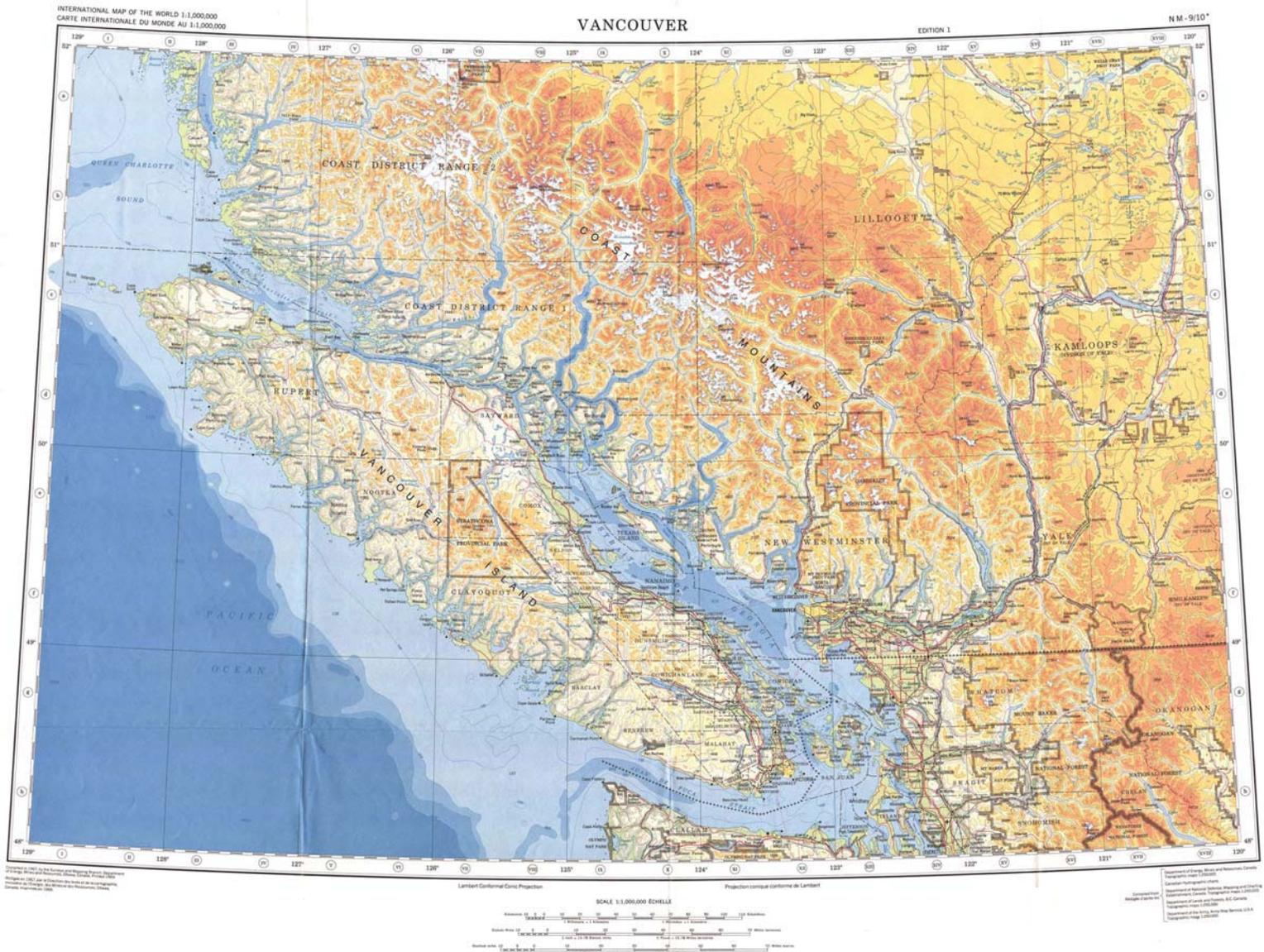


# CARTOUCHE

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

Number 69 ▲ Spring 2008



The International Map of the World (IMW) series provided uniform coverage of the World at the scale of 1:1 000 000 according to United Nations specifications.

Original map data provided by The Atlas of Canada <http://atlas.gc.ca/>  
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**Canadian Cartographic Association**

Department of Geography ▲ University of Victoria ▲ P O Box 3050, Stn CSC ▲ Victoria, BC, V8W3P5



# FROM THE EDITORS

The spring issue of *Cartouche*... As I write this, there is a snowfall warning for our area. I can't wait for the annual conference in Vancouver because it feels like I won't see spring until then! Enough of our Northern Ontario weather woes...

Spring is a time of renewal and a perfect time to reassess and recommit. For some interest group chairs, this may be their final issue to contribute to. Have you considered volunteering your time and knowledge to the CCA? The final issue of *Cartouche* for 2008 will also be the last for Barb and me as editors. Have you considered volunteering your time and talents as newsletter editor? The time commitment for both the Interest Group chair and Editor is fairly small, but the rewards are huge. What better way to stay connected to the cartography community?

As you go through your spring time rituals, keep in mind the CCA and the possibility of sharing your time and talents. It's a great organization.

Here's to spring and a time of renewal! See you in Vancouver.

Lori Martin  
Co-editor



# WELCOME NEW MEMBERS !!

Jeremy Crampton	Atlanta, GA	USA
Mark Gallant	Nepean, ON	Canada
Laura Holmes	Calgary, AB	Canada
Matt Veenman	Winnipeg, MB	Canada



# NEWS

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## U.S. Department of the Interior

Office of the Secretary

FOR IMMEDIATE RELEASE  
Jan. 29, 2008

Contacts:  
Joan Moody 202-208-6416  
John Mahoney 206-220-4621

### Secretary Kempthorne Names Members of National Geospatial Advisory Committee

WASHINGTON, D.C.--Secretary of the Interior Dirk Kempthorne today named 28 individuals to serve on the new National Geospatial Advisory Committee. The Committee will provide advice and recommendations on federal geospatial policy and management issues and provide a forum to convey views representative of partners in the geospatial community.

"Geospatial information and technology help many programs ranging from wildlife conservation to weather prediction to national security," said Secretary Kempthorne. "This committee will help provide advice and perspectives from a broad range of our partner organizations as we continue to develop new ways to utilize geospatial information for the benefit of the public."

Geospatial data and products, including maps, simulations and databases, are invaluable tools in the effective management of utility infrastructures, transportation, energy, emergency management and response, natural resource management, climate analysis, disaster recovery, homeland defense, law enforcement, protection planning and other civilian or military strategic issues.

Members of the National Geospatial Advisory Committee named today represent the varied interests associated with geospatial programs and technology.

#### THE NATIONAL GEOSPATIAL ADVISORY COMMITTEE

##### Members representing Private Sector, Nonprofits, and Academia :

- Sean Ahearn, Hunter College, City University of New York;
- Allen Carroll, National Geographic Society;
- David Cowen, University of South Carolina;
- Jack Dangermond, Environmental Systems Research Institute;
- Kass Green, The Alta Vista Company;
- David Maune, Dewberry;
- Anne Hale Miglarese, Fugro EarthData, Inc.;
- Charles Mondello, Pictometry International;
- Kim Nelson, Microsoft Corporation;
- Matthew O'Connell, GeoEye;
- John Palatiello, Management Association for Private Photogrammetric Surveyors;
- G. Michael Ritchie, Photo Science;
- David Schell, Open Geospatial Consortium; and
- Christopher Tucker, IONIC Enterprise.

##### Members Representing Governmental Agencies :

- Rizwan Ahmed, State of Louisiana;
- Timothy M. Bennett, NativeView;
- Michael Byrne, State of California;
- Donald Dittmar, Waukesha County, WI;
- Dennis Goreham, State of Utah;
- Randall L. Johnson, Metropolitan Council, St. Paul, MN;
- Randy Johnson, Hennepin County, MN;
- Jerry Johnston, U.S. Environmental Protection Agency;
- Barney Krucoff, District of Columbia;
- Timothy Loewenstein, Buffalo County, NE;
- Zsolt Nagy, State of North Carolina;
- Jay Parrish; State of Pennsylvania;
- Gene Schiller, Southwest Florida Water Management District; and
- Steven Wallach, U.S. National Geospatial-Intelligence Agency.

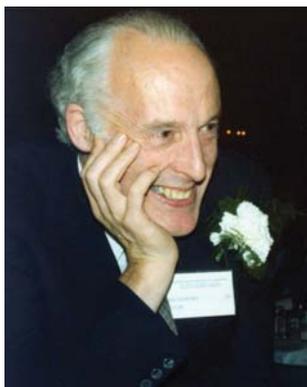
The members of the new committee will report to the chair of the Federal Geographic Data Committee which is the Federal interagency executive group responsible for providing leadership and direction in Federal geospatial programs. It is chaired by the Secretary of the Interior or the Secretary's designee.

The National Geospatial Advisory Committee, formed under the Federal Advisory Committee Act, will function solely as an advisory body, providing recommendations on effective management of Federal geospatial programs. In particular, it will provide advice on the development of the National Spatial Data Infrastructure (NSDI), which promotes sharing of geospatial data throughout all levels of government, the private and nonprofit sectors and the academic community.

The Committee is expected to meet three to four times per year. The public will be invited to comment and make suggestions at all committee meetings, which will be announced by publication in the Federal Register at least 15 days prior to the meeting date. The U.S. Geological Survey, a bureau of the Department of the Interior, will provide support services for the committee.

The Federal Advisory Committee Act, also known as FACA, was enacted by Congress in 1972 to ensure that advice rendered to the executive branch by advisory committees, task forces, boards, and commissions formed by Congress and the President, be both objective and accessible to the public. The Act formalized a process for establishing, operating, overseeing, and terminating these advisory bodies.

Geospatial information refers to information integrated from multiple forms of data about precise locations on the Earth's surface. The sources of data include photogrammetric, infrared and multi-spectral images; geographic, hydrographic, and geomagnetic data; environmental, political, and cultural information - that use common interoperable standards. It may be presented in the form of printed maps, charts, and publications; in digital simulations and modeling databases; in photographs; or in digitized maps and charts.

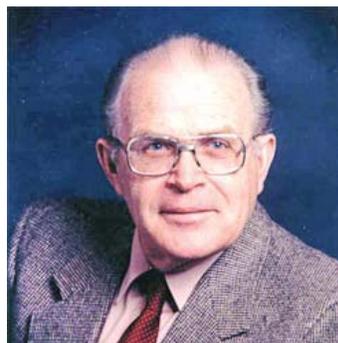


## OBITUARY

John Bartholomew  
(1923-2008)

John Christopher Bartholomew, the last in the line of Bartholomews to have been cartographic director of the hugely influential and greatly respected Edinburgh map-making firm of John Bartholomew & Son, died on 16 January 2008, just one day after his eighty-fifth birthday. His story, and that of the Bartholomew dynasty as a whole, is an integral part of our heritage and history here in the cartographic division of HarperCollins. Until his death, John continued to take a great interest in our activities and products, particularly developments relating to The Times Comprehensive Atlas of the World – a product whose history is inextricably linked with the name Bartholomew. John saw, and thankfully was very impressed by, the recent 12th Edition of this atlas. Our aim with this publication has always been to maintain and develop it as necessary but to never lose sight of the overall standards by which it is judged. John was highly influential, particularly through the 1950s and 1960s in shaping many of the underlying editorial policies and principles which we still follow. Maps in Times atlases still carry copyright notes with the Bartholomew name, and we continue to trade under the brand Collins Bartholomew for our geographical data and contract mapping business.

...excerpted from <http://www.bartholomewmaps.com/>



## OBITUARY

Richard (Dick) Irwin Ruggles  
(1923-2008)

FOUNDER OF THE  
DEPARTMENT OF GEOGRAPHY  
QUEEN'S UNIVERSITY  
1960

RUGGLES, Dr. Richard (Dick) Irwin - June 27, 1923 to January 9, 2008 - (Professor Emeritus at Queen's University, Kingston, Ontario) - Died gently at his home at Duncan, B.C. on January 9, 2008, in his 85th year. Beloved husband of Mildred E. (Duncan) Ruggles and dear father of Myles A. Ruggles of Toronto and Margaret Arlene Ruggles-Eby of Wheatley, Ontario. Will also be very much missed by his sister, Norine R. Atack of Orangeville, Ontario and his nieces and nephews, Bev, Gay, Ray, Bob, and Tim. Also dearly loved by his grandchildren (Maya, Sara, Justin, Johanna and Diana), his great-grand-daughter (Kayla), and greatly missed by his many friends, former colleagues, and students. Dick was a man admired by all who knew him for his kindness, gentleness, humility, fairness, commitment, creativity and integrity, and these qualities were expressed throughout his professional, public and personal life.

Born and raised in Toronto, Ontario, Dick earned his BA in Geography from the University of Toronto (1945), his MA from Syracuse University (1947), and his PhD from the London School of Economics (1958). He taught at UBC from 1953-60 before moving to Queen's University to found the new Geography Department in 1960, for which he served as Chair for several terms, and from which he retired in 1988. In addition, he taught courses at McMaster University (1947-50), Columbia University (1948), the University of Edinburgh (1963), and in Bermuda. His main fields of teaching and research interest were Canadian historical geography, Soviet and Russian economic and political geography, cartography, and urban geography and planning. Included among his many well-received publications are *A Country So Interesting: The Hudson's Bay Company and Two Centuries of Mapping (1670-1870)*, and the *Historical Atlas of Manitoba* (the latter co-authored with John Warkentin). In addition to his teaching, research and administrative achievements, he belonged, and made significant contributions to numerous professional and community associations and government bodies, including the Royal Geographical Society, the Royal Canadian Geographical Society, the Canadian Cartographic Association, the International Geographical Congress, the National Commission for Cartography, the Social Sciences and Humanities Research Council of Canada, and several Kingston-area planning and fundraising committees. Some of these contributions have been recognized and honoured: the Canadian Association of Geographers, the Canadian Cartographic Association, the National Archive of Canada, the Canadian Historical Association, the University of Toronto, and the American Association for State and Local History have all conferred awards. In his retirement years Dick had the pleasure and companionship of extensive travel with Mildred (and their cats), developed his talent for watercolour painting and photography, and offered, as both host and guest, his enlivening company and conversation to his many friends and family.

*Obituary from the Kingston Whig Standard - Friday January 18, 2008*



## Cartographic Education *Éducation cartographique:*

Karen Vankerkoerle  
University of Western Ontario

### Lasting Impressions of a Great Educator

The sign of a truly great educator is when they are not solely remembered for the awards they received or the number of publications they put forth, but for having made a significant imprint on the education system and for being remembered fondly by their students. Dr. Edward Gustav Pleva was such an educator. He was the founder of the University of Western Ontario's Geography Department in 1938 and played a major role in shaping the geography high school curriculum of the 1950s and 60s ([www.geography.ssc.uwo.ca/tribute/pleva/memorial.html](http://www.geography.ssc.uwo.ca/tribute/pleva/memorial.html)). He was the recipient of the Massey Medal in 1978 for "his unique contribution to the development of modern geographical education in Canada, and especially to the training of university and high school teachers now to be found from coast to coast." (Massey Medal - [www.rcgs.org/rcgs/awards/awards\\_masseyPrévWinners.asp](http://www.rcgs.org/rcgs/awards/awards_masseyPrévWinners.asp)).

Western established the Edward G. Pleva Award for Excellence in Teaching to honour those who follow in his footsteps in the pursuit of providing quality education. Dr. Pleva regarded teaching as "one of the highest callings" ([www.uwo.ca/tsc/ppleva\\_info.html](http://www.uwo.ca/tsc/ppleva_info.html)). He also acknowledged that, "teaching has always been central to my career. My only claim to recognition rests in the relationship I have with the thousands of geography students in the classes I taught." ([www.uwo.ca/tsc/pleva\\_info.html](http://www.uwo.ca/tsc/pleva_info.html))

Some hidden gems have recently been discovered in the Geography Department at Western. Large card stock (28" by 22") panels Dr. Pleva used to write condensed lecture notes on. These panels were photographically reduced to a standard letter size for printing and handing out to students. The topics and information on these panels remain current more than 30 years after their creation. He lectured about global warming, long before it became an 'Inconvenient Truth'. He had the foresight to speculate that maps developed from satellite imagery would be more commonly used. These panels give insight into the type of teacher he was, adding humour (figure 1) to make a point and posing questions to encourage students to think. On the "School Atlases" panel he touches on why there is a need for geography students to have access to atlases and the importance of maps as "communication devices". Dr. Pleva believed that "a map is a 'publication' as well as an art form". In other words, they are so much more than pretty pictures.

The Canadian Oxford School Atlas (figure 2) is likely one of the most recognizable atlases among Canadian geography students. It has been in publication since 1957 and is currently on its 8<sup>th</sup> edition. According to David Stover, president of Oxford University Press, it remains Oxford's biggest seller of all time in Canada. Dr. Pleva was the editor of the first three editions of this atlas. He believed "an atlas must have a purpose, a design, logic, consistency, and a completeness within the constraints of purpose. It must also have integrity, identity, accuracy and honesty." (Pleva Panel - "School Atlases"). The Oxford atlas upholds all of these standards (figure 3). There is consistency in the orderly manner that the material is presented. A wealth of information can be found within the atlas from the thematic

maps and the statistics that accompany them. The themes cover a range of topics from population, transportation, vegetation, climatic regions, soils, agriculture, geology, and industry. The atlas flows through the maps of Canada as a whole and moves on to larger scale regional maps of Canadian provinces/territories, starting from the east coast, moving to the west coast and then on to the northern territories. From here the maps move on to global regions. The final series of maps are world maps that cover the same themes that were illustrated on the Canadian maps. Overall the uniformity of the atlas makes it easy to navigate through and a wonderful teaching aid for high school teachers.

Dr. Pleva was an educator who deserves praise for all that he has contributed to the geographic and cartographic communities in Canada. He has left behind a treasure trove of knowledge to be preserved and observed for years to come.

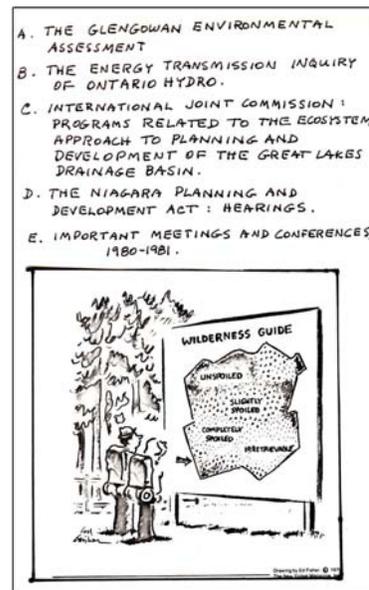


Figure 1: An excerpt from the "Natural Resources of North America's Realm" panel, demonstrating the use of a carefully placed comic to make a serious point about the state of our natural resources.

Figure 2: The Canadian Oxford School Atlas, second edition, edited by Dr. Pleva.

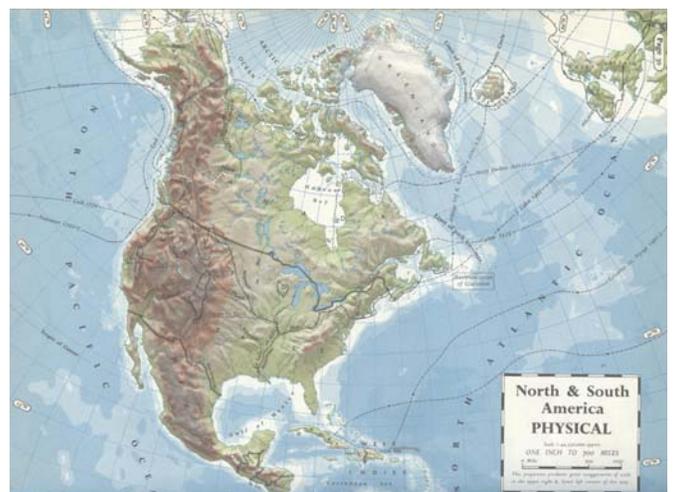
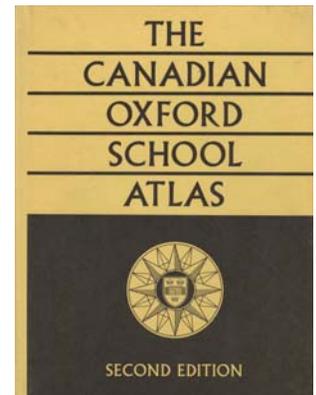


Figure 3: The physical map of North America from The Canadian Oxford School Atlas, 1963.



**Map Use and Design**  
*Conception et utilisation des cartes:*

Elise Pietroniro  
 University of Saskatchewan



**Analytical Cartography & GIS**  
*Cartographie analytique et SIG:*

Penny Hutton  
 AbitibiBowater Inc.

**'The Changing Face of Map Design:  
 Teaching Map Design in the new Millennium'**

As an Instructor in Cartography, and in particular, when teaching aspects of Map design, it is important that the changing face of this discipline be addressed. It is true that some elements of map design will never change, all maps have a purpose or a theme, and the key to good map design is in its ability to communicate geographic information. Nothing regarding this statement has changed for as long as maps have been produced. In recent years however, technological advances and changes in mapping processes have ultimately forced the face of map design to be re-examined to work within the environment thrust upon map-makers including things like new media and electronic resources. The technical aspects as well as the cognitive aspects of map design therefore will differ in light of these advances. For instance, it is that much easier to re-configure a map layout within an electronic media; the cost to do this within traditional media would be far greater with respect to time and materials. With regards to cognitive aspects, in my own graduate research, it was clear that younger generations look at maps very differently, particularly electronic maps, than their predecessors. The younger age groups had no problem navigating within an electronic environment, and were able to extract information quicker and more accurately. I believe the same holds true for future map designers. The technological evolutions in map production and map design are ones that new generations of up and coming cartographers will take for granted. Many will think in terms of designing for electronic media and use this media in their methods for learning.

Map design is often taught as part of technical courses in geography; courses in GIS, digital mapping among others. It is difficult to separate the technical environment that encompasses mapping and map design, and because of this, it is important to understand the way students within these environments learn. Through some simple testing with my own students over the past 3 years, it was found that the majority of students in the technical geography course preferred a kinesthetic mode of learning. In a kinesthetic learning environment, students learn mostly from doing, it is a more hands on approach, particularly within a computing milieu. The capabilities of electronic resources allow students to practice their craft through much trial and error; therefore technology lends itself to this mode of learning. Students also showed a preference for visual learning as well as kinesthetic. Students can learn good map design by observing examples of both good and poor examples of map design; this is a practice that works with both traditional and new media. Finally, there was also a strong tendency towards a multimodal method of learning. This strategy encompasses multiple preferences in terms of learning methods. In the case of my own students, those designated as preferring a multimodal method were prevalent in both kinesthetic and visual strategies.

The success of a map is deeply dependant on map design, and some of the basic principles will not change in light of technological advances. However, it is worth thinking about implementing new methods that take into consideration evolution in technology and being conscious of preferred learning strategies by students who work within this technological environment.

**What's Coming in ArcGIS 9.3**

Since I am essentially an ESRI products user (whether it be for analysis or for mapping), I am always interested to know what's new and what's coming out in future releases from ESRI. I thought I would spend some time this issue summarizing the latest and greatest additions for ArcGIS Desktop that will be arriving in version 9.3, which is expected to be available in the third quarter of 2008.

This information and further information on what's coming in other ESRI products (ArcGIS Server, ArcGIS Mobile, and Geodatabase) is available at <http://www.esri.com/software/arcgis/about/whats-coming.html>.

**General**

- ArcGIS Desktop 9.3 has accommodated enhancement requests from users and has addressed many technical support issues
- ArcGIS Desktop 9.3 is supported on Windows Vista, Windows XP, Windows 2003, and Windows 2000.

**Mapping Enhancements**

- bookmarks are easier to access and use, and include more functionality
- increased performance by the ability to pause labels from drawing
- features can now be created by drawing graphics without using the editor using a new convert graphics to features function
- attribute table improvements such as multiple field sorting and persisting field aliases
- legends simulate layer transparency
- can now add useful online data to your map through a new ArcGIS Desktop Resource Center
- automatic error reporting system which sends error reports to ESRI

**Cartography**

- improved curved graticule support
- what you see is what you get (WYSIWYG) editing
- automatic street address placement
- multiple view windows
- improved labeling for contours
- marker dispersal tool allows you to spread coincident representation markers apart

**Modeling & Analysis**

- iterative modeling (which I discussed in Cartouche #68) has been refined
- improved scatter plot graphics
- geographically weighted regression tool to analyze how processes vary over space

**3D Visualization**

- improved KML support
- 3D time series animation improvements
- Collaborative Design Activity (COLLADA) support for realistic display of 3D models

Sounds good doesn't it? Too bad for me, I am still stuck on ArcGIS Desktop 9.1.

To all who will be in attendance at the conference in Vancouver, have a great time, learn lots, and don't miss me too much (ha ha!) Unfortunately, I am unable to attend due to having young children at home, but I am sure it will be an excellent gathering of CCA members from across Canada.

Until next time...



## History of Cartography/ *Histoire de la cartographie:*

Edie Punt  
ESRI

### Historical Land in a Virtual World

This is my final article for Cartouche as the History of Cartography Interest Group Chair, and I find I have come full circle. When I began writing this column, I set out to highlight modern, inventive approaches to the study of historical maps. I wanted to show how bringing old maps into a digital world can breathe new life into them and allow them to be understood in entirely new contexts. Technology now makes it easy to not just inspect historical maps from a closer vantage point than possible with the naked eye, but also to gain new perspectives by juxtaposing maps with other spatial information.

It is no secret that my recent interest in historical cartography was sparked by the privilege I had in collaborating with map collector David Rumsey a few years ago. Rumsey's collection of maps from the 18<sup>th</sup> and 19<sup>th</sup> centuries is one of the largest in private hands, but he has worked tirelessly for decades now to ensure that his maps reach as wide an audience as possible. His maps are fragile and rare and located in his private home—so he relies on technology in a variety of forms to share his treasures with people around the world. He realized early that information is unleashed from his maps most significantly when they are compared to one another. It is in this light that he set out to help people to not only see his maps, but also to find ways to compare, contrast, and experience his maps.

He began in the 1990s by scanning key pieces in his collection one by one, at very high resolution. To date over 17,000 maps have been digitized in this way, creating a fully cataloged online library available for viewing and download at [www.davidrumsey.com](http://www.davidrumsey.com). Next, he began to georeference some of these digital images to real-world coordinates, facilitating their comparison to contemporary data sources. A Java application he called the QuadViewer (available at his site) allows visual comparison of up to four maps of the same location to see how the depictions of landscapes changed over time, or perhaps by different cartographers. Modern vector and raster data can also be included in these comparisons. His next foray was into the third dimension; he began to drape his georeferenced flat maps over digital elevation models (DEMs) of the same areas, bringing their historical depictions to life within the context of the crevices of the terrain.

The first article I wrote for this column in 2006 outlined the next step that the Rumsey Map Collection had taken. Some of the collection's most engaging maps were now available as layers in Google Earth and could be draped—fully geo-referenced—over the globe in conjunction with any other data accessible by Google Earth. The possibilities for comparison were suddenly endless, and navigation over the map surfaces afforded entirely new perspectives.

Now, Rumsey has taken a giant leap further in this direction. No longer content to let you examine historical maps in context of our modern world, he has begun to place them in all their three-dimensional, high-resolution glory within a virtual world. He has created an island in Second Life where you can walk on,

fly over, and gaze upon historical maps as though they were tangible terrain. Included in this virtual arena is an impressive visitor's center, where you can learn more about each map, and many others that make up his collection. Rumsey launched the island on March 6<sup>th</sup> with a visually stunning presentation delivered virtually from the island itself. Construction of the islands was a joint effort with Centric, a Los Angeles-based advertising agency that intriguingly operates an office from within Second life as well. The Rumsey Island can be accessed directly in Second Life at:

<http://slurl.com/secondlife/Rumsey%20Maps%203/121/69/55>.

Registration is required.

The island is impressive. Its landscape is formed by George Wheeler's 1883 map of Yosemite Valley draped over a modern DEM. On your visit, you can fly through the valley and look up over its walls. Hovering above this terrain are two of Cassini's globes, dated 1790, slowly spinning. One is terrestrial, and the other celestial. You can fly around the globes, and even through to the inside of each to see them from their centers outwards. The experience of being inside these globes is remarkable, especially when you realize that they began life as a series of two-dimensional segments drawn orange-peel like on a flat page over two centuries ago.

Rumsey uses technology to uncover more information in old maps than first meets the eye. He has always challenged map readers to look beyond the single object to compare, contrast, draw conclusions, and find new truths. Now, by bringing historical information together with real topography in a virtual world, he encourages them to experience his maps in a whole new way.

### INTERNATIONAL CARTOGRAPHIC ASSOCIATION ASSOCIATION CARTOGRAPHIQUE INTERNATIONALE

ICA Commission on the History of Cartography: Symposium

**Date:** September 10 - 12, 2008

**Venue:** University of Portsmouth, United Kingdom

**Symposium theme:** "Shifting boundaries: cartography in the 19<sup>th</sup> and 20<sup>th</sup> centuries".

- the impact of new technologies,
- colonial cartography,
- military cartography, and
- marine cartography

Particulars regarding the submission of abstracts (deadline 31 March 2008) appear on our website [www.ichistcarto.org](http://www.ichistcarto.org)



## Map Production Technology *Technologie de production cartographique*

Lori Martin  
Ontario Ministry of Natural Resources

This being the map production technology interest group, I try to include something about new technology or a new way technology is used in each issue of Cartouche. I recently had an experience that gave me pause to realize that I haven't really given any consideration to the user's reaction to this technology.

Not long ago, I was tasked with providing maps to be used in discussions that covered a large geographic area. Not only was the area large, but the "wish list" of what to include on this map was enormous. It became apparent that everything couldn't be shown on a single map. It would have to be a series of maps. However, the client wanted to be able to view all of the information at the same time. What to do...

A decision was made to use mylar overlays. Mylar, you say? The only time I've seen mylar in the last six years was when working on historic data capture projects. The issues with using this medium were significant. I was 700 kilometers away from the client and the overlays were needed within twenty-four hours. There was no way to produce the overlays and ship them to the client on time. So, I suggested using ArcReader, a free graphic map viewer from ESRI. I could set it up so each layer could be viewed (or not) at the click of a mouse. This, I'm afraid was too overwhelming and the hunt was on to find an office close to the client that could print and deliver the mylars. Many phone calls later and a somewhat harried assistant we got the mylars to the client. We did it, but at what cost? The client even commented that the overlays were heavy to carry back to the office after the meeting was finished.

A couple of days later, the next request for maps (with overlays) was received and the timelines not much longer. This time we convinced the client to have a look at the map viewer. The client was an adventurous sort and after a quick "training" session was off to the meeting – minus the mylars! This time the tools were a laptop and projector.

What really caught my attention was the fact that there are a lot of people in professional work places who are still really intimidated by technology. What I take for granted in my daily work life is not so simple for some people. The result can be an unwillingness to embrace technology. It turns out another aspect of my job is to walk people through a difficult, overwhelming experience and have them come out the other side with their dignity intact!

I have to say, it felt good to produce one more convert!

# CELEBRATE EARTHDAY

## April 22, 2008

EARTH DAY is the first day which transcends all national borders, yet preserves all geographical integrities, spans mountains and oceans and time belts, and yet brings people all over the world into one resonating accord, is devoted to the preservation of the harmony in nature and yet draws upon the triumphs of technology, the measurement of time, and instantaneous communication through space.

Earth Day is a name used for two different observances, both held annually during spring in the northern hemisphere, and autumn in the southern hemisphere. These are intended to inspire awareness of and appreciation for the Earth's environment.

### When is Earth Day?

Earth Day is April 22nd every year, all around the world. Earth Day has grown so much that celebrations take place throughout the whole month of April, also known as Earth Month. Earth Day 2008 is Tuesday, April 22.

### How many people celebrate Earth Day?

More than 6 million Canadians join 500 million people in over 180 countries in staging events and projects to address local environmental issues. Nearly every school child in Canada takes part in an Earth Day activity.

Earth Day Canada's

## TOP 10 ACTIONS

... to help the environment

- 1 – **Park It** – leave the car at home
- 2 – **Shut Down** – turn off the lights
- 3 – **Where's the Beef** – eat meat free one day a week
- 4 – **Eat it** – Choose locally grown organic foods
- 5 – **Let it Rot** – Compost
- 6 – **Don't be idle** – turn off your engine
- 7 – **Keep an eye on the temp** – lower your thermostat in winter
- 8 – **Bright Ideas** – use compact fluorescent bulbs
- 9 – **Don't dump it, blue box it** – Recycle
- 10 – **Tell someone** – brag about your actions

# L'ATLAS ÉLECTRONIQUE DU SAGUENAY-LAC-SAINT-JEAN (QUÉBEC, CANADA) EIGHT YEARS OF PRODUCTION AND DIFFUSION

Majella-J. GAUTHIER (Ph.D. Geogr) mgauthie@uqac.ca  
Human Sciences Department  
Member: Regional research and intervention group (GRIR)  
Remote sensing and geomatics expertise and research  
laboratory  
Université du Québec à Chicoutimi

## Introduction

Since the year 2000, the Saguenay–Lac-Saint-Jean online atlas has produced hundreds of maps and thousands of pages for the Web. The people behind this regional analysis project have just completed a detailed study of its influence, mostly by observing visitor profile and preferences.

The following pages provide a brief look at the summary of a recently published report (the complete report is available (French only) for download in PDF format from the Atlas site, in the “Produits connexes” section, at the following address: [www.uqac.ca/atlas](http://www.uqac.ca/atlas), or directly at [http://atlas.uqac.ca/rapport\\_visiteurs.pdf](http://atlas.uqac.ca/rapport_visiteurs.pdf). We present here a short description of the context and draw a general picture of what the study revealed.

## 1. Geographical analysis of the region

**Reflection** on regional territorial development cannot be achieved without the information gathering tools used by land planners and residents as a whole.

Regional development issues, and problems associated with regions, require analyses which lead to a clearer definition of the active components and driving forces within. These need to be understood and examined in order to reveal and measure tendencies and, if possible, undertake corrective action to redirect and influence their course.

Regional geographical analyses are usually well served by the production of series of maps and atlases which, at first, study the spatial structures that make up the territory. It is important to note that “maps do not ‘speak’ on their own, a learning curve is involved”; especially when we refer to models and to the identification and the interpretation of spatial forms (Brunet 2006).

To this end, university researchers in the **Saguenay-Lac-Saint-Jean** region, in the province of Québec (Canada), decided to produce a geographical atlas of the region (so-called a resource region); a territory inhabited by a few hundred thousand people whose economic viability relies mainly on the lumber, aluminium, and agrifood industries. Moreover, its geographical location, a large river basin set in the centre of the Canadian Shield, makes it a unique “tempered oasis in a Nordic setting” (Gauthier and Bouchard 1981).

The idea for a Québec regional Atlas project was launched in 1995 during a symposium held within the framework of the Acfas conference in Chicoutimi (Carrière, Grégoire and Klein 1997). In 1997, a team from UQAC (Université du Québec à Chicoutimi) was asked to produce a prototype of a regional atlas, to see how it could be constructed (presented at the Trois-Rivières Acfas conference). And from this first attempt were initiated other regional experiments (in the Bas-Saint-Laurent and Québec-Appalaches regions, for example).

Since the year 2000, the UQAC team has placed over **600 thematic maps** on the Web. They initially attempted to make a complete territorial inventory, and then went on to dig deeper into the other regional dimensions treasured by researchers and partners from the community.

The method used for the **study/the report on the diffusion of the Atlas** relies mostly on data from the Awstats Web analyser, used by the computer service department of the University. The automated service gathers data on: the number of pages consulted by browsers per search engine; the occurrence of search words used in search engines like Google, Yahoo, etc; the pages consulted by various IP (Internet Protocol) host origins, pages consulted by country; the map consultation frequency, etc. In most cases, the period covered by the data is one year; depending on the situation, it can be 12 months (April 1<sup>st</sup> 2006 to March 31 2007), or 13 months (April 1<sup>st</sup> 2006 to April 30<sup>th</sup> 2007). Data analysis is essentially based on frequency calculations, which enables to quantify the aspects under study, to classify them by numbers of hits; in short, we were able to confirm what we have observed on a day-to-day basis and we also made a few unexpected discoveries.

## 2. Encouraging results

Analysis of the data on browser numbers, browser interest, and hit frequency per country of origin reveal interesting considerations on the use of the Saguenay–Lac-Saint-Jean Atlas and its contents.

1. Since the beginning of the project, consultation of the Atlas has been promising and remains steady. Currently, the monthly average of hits is around 915. On November 5, 2007, the total was 75 000 hits.
2. Browsers, through search engines like Google and Yahoo for example, use several significant words to find the site; 389 relevant words were used, for a total of 36 748 entries. The aspect most looked at is regional economics. Honourable mention goes to territorial definition, forestry and lumber, and analysis concepts and methods used.
3. Browser origins, analyzed from IP addresses, show that enterprises and organizations located in Canada make the greatest number of hits, that is 205 805, for 56% of the total compiled, which means that 44% of hits come from outside the country. A business ‘located’ in Amsterdam is the most prominent with 46 414 hits.

Perfunctory numbers regarding the origins of servers used by browsers show that 93% of Canadian hits come from the province of Québec. Two-thirds of the referencing sites making connections with the Atlas are of Saguenay–Lac-Saint-Jean origin. Of note are ‘Le Portail du Saguenay–Lac-Saint-Jean’, the ‘Exportations’ section of the Atlas, and *Le Bulletin Régional*, an online news bulletin.

4. Browser origin by country draws a clearer picture of the geographical distribution, as people from 131 countries, from Canada (of course) to Tanzania, visited the site. Of a grand total of 367 517 pages consulted by browsers, 59% were consulted by Canadians, 13% by Americans, 12% by French; the three countries making up the largest group of ‘regulars’ (see map).

Follow South Korea, Germany, and China, and then, to a lesser degree, Russia, Brazil, Ukraine, Great Britain, India, Japan, Algeria, Norway, Thailand, and Mexico. If one considers the ratio of browsers to country or Internet-user population, Monaco, Norway, Bermuda, Antigua and Barbados, the United Arab Emirates, Switzerland and Hong Kong should be added to the list.

5. Of the maps available on the Atlas site, 404 were consulted for a total of 22 803 hits; an average of 56 per map. Of the major themes presented in the Atlas, 'Activities et Ressources' (29%) was the most popular, particularly for the agricultural industry (blueberries and cheese), and also the manufacturing sector. It was followed by two other major themes, 'Territory' (26%) and 'Environment' (23%).

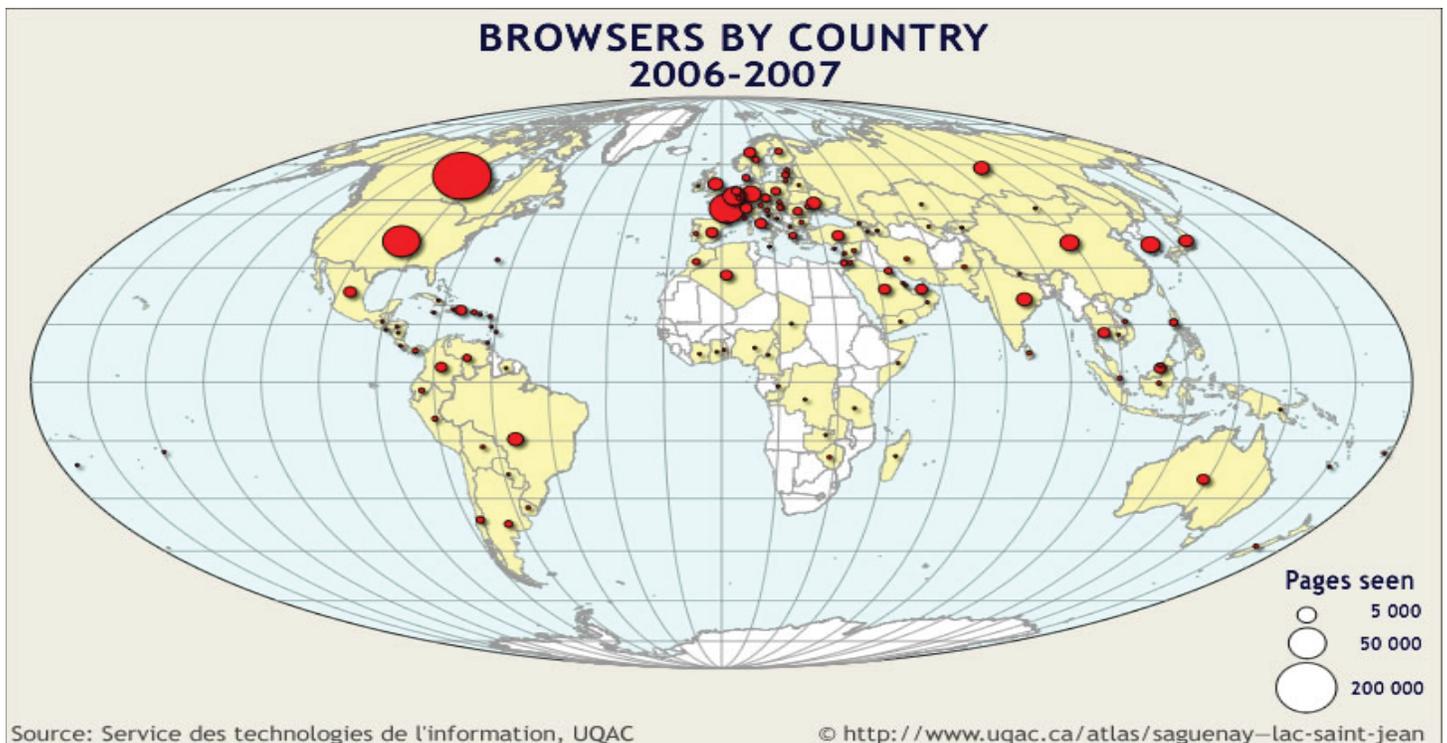
Indeed, the four most consulted disciplinary domains of geography (territory, agriculture, geology and geomorphology, and population) total 50% of all maps consulted. Other maps concern the Mid-North; climate and ecology; urban development and land use; communications; services, buying and spending; worker flow; municipal characteristics; wholesale; transportation; jobs, occupation and unemployment; tourism and the outdoors; and income.

It is interesting to note that maps concerning regional structure and evolution, indexes, rates and quotients, as well as those representing models are the most sought after by users looking for explanatory and summary information on the region.

Those are encouraging results. The next step will consist in seeing what the users of the Atlas actually do with the information they gather. Of course, this is a difficult task which could however reveal quite interesting in terms of what kind of range the Atlas can have.

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Number of pages consulted by browsers over a 13-month period



**Important Dates:**

Early Registration:  
Deadline April 25th, 2008

Late (mail-in) Registration:  
April 26th, 2008 to May 1st, 2008

On-Site Registration: University of British Columbia, May 13-16th, 2008



**Ice Breaker Reception**

The Ice Breaker Reception will be held at 6 PM on Tuesday, May 13 on the top floor of the Walter C. Koerner Library, featuring a catered light dinner with wine and beer, served in a rooftop lounge/patio with stunning views. This is a no-charge event. Conference registration will be available in an adjacent room.

**Conference Registration Form**

Please click on the registration image to download, in PDF format, the CARTO 2008 Registration Form at:

<http://www.rdl.sfu.ca/cartto/register/>

Please complete the form and mail it in along with a cheque for the registration fees including any workshops and other fees in full to the address listed in the form.

See you in May!

REGISTRATION	DATE	AMOUNT
Non-Member*	2008.00**	
CCA Member	150.00**	
Student Registration, No Banquet	55.00	
Daily Registration fee (Please check days)	50.00	May 14 May 15 May 16

**CCA/ACMLA 12th Nearly-Annual ORIENTEERING Challenge**



Don't miss the chance to participate in this traditional activity! A fun-filled outing exploring the lesser known areas of the UBC campus on foot.

Meet at UBC Gage Towers lobby at 5.45 p.m. for the event on Wednesday, May 14th. Start is at 6 p.m. Wear running shoes and comfortable clothing. A compass could be handy, but not necessary.

It will probably be a "score" event in which you will be given a detailed map, and have about an hour to find as many mapped sites as possible.

The cost per person will be about \$5. You can compete either as an individual or in small groups.

PRIZES to be awarded at the banquet!

Sign up at the Tuesday evening Ice Breaker, or email Diana at [dhocking@uvic.ca](mailto:dhocking@uvic.ca)

For full conference details logon to: [www.rdl.sfu.ca/carto/](http://www.rdl.sfu.ca/carto/)

**CARTO 2008** will be taking place in Vancouver from May 13th to the 16th.

The University of British Columbia, which turns 100 years old in 2008, is delighted to be hosting a joint meeting of the two national organizations in Canada concerned with cartography in all its complexities and with the access to and care of cartographic materials. The Association of Canadian Map Libraries and Archives (ACMLA) and the Canadian Cartographic Association (CCA) will be meeting together as CARTO 2008 in Vancouver from May 13 - 16, 2008. The organizing committee looks forward to welcoming you to our beautiful campus in the spring of 2008 and invites you to explore our dynamic city with its museums, art galleries, shops, restaurants, parks, beaches, and nearby mountains.

ACMLA and CCA are aiming to create a gathering place for students, educators, government workers, and those in the private sector, to network and share information on issues and topics related to the creation, preservation, management and access to cartographic and geospatial materials and collections in all formats.

The conference will be highlighted by a keynote address by David Rumsey, collector of historic maps and creator of the online David Rumsey Historical Map Collection containing over 13,000 digitized images from his collection of about 150,000 cartographic materials.

Along with technical sessions, workshops, and other presentations, there will be exhibits of recently published maps, maps prepared by students, and products useful to people in these fields. There will be a variety of social events, such as an ice breaker reception, a field trip, orienteering followed by a pub night, and a banquet with speaker.

## CARTO Banquet

The Banquet will take place at Sage Bistro in the University Centre, on Thursday, May 15 from 6 PM on. Festivities will commence with a no-host bar and then proceed to a four course dinner, featuring three entree options, one of which must be identified on your registration form. A vegetarian option will be available.



## Outing to Historic Steveston - Friday Field Trip

On Friday afternoon a group will head to Steveston, an historic fishing village at the mouth of the Fraser River that is now a distinctive part of the Vancouver suburb of Richmond. We will share taxis from UBC to Steveston, less than a half hour ride away. In Steveston, participants can choose from activities including: a fish and chips lunch on the pier; a walk through the village, along the wharves with their working fishing boats, and out to the mouth of the Fraser; an easy cycle on rented bikes along the South Dyke, where we will pass new housing developments, working farms, and the stilt houses of Finn Slough; or a tour of the Gulf of Georgia Cannery, a preserved 19th century salmon cannery and National Historic Site.

Costs:

\$15 for taxi (based on four sharing)

\$15 for lunch

\$20 for bike rental

\$7 for entrance to Gulf of Georgia Cannery

### Carto 2008 Program: May 13-16

TIMES:	TUES	WED	THURS	FRI	SAT
9:00 - 10:30	ACMLA Executive Mtg (9:00am - 12:00pm)	Opening & Plenary Session / Keynote	Sessions	Sessions	ACMLA Meeting
10:30 - 11:00	Break	Break	Break	Break	Break
11:00 - 12:00	GeoReferencing Workshop NOTE: 9:30 - 12:00	Sessions	CNC Mtg / Sessions	Sessions	Acmla Meeting
12 - 1:30	Lunch	Lunch & ACMLA AGM	Lunch & CCA AGM	Lunch	Lunch
1:30 - 3:00	Metadata Info Session	Sessions	Sessions	Field Trip	
3:00 - 3:30	Break	Break	Break	Field Trip	
3:30 - 5:00	CCA Exec Cttee mtg. NOTE: 3:45 - 5:15	Sessions	Sessions / CCA cttee mtg	Field Trip	
5:00 - 6:00	Free time	NRCan Consultation Session	Free time	Field Trip	
6:00 - 0:00	Ice Breaker	Orienteering & Pub Night	Banquet	Bye Bye	

# Bring Back Geography!

Jerome E. Dobson

ArcNews Spring 2007 p. 1-5

Quiz after quiz has shown that kids today don't know where any place is. How often have you heard this lament about "geographic ignorance" or "geographic illiteracy," as it is commonly called?

Now, take that complaint and turn it around. What does it say about geography? It says geography means knowing where places are. That's what geographers call "place-name geography." It's vital, but it's the least of what we expect budding geographers to learn.

Geography is more than you think. Geography is to space what history is to time. It is a spatial way of thinking, a science with distinctive methods and tools, a body of knowledge about places, and a set of information technologies that have been around for centuries. Geography is about understanding people and places and how real-world places function in a viscerally organic sense. It's about understanding spatial distributions and interpreting what they mean. It's about using technology to study, in the words of the late professor J. Rowland Illick, "why people do what they do where they do it." Geography is a dimensional science and humanity based on spatial logic in which locations, flows, and spatial associations are considered to be primary evidence of earth processes, both physical and cultural. Its hallmarks are spatial analysis, place-based research (e.g., regional studies, area studies, urban studies), and scientific integration.

The familiar litany also implies that geography is just for kids, something you learn in elementary school or high school if you're lucky, and use for the rest of your life without any need for new learning. Does geography really matter for grown ups? Of course it does. Geographic knowledge, understanding, and skills matter, for instance, in formulating foreign policy, designing and using GIS, and just about everything else in society that involves locations, movements, and flows.

## An Excellent Invention

Geography was founded at least 2,500 years ago and advanced by Greek, Roman, and Chinese scholars throughout the Classical Age. Prior to the Renaissance, geography and astronomy—interrelated, spatially oriented disciplines—were preeminent sciences. For a thousand years, geography was recognized and valued. "How excellent inventions are geography, arithmetic, astrology, and the rest!" wrote Saint Augustine in *The City of God* in the early 5th century.

Then came the Great Interruption of the Middle Ages, and geography became a fantasy. For a thousand years, its real body of knowledge was preserved by Irish monks and advanced by Arab and Persian scholars. Its rediscovery by European scholars was central to the enlightenment of the Renaissance. It thrived from c. 1450 to 1948 based on exploration, from c. 1600 to 1900 based on the information needs of westward expansion, and from c. 1915 to 1947 based on geopolitics. Its accomplishments include the following:

- The first proposal of continental drift was published by geographer Abraham Ortelius in 1596. Its most famous champion, Alfred Wegener, was a climatologist (climatology is a subspecialty of geography).
- Biogeographer Alfred Russell Wallace codiscovered evolution in 1859. By today's rules of precedence, he would be considered the principal discoverer because he published first, but Charles Darwin's friends made sure his paper was read ahead of Wallace's at a meeting of the Royal Society.
- President Woodrow Wilson's geographer Isaiah Bowman was the author of America's globalization policy, which proclaimed that America could lead the world through political and economic means rather than military conquest. Bowman went on to become president Franklin D. Roosevelt's geographer, as well, and one of the top six architects of the United Nations.
- Geographer Carl Sauer led the way toward new understanding of the ancient Americas and the vast populations they once contained. His first inklings were published in the 1930s; geographer Bill Denevan

discovered massive supporting evidence in 1961; geographers widely accepted their findings by the 1970s; and science journalist Charles Mann's 1491 announced those findings to the public, to great acclaim, in 2005.

- Geographer Roger Tomlinson is universally recognized as the father of GIS in the early 1960s. Duane Marble and other geographers were instrumental in laying the groundwork for GIS and have been heavily involved ever since. Geographer John K. Wright of the American Geographical Society published the earliest known expression of points, lines, and areas—concepts now central to GIS—and pioneered quantitative techniques, such as dasymetric interpolation, that serve vital GIS functions today.

## The Purge of Geography

Soon after World War II, however, geography was purged in the United States, and the impact continues today. From 1948 to 1988, the discipline was expunged at the University of Chicago, Columbia, Harvard, the University of Michigan, Northwestern, Stanford, Yale, and other esteemed American universities, oddly even during periods when universities were expanding faster than at any other time before or since. In truth, nobody knows why geography was targeted on such a broad scale. For decades, there have been no geography departments in the Ivy League, except Dartmouth's undergraduate department. Of the top 20 private universities in the United States, only two currently have geography departments, though 15 of the top 20 public universities do. The purge was a distinctly American phenomenon. In the United Kingdom to this day, Oxford and Cambridge universities continue to have strong academic programs offering doctoral degrees in geography.

Lately, geography is enjoying a resurgence due to the phenomenal success of GIS and the need for better understanding of foreign lands and peoples in this age of globalization and geopolitical turmoil. Peers in other disciplines now respect, and some are adopting, our hallmarks—spatial analysis, place-based research, and scientific integration. What this resurgence means is that existing geography departments are adding faculty and new graduate degrees. Unfortunately, however, not one new department has been added, and only one is being discussed in a serious way. As incredible as it may seem, the purge continues, and there will be a net loss this year as Southern Oregon University closes its geography department.

The panoply of disciplines must evolve, of course, and obsolete ones should disappear. Geography, however, was cut down in its heyday, just as it was shortly after Saint Augustine's effusive compliment. This not-so-great interruption from 1948 to the present is disturbingly reminiscent of the great one in the Middle Ages. I, for one, take enormous pride in how my discipline handled its fate. For half a century, geography's body of knowledge and pool of expertise have been preserved and advanced by American scholars in state universities and a few private universities and by foreign scholars. These geographers in exile have, in effect, "preserved the scrolls" as Irish monks did in the Middle Ages. Better yet, they continued to advance the field and contribute to science and society in impressive fashion. Their collective impact is far greater today than one would expect based on their diminished numbers and institutional base.

Meanwhile, geographic education has been nearly eliminated from K-12 curricula in the United States. In elementary school, it has been lost in a mishmash called "social studies" that neglects physical geography and spatial thinking. Each semester, I ask my students in a large introductory class how many of them have ever had a geography course before at any level, and less than 10 percent raise their hands. Advanced Placement (AP) enrollments in geography are rising in high school, but the absolute number remains small (21,000 in 2006). Most matriculating students do not even know it is possible to earn a college degree in geography. The No Child Left Behind program provides funds to improve the teaching of all the essential subjects identified—except geography. Congress said geography is essential and then provided not a single dollar for it.

The situation in government reflects what happened in academia. In ancient China, the Chou emperor had his geographer-royal. Louis XV had his geographer. The Continental Congress appointed its official geographer. President Wilson had his geographer (Bowman). President Roosevelt had his geographer (also Bowman). Since World War II, however, no U.S. president has had a geographer. Again, the deficiency is a distinctly American phenomenon. In the United Kingdom, Prince William, heir to the throne, is himself a geographer, having graduated from St. Andrews University in 2005 with a master's degree in geography.

In the first half of the 20th century, geopolitics was a major focus of academic research, especially by geographers, and its influence on real-world politics was enormous. In the second half of the century, geopolitics gave way to political science and international affairs. Now, 9 of the top 15 schools of international affairs in the United States reside in universities without geography departments. The late Bill Wood, Geographer of the United States, compiled a list illustrating that point and shared it with me shortly before he died. He was deeply concerned by the lack of geographic knowledge among graduates in international affairs and a similar lack of political understanding among geographers. He wanted to hire people with a broad understanding of geopolitics—both geography and politics—at the U. S. Department of State and could not find them in the labor pool.

As one indication that geopolitics matters, consider geographer Bowman's warning in 1949, "we can lose our shirt in the swamps and canyons of the hinterlands" of Southeast Asia. Two decades later, the United States went to war in Vietnam fully committed to George F. Kennan's doctrine of containment, but Bowman's "scroll" was lost, and his warning never entered the debate.

During my 26-year career at Oak Ridge National Laboratory and 6 years at the University of Kansas, I have participated in scores of meetings among insiders who provide decision support to foreign policy makers and military strategists. For about two years, I've sensed an historic opening for the restoration of geography. Many insiders now openly admit that geographic understanding is sorely missing from their deliberations, though only a few know to call it geography. As I listen to their concerns, I sense a striking similarity to the situation that Woodrow Wilson faced in World War I and Franklin D. Roosevelt in World War II. Yet those wars ended in victories viewed today as intelligence triumphs. They found a solution in their day, and current leaders would be wise to ask what it was.

Wilson's plight is especially instructive. On the eve of World War I, he knew the United States was poised to become a world power. The Great War and subsequent peace would be his nation's debut on the global stage. He relished the role of leading man, but who would play his supporting cast? For 140 years, America had practiced isolationism. No one in government—not even the officers and analysts of the Department of State or military intelligence—was ready to analyze foreign intelligence or face sophisticated European negotiators. Wilson, scholar that he was, recognized his problem as being geographic and called on the American Geographical Society (AGS) for help.

AGS director Bowman led The Inquiry, a massive analysis of foreign intelligence staffed by 150 scholars from geography and other disciplines. Their task was to collect and analyze the information that would be needed to establish a "scientific" peace at war's end. As part of The Inquiry, the American Geographical Society was responsible for drafting Wilson's famous Fourteen Points, one of the most reassuring and effective policy statements ever written. When Wilson and the American delegation left for France aboard the USS George Washington, Bowman sailed with them. On arrival, Bowman pulled off an amazing bureaucratic coup, and Wilson decreed that analysts from the Department of State, military intelligence, and Central Bureau of Statistics would report to him through Bowman. In January 1919, AGS geographers and cartographers, led by Mark Jefferson, turned out more than 300 maps per week based on geographic analysis of The Inquiry's massive data collections covering language, ethnicity, resources, historic boundaries, and other pertinent information. America's delegation became the envy of Versailles.

President Roosevelt, too, appreciated geography and even served on the council of the American Geographical Society for more than a decade. During World War II, Bowman was his closest advisor and one

of the top six architects of the United Nations. Bowman was the only individual present from the beginning to the end of the effort to establish the United Nations, and he personally convinced Winston Churchill that one global organization would be better than three regional organizations.

During the war, one-third of all academic geographers were called to Washington, D.C., to serve in the Office of Strategic Services (OSS) and other agencies essential to the war effort. Their service, and especially Bowman's powerful role in both wars, add to our puzzlement over why geography was purged just three years after the war ended and one year after the United Nations' charter.

Today, considering our nation's new capacity for rapid warfare, it is worth noting that the American Geographical Society's role in World War I and Bowman's role in World War II had far more to do with peace than war. Knowing the field of peace ahead of time is more important than ever.

### Aliased Geography

If geography did not exist, it would have to be invented. Indeed, there are four high-profile cases in which it was reinvented by authoritative bodies purportedly unaware of its existence:

- Ten years into the purge of geography, Congress passed Title VI of the National Defense Education Act (NDEA) of 1958, which authorized funding to build "area studies" programs at U.S. universities to ensure "trained expertise of sufficient quality and quantity to meet U.S. national security needs."

- Forty years into the purge, three federal agencies signed on to a proposal for a "new" scientific discipline called "earth system science." Days after the Bretherton Report appeared in the late 1980s, I read the definition in a plenary session at an international conference of geographers, and they recognized in an instant that geography had been reinvented yet again. The auditorium erupted in laughter.

- Columbia University disbanded its geography department in 1986 and nine years later established the Earth Institute "for the integrated study of Earth, the environment, and society." Geography is not listed among its "core disciplines."

- Harvard University discontinued geography in 1948, and the results showed in its curricular review of 2004. The report called for bold remedies including certain hallmarks of geography—broader knowledge of diverse sciences and a better understanding of foreign cultures, economies, and policies—without mentioning its name.

All four sound like manifestos for geography, but the word itself is assiduously avoided even where it normally would be used in common language.

In 2006, Harvard University announced that it will reintroduce GIS but not geography. The new Center for Geographic Analysis recognizes the demand for GIS throughout all disciplines without granting academic stature to its home discipline. That's much like building a word processing center without an English department, and it's a mistake the university has made before. Harvard was one of a handful of key centers advancing GIS in the 1970s. Lacking an academic home, however, its groundbreaking GIS developments were mislabeled "computer graphics," and a grand opportunity was lost.

Years ago, I warned, "Advances in geography could position our discipline to play a major role in important issues, such as global change or the restructuring of east European economies and societies. In contrast, advances in GIS alone are likely to cast us as clerks handling data for the ecologists, political scientists, economists, and other current leaders in these topics." Harvard's previous experience with GIS and its current direction are proving my point. Only by joining the fray of science theory ourselves and occasionally "drawing blood" will we establish ourselves as a respected force in the upper echelons of science, science policy, and public policy influenced by science. Meanwhile, many conventional theories—developed in isolation by specialized disciplines with little thought for geographic relationships, spatial logic, or integration—have stood unchallenged for decades.

Harvard administrators have opened the door to a possible return of geography, but the process is slow and uncertain. Can it possibly be in anyone's interest for information technology of such power to exist, devoid of intellectual leadership, even temporarily, at the nation's most influential university? Geography is the intellectual force behind GIS and its natural academic home. Of the 80 institutional members of the University Consortium for Geographic Information Science, for instance, about 85 percent are led or coled by geography departments.

### Gaffes, Laughs, and Downright Insults

A laughable event from the past illustrates, in reverse, the state of geographic knowledge today. In 1897, the House of Representatives of the State of Indiana unanimously approved bill no. 246, which inadvertently would have changed the value of pi. Fortunately, the bill died a quiet death and never came before the Senate. The immediate agent of its defeat was Clarence A. Waldo, a professor of mathematics at Purdue University, who happened to visit the legislature; he was shown a copy of the bill and ridiculed its claims. Even if the good professor had not appeared, surely other voices would have materialized from mathematically informed government officials and staffers, journalists, educators, and the public.

Today, however, politicians and pundits can make whatever pronouncements they please about geography, no matter how absurd, and there aren't enough geographically informed people to counter their claims. Geographically smart people exist, of course, in government offices, schools, businesses, and homes across the land, but they are too few. There's no sizable constituency to carry the day. Not even journalists ask the questions that should be asked. Worst of all, geography has slipped so far beneath the public consciousness that no politician or journalist is likely to seek an informed geographic opinion, even on matters of war and peace.

There is today no greater gulf of knowledge than that which lies between the public understanding of geography and the reality of what geographers actually do. Every geographer endures frequent reminders from people who suffer from honest misunderstanding. Some are funny, some downright insulting. For example, I once fell into conversation with a salesperson in an upscale shop in Kansas City, a sophisticated woman whose daughter attended my university. She asked what I teach. I answered, "Geography," and she said, "Oh, they don't teach that in college, do they?" I said, "Certainly. We offer B.A.s, M.A.s, Ph.D.s." Then came the cruelest cut of all: "Well, what do they call it?" she asked incredulously.

Believe it or not, some people really do think geography is just knowing your states and capitals. Some think it's just about borders. Some think it's purely physical. Others think it's purely social. Actually, cultural, social, and economic topics comprise 47 percent of declared specialties in geography; geographic information science, 21 percent; physical, 10 percent; regional, 8 percent; methodology, 5 percent; and combinations of all the above, 9 percent.

Most individual gaffes are insignificant, and we are accustomed to fending them off. Collectively, however, they doom society to the kind of misunderstanding that makes bad policy, bad business, and bad science. Some individual comments are dangerous and worth fighting. Harvard's assault, for instance, began in 1948 when president James Conant declared, "Geography is not a university subject." His institution's influence is such that his words and associated actions triggered a national purge of historic proportions.

In spite of all that's happened to prove Conant wrong, some people still don't get the message. Recently, the vice president of a highly respected liberal arts college in California publicly questioned the legitimacy of human geography as an Advanced Placement course. Many eloquent letters have been written by geographers to the college's administrators, and selected ones will be published in the American Geographical Society's publication *Ubique*.

### Solidarity

Restoring geography is in your best interest as a citizen of the world and especially as a GIS professional, regardless of your home discipline. We are your natural ally, whether you yourself hold a degree

in geography or not. No discipline should rest easy until the one that was lost is restored. Every scholar should be clamoring for geography's return as proof that future purges will not be tolerated, and that holds true even for those who do not like geography.

What protects other disciplines from onslaughts like those that beset geography? You may imagine that public opposition would be fierce, and legions of academic peers would rise up in arms, but that did not happen in our case. You may imagine that your own discipline would not go down without a fight, but geographers accepted their fate far more graciously than they should have. Earlier this year, when I published an op-ed piece questioning how and why the nationwide purge had occurred, all but one of the public replies came from geographers, and several blamed the discipline itself. Yet every reason they offered was characteristic of many other disciplines, none of which were punished as we were.

As passionate as I am about my discipline, my advocacy is not chauvinistic. I fully recognize that geography is not the only answer. The GIS revolution never could have happened without massive contributions by computer scientists, landscape architects, mathematicians, electrical engineers, and many others. The same is true for geography as a body of knowledge about places. Cultural anthropologists, for instance, understand as much about culture as we do, and they teach it just as well. Indeed, I support all those other disciplines as much as I do my own, but they were not purged as geography was.

My first point is that geography has an essential viewpoint and methodology that are at least as important as those of other disciplines. Geography was purged, aliased, and fragmented, and none of the fragments add up to the whole. Area studies programs, for instance, bring together specialists of all sorts who know much about each region, but they do not inherently contain the glue that holds those regions together. Their faculties do not inherently think about space and define it as geographers do. That's why, despite all the federal dollars they have received since 1958, area studies programs were not major contributors to GIS development while geographers were.

My second point is that geography has been neglected to an extent that no other discipline has faced in modern times. Not a single Ivy League university tries to get by without anthropology, biology, history, mathematics, and sociology, for example. Indeed, you will find Ph.D. programs for all of those disciplines, and usually multiple Ph.D. programs for their subspecialties, in every Ivy League university (except, in some cases, Dartmouth, which emphasizes undergraduate education). Only geography is missing.

### What Can You Do to Help?

Say the word—Nowadays, there is a conspicuous reluctance to say the G word. Spatial or geospatial are more acceptable than geography or geographic. When geographers discover anything new, they are likely to be identified with the closest thematic discipline rather than geography, even if geographic methods were absolutely essential to the discovery. Geographers are routinely misidentified as geologists, though only 10 percent of them claim physical specialties that could possibly be confused with geology.

Tell people what geography really is—The vast majority of geographers define their discipline based on spatial perspective and methods rather than content. Tell everybody that geography is to space what history is to time. No one would seriously suggest that a university should exist without a history department, but many exist without geography.

Make administrators accountable—If your favorite university does not have a geography department, ask why. If it has one but it's combined with another discipline, ask administrators to explain the reasoning behind its placement. Together, we must send the clear message that every discipline that helps explain our world matters to every one of us. We and those who support us throughout society must draw a line that no politician or administrator can cross without pain. Every individual who crosses that line must face accountability. The hardest part, of course, will be to set aside your own discipline's short-term interests in favor of the greater good, but solidarity is our best hope to staunch the purge of disciplines. Together, we must oppose every threat, starting

with the one that has already occurred.

Lobby for a rational legislative agenda—Funding for geographic education, development, and research must be increased by at least two orders of magnitude, partly to solve the labor shortage in GIS and partly to educate the general public. These funds are needed to fulfill six modest principles:

1. Every elementary and high school student must have the opportunity to learn basic geography and experience GIS technology.
2. At a minimum, every freshman should reach college knowing that geography is a viable major with solid career prospects after graduation.
3. Every college student must have access to a full geographic curriculum—thematic, regional, methodological, and technological—within the set of college destinations among which he or she normally would choose.
4. Scholarships must be available to support the best and brightest students who choose to pursue undergraduate and graduate degrees in geography.
5. Research grants must be available to encourage substantially increased geographic research, including fieldwork, both foreign and domestic, by faculty and students.
6. Development grants must be available to upgrade or create geography faculties throughout the nation; to ensure topical, regional, methodological, and technological coverage; to upgrade GIS facilities; and to promote community outreach.

**Aim big**—In a rational world, Congress would urgently fund a crash educational program to rush society ahead in this vital discipline as it did for science and math in the 1950s. Instead, the powers that be in the highest realms of education, science, and science policy have done precisely the opposite for six decades. Now change is coming, but will it be enough? Will it happen fast enough? Will geographers and GIS professionals have much influence on the outcome?

### Restoring Geography

Actually, I don't think such a crash program is out of the question. Society may well recognize the folly of its ways and try to restore geography through remedies such as those I recommend. National leaders may suddenly recognize what's missing in foreign intelligence, foreign policy, information technology, and other vital aspects affecting national interests. Everything depends on getting our message through to the right people. Once it's there, anyone with a sound, open mind can grasp the point.

One reason for my cautious optimism is that I have seen how quickly individual leaders can modify their personal impressions of geography whenever I've had a chance to talk with them one on one at length. Over the past year, for instance, I had occasion to speak three times with General David H. Petraeus, now commander of American forces in Iraq, and he exemplifies an excellent case in point. He holds a doctorate in international relations from Princeton University's Woodrow Wilson School of Public and International Affairs, and he's every bit as smart as you've heard. His innate sense of geography comes through in his 14 observations from soldiering in Iraq. Observation No. 9 says, "Cultural awareness is a force multiplier," and he adds, "knowledge of the cultural 'terrain' can be as important as, and sometimes even more important than, knowledge of the geographic terrain." The first time we spoke, I passionately advocated sending geographers to conduct foreign fieldwork specifically to address America's foreign policy crisis, as the American Geographical Society is now doing with its Bowman Expeditions. His immediate reaction was, "You'd better send someone who understands culture, too." Both statements imply that geography is purely physical, and he is not alone in that impression. Later, the AGS Council was privileged to meet with him for nearly two hours. At the conclusion of our visit, he said he had a new appreciation for geography as a source of such understanding and offered to clarify the wording of observation no. 9 in the future. Princeton does not teach that lesson because it does not have a geography department, but he was receptive when our message came before him.

The challenge, of course, is to deliver that same commonsense message to a critical mass of opinion makers and decision makers.

### No More Dr. Nice Guy

Geographers have been gracious in exile far too long, and now it's time to fight. It is high time, as well, for the overwhelming majority of GIS professionals to embrace geography and fight for its return. All we seek is parity with other disciplines and fields. Surely that's not too much to ask, and it's in the nation's interest, not just our own.

### About the Author

Jerome E. Dobson is president of the American Geographical Society and professor of geography, University of Kansas, Lawrence, Kansas. He writes here as a member of the American Geographical Society's Writers Network.

### More Information

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## Hurry... RENEW YOUR MEMBERSHIP!



Those who have not yet renewed their membership to the CCA for 2008 will not be on the list to receive *Cartouche* or *Cartographica*. All the 2007 members will get the first issue of *Cartouche* (#69) but will not be receiving *Cartographica*. To get back issues of *Cartographica* will cost an administrative fee of about \$25. If you have not renewed, plan to do it ASAP!

# ICA CONFERENCE

Sébastien Caquard, Geomatics and Cartographic Research Centre, Carleton University (Ottawa), co-chair of the Art & Cartography working group of the ICA.

Last summer, during the International Cartographic Conference in Moscow, the newly elected president of the ICA, William Cartwright, initiated a new working group on Art & Cartography. This working group aims to explore the artistic elements of cartography, to encourage better exchange of ideas and concepts between artists and cartographers, and to stimulate new forms of cartographic expression. The first activity this group sponsored was a symposium on Art and Cartography. William Cartwright, Georg Gartner (Vice-president of the ICA, and co-host of the Symposium) and Antje Lehn (professor at the Academy of Fine Art in Vienna and co-host of the Symposium) organized the event, which took place in Vienna, on February 1-2, 2008.

The two day symposium was quite intense, not leaving much time to enjoy the relaxing atmosphere of Viennese cafes. Indeed, it was a vibrant and stimulating multidisciplinary experience. About a hundred individuals from all over the world gathered to present a wide range of works rooted in disciplines as diverse as cartography, literature, visual art, conceptual art and new media. Paper sessions offered the opportunity to present academic research. One particular highlight was the talk given by Philippe Rekacewicz who analyzed some of the artistic and political functions of cartographic practices based on examples of his own hand drafted maps. These beautiful and subversive maps were also presented in the poster session and some of them have been published recently in *Le monde diplomatique*.



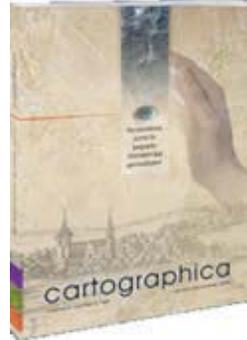
Antje Lehn curated two art exhibits for the symposium. The first one took place in the imposing Academy of Fine Art, located in downtown Vienna. The installation by artist Ruth Watson from New Zealand was quite impressive. She reproduced the map created by Austrian cartographer Johannes Stabius in 1514 - the one that represents the world in the heart shape - by creating a huge map composed of salt on the floor of the Academy of Fine Art. The audience could walk up ladders and look at the map from different perspectives through binoculars. In the second exhibit, which took



place in the highly contemporary "project Space Karlsplatz", a dozen of artists and art students presented their creations in domains such as performance art, architecture and new media. The quality and the diversity of the works presented in these two exhibits illustrate the fascination maps currently generate in the contemporary art world.

This symposium gave us a unique opportunity to be exposed to some very interesting academic and artistic works and contributed to a better exchange between artists and cartographers. The future activities of the working group on Art & Cartography will seek to reinforce and develop these exchanges. If you would like to have information about the working group, please visit our web site: <http://artcarto.wordpress.com/>

## CARTOGRAPHICA WHAT'S COMING IN THE NEXT ISSUE?



Volume 43, Number 2 of the journal has three contributions. In no particular order they are:

Interview with Avi Bar-Zeev. Conducted by Jeremy Crampton, Editor of *Cartographica*.

Avi Bar-Zeev is a co-founder of Keyhole, maker of Earthviewer which later became Google Earth, and a number of other roles in the virtual reality world, including the early development of

Disney's Aladdin's Magic Carpet VR Ride.

Jeremy Black. "Government, State and Cartography: Mapping, Power and Politics in Europe, 1650-1800." An examination of the relationship between government and cartography in the Age of Enlightenment, highlighting the place of maps in the developing information system of the early-modern state.

Francisco Javier Ariza López and José Luis Garcia Balboa. "Approximating Cartography to Customer's Expectations: Applying the House of Quality to Map Design." This article details the design of a product development methodology known as Quality Function Deployment (QFD) which is a tool for bringing the voice of the customer into the map product development process from conceptual design to production of the map.

**Cartography and Geographic Information Society**  
[www.cartogis.org/](http://www.cartogis.org/)

The members of the newly organized National Geospatial Advisory Committee (NGAC) were announced on Tuesday, 29 January 2008. We are pleased to inform you that our candidate, Allen Carroll of the National Geographic Society, was selected by the Secretary of the Interior to serve on behalf of CaGIS. Dr. Carroll was also endorsed by ACSM and selected from amongst more than 100 nominations submitted (please see the attached announcement). Our society will be well-represented within NGAC as it provides advice and recommendations on the effective management of Federal geospatial programs!

We congratulate Allen on being selected -- we are confident that he will be an excellent representative for CaGIS and the entire mapping and GIS community! We will be sure to keep you posted about his involvement in the council.

Aileen Buckley  
CaGIS President



**The British Cartographic Society (BCS)** launches new website with more features and extended content.

As part of the BCS initiative to promote 'Better Mapping' the BCS has launched a redesigned website at the Fellows Evening, at the RAF Club, London. New sections include The Gallery and About Cartography which features information on mapmaking and careers in cartography.

The bold, freshly designed site (<http://www.cartography.org.uk>) provides expanded information about the Society's membership, Publications, Events, Special Interest Groups, and the Annual Awards.

"We are delighted to launch this new website which is a great benefit of membership", said Mary Spence MBE, President of BCS. "It should be the first port of call for all information to do with the society."

One of the main features of the new website is the BCS Forum, for use by the general public as well as those in the cartographic community to ask questions and find out about topical issues. The forum is moderated by council and members of the BCS.

New features on the website also include the Junior MapMakers section, a secure payment form for subscriptions, Who's who of The BCS, a members' area which includes an archive of publications and special offers, contact forms for groups and publications, RSS news feed, a site index and a FAQ page. Enhanced features include news and events notices, the calendar, job vacancies page, and search capability.

Clare Neal  
BCS Webmaster

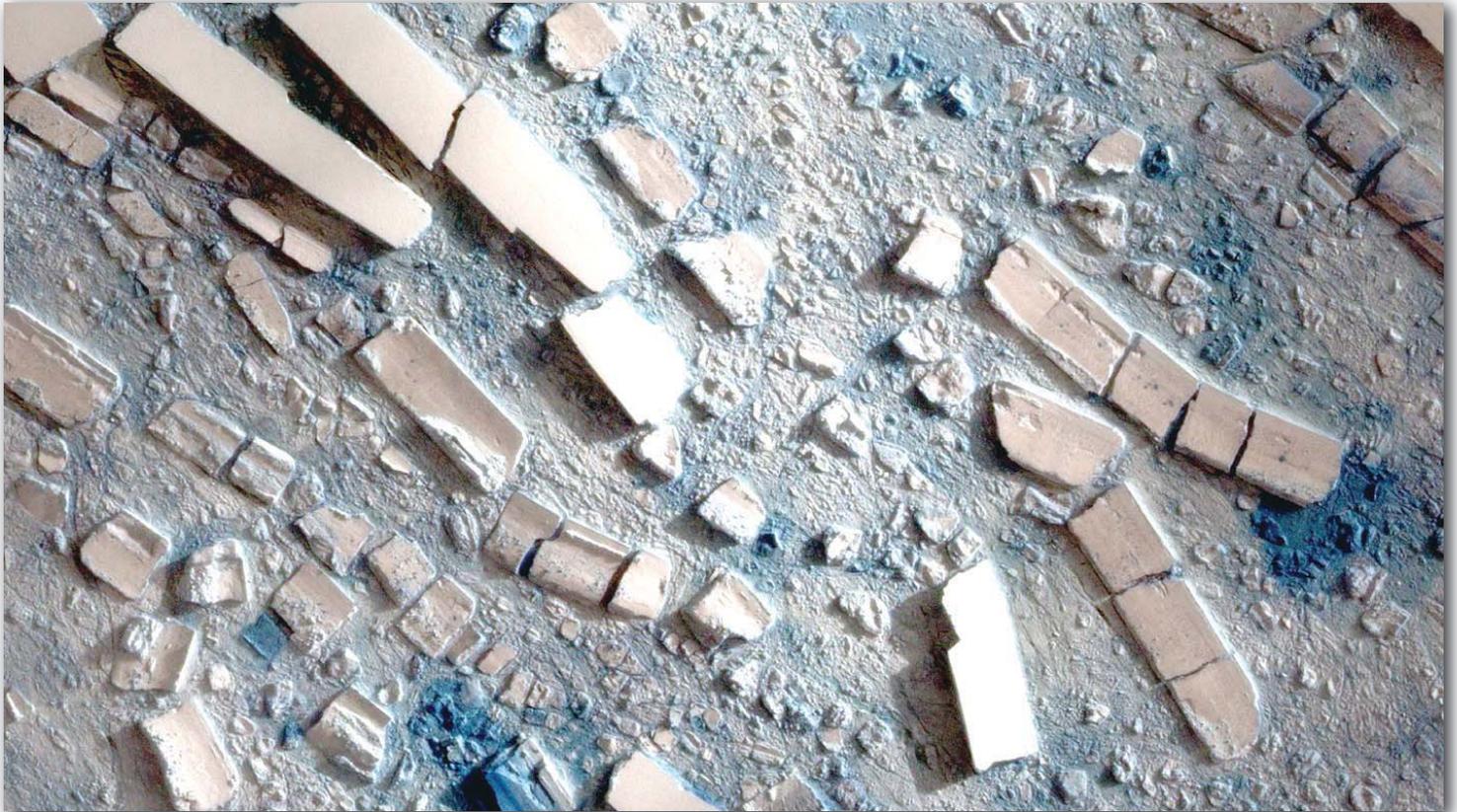
<http://www.cartography.org.uk>

## Cartouche #70

Deadline for submissions for *Cartouche #70* will be **June 13, 2008**. This will be the post-conference issue so send in your photos, memories or items you feel the membership will be interested in seeing.

*The Editors*

# WHERE is this... WHAT is this?



Formosat image © 2008 Dr. Cheng-Chien Liu, National Cheng-Kung University and Dr. An-Ming Wu, National Space Organization, Taiwan.

## Where is this? What is this?

Send your answers to the co-editors Barb or Lori (address is on the back page)

by **June 13, 2008.**

A winner will be drawn at random from all the correct entries and will receive a CCA t-shirt.

We (the editors) seemed to have stumped you on the last where/what as we did not receive a single response!

**Answer:** polar mesospheric clouds

In the summertime in the far northern or southern latitudes, high in the Earth's atmosphere at the edge of space, thin, silvery clouds sometimes become visible just after sunset. These high clouds occur at altitudes of about 80 kilometers (50 miles). They are also called noctilucent ("night-shining") clouds. In recent years, polar mesospheric clouds seem to be occurring more frequently and at lower latitudes than they have in the past, and studies are underway to determine whether their occurrence is related to global climate change. The red-to-dark region at the bottom of the image is the dense part of the Earth's atmosphere.



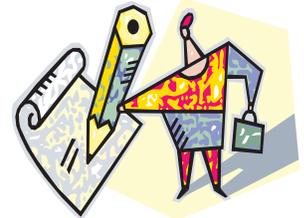
# UPCOMING EVENTS AND MEETINGS

**May 4 - 7, 2008 - Victoria, BC** 3rd Community-University Exposition (CUexpo 2008). CUexpo 2008 follows CUexpo 2003, which took place in Saskatoon and CUexpo 2005, hosted by Winnipeg. Full details of presentation options and the full scope of the exposition can be found at the CUexpo 2008 website: [www.cuexpo08.ca/index.html](http://www.cuexpo08.ca/index.html)

**May 13-16, 2008 - Vancouver, BC** CARTO 2008, **CCA/ACC & ACMLA/ACACC Annual Conference**. Full details can be found on the conference website: <http://www.rdl.sfu.ca/cart0/>

For those interested in a comprehensive listing of world-wide, related events and meetings, go to:

John Docktor's list: <http://home.earthlink.net/~docktor/intro.html>  
 Map History list: <http://www.maphistory.info/confmnu.html>



"Well according to the Global Positioning System we are exactly in the middle of nowhere."



The CCA was founded in 1975 to promote interest and education in maps and cartographic data and to provide for the exchange of ideas and information, at the regional, national and international levels, via meetings and publications. Membership in The Canadian Cartographic Association is open to all individuals, and public and private institutions which have an interest in maps and the aims and objectives of the Association. Membership is available in the following categories at the annual rates listed below (\$CND):

Regular .....	\$ 90
Student .....	\$ 45
Institutional .....	\$ 120
Corporate .....	\$ 200
Family .....	\$ 110
Retired .....	\$ 45

To cover mailing costs, US and overseas residents please add \$10 CDN to the applicable membership category.

Members receive the quarterly journal *Cartographica*, published by the University of Toronto Press and endorsed as the journal of the CCA; four issues of *Cartouche*, the CCA newsletter and the International Cartographic Association Newsletter. The Association also provides an annual conference to promote discourse and access to a range of expertise through interest groups and regional contacts.

For further information about membership qualifications and benefits contact the Secretariat of the CCA or any executive member or visit [www.cca-acc.org](http://www.cca-acc.org).

L'ACC a été créé en 1975 pour promouvoir les intérêts et l'enseignement des cartes et de la cartographie ainsi que pour permettre l'échange d'idées, d'informations tant sur les plans régionaux que nationaux et ce via des bulletins et des conférences. L'adhésion à l'Association est ouverte à tous les individus et institutions (privées et publiques) qui Associa-sont intéressés par les cartes et par les buts et objectifs de l'Association. Vous pouvez adhérer dans les catégories suivantes selon les taux indiqués (cdn\$) dans la liste ci-dessous: (\$CND):

Régulier .....	\$ 90
Étudiant .....	\$ 45
Institutionnel .....	\$ 120
Société .....	\$ 200
Famille .....	\$ 110
Retraité .....	\$ 45

Un montant de 10\$ (cdn\$) est ajouté pour couvrir les frais postaux aux membres américains (ÉU) et de 10\$ (cdn\$) pour les membres outre-mers.

Les membres reçoivent la monographie trimestrielle *Cartographica*, publiée par le University Toronto Press; 4 numéros du bulletin *Cartouche* et le bulletin l'Association cartographique internationale (ACI). L'Association organise également une rencontre annuelle lors de conférences qui donnent accès à l'expertise issue des groupes d'intérêts et des diverses régions du pays.

Pour plus d'information concernant l'adhésion et les bénéfices de l'Association, contactez le Secrétariat de l'ACC ou, visitez notre site Internet [www.cca-acc.org](http://www.cca-acc.org)

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