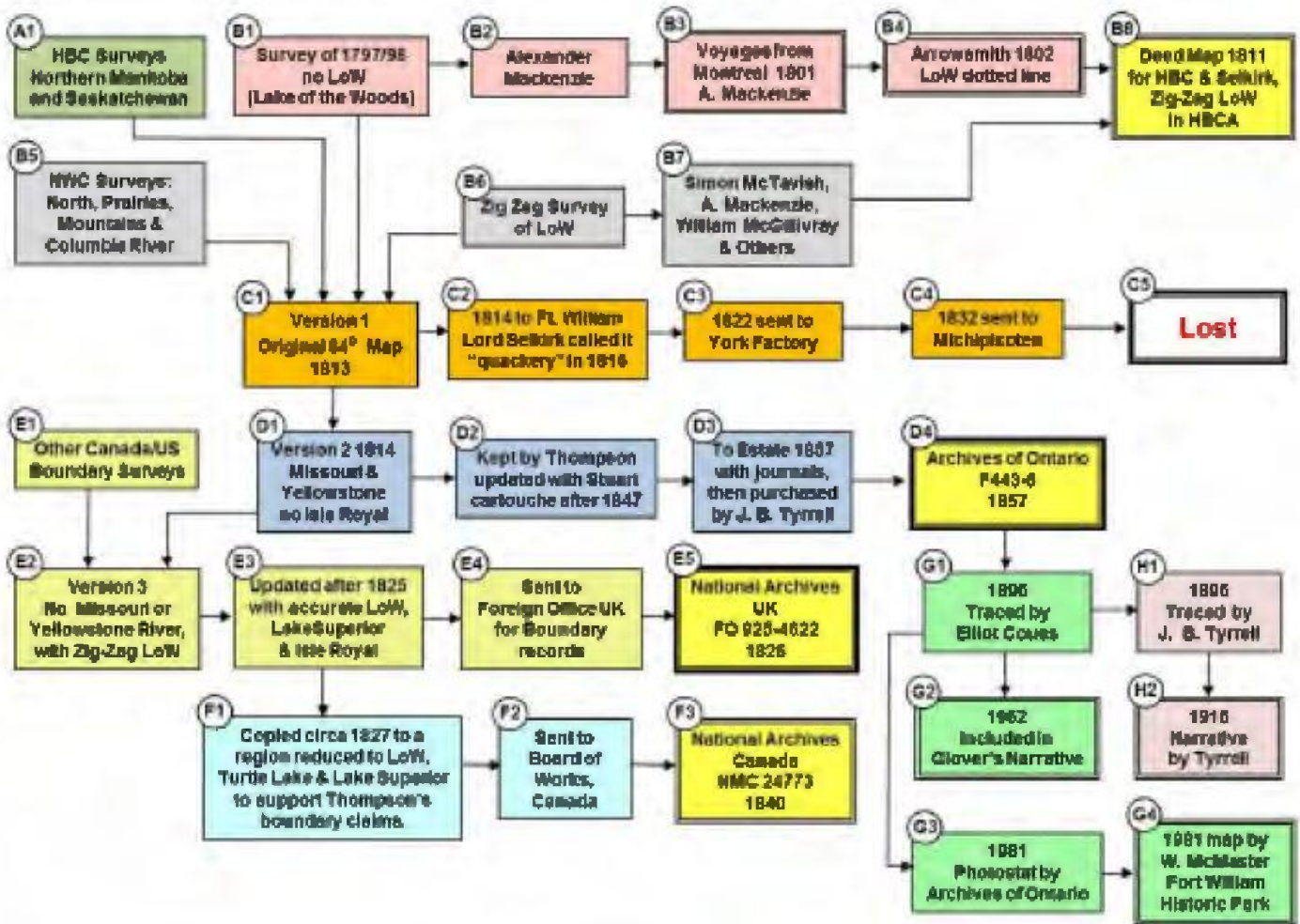


Figure 2D 1814 Map, D4
Erroneous north-south positions of Ft. William and Pye Island

³ *Voyages from Montreal Through the Continent of North America to the Frozen and Pacific Oceans in 1789 and 1793*, Vol. I
⁴ Selkirk Papers, November 1, 1816, p. 2795/2796.

Figure 3 Thompson Map, at The National Archives, UK, FO 925-4622

Genealogy of David Thompson's Maps of 84° West to the Pacific Coast



As mentioned above, Version 3 is a fundamentally different map from Versions 1 and 2. The obvious difference is readily seen in Figure 1, for example, where Lake Superior and Lake of the Woods, marked as “A”, are new whiter patches derived from Thompson’s recent experience surveying that region of the northwest for the British-US Boundary Commission. Although he had circumnavigated Lake Superior in 1798 as a surveyor for the NWC and passed through Lake of the Woods eighteen times as a fur trader, his dedicated boundary survey crew twenty years later, newer equipment and ample time to work produced better maps of those two key features. Less obvious but an equally profound difference in Version 3 is that the latitude and longitude positions of many places were adjusted across the entire landscape.

The extent of these positional adjustments is not yet fully enumerated. After spotting certain changes during a routine comparison of 1814 and 1826 the author noted that Thompson had applied a large and complicated revision and that a thorough investigation is needed to understand what was done. So far, a preliminary comparison of longitudes at 30 selected locations has come up with 19 movements further west, 9 further east and 2 without change. The changes range from 5 minutes to 105 minutes of longitude, mostly around 5 to 10 minutes.

Latitudes have also been adjusted but less so than the longitudes and no enumeration has been done.

How Thompson knew that these adjustments were needed and what motivated him to do the considerable amount of recalculations and plotting is not clear. One possibility for his motivation is that in 1820, or earlier, Thompson came up with a formal, printed prospectus soliciting the public to buy subscriptions for a proposed atlas of his maps of North Western North America⁵. In 1824 publisher John Murray of Albemarle Street in London published an attractive, engraved, coloured map of Lake Superior attributed to David Thompson, possibly as a sample to go with the prospectus⁶. (Approx. 7 ¾ x 14 ¾ inches) Whether John Murray, or William McGillivray who gave permission to use the information, pointed out errors to Thompson or simply advised him to check his calculations we do not know.

Version 3 omits the Missouri and Yellowstone Rivers, areas where Thompson never visited, but which he had showed on Version 2 in a rudimentary fashion and by 1818 was superseded by maps originating from the Lewis & Clark expedition. Beneath the patch of recently-surveyed Lake Superior, applied around 1826, there will be the earlier shape developed for the 1813 and 1814 maps and it might be visible under certain lighting conditions. Presently the under-view is obscured by the preservation treatment applied to the back and the new patch on the front.

Lake of the Woods in Version 3 is given a patch to show its true shape in keeping with the Lake's importance for locating the "Most Northwesterly Point" for the international boundary. Thompson, however, discreetly does not highlight the important point although three summers were spent surveying and resurveying to confirm that the location he designated in 1824 was in fact the most north westerly point. Despite the arrival of an accurate shape of Lake of the Woods, Arrowsmith and many other cartographers continued using the obsolete zig-zag shape initiated by Arrowsmith in 1811 for the rest of the 19th century.

Another key boundary feature was Isle Royal on Lake Superior. Whereas this was missing on Version 2, it was properly located by the boundary survey and appears on the update patch in 1826. Fortunately, Thompson had never added an Isle Philippeaux.

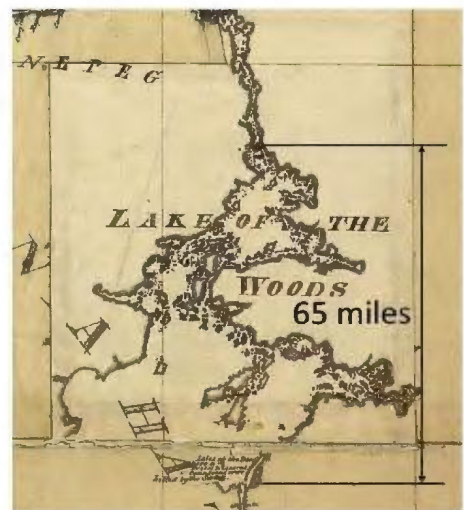


Figure 3B Lake of the Woods patch applied ~ 1826: See step E3

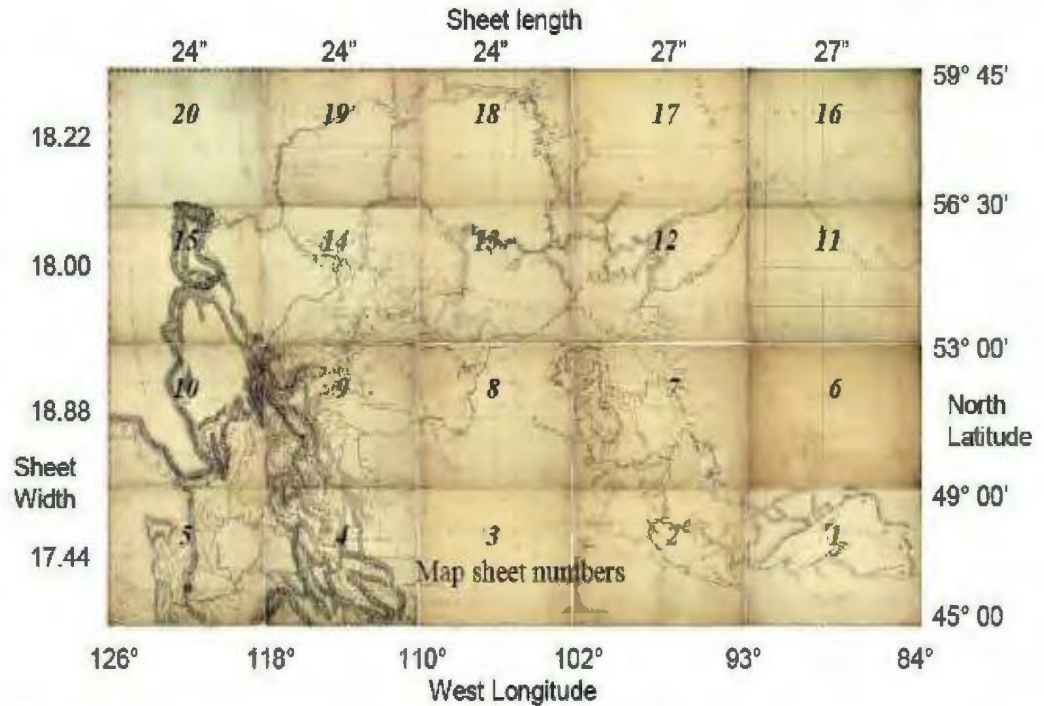
Further west, Thompson had highlighted the Howse Pass, which he first used in 1807, on his 1814 map, D1. but on Version 3 this note was removed. The extra 2 degrees of longitude added to the 1826 map, E3, allowed a small addition to the coast line, which itself was copied from George Vancouver's surveys. In the water zone west of the Columbia River Thompson made casual, hand written notes about the coastal region.

⁵The Prospectus carries no date. In it a line mentions that the atlas will be available by late 1820. The date of its issue is likely from 1816 to 1820.

⁶A sample of this engraved map of Lake Superior attributed to David Thompson and issued by John Murray is in the possession of Tim Cochrane, Superintendent of the Grand Portage National Monument, Minnesota and with his kind permission was photographed by the author in 2010.

Figure 4 Thompson's Mercator Projection

Thompson chose Imperial Paper with a standard size of 22 x 30 inches for each sheet. This size suited his scale of 3 inches per degree of longitude and left a margin for overlaps and trimming.



3 inches per degree of longitude	Latitude	Mercator Secant Longitude	Thompson	
			Latitude Inches	Sheet Size
	degrees		inches	
45 min. lat.	59	1.9416	4.3686	18.22
	58	1.8871	5.6612	
	57	1.8361	5.5082	
30 min lat.	56	1.7883	2.6824	18.00
	55	1.7434	5.2303	
30 min lat.	54	1.7013	5.1039	
	53	1.6616	4.9849	
	52	1.6243	4.8728	
	51	1.5890	4.7670	18.88
	50	1.5557	4.6672	
	49	1.5243	4.5728	
	48	1.4945	4.4834	
	47	1.4663	4.3988	17.44
	46	1.4396	4.3187	
	45	1.4142	4.2426	

Calculations like these would have been made by Thompson at the time of commencing each new map.

In Version 2, and likely Version 1, his overall map was 2° or 6 inches shorter east-to-west and 1 ½ inches taller north-to-south because his scope was 40° of longitude and 15° of latitude. Version 3 was extended to 42° and shortened to 14° 45', respectively. Total height 72 ½"

The west tip of Lake Superior lies roughly 5 minutes west of 92° which caused the "nose" to be cut off on Version 2, D1. Thompson therefore added one degree to sheet 1 so that the entire lake would be on a single sheet.

Shuffling the sheet edges to have least impact on misalignment of lakes and rivers, he elected to use a spacing of 8+8+8+9+9 degrees west to east for a total length of 42 x 3 inches = 126 inches.

Versions 1 and 2 had five rows of sheets in order to incorporate 15° of latitude. For Version 3 to fit conveniently into an atlas he cut off the northern 15 minutes and saved a whole row of sheets. Because the map has been cut into sections at TNA it is not possible to measure the actual Mercator dimensions calculated above but it is apparent that Thompson's work was very close.

Examples of Thompson's detailed mapping on Version 3, E3



Figure 5 Forks of the Columbia and Snake Rivers

Thompson's careful lettering and concern for details is well illustrated in this example from the forks of the Columbia and Snake Rivers. The information was taken during his expedition in 1811 to meet the Astorians at the mouth of the Columbia River.

Note the arrow in the upper right side indicating the direction of flow in the Snake River.

The scale of this reproduction is 110% true size and the resolution would permit enlargement up to 400%, or more if that was required.

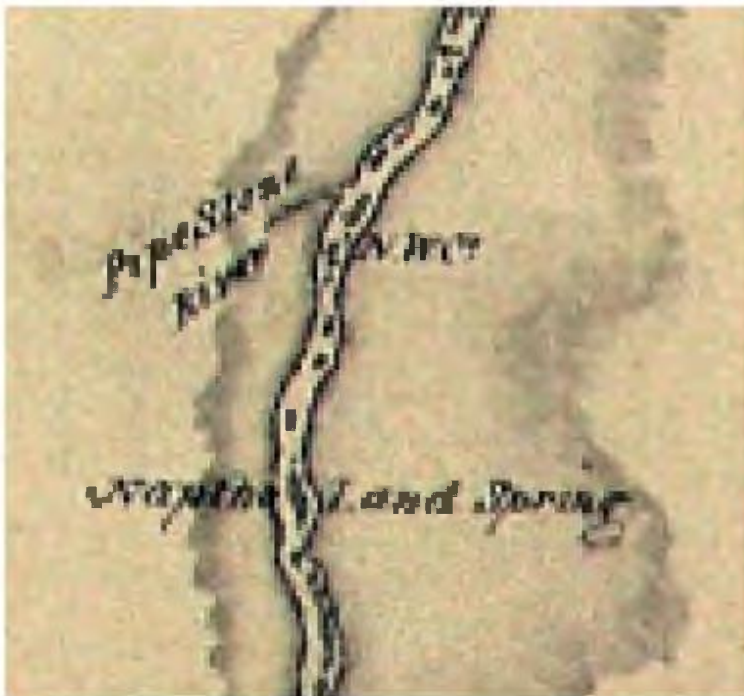


Figure 6 Athabasca River with the site of a natural outflow of bitumen

A deceptively simple caption across the Athabasca River reveals the site first mentioned by Alexander Mackenzie as having bitumen coming up to the surface at a place 24 miles north of the forks with the Clearwater River.

Thompson was the first map maker to show the phenomenon described by Mackenzie. Today the place is in the centre of the Syncrude open pit mining operations.

This small excerpt is enlarged to roughly 200% true size to help show the Pipestone River and an NWC post. Also note the attractive grey wash beside the rivers in Figures 5 and 6.



Figure 7 Burntwood River survey details, from surveys 1793/94/95

Thompson was in the region of the Nelson/Burntwood/Churchill Rivers on several occasions hence he had time to finish very thorough surveys and detailed maps such as in this example.

Mr. Robert Thompson of the NWC, no relative, was killed in the winter of 1795/96, information that Thompson added to his notes but did not show until the 1826 map.

Also note the traverse tracks in dotted lines, typical of his travels all over the 1826 map.



Figure 8 Mandan Villages site, 110% size, end of December 1797

The Mandan Villages on the the Missouri River were in Louisiana, Spanish territory, when Thompson visited in 1797. His assignment from the NWC was to assess the business there and determine the latitude and longitude of the bend in the river. Thompson never traveled along the Missouri River but on Version 2, D1, he depicts it to its source. These detailed notes about the Villages, on the other hand, are unique to the 1826 map.

Thompson's detailed notes on the make-up of the Mandan Villages, in what form we do not know, were passed on to the Lewis & Clark expedition possibly through the British Ambassador Thornton in Washington to Capt. Lewis in the summer of 1804.

The insert, about 250% size, reads: *Mandans with a few Fall Indians 114 Ho. [Houses]*. With the high resolution digital images provided by the TNA, the many notes found on the 1826 map can be easily magnified to help with readability.

Compared with the six notes here, the 1814 map says only: *Fall Indian and Winter Villages*

Figure 9A
Isles of the Dead – true size



Figure 9B
Isles of the Dead – twice true size



This figure demonstrates the advantage of searching an old map with digital imagery. The note about the La Verendrye massacre in 1736 is much easier to read accurately at twice true size.

The tear along the fold line and the fabric backing cloth are also more easily understood with magnification.

In this example the most important benefit of the magnification is that it draws attention to the dotted line on the west shore of the southern side of Lake of the Woods. North of the 49th parallel is the patch of Lake of the Woods pasted on around 1826. South of the 49th, however, is the original map from around 1816 which reveals that Thompson was unsure of the shoreline at that time for at least a part of the lake. He did not apply the zig-zag shape that Arrowsmith used in 1811 and he too used in 1814. If only we could look under the patch we might find out why!

The Future for FO 925-4622

By the end of 2013 The University of Manitoba Archives and Special Collections may have accessioned a full size reproduction of FO 925-4622 along with a set of 10 digital images and a set of 176 high resolution digital images, as well as a small collection of related files, as a gift from Andreas Koros and David Malaher. The intent of this gift is to bring the map, E3, into a Canadian archive where historians in North America can see it, as a reproduction, and do research on it aided by the digital images.

Exploration, special contents on the map, its uses, comparisons with other maps, political handling and Thompson's overall mapping output are all areas of untouched research opportunities.

We look forward to learning more about the map and the impact it had, or could have had, from everyone who might become involved.

ONTARIO COUNCIL OF UNIVERSITY LIBRARIES

MAP LIBRARY ASSISTANTS' WORKSHOP

CONFERENCE REPORT

MAY 1 TO 3, 2013

The biennial Map Library Assistants' workshop provides an opportunity for library staff who work with maps and geospatial data to visit other Ontario university map collections, compare and share procedures and practices of common interest, and to learn from keynote speakers working in related fields.

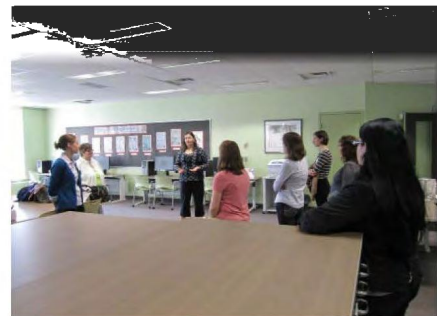
Sara Perkins (Musagetes Architecture Library) and Jonathan Morgan (Geospatial Centre) co-ordinated this year's OCUL Map Library Assistants' Workshop (May 1st – 3rd), sponsored by the University of Waterloo Library and School of Architecture. The conference was attended by 12 delegates from the University of Waterloo, University of Guelph, York University, Western University, University of Toronto, Ryerson University and Carlton University. Sessions were held on both the main University campus and at the School of Architecture in Cambridge.

The following are summaries of the sessions/ events held during the conference, with contributions by Tanya Kenesky, Gordon Beck and James McCarthy.

Wednesday May 1st, 2013

University of Waterloo Google Map Maker Event
Jonathan Morgan (University of Waterloo)

This session presented an overview of the Google Map Maker event held at the University of Waterloo, a live demonstration of the Google Map Maker application and hands on practice using the mapping tool.



Eva Dodsworth giving the opening remarks for the Workshop.

In the fall of 2012, with the support of the University of Waterloo Library and the Google Map Maker Community Team, the Geospatial Centre hosted a 2 day Google Map event which attracted over 200 participants from across campus. Google Map Maker is a collaborative on-line mapping environment which combines all users' local knowledge with comprehensive satellite imagery to create accurate and up to date Google maps of the world.

The Geospatial Centre had 3 goals for organizing this event. (1) Promoting the Geospatial Centre and our services to other faculties on campus. (2) Making a more detailed Google map of the University of Waterloo campus. (3) Teaching geospatial skills to students from different faculties. By the end of this event, all three of these goals were met.

Creating Instructional Videos

Tanya Kenesky (University of Toronto Mississauga Library)

In 2011 the University of Toronto Mississauga Library created a block of instructional videos to supplement our print GIS and data guides. Today some of those videos have over 25,000 views! The success of the initial videos led us to create more instructional videos to supplement both course work and various software's such as Google Earth, ArcMap, and ArcGIS Explorer Online.

Why?

The GIS/Data Librarian and Technician shared reviewing the statistics that had been captured. Upon review of the statistics it was discovered that a pattern of questions were being asked on a repetitive and consistent basis. It was also discovered that the way in which questions were being asked had evolved. There was an increase in email and virtual reference questions.

Some common questions included:

- How do I download census data?
- How do I use ArcMap?
- How do I project my data?

How?

Once our wants were determined, we researched video making best practices and pedagogical approaches; we spoke with colleagues, determined our audience and medium as well as how we were going to deliver the final product.

We decided that our videos would be created to supplement our current GIS and data guides. Our audience was the University of Toronto community. The software we chose was Camtasia and our delivery would be through the UTMLibrary YouTube channel (also linked through our website).

Creating the Videos

The first step in our video creation was to determine what was going to be recorded and writing a script. The script was necessary for measuring video length as well as for accessibility / captioning purposes. The videos were to ideally be no longer than 2 minutes to ensure the audience would remain focused. Reading the script aloud and practicing with a buddy were necessary as it was extremely difficult to move the mouse and read off a script at the same time.

Successes

- To date we have created 10 ArcMap videos with some surpassing 25,000 views.
- We have started to create videos to supplement course tutorial guides.
- Our videos are being linked to by other academic institutions.

Our playlists include:

- ArcMap 10
- ArcGIS Explorer Online
- Google Earth (English and French editions)
- Microsoft Excel Tutorials

Lessons Learned

- Writing a script and practicing is imperative. The more practice is done the smoother the process will be.
- Try to keep your video shorter than 2 minutes.
- If you make an error while recording, pause and pick up. You can edit the error out.
- Record in a silent place. A good microphone will pick up surrounding noise.
- Have fun!

Using ArcGIS Explorer Online

Tanya Kenesky (University of Toronto Mississauga Library)

OCUL Map Assistant participants practiced their GIS skills in a hands-on session using ArcGIS Explorer Online. The session was a walkthrough of a course assignment from a unique 1st year Environment course which not only utilized a free online GIS application but also used open data.

The Course

The ENV100, Introduction to Environmental Studies was a full year course which ran September through April. There were 435 students enrolled in the regular course and 294 students enrolled in the online course. The students used Blackboard to access the course content.

The Assignment

The assignment was written by Andrew Nicholson, GIS/Data Librarian and Barb Murck, Senior Lecturer. The assignment was developed using open data from the City of Mississauga which was customized for the assignment.

There were numerous assumptions made including:

- That many of the 1st years students had never heard of GIS or open data
- That there would be a wide range of varying comfort levels with respect to computers and new technologies
- That the learning curve should be kept to a minimum and to focus on the process not the tools

Outcomes included:

- Exposure to GIS and open data
- Exposure to research solutions by use of spatial reasoning



Tanya Kenesky

Geo-caching Activity

James McCarthy (University of Waterloo)

This hands-on session focused on using GPS receivers for data collection in the field. Participants learned how to prepare GPS units using both Trimble and Esri software before going out to the field. Software was demonstrated that highlighted the best and worst times of day to collect data based on satellite alignment for a given location. The GPS units were then taken around campus to demonstrate how to navigate to points of interest, collect data using both ArcPad and TerraSync, and take geotagged photos. Data collection using smartphone applications was also demonstrated. After returning from the field the collected data were brought back into GIS software for analysis, kicking off a discussion on how to determine the reliability of collected data. Participants were also interested in the logistics of running GPS activities for large classes.



Geo-caching activity

Mapping Crowdsourcing in ArcGIS Online

Steve Xu (University of Waterloo)

Crowdsourced maps have feature layers that are editable by anyone who has access to the map. This works well where users want feedback from many people and want everyone to view all edits. Public web applications are a good example of crowdsourced maps. Citizens can report potholes, graffiti, property damage, and other problems in their community. Images or photos that are uploaded are then displayed in a pop-up window along with any additional information. Users who don't have ArcGIS Server to create a feature service layer and just want to display more detailed information about certain features on the map can do that easily by creating an editable layer directly in the ArcGIS web map viewer or ArcGIS Explorer Online.

During this hands-on session, participants created forms, which were then submitted on-line for the mapping of features in ArcGIS Explorer Online.

Thursday May 2nd

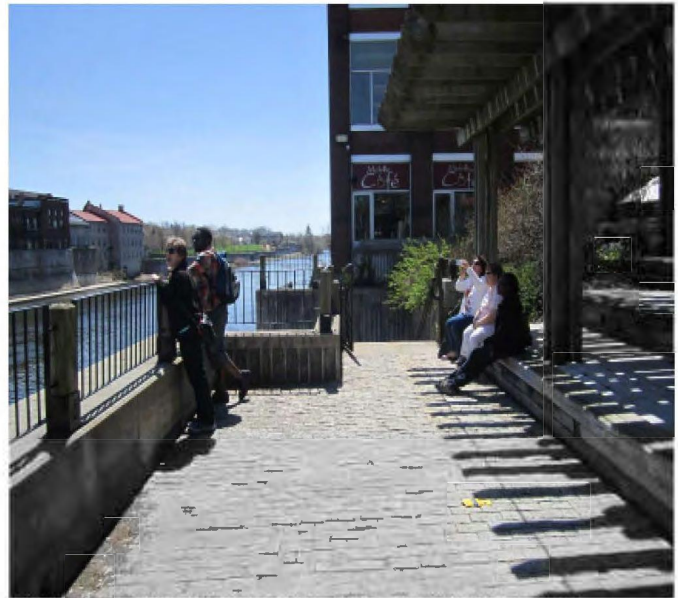
The second day of the workshop was held in Cambridge, at the School of Architecture. The day began with Sara Perkins providing a tour of Waterloo Architecture and the Musagetes Architecture Library.



School of Architecture Tour



The Musagetes maps



The riverside view from the School of Architecture.

The Wayfinding project: a pedestrian survey

Sara Neault (University of Waterloo)

People are always working-out ways of walking through campus, skirting around new buildings, towards a faculty not yet visited. Mapping the Campus Using Locative Media is an experimental mapping method which harvests the local knowledge of the pedestrian and represents that knowledge as a part of a collaborative map.

In addition to a map of the asphalt and paver paths already installed on campus, and in addition to adding names to these paths to orient users, and providing addresses and branding the Pedestrian Survey has generated a map of the paths people use, and a process through which that map can be persistently updated and tagged with text, photos, audio, and video.

The Pedestrian Survey's map shifts from a top-down map towards a bottom-up map: in addition to a map measured and drawn and organized with layers of names and map icons, this map traces/tracks the space that is occupied, and collects some record of the things that happened in that space. With a good interface, this cloud of user-generated data could revolutionize wayfinding in a persistently changing place.

uWaterloo pedestrian traffic map

Geoff Christou (University of Waterloo)

This session outlined a recent study done on the uWaterloo campus, the methods used to collect the data, map it, present it to stakeholders and have a look at the resulting HTML5 program.

Project Review 2013 exhibit - Design at Riverside

Tour the gallery and see the work created by students at the School of Architecture between May 2012-April 2013.

Geospatial Literacy Instruction in a Blended Learning Environment

Gord Beck, Lloyd Reeds Map Collection, McMaster University

Full Paper Presentation printing on page 61.

'Blended learning' is a concept receiving considerable attention in academic circles these days. Universities and colleges around the world are searching for alternate ways of transferring knowledge through methods that engage and empower students in taking ownership of their own education. McMaster University's Lloyd Reeds Map Collection has taken part in a pilot project aimed at shifting geospatial literacy instruction to a 'blended learning' environment. Hear the results of the project and assess the potential benefits for your own educational communities.

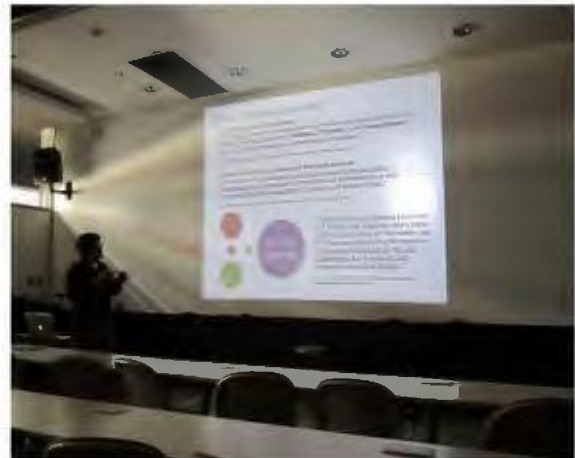
Tour of Rare Charitable Research Reserve

The rare Charitable Research Reserve is a 900+acre land reserve situated in the Region of Waterloo. The Reserve is not only a beautiful and culturally significant landscape, but includes trees more than 240 years old and provides an diversity of habitats that supports rich biodiversity. This pristine landscape is home to an incredible array of flora and fauna, some of which are ranked significant regionally, provincially, nationally, even globally.

The Reserve's natural landscape is a common possession set aside for its ecological value and to provide unprecedented opportunities in ecological and cultural research, education, and passive recreation. Our work will be a model for others. To offer the community, including the international community and future generations, a natural area, protected intact and in perpetuity.



Project Review 2013 exhibit



Gord Beck



Spring Bank Pavillion

The day ended with dinner at the Cambridge Mill Restaurant.



Cambridge Mill Restaurant.

Friday May 3rd

The final day of the conference began with a visit to the University of Waterloo Library's Rare Book Room. Jane Britton, Archivist, Special Collections gave the group a tour of the Doris Lewis Rare Book Room and the University of Waterloo Archives, featuring unique items detailing the history of the Grand River Conservation Authority.

Round Table Discussion

Jonathan Morgan, moderator

The group shared their views on these topics: In today's digital environment, how can we make our paper collections more accessible? Beyond Arc_GIS.com, what other open source mapping application are available to our clients? What open source data are available to our clients? The discussion was informative and stimulating as we shared our experiences and knowledge.

What's new with you?

Each of us shared with the group major changes in our workplace and gave a tour of our library sites, new web pages or other online resources created.

Wrap up!

The workshop officially wrapped up and we all look forward to meeting each other again 2015!

GEOSPATIAL LITERACY INSTRUCTION IN A BLENDED LEARNING ENVIRONMENT

Gord Beck
Lloyd Reeds Map Collection,
McMaster University

Current literature indicates that those involved in higher education are about to undergo “a fundamental redesign of the instructional model” (Dziuban et al., 2004). Evidence of this evolutionary shift is already present at many academic institutions worldwide. One aspect of this new approach to teaching and learning is something most often called “blended” learning but which can also be referred to as “hybrid,” “mixed-mode” or any one of a number of various terms because, at present, there is no universally accepted name. To avoid confusion, I will adopt the term “blended” for the purposes of this paper. The reason for the variety of nomenclature is because blended learning itself is rather nebulous and hard to pin down. However, the aspect of its nature that makes it so hard to define is at the same time the source of its great potential.

So what is blended learning? Queen’s University, Faculty of Arts and Science website quotes an article by Garrison and Vaughn (2008) that describes blended learning as integrating “in-class, face-to-face learning with online learning in a purposeful, thoughtful and complementary way to enhance student engagement.” Another quote from *teachthought.com* defines it as using “online technology to not just supplement, but transform and improve the learning process.” Note that the emphasis is placed on digital technologies embedded into the curriculum to enhance and transform student learning. This means throwing your PowerPoint slides up online and asking your students to read them before class is not Blended Learning.

What do these online modes of learning look like? They could be interactive presentations,

screen-casts, or podcasts. The Centre for Teaching Excellence at Waterloo University states that “these online learning activities include: synchronous and asynchronous online discussions, online self-assessments, blogs, wikis, virtual field trips, virtual labs, case studies, simulations, problem solving, concept mapping, and interactive learning objects.”

To respond to the growing body of literature supporting the concept of online modes of delivery for library instruction, the McMaster University Library collaborated with the McMaster Centre for Leadership in Learning (CLL) to design blended learning modules for five, Level I courses. These courses were chosen because the type of content to be delivered was of an elementary nature and because the very large class sizes have traditionally dictated a need for numerous repetitive instructional sessions. The classes consisted of social science inquiry, environmental science, integrated science (iSci) and two human geography courses. My involvement was limited entirely to the two geography courses so my experiences with blended learning related here are strictly based upon that perspective.

The two geography courses run every fall and winter term and occasionally in the summer. The combined number of students for both classes for the winter term of January to April of 2012 totalled approximately 850. Students were placed in one of 27 lab sections of 30-35 students each. Each lab session was 2 hours long resulting in 54 hours of lab time spent in the Map Collection over a two-week period. These are very popular elective courses for non-geography students with Geography 1HB3 being a recommended elective for business students. Not only are the classes populated by students from

various faculties of study ranging from engineering to life sciences but, another aspect not to be overlooked is that there are also students from multiple levels (I-V) of the undergraduate program.

The learning objective for the labs was for the students to attain a basic level of spatial literacy. This can be accurately described as "...the ability of an individual to capture and communicate knowledge in the form of a map, understand and recognize the world as viewed from above, recognize and interpret patterns, know that geography is more than just a list of places on the Earth's surface, see the value of geography as a basis for organizing and discovering information, and comprehend such basic concepts as scale and spatial resolution" (Bednarz & Kemp, 2011). This was accomplished by posing a variety of problems which were to be solved using different sets of visual and textual geospatial resources at each of the 4 or 5 work stations in conjunction with the knowledge and map interpretation skills acquired from the online modules viewed before the lab session.

The intended benefits of adopting a blended learning approach were hoped to allow students to self-determine the order and pace of their study. Remember, these students are coming from a variety of programs at different levels, bringing with them a diverse range of personal knowledge and experience. The ability to fast-forward or skip a module would hopefully remove needless repetition of already learned material and therefore help to prevent student disengagement. The ability to pause, rewind and replay more difficult modules with new material was viewed as a great advantage over previous methods of information delivery. The modules also make it possible for the student to review the material again at any time during the course or to use them to prepare for exams. Since the information was available remotely 24/7, the students could access it at time-of-need when they were most receptive to learning the material. This encourages students to exercise control over their own education and become self-directed learners. The modules also remove the vulnerability and inconsistency which

could occur under the old system as a result of staff illness or human error. Instead, library staff could now provide complete and consistent content ensuring every student would receive exactly the same information in every lab section.

The benefits to the Library were likewise manifold. Staff was released from dozens of repetitive, half-hour instructional presentations by delegating the learning of rudimentary content to the student, thus allowing for more face-to-face contact in the labs to discuss higher-level questions and concepts. This also improved our ability to service the map library's other user groups simultaneously during these peak points in the school term. Generic modules on topics such as latitude and longitude could also now be used for multiple courses as well as the broader audience of the general public.

The only disadvantages that could be seen at the outset were identical for both students and the library. If the instructional material in the modules was viewed too far in advance of the actual labs, library staff and students may have to waste a lot of time going over the material again in the lab. The other disadvantage to both parties would be if the modules were implemented incorrectly as replacement learning rather than utilizing a true "blended" learning approach. We did not want our presentation slides simply to be thrown up on the web or for the online instruction to consist solely of a video of a "talking head." This would certainly be neither interactive nor engaging. If staff were to lose personal contact and face-to-face time with the students it would also be a lost opportunity for making large numbers of students aware, early on in their academic careers, of the materials, research support and collaboration/study spaces available to them in the library.

The last question we had to ask ourselves before creating the modules was, how can we guarantee that after going to all this effort the students will actually view them and cover the material before their lab? Since it is so crucial to the lab's success that they do,

what steps can we take to ensure compliance?

The answer was to add short quizzes to the end of each module. Completion of the quizzes could be tracked by the TAs for the course. If a student did not complete all the quizzes s/he could still participate in the lab to learn the skills but would receive a zero for their mark. A small percentage of the overall class mark was assigned to correctly answering the quizzes as incentive for the students to take the quizzes seriously and to not simply click through them randomly to prove completion in order to take the lab. This seemed to work and compliance was high.

At the end of term an evaluation process was put in place to assess the success of the blended-learning modules in respect to student learning, student and instructor satisfaction, financial feasibility, and alignment with universal instructional design principles. Tools for accomplishing the assessment consisted of surveys, focus groups and a literature review to name a few.

Response to the student survey was high with 350 submissions. When asked if the modules helped them to understand map elements, scale, distortion and calculations approximately 80% agreed or strongly agreed while only 15% were neutral and only 5% disagreed or strongly disagreed. Reaction from Instructors was also very positive. Instructional Assistants and Teaching Assistants, who were themselves students in the class several years earlier under the previous method of instruction,

unanimously preferred the new online module approach. Some Issues to consider moving forward include splitting some of the modules into smaller sections, tweaking fonts, diagrams and audio and examining a wider range of tools for delivery.

In conclusion, the overall results of the pilot project have been very positive, indicating that McMaster University Library is off to a good start in making an evolutionary shift in its Library instructional model.

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ACMLA Website

Our domain name will be changing soon. The new domain is registered, but the web pages won't be transferred until second week of August. Our new URL will be <<http://www.acmla-acacc.ca>> and all corporate e-mail addresses will soon be using the new domain as well, of course.

If you are interested in joining the web committee or volunteering to help with projects, such as translation of the pages, please contact the Web Committee (web.committee@acmla-acacc.ca).

REVIEWS

Compiled by Susan McKee

Books Reviewed in this Issue:

British Columbia: A New Historical Atlas/Derek Hayes

Disease Maps: Epidemics on the Ground/Tom Koch

Esri Map Book, Volume 27/Esri

Linked Data: a Geographic Perspective/Glen Hart and Catherine Dolbear

British Columbia: A New Historical Atlas

Reviewed by Iris Morgan

Hayes, Derek. ***British Columbia: A New Historical Atlas***. Vancouver: Douglas & McIntyre, 2012. 368p. \$59.95 CAD. ISBN 978-1-92681-257-1.

Derek Hayes states that this atlas is a geographical view of British Columbia's history, yet it is the historical content displayed in numerous maps and graphics that will be of interest to researchers and libraries. This atlas will appeal to all who meander through its pages, even those who are unfamiliar with BC's geography. What makes this work remarkable is that Hayes has created a work that covers the vast diversity of British Columbia's geography and ties its social history and natural resource development together, while working with a limited selection of extant historical maps.

Not a region by region summary, nor strictly a chronological history, the flow of discovery and expansion across British Columbia is revealed by this atlas, providing a perspective of times past. As if a portal into a bygone era, the maps, photographs and explanatory captions highlight

what the mapmakers knew of events within the context of their surroundings. For example, an 1824 Arrowsmith map shows the route that George Simpson took from Fort Edmonton to the coast that same year, his canoe route marked in red ink, as if by the Emperor himself.

This atlas is a monumental work, yet it is all the more astounding in that this is Derek Hayes' 15th publication in fourteen years. His 1999 Historical Atlas of British Columbia and Pacific Northwest serves as a prequel to this new atlas, particularly with respect to early European mapping of the west coast. Hayes holds a masters degree in Geography from the University of British Columbia and was the recipient of the inaugural Basil Stuart-Stubbs Prize for Outstanding Scholarly Book on British Columbia for this latest work, which was also awarded the 2012 Lieutenant Governor's Medal for Historical Writing from the British Columbia Historical Federation.

The author's personal interest in the layout of each page comes from an in depth knowledge of the province and its development. Many of the maps have never been published; the author located them in distant libraries and had high quality reproductions

made. Portions of maps, photos and graphics have been expertly selected and all selections are clearly legible and fully referenced in the atlas Map Catalogue; original sources are provided, an important feature for further scholarship and research. Concise captions for each map are an integral component, whereby significant places are indicated by use of italicized text, along with their historical context. Following the main text however, can sometimes be elusive because of the number of maps and graphics covering almost every page.

The table of contents follows a loose historical timeline, from a brief description of First Nations, followed by European discovery and exploration, through to natural resource, urban and social development. Woven throughout is a geographical wandering from Victoria and the lower mainland to everywhere else on Canada's "backside". Though in no particular cardinal direction, this atlas encompasses the province within the greater Pacific Northwest and documents BC's significant role as the western anchor for Canada's North West Territorial past. Started by gold fever, the settlements, railways and surveys that permeated remote areas are difficult to arrange chronologically, or group thematically; however the atlas is well indexed as well as cross-referenced throughout.

In the section on the Canadian Pacific Railway and its "Transcontinental Connection", the author points out subtle details that are still of economic and political relevance today. The CPR's first demonstration cargo to BC in 1885 was 40 barrels of oil, shipped east to west from Halifax to Port Moody. The atlas describes the Cariboo road, a long and arduous pack trail that was turned into a wagon road largely by the British Royal Engineers in the 1860s. The Chilcotin, a large area extending from central interior BC to the coastal mountains, is covered on one page, the 1864 uprising and all. The historical genesis of BC's regions, such as the Okanagan or the East Kootenays, is shown with maps indicating natural resource allocations such as orchard districts or mining claims. Integrated into

this resource geography are the beginnings of urban areas, shown as historic town plans, bird's eye views, or road, railway and streetcar schemes. Such is the density of coverage in this atlas, compacting the enormous historical geography of BC into 368 pages.

Having started with native peoples, the atlas closes with a short section regarding New Treaties and conveys the story of British Columbia in between. Descriptions of this resource rich province's exploitation of mines and minerals are numerous, however historical accounts of the fishing industry, water power, and the logging industry are limited by comparison. A single modern map of the pine beetle devastation gripping the province is counterbalanced against modern landscape influences such as transportation networks, Expos and Olympics. The final pages balance nicely against the opening poster of early BC boosterism, the entire work blending to capture "Super, Natural British Columbia". The final map's caption of a digital hydrographic chart showing GPS coordinates indicates that "in theory it is almost impossible to get lost" - except, perhaps in this atlas - for hours.

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University of Calgary
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Disease Maps: Epidemics on the Ground

Reviewed by Rebecca Bartlett

Koch, Tom. ***Disease Maps: Epidemics on the Ground***. Chicago: The University of Chicago Press, 2011. 330p. \$45.00 US. ISBN 13-978-0-226-44935-7.

Tom Koch, adjunct professor of medical geography at the University of British Columbia, has in *Disease Maps*, written a book that studies the

medical history more than the geographic history of mapping epidemics. Koch intertwines the evolution of medical knowledge - namely the understanding of disease causes and dissemination patterns - and mapmaking in epidemiology and focuses primarily on the search for the sources of various plagues and the roles maps played in that research throughout the last several centuries.

Disease Maps begins with a brief but interesting look at the development of mapping the interior of the human body in the medical field in the sixteenth century and how medical mapping progressed from the internal (human) to the external (environment), including maps of how trade routes were the basis of the spread of various European plagues and the subsequent rise of quarantines. Numerous full colour maps and figures are reproduced and described in this section and throughout the book, and notes on the sources of the illustrations are provided in the back matter.

The middle half of the book is devoted entirely to looking at the investigation of the cause of cholera in mid-nineteenth century London England, and the role of maps in the arguments for and against different cholera transmission theories. The focus of this case study is primarily on the maps and theories of John Snow, a physician who took the unpopular but ultimately correct position that cholera was a waterborne disease, in a time when it was largely believed to be airborne via noxious fumes from sewers, cesspools and the like. Koch provides a chronological account of the theories of Snow and his contemporaries as well as the scientific basis for said theories, and with a tendency to use italics and ellipses for emphasis, he clearly explains his points and thoroughly defines the factors involved. The section concludes with an analysis of why Snow was unsuccessful in his efforts to convince his colleagues that cholera was a waterborne disease, given that he had the necessary data to conclusively prove himself correct.

Koch concludes by carrying the logic forward to early cancer cause researchers who, as with cholera, used maps to find possible links between geography - from neighbourhood to municipal to national - and cancer incidence. The value of mapping and geographical connections in epidemiological data is again reinforced.

Ultimately, the title *Disease Maps: Epidemics on the Ground* indicates a broader scope than what is found within, as half of the text is devoted to a case study of cholera. While Koch successfully contends that maps have a role to play in the comprehension and prevention of epidemics, it is more a study of the analysis of disease dispersion than the study of disease maps themselves, and therefore most relevant to readers interested in epidemiological history and collections serving those needs.

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Esri Map Book, Volume 27

Reviewed by Francine Berish

Environmental Systems Research Institute (Esri). *Esri Map Book, Volume 27*. Redlands, CA: Esri Press, 2012. 118p. \$24.95 US. ISBN 978-1-58948-314-9.

The cover page of *Esri Map Book's 27th* volume is decorated with a beautiful base map of Prague showcasing the city's cycle routes, including bottlenecks, stairs, dangerous intersections, bike racks and signs, capturing Prague's contemporary, historical and touristic charm. Esri has compiled a unique collection of maps ranging from health geography, to Mars Orbital Data Explorer maps, to mapping ideas from cyberspace.

The structure of the book includes information about each map such as: the title, organization of origin, author, contact information, source of data, software and printer required to produce each visualization. The book offers a look at current projects produced using ArcGIS software, appealing to specialists and general researchers alike. A description written by the producer of each entry provides insight into the context, purpose, methodology and dataset used to create each map, thus enhancing the information available visually via the map and its legend.

The categories of maps in the book include: business, cartography, environmental management, communication, conservation, defence and military, planning and engineering, government, health and human services, historical, sustainable development and humanitarian affairs, tourism and recreation, transportation, natural resources and utilities.

This volume showcases a Japan Earthquake section, starting with a US Geological Survey map showing the plate boundaries, aftershocks and earthquake depth observed near the epicentre following Japan's Tohoku 9.0 magnitude earthquake in 2011. This section also features three pages showing the extent of building and sediment damage from the subsequent aftershocks and tsunami disaster, as well as a map created by Japanese producers showing a simulated distribution of maximum radioactive concentration at ground level, two hours after the explosion of the Fukushima nuclear power plant.

Alongside traditional conservation maps is one showing oil transportation routes in the Gulf of Mexico, outlining where pipelines run from the leasing block to refineries. This demonstrates the importance of oil in the North American economy. Also included is a map demonstrating concurrent green energy trends, showcasing a modeling tool to assess the suitability of locations or wind energy, photovoltaic solar power and concentrated solar power renewable energy systems.

With the exception of a two-page spread of Newfoundland's Placentia Bay seascapes made using multibeam sonar technology, this volume has little uniquely Canadian representation. Aside from world maps, the volume does include two maps produced by American organizations, one showing the number of Certified GIS Professionals in North America and a stand age map of forested areas in Canada and the United States. In the description of the latter, the producer notes the data sources required to expand the map into Canada.

Overall, *Esri Map Book's 27th volume* offers a glimpse into current projects as well as how GIS technologies are being applied and combined by ArcGIS users and license holders. While this volume hosts an example of a map portraying ideas from cyberspace, it will be interesting to see how web data, trends and patterns will be visualized in the future.

Francine Berish

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Linked Data: a Geographic Perspective *Reviewed by Susan Powell*

Hart, Glen and Catherine Dolbear. ***Linked Data: a Geographic Perspective***. Boca Raton, FL: CRC Press, Taylor & Francis Group, 2013. 269p. \$119.95 US. ISBN 978-1-4398-6995-6.

Hart and Dolbear's book introduces the framework of linked data as a potential new way of structuring and sharing geographic information in the interconnected, or "linked" world of the "Semantic Web". Targeting creators and managers of geographic information (GI), as well as people in linked data circles who may be unfamiliar with geographic data, the authors explore the intersection of these two areas. Although

a fairly technical book at times, the writing is very readable and engaging, and ultimately the authors succeed in their argument for considering a linked data approach to GI.

Both of the authors have significant professional and research experience with the Semantic Web in a geographic context - primarily through their work with Great Britain's Ordnance Survey - though both have initially come to the field from the side of information organization rather than geography. Their experience shines through in the framing and selection of the text's examples. Throughout the book the authors reference examples from the fictional country of Merea, including various public and private sector organizations. These examples provide helpful practical context for some of the more abstract or technical discussions.

In the first section of the book the authors introduce the concepts of both geographic information and linked data, probably correctly assuming that the majority of their readers will be unfamiliar with at least one of those subjects. Even for those readers familiar with both, these chapters are helpful base points for framing the rest of the discussion. The authors also devote an introductory chapter to presenting their arguments and vision for the intersection of GI and the Semantic Web. The meat of the book consists of a technical overview of conceptualizing and representing GI as linked data, with some discussion of more theoretical considerations. This section includes an introduction to the Resource Description Framework (RDF) - the encoding language commonly used in the Semantic Web - as well as several chapters discussing the logic of the organization, publishing, and practical uses for GI as linked data. In the final section of the book, the authors broaden their scope from linked data to GI and the Semantic Web, introducing OWL (Web Ontology Language) and geographic

ontologies. The authors conclude with a summary of the material they covered earlier in the book, as well as some views towards the future.

It would have been helpful to have included an appendix with a list of acronyms, as both the GI and Semantic Web communities' languages are full of acronyms and abbreviations. The book also could have benefitted from the inclusion of a few more diagrams to supplement the code in the later chapters. However, these are small quibbles with an otherwise excellently presented novice level introduction to some very technical and complex topics.

The book appears primarily targeted towards GI professionals who are actively creating geospatial datasets, and is therefore most directly useful to that community. However, the book will be of interest to anyone - be they geographer, data manager, or librarian - interested in learning more about the emerging trends of linked data and the Semantic Web and how these frameworks might be applied to GI. The authors' discussion of why these worlds should intermingle is particularly interesting. They argue convincingly that GI professionals should be thinking more about the compatibility and transferability of their data with people outside the GI world, and that linked data provides a compelling way of doing that. Indeed, as geographic information and analysis move more and more towards cloud, streaming, and web services, this topic becomes ever more relevant. For these reasons, this book would be a worthwhile addition to GIS library collections.

Susan Powell
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From the Reviews Editor:

Thanks to those who submitted book reviews and to all who have expressed interest in reviewing! I'll continue to request review copies from publishers - but please let me know if you have read a book of interest to the ACMLA and would like to submit a review, and if you have any suggestions for titles/sources. Here are the review guidelines:

ACMLA Bulletin Book Review Guidelines

Review Format

1. Bibliographic Citation

This should include: author, title, edition, place of publication, publisher, date, number of pages, price (if known) and ISBN. Example:

Bussey, Ben and Spudis, Paul D. *The Clementine Atlas of the Moon*. Cambridge: Cambridge University Press, 2004. 316p. \$80.00 US. ISBN 0-521-81528-2.

2. Content

The review should describe and critically evaluate the work. Typical review elements include: scope, purpose and content of the work; intended audience; writing style; background and authority of the author; how the work compares with other titles on the same subject; its usefulness as a research tool; any unique features; and its suitability for library collections.

The length of the review is at the reviewer's discretion, but should normally reflect the importance of the work. A typical review is about 500 words.

3. Your name, title, institutional affiliation, city and province/state

Editorial Policy

Opinions expressed in reviews are those of the reviewer, not of the ACMLA. The Reviews Editor may make minor edits, without communicating with the reviewer. Should the Editor determine that a major revision is required, she will contact the reviewer for discussion.

Susan McKee
Reviews Editor

REGIONAL NEWS

Compiled by Tom Anderson

Ontario

Carleton University
Rebecca Bartlett
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The Maps, Data and Government Information Centre (MADGIC) is settling into its new location in the library after moving in September. We have seen a marked increase in use of our GIS data by students in Architecture & Urbanism this academic year, and the acquisition of international 3D building files from GTA GeoInformatik certainly hasn't hurt in that regard. The buildings that were received are LOD 2 (Level of Detail 2 / individual roof forms) and they are untextured. These are available in SHP and DWG formats for Florence, London, Lyon, New York, Paris, Pompeii, Rome, Toronto, and Vatican City. MADGIC is also migrating its Mapserver GIS interactive indexes to ArcGIS Online.

We've also enjoyed an increase in demand for our "Map Display Labs" in which we assist faculty in selecting suitable maps for hands-on sessions which are held in the map collection. We're pleased to have welcomed several new faculty from History, Geomatics, and Architecture Departments this year in addition to our returning clients in Classics, Environmental Studies, First Year Seminars, and Geography.

Ryerson University
Daniel Jakubek
djakubek@ryerson.ca

Geospatial Map and Data Centre (GMDC) Renovation (Summer 2012)

The renovation of the Geospatial Map and Data Centre (GMDC) included the development of a state-of-the-art instruction space to support growing demand for assistance related to geospatial/social science data resources and associated software applications. The new lab features 16 high performance workstations equipped with touch screen monitors and an 80 inch touch screen instruction monitor to support interactive learning. Access to specialized software packages includes ArcGIS (Esri),

MapInfo Professional 11.5, PCI Geomatics, AutoDesk, QuantumGIS, SPSS, and Beyond 20/20. To complement the upgrades in our physical space, we plan to overhaul our virtual space to improve user experience. Updating the existing Maps and Data at Ryerson (MADAR) framework will allow for more seamless integration with tools including Scholars GeoPortal.

Paper Map Weeding and Consolidation Project

The renovation of the GMDC included a major paper map weeding and consolidation project. Twelve map cabinets were removed from the GMDC to free space for the instruction lab. The remaining map cabinets were re-oriented and new labels were created for the consolidated collection. In addition, the historical Census of Canada print collection was relocated to the GMDC.

Instructional Strategy

The new instruction space in the GMDC allowed us to promote and offer a new demand driven instructional strategy. We are encouraging students to request custom instructional sessions that are applied directly to course work and research. The most significant achievement involved outreach via the Ryerson Association of Planning Students (RAPS) and led to the development of a Municipal Application of GIS Workshop Series – this consisted of five (5) two-hour GIS workshops geared towards specific studio assignments in the School of Urban and Regional Planning.

Projects

- Digitization Project (in-progress) – Ministry of Energy 1980-1981 Aerial Thermographic Photos of City of Toronto Building Roofs and Related Grid Maps.
- Installation and configuration of ArcGIS Server software / migration of the existing geospatial data inventory to the new Geospatial Data Infrastructure intended to support search, access, and delivery of geospatial data resources that are exclusive to the MADAR framework (local collections that will not be made available via the Scholars GeoPortal. We intend to create metadata records searchable in the Scholars GeoPortal framework that will link our new web indexing services.

University of Waterloo

Eva Dodsworth

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The Geospatial Centre has been busy recruiting for a new position – Geospatial Information Services Specialist. This position has a large teaching component including creating guides, delivering content and training. The position will also manage GIS projects, as well as offer reference services to our clients.

Out of over 120 applicants, I am pleased to let you know that we have selected Talsan Schulzke. Talsan comes to us from Rexburg, Idaho (although a Toronto native), and currently holds two positions. He is a GIS database administrator and chief cartographer for the joint city-county of Madison-Rexburg, as well as an adjunct faculty member at Brigham Young University-Idaho (BYU) where he teaches freshman writing.

Talsan earned his bachelor's degree in English with a minor in geography at BYU. It was his schooling that led him to discover and subsequently embrace GIS as a fulfilling career option. Since graduating he's worked in a GIS role with several departments including Planning & Zoning, Public Works, Emergency Services, and others.

Talsan enjoys sharing his GIS knowledge with others by presenting at conferences, teaching, writing training manuals and creating maps and atlases. Talsan and his colleagues have recently published a county atlas for Madison-Rexburg. Talsan begins work in August and we are delighted to have him join our team.

Western University

Cheryl Woods

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We welcome Christine Homuth to the Map and Data Centre. Christine started work January 2 in the position of GIS technician. She will offer an introduction to GIS concepts and tools through one-on-one consultation, group or virtual training; assist the user in selecting the appropriate tools to use; and, provide direction in locating, obtaining, and integrating spatial datasets that meet the needs of the users. Several information and training sessions have already been given to the Western Libraries' staff and librarians.

During the winter-spring term three library science students, employed in the Map and Data Centre, worked on the remaining backlog of uncatalogued Canadian material that will be added to the Shared Library Catalogue. Another project that is now complete and on our website (Map Gallery), is the creation of fifteen thematic census (2006) tract level maps for the London Census Metropolitan Area. These will be downloadable pdfs, similar to what University of Waterloo and Brock University provide.

Construction began in early June in the Weldon Library where we plan to move to in late August. The floor plan for the location of each cabinet was finalized last week so that the moving of the cabinets will go as orderly as possible

Quebec

McGill University

Deena Yanofsky

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In the fall of 2012, McGill Library closed its branch map library, moving its physical map collection and atlases to the Humanities and Social Sciences Library. The move was challenging – map cabinets had to be emptied, disassembled and shipped across campus; atlases were weeded, boxed up and sent to be integrated with the centrally located collection in the McLennan Library Building; monographs were dispersed between several branch libraries, including the Science and Engineering, Education and Life Sciences libraries.

A third of the map collection was weeded in order to fit the new, reduced space. The library's current map collection focuses primarily on the Montreal region, secondarily on Quebec and Canada. The library also maintains access to its historical series of international topographic maps. Over the next six months, we plan to inventory the maps and create interactive finding aids to provide access to our collection.

Responsibility for the library's geospatial data collection is currently distributed among staff at the Humanities and Social Sciences Library as well as the Schulich Library of Science and Engineering.

NEW BOOKS AND ATLASES

Compiled by Peter Genzinger

- Allen, David W. 2013. GIS tutorial 2: spatial analysis workbook, 10.1 Edition. Redlands, CA: ESRI Press. 329 p. \$57.93 CDN. ISBN: 9781589483378.
- Antoniou, Antonis, et al. (eds.). 2013. A map of the world: the world according to illustrators and storytellers. Berlin: Gestalten Verlag. 221 p. \$60.00 USD. ISBN: 9783899554694.
- Cadene, Philippe. 2013. Atlas of the Gulf states. Leiden: Brill. 120 p. \$267.00 USD. ISBN: 9789004245600.
- Chang, Kang-Tsung. 2014. Introduction to Geographic Information Systems. 7th ed. New York: McGraw-Hill. 425 p. \$187.80 USD. ISBN: 9780077805401.
- Eriksen, Michael, Judith Mackay and Hana Ross. 2013. Tobacco Atlas. 4th ed. Atlanta: American Cancer Society. 132 p. \$35.16 CDN. ISBN: 9781604430936.
- Faiz, Sami and Saoussen Krichen. 2013. Geographical information systems and spatial optimization. Boca Raton, FL: CRC Press. 154 p. \$70.46 CDN. ISBN: 9781466577473.
- Gorr, Wilpen L. and Kristen S. Kurland. 2013. GIS tutorial 1: basic workbook, 10.1 edition. Redlands, CA: ESRI Press. 447 p. \$61.60 CDN. ISBN: 9781589483354.
- Grewal, Mohinder S., Angus P. Andrews and Chris G. Bartone. 2013. Global navigation satellite systems, inertial navigation, and integration. 3rd ed. Hoboken, NJ: John Wiley. 561 p. \$105.61 CDN. ISBN: 9781118447000.
- Griffin, Dori. 2013. Mapping wonderlands: illustrated cartography of Arizona, 1912-1962. Tucson: University of Arizona Press. 219 p. \$52.25 CDN. ISBN: 9780816509324.
- Harder, Christian, Tim Ormsby and Thomas Balstrom. 2013. Understanding GIS: an ArcGIS project workbook. 2nd ed. Redlands, CA: ESRI Press. 392 p. \$50.37 CDN. ISBN: 9781589483460.
- Harvey, P.D.A. 2013. Medieval maps of the holy land. London: British Library. 160 p. \$75.00 USD. ISBN: 9780712358248.
- Hessler, John W. 2013. A Renaissance globemaker's toolbox: Johannes Schoner and the revolution of modern science, 1475-1550. London: D. Giles. 176 p. \$20.65 CDN. ISBN: 9781907804168.
- Kennedy, Michael D. 2013. Introducing geographic information systems with ArcGIS: a workbook approach to learning GIS. 3rd ed. Hoboken, NJ: John Wiley. 628 p. \$70.71 CDN. ISBN: 9781118159804.
- Kurgan, Jaura. 2013. Close up at a distance: mapping, technology, and politics. New York: Zone Books. 228 p. \$24.34 CDN. ISBN: 9781935408284.
- Law, Michael and Amy Collins. 2013. Getting to know ArcGIS for Desktop. 3rd ed. Redlands, CA: ESRI Press. \$53.52 CDN. ISBN: 9781589483088.
- Lomazoff, Amanda and Aaron Ralby. 2013. The atlas of military history: an around-the-world survey of warfare through the ages. San Diego: Thunder Bay Press. 320 p. \$28.18 CDN. ISBN: 9781607105671.
- Maher, Margaret M. 2013. Lining up data in ArcGIS: a guide to map projections. Redlands, CA: ESRI Press. 216 p. \$19.96 CDN. ISBN: 9781607105671.
- National Committee of Geography (ed.). 2012. Concise geography of Belgium. Ghent, Belgium: Academia Press. 46 p. \$18.26 USD. ISBN: 9789038220031.

NEW MAPS

Compiled by Cheryl Woods

Carte Geologique du Quebec. DV 2012-06
Scale: 1:2,000,000
Publisher: Ministère des Ressources naturelles
(MRN)
Year of Publication: 2012

A Voyage of Discovery of the Pacific Coast of
North America:
The 1792 Explorations and Surveys of Captain
George Vancouver
Scale: 1: 1,147,500
Publisher: Andreas N. Korsos
Year of Publication: 2013

A Voyage of Discovery of the Pacific Coast of
North America:
The 1793 Explorations and Surveys of Captain
George Vancouver
Scale: 1: 1,147,500
Publisher: Andreas N. Korsos
Year of Publication: 2013

Maritime Boundaries of the World
Scale: NA
Publisher: Equator Maps
Year of Publication: 2013

Mapa Oficial Areas Protegidas de Honduras [Hon-
duras Protected Areas Map]
Scale: 1:775,000
Publisher: Ediciones Ramsés
Year of Publication: 2012

Afghanistan
Scale: 1:1,100,000
Publisher: Freytag/Berndt
Year of Publication: 2013

Costa Rica. 5th ed
Scale: 1:470,000
Publisher: Toucan Maps
Year of Publication: 2014

Mapa Carreteras Nacionales [Mexico Travel Map]
Scale: NA
Publisher: Ediciones Independencia
Year of Publication: 2013

Syria, Lebanon
Scale: 1:750,000
Publisher: Gizi Map
Year of Publication: 2013

Bulgaria
Scale: 1:400,000
Publisher: Freytag/Berndt
Year of Publication: 2013

Kyrgyzstan
Scale: 1:750,000
Publisher: Gizi Map
Year of Publication: 2013

Laos
Scale: 1:600,000
Publisher: Reise-Know How
Year of Publication: 2013

Macao, Hong Kong
Scale: 1:60,000
Publisher: Periplus
Year of Publication: 2013

Nepal
Scale: 1:500,000
Publisher: National Geographic Maps
Year of Publication: 2013

Sudan & South Sudan
Scale: Reise-Know How
Publisher: 1:1,800,000
Year of Publication: 2013

Aruba
Scale: 1:50,000

Publisher: Borch Map
Year of Publication: 2013

Cuba
Scale: 1:1,000,000
Publisher: Borch Map
Year of Publication: 2013

Dominican Republic
Scale: 1:600,000
Publisher: Borch Map
Year of Publication: 2013

France
Scale: 1:875,000
Publisher: Borch Map
Year of Publication: 2013

Germany
Scale: 1:800,000
Publisher: Borch Map
Year of Publication: 2013

Great Britain
Scale: 1:800,000
Publisher: Borch Map
Year of Publication: 2013

India – North
Scale: 1:3,000,000
Publisher: Borch Map
Year of Publication: 2013

Seychelles
Scale: 1:50,000
Publisher: Borch Map
Year of Publication: 2013

London
Scale: 1:11,000/1:15,000
Publisher: Borch Map
Year of Publication: 2013

Los Angeles
Scale: 1:17,000/1:60,000
Publisher: Borch Map
Year of Publication: 2013

New York City
Scale: 1:15,000
Publisher: Borch Map
Year of Publication: 2013

Paris
Scale: 1:12,000/1:15,000
Publisher: Borch Map
Year of Publication: 2013

Athens
Scale: 1:7,500
Publisher: Borch Map
Year of Publication: 2013

Tokyo
Scale: 1:17,000
Publisher: Borch Map
Year of Publication: 2013

Rio de Janeiro
Scale: 1:13,000
Publisher: Borch Map
Year of Publication: 2013

Streetwise Rome
Scale: 1:8,700/1:17,000
Publisher: Streetwise
Year of Publication: 2013

Streetwise Vancouver
Scale: 1:12,500 to 1:120,000
Publisher: Streetwise
Year of Publication: 2013

Pyrenaen [Pyrenees]
Scale: 1:250,000
Publisher: Reise-Know How
Year of Publication: 2013

Atlas of True Names – Etymological map Canada
Scale: 1:11,000,000
Publisher: Kalimedia
Year of Publication: 2013

GIS TRENDS

ON THE MAP : THE MAP TREND LOCATOR

Courtney Lundrigan

BC Community Health Atlas

<http://www.phsa.ca/communityhealthatlas>

About

The BC Community Health Atlas is a free, web-based, interactive mapping tool that allows for quick visualization of a number of health determinants for the province of British Columbia. With a focus on community mapping, the atlas provides data visualization primarily for socio-economic and demographic indicators.

The Community Health Atlas draws upon data from Statistics Canada (2006 and 2011 census data), BC Stats, BC Stats Socio-economic Profiles, Ministry of Health, and the Ministry of Education.

Scope

The Community Health Atlas covers only the province of British Columbia. Most of the province is represented in the data, but there are some areas, particularly in the northern area of the province, where data is unavailable for some of the health indicators.

Dates of coverage are mostly 2005-2011.

Pros

- User-friendly, interactive
- Metadata available
- Demonstrates the importance of interdisciplinarity in mapping

Limitations

- Limited customization
- No option to create an account

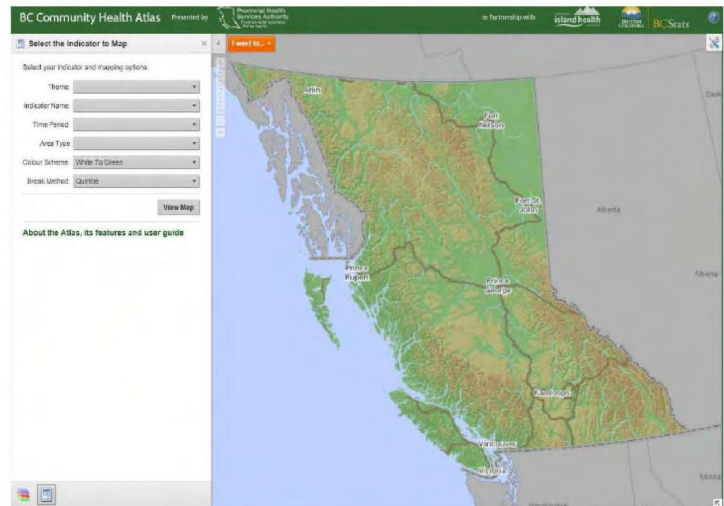
Features

Ability to export map to PDF, PNG, or CSV

Ability to email data

Searchable by city

Multiple help manuals available: quick, detailed, and a manual that explains functionality visually



Connected?

Not connected to social media outlets. Information about the Community Health Atlas can be shared on various social media platforms, but the service itself does not maintain social media accounts.

Recommended for Users?

Although the data covered in the Community Health Atlas is specific to British Columbia, it demonstrates the importance of collaboration and inter-disciplinarity in mapping. Similar initiatives in other provinces/government jurisdictions would ensure a robust collection of government data/mapping tools.



It is recommended for a variety of users. Community/public health professionals, social workers, educators, healthcare professionals, governments, school boards, researchers, academic scholars, and even the general public, can all benefit from the data provided in this free, user-friendly service.

President’s Message Continued

On the last day of the conference, we had a group brainstorm session that focused on the future priorities for ACMLA. The members present provided written and verbal feedback, for the Task Force, on several themes including: Networking and Communication; Advocacy and Outreach; Scholarly Communications; Professional Development; ACMLA Structure; Sharing and Collaborating; and Collection Management. The task force has until mid September to make recommendations to the Executive and the membership will vote on the future structure of the association. Once a new structure is decided, then a smaller task force will be established to rewrite the bylaws or implement the agreed-upon structure by early Winter 2014. The new structure and accompanying bylaws will be voted upon at the 2014 Annual General Meeting.

As members, your input is valuable and helpful for the members of our task force. It isn't too late for your input on future priorities for ACMLA and our structure, if you have any suggestions or ideas please contact Siobhan Hanratty.

Spring and Summer Happenings

On May 17th 2013, the opposition members of the Heritage committee organized a roundtable discussion called the "Roundtable on LAC and Canadian Heritage". The Round Table discussion included representatives from several library and archive associations, and Nancy Lemay represented ACMLA at the table. It was an opportunity to share thoughts regarding the shifts ongoing at LAC including the major financial challenges, reductions in services, as well as the new Code of Conduct for LAC employees, and how these changes have real impacts on the collection, protection and sharing of Canadian history and heritage. As a result of this meeting, the associations at the meeting wrote a joint statement on the Qualities of a Successful Librarian and Archivist of Canada. This statement can be found on our website. Thank you Nancy for your time and contribution to the Roundtable discussion!

Lastly, we are finalizing the location for the 2014 Conference, so we hope to announce this soon. In the meantime, I would like to wish everyone a wonderful summer and autumn.

Best Wishes,
Rosa Orlandini, July 19, 2013.