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Quarterly Newsletter of the
Canadian Cartographic Association/Association canadienne de cartographie

www.cca-acc.org

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A Word from the Editorial Team

This is the time to start thinking of preparations for our next annual general meeting that, as you are probably aware, will be hosted by the University of Calgary Geography Department, and will be taking place from May 31 - June 4, 2011. Once again we have the opportunity to meet as a joint conference, together with the Canadian Association of Geographers and the Association of Canadian University Planning Programs (ACUPP). The deadline for abstract submissions has closed but the registration is now open. Hopefully, you have already introduced the cartographic competitions organized by the CCA to your students, encouraging them to participate! It is always so interesting and refreshing to see the work of our young cartographers! Finally, don't forget to check the CCA travel policy at: <http://www.cca-acc.org/policy.asp> on the CCA web site, to determine if you are eligible for travel support.

In this issue, the table of contents presents articles from the interest groups "History of Cartography", "Map use and Design" and "Mapping Technologies and Spatial Data". Our President discusses the "value of linking the CCA with other organizations associated with cartography". And as the cover story, our colleague Dr. Majella Gauthier introduces us to an original study on the supply of food in the Saguenay using maps. We hope that you enjoy these articles. We appreciate and encourage your feedback and comments to anything published in this edition.

PRESIDENT



Power in Numbers

It's that time of year when many of you are thinking about the upcoming conference in Calgary. Work is busy, as everything has geared up after the holiday season. I can only guess how many struggled to get their abstracts in on time!

I'm reflecting on the next and last segment of my term as President and the goals that I have held. Primary is continuing to look for opportunities to link with other associations. Those who attended last year's conference in Regina experienced the benefits of the combined sessions. We have that opportunity again this year, thanks to Roger Wheate's suggestion, and looking at some of the GIScience specialty sessions, we will have exposure to a broad range of cartography related sessions to attend.

Dan Cole began working towards a joint conference with the Cartography and Geographic Information Society (CaGIS) during his term and he continues this work. He has been exceptionally successful this year at bringing North American Cartographic Information Society (NACIS), CaGIS and CCA closer together. There is a possibility of seeing these groups come together for a joint meeting in the next five years. This is no small effort.

Personally, I've had the opportunity to speak with the president of NACIS and Canadian Institute of Geomatics (CIG). The CIG is another organization that realizes the potential in bringing together a number of associations to meet and discuss cartographic issues and techniques. As we move forward there are many good reasons for joint conferences to be held.

One of the principal benefits of meeting with other groups is attracting people with a broader interest in addition to cartography. With fewer dollars and a multitude of interesting conferences to attend, it is not easy to choose which conference to attend. Therefore, offering more than one area of interest is a big advantage of a multi-association meeting.

There are also many related disciplines that work in the area of cartography but do not always understand the close ties. Areas such as geology, remote sensing and geomorphology quickly come to mind. These are fields that use mapping extensively but participants do not always think of attending a cartography conference. We might wish to consider tying our annual meeting with one or more of these associations

from time to time. In the meantime, we can make these associations aware of our meetings with the hope and potential of encouraging some interdisciplinary discussions and research.

The third reason to participate with other organizations is to attract more students. We have undertaken many positive steps in regards to recruiting student members. In addition to our lucrative student competitions and awards, we have lowered our rates for student memberships. A larger more diverse conference may attract more students.

This brings me to one of my more challenging goals, which is using the new media to better reach students. The Executive has been in favour of trying new ways of broadcasting our sessions. The opportunity to use YouTube or other such mechanisms needs to be explored. As of yet we have not been successful at executing something, but this may be the year. I would love to hear from any volunteers with ideas on how we could employ some new media at this year's conference.

I encourage everyone to come forward with new ideas for joint conferences or engaging students. We have many opportunities to bolster our student membership and we are pursuing several but are open to other ideas and, more importantly, volunteers to help us achieve this aim. I remain convinced that our small but engaged association will be successful in this 'new age' of everyone seeking cartographic images in traditional and e-formats. All this bodes well for the future of our association.

Author Donna Williams is President of the Canadian Cartographic Association. Donna is the Manager / Gestionnaire at the Atlas of Canada / Atlas du Canada, Mapping Information Branch / Direction de l'information cartographique, Natural Resources Canada/Ressources naturelles Canada, Government of Canada / Gouvernement du Canada.

PAST PRESIDENT



News and Thoughts from the Past President

I am pleased to announce that Anna Jasiak of NRCan agreed to become our next vice-president in June, and then to serve as the president in 2012 - 2013, and past-president in 2013-2014. Let us all congratulate and thank Anna in advance for her future service to the CCA.

Let us not forget that our current president and vice-president, Donna Williams and Gerald Stark, respectively, will be transitioning to past-president and president in June as well.

Other transitions that are occurring include the replacement of Jeremy Crampton with the installment of Nigel Waters as chief editor of *Cartographica* with issue 46:2. For about the last 16 months, I have served as copy editor for the journal, and I will now step aside to let Clifford Wood reassume those duties. Meanwhile, Roger Wheate, who has long served as the short and technical article editor, has stepped aside and I will be taking his place.

On a more whimsical note, I found an old CCA bumper sticker in a drawer the other day. It states "CARTOGRAPHERS RULE THE WORLD". While a literal interpretation of that statement is probably debatable, the power of maps as visual communication devices continues to enable cartographers and nascent mapmakers to define and thereby rule the topic and region of the world that is being mapped. While all maps provide a point-of-view by a cartographer, those same maps may be regarded as gospel truth by the map readers. I often see GIS users, who are untrained in cartography, making maps that people in their discipline may rely on for their research. Unfortunately, those maps are frequently made without a grounded understanding of how the classification method(s) used and the chosen projection affect the spatial data display.

Hopefully you have seen the call for papers and posters for the combined CAG/CCA conference in Calgary, Alberta (31 May to 4 June 2011), and you have gone to: <http://geog.ucalgary.ca/cag2011/> to submit an abstract for a paper, poster or even a special session. The deadline was February 4.

Author Daniel G. Cole is Past President of the Association. He is the GIS Coordinator, Smithsonian Institution, Washington, DC.

HISTORY OF CARTOGRAPHY SPECIAL INTEREST GROUP



“Here it is said Ice Never Thaws”

In this age of anthropogenic climate change, attention is focused on melting ice-sheets at the poles and waning glaciers at high elevations. Their diminishment will have serious global consequences. But not so long ago, during the Little Ice Age, ice was accumulating world-wide. Defined as a period extending from the 17th to the 19th centuries, it is generally agreed that the Little Ice Age had three minima, beginning about 1650, about 1770, and about 1850, each separated by intervals of modest warming.

Evidence from mountain glaciers suggests increased glaciation in a number of widely spread regions during the Little Ice Age. During the exploration of the Canadian Rocky Mountains in the late 18th and early 19th centuries, from the time of Alexander Mackenzie’s voyage through the western cordillera in 1793, to David Thompson’s explorations between 1807 and 1811, Joseph Howse’s foray in 1809, and Alexander Henry’s traverse in 1811, glaciers were more extensive than today. An 1814 map of British North America by Aaron Arrowsmith, based on explorations to that date, may be the first to depict the region of major glaciers in the Canadian Rockies.

Based on information from Thompson and other explorers, Arrowsmith’s map may be the earliest reference to the belt of icefields between Athabasca Pass to the north and Howse Pass to the south, including the Hooker, Clemenceau, Columbia, Lyell, and Campbell icefields. Along the height of land, forming the present boundary between B.C. and Alberta, is etched on the map the phrase, “Here it is said Ice never Thaws.” In his Narrative, Thompson writes of “the perpetual snows and Glaciers of the Mountains... [which] furnish water to form many rivers”(1916: 184). First Nations, the Stoney, Piegan, Kootenay, and Cree, likely used the passes across the Rockies before the Europeans arrived.

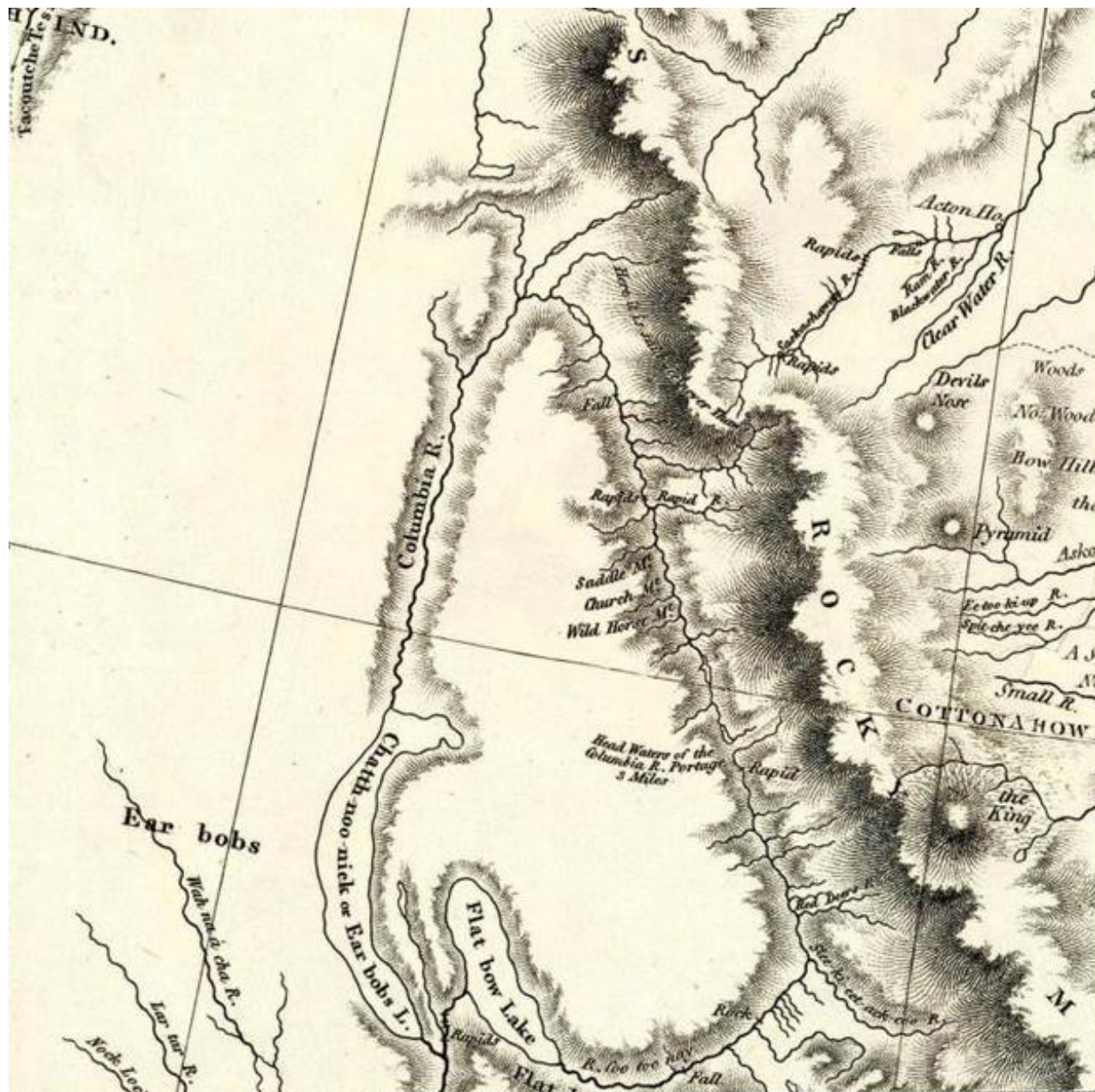
In fact, within this region of icefields is the so-called hydrological apex of North America, named Snow Dome (elevation 3,456 m / 11,339 ft). The famous Columbia Icefield comprising 325 km² completely covers the summit. From this peak water flows into the Pacific Ocean via the Columbia River system; the Arctic Ocean via the Athabasca River and Mackenzie River systems; and Hudson Bay via the North Saskatchewan River system.

The Columbia Icefield has six major outlet glaciers including the Athabasca, Columbia and Saskatchewan glaciers. Best-known and easily observed is the 6.5 km long Athabasca Glacier, covering an area of about 30 sq. km., accessible from the Icefields Parkway (Highway 93) between Banff and Jasper. Over the past few centuries, the glacier has advanced and retreated several times. Tree-ring studies indicate that around

1715 the glacier had advanced more than any time in the preceding 350 years and placed the glacier's terminus across Highway 93 near the present Icefield Centre.

The Athabasca Glacier has retreated 1,500 metres since the late 19th century. In 1870, the glacier was about 1 ½ times its present total volume and 2 ½ times its area. Historical records, maps, and photographs dating back to 1898 (when Snow Dome was first climbed) show that over the last century the glacier has retreated about 1.5 km. The rate of retreat for this glacier has increased since 1980. With global warming at work, the region “where Ice never Thaws” may well disappear in the future.

>> Continued on page 12



Part of Aaron Arrowsmith's 1814 map of British North America showing the Rocky Mountains and the region where "... "Here it is said Ice Never Thaws."



Effective Use of Colour and Visual Hierarchy – A Campus Map Example

Like other universities, the University of Regina produces and distributes a campus map to visitors, students and employees. In the past, the map was simply exported from a CAD file, which was originally created by U of R's Facilities Management department for planning purposes and campus development projects. This map was printed as a monochrome version, either in black or dark green. Due to its original use, the map was highly detailed and included accurate footprints of buildings, as well as other architectural and infrastructural details. In an attempt to improve the map and distinguish it from architectural plans, shadows were added to all buildings and a quasi-3D appearance was created (Figure 1).

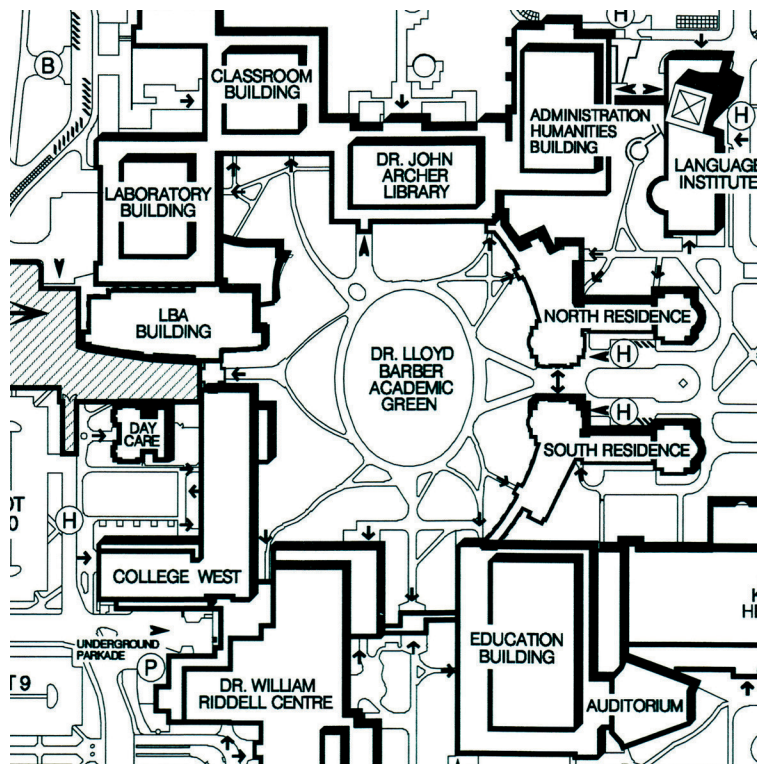


Figure 1: CAD version of U of R's campus map, printed with permission of the University of Regina

From a map user's perspective this map was visually very noisy and hard to read. The goal of effectively communicating geographic information by means of a map was clearly not accomplished with this version of the campus map.

To improve the map, a visiting cartography student to the Department of Geography developed several sample versions of the campus map applying two major cartographic design elements — colour and visual hierarchy. A limiting requirement for this map design exercise was to retain the original geometry of all map features in order to keep future workload of updating the map low by utilizing the existing highly detailed CAD file. Several CMYK-colour versions were created; Figure 2 shows a version where existing colour codes were assigned to buildings and natural features were visualized using associative colours. A more dramatic change was achieved by visually reducing the amount of line features such as double lined pathways (e.g., in the centre of the campus) by simply assigning colours in a $1 + 1 = 3$ fashion (Tufte 2001). In Figure 2, pathways are not actually depicted as coloured lines but are created as illusions of white lines ($= 3$) by the surrounding symbols for green space ($1 + 1$). Using this illusion helps reduce the visual noise of the map, and as a result, the map user can focus on more important map information.

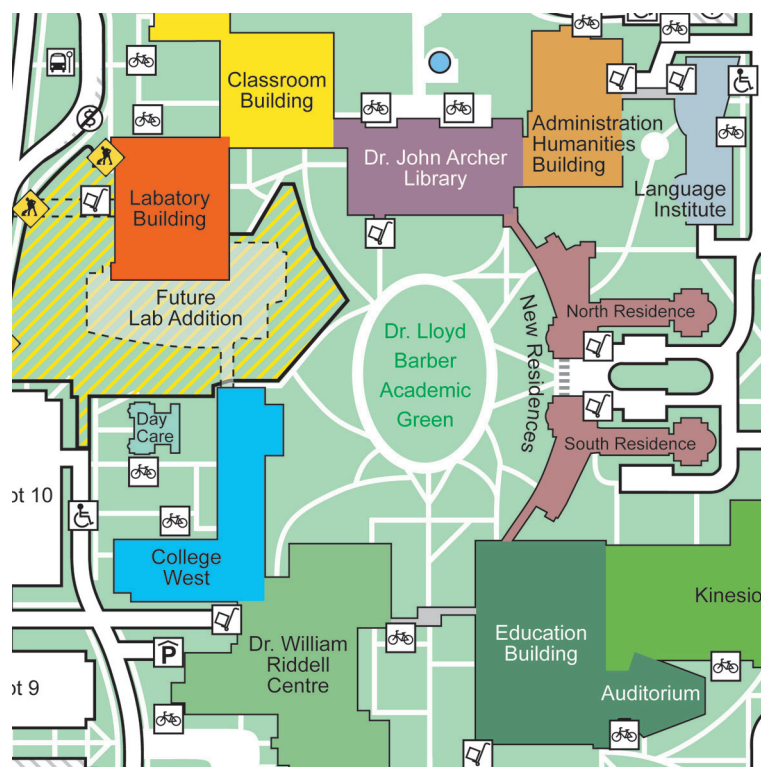


Figure 2: Coloured sample version of U of R's campus map, printed with permission of the University of Regina

As a second design element visual hierarchy was added to the map by using varying line thickness and intensity of colours to distinguish between different visual levels of map features. After consultation with the responsible department, it was decided to develop a new map design based on the original ideas of the sample versions by adding visual hierarchy elements and working with only two colours to allow for a more versatile future use of the campus map, which is often added as reference map to black and white or two-coloured publications of the university.

As a result, a visually much quieter map was created by using the very simple design elements mentioned above (Figure 3). The new bi-coloured map has fewer visually distracting elements and emphasizes important features, and therefore allows for easy and effective map use. User feedback indicates a high level of acceptance and appreciation of the well-grounded cartographic design.

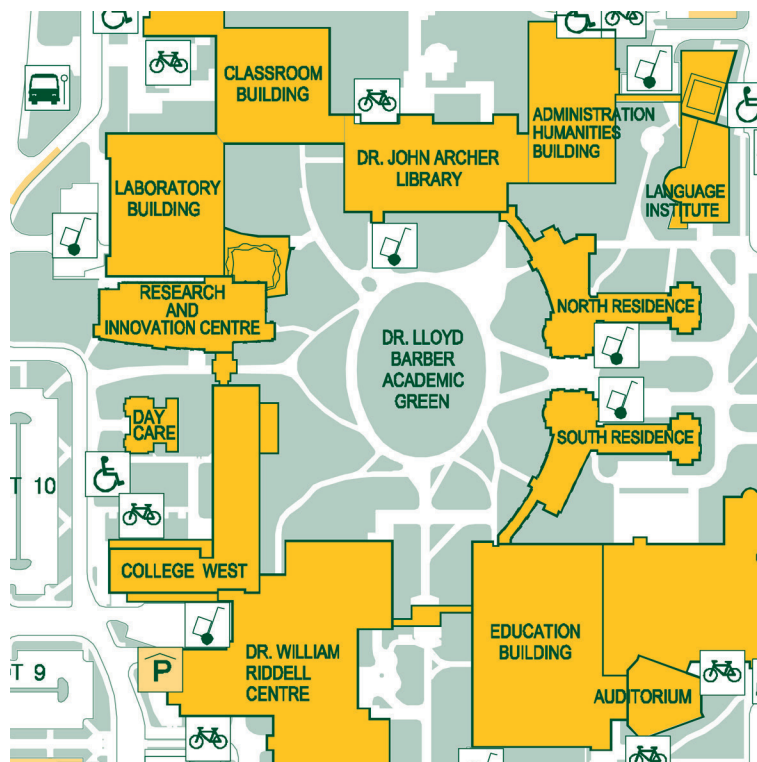


Figure 3: Bi-coloured final version of U of R's campus map, printed with permission of the University of Regina

Many thanks to T. Weigel, visiting cartography student from Munich University of Applied Sciences, Germany, for designing several versions of the campus map during his internship at the Department of Geography, U of R in 2006/07.

References:

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Author Julia Siemer is Chair of this Interest Group. Julia is an Assistant Professor of Geography (Cartography and GIS) at the University of Regina.



Changes in Mapping Technologies

I recently came across an article in Cartographica that discusses the end of the “ARC/INFO Driving License” era. The author was not talking about software licensing, although, as a result of cloud computing that might be changing as well. Rather, the article is talking about the beginning of a new era in which we no longer need to train GIS professionals to use the complex tools in more powerful GIS applications to make maps. This notion is driven by recent changes in mapping technologies and the free availability of spatial data.

We don't have to look far to find examples of freely available data and open mapping communities like Open Street Map (http://wiki.openstreetmap.org/wiki/Main_Page) also provide a venue for compiling and sharing freely available data. The British Ordnance Survey has just made all of its data freely available using an open licensing structure (<http://www.theengineer.co.uk/news/ordance-survey-maps-become-open-government-data/1006713.article>), which if implemented by other countries as it has been in the UK, will make even more spatial data readily available. On the application end, the world leader in GIS, ESRI, has started to make its applications available via the “Cloud” which is a fuzzy IT term that refers to the IT infrastructure, web based or network based, that serves up applications and data to clients. In other words, software applications and data will no longer have to be installed or stored on your local desktop computer.

The impact of technological change was discussed at length in the cartographic community when GIS became more accessible and established itself as ‘the tool’ for making maps. In another Cartographica article the author notes that there was a decline in cartographic research and teaching after this new GIS mapping technology became well established. It is interesting, however, that applications such as Avenza's MAPublisher, or acdsee's Canvas 12 with GIS+, which provide for high-end graphics manipulation of spatial data, still have a place in the market, and it will likely be sometime before Open Street Map becomes the definitive source for FedX or UPS routing data.

As a side note: Rodger Wheate has suggested a session for the upcoming CCA conference that deals with map production. We hope to include presentations from application providers like Avenza and ESRI and also some presentations that generally highlight recent advances or activities in map production.

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Hermanson, S. 2010. Teaching Cartography in Academia: A Historical Reflection and Discussion of a 2007 Survey of Canadian Universities, Cartographica, 45:1, 5-18.

Author Paul Wozniak is Chair of the Mapping Technologies and Spatial Data interest group and he is a geospatial data specialist at the Geological Survey of Canada.

>> Continued from page 7. . . , “Here it is said Ice Never Thaws”

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- Climate Change 2001: The Scientific Basis. UNEP/GRID-Arendal. http://www.grida.no/climate/ipcc_tar/wg1/070.htm.
- Map Full Citation: 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 Hudson Bay In testimony of their liberal Communications To their most Obedient and very Humble Servant, A. Arrowsmith, Hydrographer to H.R.H. the Prince of Wales. No. 10 Soho Square, January 1st 1795. Additions to 1811. Additions to 1814. London: Published Jan. 1, 1795 by A. Arrowsmith No. 10 Soho Square. Additions to 1802 Source: David Rumsey Historical Map Collection. Retrieved February 12, 2011.

Author Ken Favrholt is Chair of the History of Cartography interest group and Executive Director / Curator of the Osoyoos Museum in British Columbia's south Okanagan.

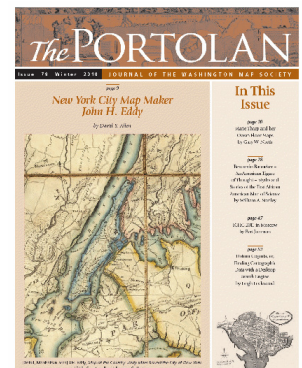
ANNOUNCEMENT

The Dr . Walter W. Ristow Prize

The Ristow Prize competition in History of Cartography, is open to full and part-time students, both graduate and undergraduate, and first year postdoctoral. Papers must be in English, but competitors may be of any nationality. For more details go to the Washington Map Society website and click on Ristow Prize: <http://www.washmap.org> This is a wonderful opportunity for your students; please encourage them to apply.

The winner of the Ristow Prize Competition shall receive the following:

- \$1000 cash award
- A one-year membership in the Washington Map Society
- Publication of the paper in *The Portolan - Journal of the Washington Map Society*
- Six copies of *The Portolan* in which the winning paper appears



>> Cover Story . . .

FOOD IN THE CITY OF SAGUENAY, QUÉBEC: CONTRIBUTION TO THE GEOGRAPHY OF THE NIGHT / LA RESTAURATION À VILLE DE SAGUENAY (QUÉBEC) : CONTRIBUTION À LA GÉOGRAPHIE DE LA NUIT

The Electronic Atlas of the Saguenay–Lac-Saint-Jean Region has produced an original study on the supply of food in Saguenay. We sought especially to understand how activities relating to the taking of meals vary during the day and especially how they differ between day and night. Has a geographer not said once: “A city where one cannot eat at night is not a city.” The analysis, conducted by Daniel Beaulieu-Gagnon, a geography graduate, and Majella-J. Gauthier, professor emeritus at the University of Quebec at Chicoutimi, clearly demonstrates, using maps and diagrams, that life goes on during the night. For example, of the 220 eating establishments (including restaurants as such, bars and accommodations), 23 (11%) are still open at midnight. The latter, should we expect, are better described as fast-food restaurants, and most are located in downtown Jonquière. For more information, visit the Atlas in the section Activités et Ressources and the following three sites:

http://www.uqac.ca/~aruqac/journal/temps_libre_24.pdf

<http://www.uqac.ca/uqactualite/categorie.php?date=20091029111841>

<http://www.cca-acc.org/awards/Carto-Quebec2009Winner.pdf>

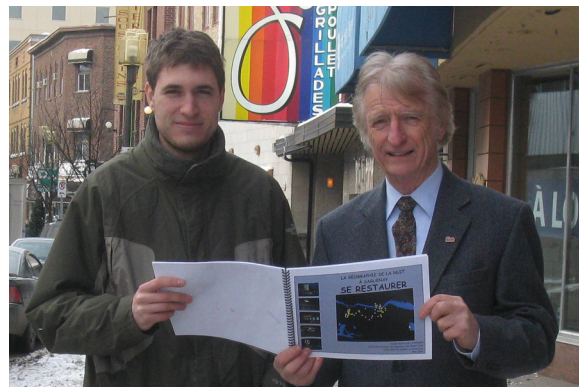
L'Atlas électronique du Saguenay-Lac-Saint-Jean vient de produire une étude originale sur l'offre de la restauration à Saguenay. On a cherché surtout à comprendre comment les activités liées à la prise de repas varient au cours de la journée et particulièrement comment elles se distinguent entre le jour et la nuit. Un géographe n'a-t-il pas dit un jour: « Une ville où on ne peut manger la nuit n'est pas une ville ». L'analyse, réalisée par Daniel Beaulieu-Gagnon, gradué en géographie, et Majella-J. Gauthier, professeur émérite à l'Université du Québec à Chicoutimi, démontre clairement, à l'aide de cartes et de diagrammes, que la vie continue pendant la nuit. Par exemple, sur les 220 établissements où l'on peut manger (comprenant: restaurants proprement-dit, bars et lieux d'hébergement), il y en a 23 (11 %) qui demeurent ouverts à minuit. Ces derniers, devrait-on en douter, correspondent plutôt à des établissements de restauration rapide; ils sont localisés davantage au centre-ville de Jonquière. Pour plus de détails, consultez le site de l'Atlas dans la section Activités et Ressources et les trois sites suivants :

http://www.uqac.ca/~aruqac/journal/temps_libre_24.pdf

<http://www.uqac.ca/uqactualite/categorie.php?date=20091029111841>

<http://www.cca-acc.org/awards/Carto-Quebec2009Winner.pdf>

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Daniel Beaulieu-Gagnon and /et Majella-J. Gauthier
Cover map and above photo courtesy of Majella-J. Gauthier /
Photographie et carte courtoisie de Majella-J. Gauthier

NEW PUBLICATIONS

Recent productions of the Electronic Atlas of the Saguenay–Lac-Saint-Jean Region, Quebec / Récentes productions de l'Atlas électronique du Saguenay-Lac-Saint-Jean (Québec)

<http://www.uqac.ca/atlas>

The team of researchers from the University of Quebec at Chicoutimi has the honour of conveying to everyone that certain map files are now available on the site. The first case concerns a series of maps (more than forty) relating to health in Saguenay–Lac-Saint-Jean. They illustrate the results of a health survey conducted by the regional Agency for Health and Social Services (Figure 1). Subjects include the physical and living environments, social environment, lifestyles and behaviours, health services, genetics, and of course the health of the population. The second issue concerns the continuation of the study conducted in 2002 on the indicators of consumer spending of households (Figure 2), but this time in 2009, obviously to include a comparison between the two periods. Twenty-five maps were produced and a multitude of tables can be consulted on the matter. Also, a few maps on the temperature and precipitation have been added. The Atlas has two projects currently underway, and the results will be put on the Web in the coming months. It concerns identifying the micro-climates along the Saguenay River in Saint-Fulgence, and determining the geographical origins of vacationers (second homes) on public lands in the region and James Bay area.

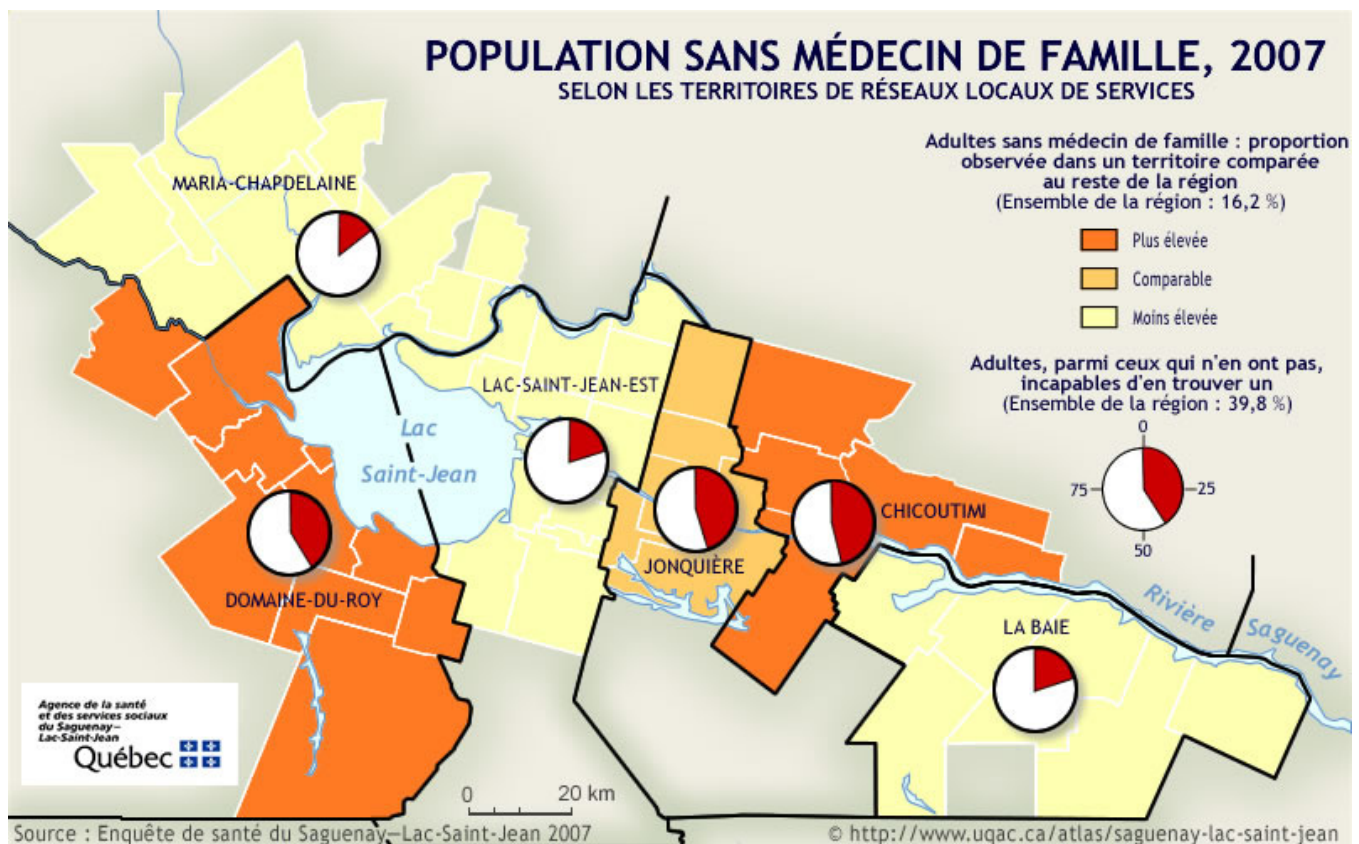


Figure 1: Population without a Family Doctor, 2007

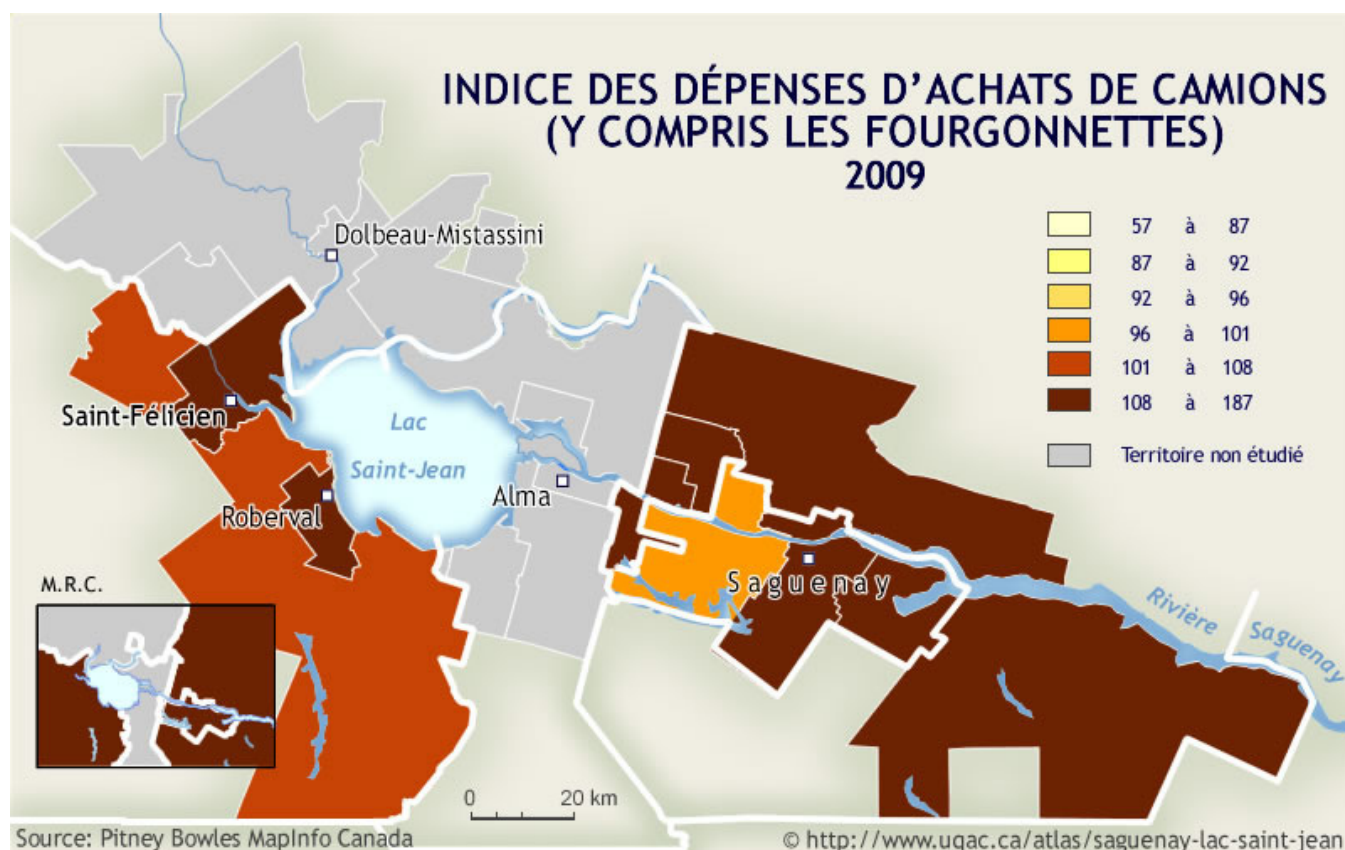


Figure 2: Expenditure Index of Truck Purchases (including minivans)

L'équipe de chercheurs de l'Université du Québec à Chicoutimi a l'honneur de faire part à tous que certains dossiers cartographiques sont maintenant disponibles sur le site. Le premier dossier concerne une série de cartes (plus qu'une quarantaine) liées à la santé de la région du Saguenay-Lac-Saint-Jean (Figure 1). Elles illustrent l'enquête sur la Santé réalisée par l'Agence de la Santé et des Services sociaux de la région. On y parle notamment de l'environnement physique et du milieu de vie, environnement social, habitudes de vie et comportements, des services de santé, de la génétique communautaire et évidemment de l'état de santé de la population. Le second dossier concerne la poursuite de l'étude réalisée en 2002 sur les indices de dépenses de la consommation des ménages (Figure 2), mais cette fois pour en 2009, y incluant évidemment une comparaison entre les deux moments. Ving-cinq cartes ont été produites et une multitude de tableaux peuvent être consultés sur la question. Également, il faut ajouter quelques cartes sur la température et les précipitations. L'Atlas a présentement en chantier deux projets dont les résultats seront mis sur le Web dans les prochains mois. Il s'agit de la détermination de micro-climats le long de la rivière Saguenay à Saint-Fulgence et aussi de la provenance géographique des villégiateurs sur les terres publiques de la région et de la Jamésie.

Dr Majella-J. GAUTHIER

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IN MEMORIAM

Dr. William C. Wonders, January 24, 2011

William C. Wonders was born in Toronto on April 22nd, 1924. He graduated from Victoria College, University of Toronto, graduated with a MA from Syracuse University, and a PhD on Climate of the Canadian Arctic Archipelago from the University of Toronto. He pursued a long career as a teacher, researcher and lecturer in several universities throughout Canada, the United States and Europe. His fields of expertise were geographical sub-fields from climate and settlement to vegetation and toponymy with a main focus on the northern regions. He became Fellow of the Royal Canadian Geographical Society from which he received the Massey Medal in 1998. A year later he was made a Member of the Order of Canada. Through his career Dr. Wonders had been involved in several associations and committees. He became President of the Canadian Association of Geographers in 1961 and participated actively in meetings of the International Geographical Union. He served on the Alberta Historic Sites Board and on the Canadian Permanent Committee on Geographical Names. Dr. Wonders ended his career at the University of Alberta as a Distinguished University Professor and continued to publish books and papers and supervised graduate students long after he retired in 1988. The University of Alberta names their map collection after him. Dr. Wonders, though not a member, was the husband of former CCA member Lillian Wonders.

Walter Kenneth Morrison, February 26, 2011

Walter Kenneth Morrison, Cartographer Emeritus, Centre of Geographic Science (COGS) in Lawrencetown Nova Scotia, passed away at the age of 86. Mr. Morrison worked as a professional cartographer with the National Geographic Society in Washington D.C., and then he became the Head Instructor of the Cartography Program at the Nova Scotia Land Survey Institute in Lawrencetown. Some CCA members will remember that Mr. Morrison gave presentations at various CCA meetings. You can read the Obituary for this historian of cartography at the following url : <http://jobspress.com/announcements/obituaries/cartographer-emeritus-passes-away-age-86-morrison-walter>

Professor Doctor Ingrid Kretschmer, January 22, 2011

The Austrian historian of cartography Dr. Ingrid Kretschmer was professor at the Department of Geography and Regional Research at the University of Vienna. During many years she held the role of President of the Austrian Geographical Society and the Austrian Cartographic Commission. She was also member of the Board of Directors of Imago Mundi. Dr. Kretschmer died in Linz Austria, on January 22nd. You can find Ingrid Kretschmer's official obituary (in German) at: <http://www.kartengeschichte.ch>



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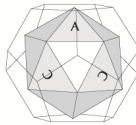
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