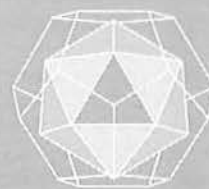
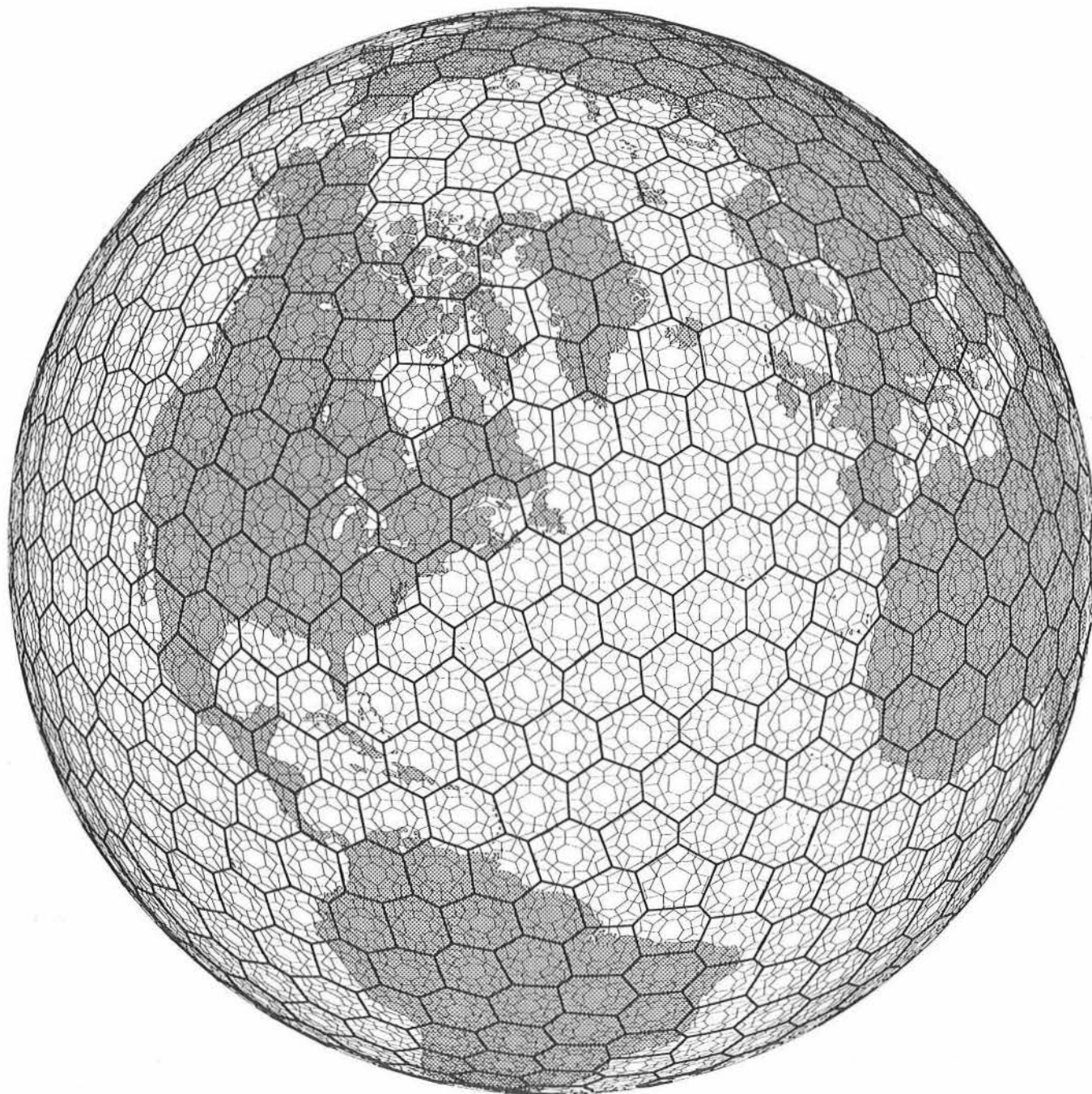


Cartouche



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

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June 30, 2000

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30 juin 2000

Editor's desktop

Welcome spring and the dawn of the new millennium (Are you tired of this word yet?). First off a few apologies are in order. Many of you no doubt noticed that the last issue was missing the President's Message. I want all to know that Michel did submit his article but unfortunately I had already ready taken issue #36 to the printers, and it was too late to stop the press. It was my decision to go to press in order to meet the Christmas season deadline which I had imposed on myself. I also want to apologize to Monika Rieger, Brian Klinkenberg and Hansgeorg Schlichtmann for the mis-spelling of their names in the last issue. I will try and be more vigilant in the future.

This issue has come together at a hectic pace. In order to mail the election ballots along with *Cartouche* in a effort to save postage it was necessary to turn this issue around in about 15 days, seven days of those days taken up by the printer. I hope I make it.

You will find lots of association business enclosed in this issue, most important is the election slate and ballots. Be sure to send your VOTE to Roger. **Remember votes must be mailed and will not be counted at the meeting.** Also inside are

the minutes from the 1999 AGM and the President's Prize entry forms.

Besides all this boring Association stuff I am happy to point out that we have two new features which I'm hoping will continue. First, is *The View from Above* (see page 12) a column by Joe Piwowar about remote sensing issues which I am hoping will be a regular occurrence. Second, is the *Student's Corner* (see page 16). I would like this feature to continue and be a place where students can tell us and other students about themselves, their studies and their research. The inaugural column submitted by Andrew Millward shares his insights about his student experiences on a mapping project in the West Indies. I am hoping we can convince other students to contribute. If you know of a student who would be willing to do a small write up please put them in touch with me, or maybe twist their arms a little by telling them this is a great place to get a little exposure.

We are also starting a joint effort with the National Atlas of Canada by providing a forum in which they can keep the cartographic community informed about National Atlas projects and initiatives and the cartographic community can provide constructive feedback.



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That's it for this issue. The next issue will not come out till after the meeting in Edmonton. I am hoping to meet you all there and hear about your ideas for making *Cartouche* the preferred "mouthpiece" of cartographers every where.

THE FRONT COVER

The striking image on this issue's cover is courtesy of Hrvoje Lukatela. See *Tessellations...* on page 9 for a full description.



Michel Fournier
Cartologique, Montréal

Mot du Président
President's Message

La traversée du millénaire The Millennium Passage

Ça y est, nous y sommes enfin rendu à cette mystique année 2000. Nous devons, à l'aube de ce nouveau millénaire avoir une pensée particulière à tous nos prédécesseurs, sans qui nous ne serions probablement pas là, à produire une multitude de cartes, à enseigner les rudiments de la cartographie, à développer de nouvelles technologies pour les produire ou les rendre plus accessibles. Parmi eux, il y a des explorateurs, des aventuriers de tout accabit. Rappelons-nous parmi les plus célèbres, Champlain, Jacques-Cartier, Joseph Bouchette père et fils, David Thompson, ...

La traversée du millénaire

Comme la majorité des êtres sur la planète, vous avez sûrement eu l'occasion de suivre cet événement unique que fut la traversée du millénaire à travers le réseau de fuseaux horaires de la planète. Pour nous cartographes, cela ne représente pas essentiellement que le changement d'heure mais bien une relation directe avec l'espace, les méridiens, en voici d'ailleurs la petite histoire.

Le méridien zéro de Greenwich a été érigé pour donner un point de repère commun aux navigateurs, un instrument de précision pour calculer la position des navires en haute mer par rapport aux étoiles. Ce méridien a été déterminé suite à des pourparlers entre 24 pays, réunis à Washington en 1884. Déjà à cette époque, plus de 72% de la marine marchande utilise ce méridien. La France, malgré sa participation aux discussions, n'adoptera le "Greenwich Meridian Time" qu'en 1911. Avant cet accord, il existait une dizaine de point repère de ce type en vigueur dans les principales puissances économiques telles Paris, Berlin, Washington. Pour les français, cette décision ne sera pas facile à accepter puisque le méridien de Paris passe à moins de 2 degrés 20' 14" du GMT.

Il est bien évident que le choix de Greenwich, petit faubourg, sur les bords de la Tamise, à proximité du cœur de Londres, s'impose par lui-même. L'observatoire, "Old Royal Observatory" érigé en 1675 sur les collines verdoyantes de Greenwich est l'endroit désigné pour calculer et conserver avec une précision extrême, le temps. En 1948, la pollution due au système de chauffage et d'éclairage dans les rues de Londres réduira considérablement la visibilité dans le ciel au point d'occasionner le déménagement des instruments d'observation et de calcul dans le Sussex à Herstmonceux.

Puisque la Terre effectue une révolution de 360 degrés en 24 heures et qu'en 1 heure elle franchit 15 degrés, il fut déterminé que la Terre sera désormais divisée en 24 fuseaux. Par ailleurs, il fut également décidé de fixer l'heure zéro quelque part en plein milieu du Pacifique, à 180 degrés de longitude de Greenwich le long d'une ligne qui deviendra la Ligne de changement de date (International Date Line). C'est d'ailleurs là qu'a commencé le spectacle télévisuel du millénaire alors que nous étions encore en train de sommeiller.

Si vous avez eu le courage de vivre 24 fois le nouvel An, le nouveau Millénaire, je suis prêt à parier que vous aurez retenu ces images saisissantes de cette tour Eiffel qui s'est embrasée avec tant d'éclat et de poésie. Malgré vents et marées, elle a franchi le siècle tout en conservant la fraîcheur de sa jeunesse et en sachant se renouveler. Elle peut être en quelque sorte un modèle pour nous cartographes. Elle repose sur des assises solides, elle a connu des heures de gloire, des moments d'oubli et une période de redécouverte, d'appréciation. À son image, nous avons connu plusieurs de ces moments et nous en sommes justement à cette période de redécouverte et d'appréciation.

Nous avons un siècle tout neuf à étreindre et des milliers de cartes à produire. Il nous appartient de faire de ce siècle, un siècle où le rôle des cartographes sera mis de l'avant en toutes situations. Je souhaite à tous, une Bonne Année 2000, une super entrée dans le Nouveau Millénaire et une longue vie à la cartographie.

At long last we have reached that mystical year - 2000. At the dawn of this New Millennium we have to give special thought to our predecessors, without whom we probably would not be here, producing maps, teaching cartographic rules, evolving some new cartographic technology. Remember those explorers, adventurers such as Champlain, Jacques-Cartier, Joseph Bouchette (father and son), David Thompson, ...

The Millennium Passage

As most of us on the planet, you probably followed the unique event of the New Millennium, passing through each of the Earth's time zones. Here is a brief story of the Earth's time zones.

The Greenwich meridian (zero longitude) was created to give a common reference point to navigators, a precision tool for calculating ship's positions on the ocean in comparison with the stars. This meridian was chosen when 24 countries met in Washington for a discussion on that subject, in 1884. At that time more than 72 % of the world's naval fleets were using that meridian. However France did not accept the GMT decision even though they were part of the discussion, but they did finally change their minds in 1911. Before this common agreement, there were about ten reference points such as the Greenwich meridian through out the world, many based on the great economic centres such as Paris, Berlin and Washington. For France the decision to choose Greenwich was made more difficult since their own prime meridian was only 2° 20' 14" to the east.

In the selection of Greenwich it was quite apparent, that London, situated along the Thames River would assert itself. The Old Royal Observatory, built in 1675 on the green hill of Greenwich was already used to assist the very powerful British naval fleet in its precise calculation of time. In 1948, the observatory was moved to Herstmonceux, Sussex, because heat and light pollution reduced the sky's clarity in the London area.

Since the Earth roughly makes its 360 degrees of revolution in 24 hours at a rate of 15 degrees per hour, it was decided to divide the Earth into 24 time zones. It was also decided that the zero hour would be located, 180 degrees from Greenwich, in the middle of the Pacific Ocean along a line to be called the International Date line. It was from there, during your slumber, that the Great Millennium TV extravaganza began.

If you were brave you followed each of the 24 New Years celebrations, each of the 24 New Millenniums. I bet you were astonished by the thrilling Eiffel Tower show, aflame with such magic and poetry! Come hell or high water, she has stood through the 19th century, and stands still with a renewing freshness. We can use the Tower as our model. She stands solid as a rock, she has had her hour of glory and for moments was forbidden and finally has been rediscovered and appreciated. In a similar way cartography has known some great moments and now actually is in a period of rediscovery and appreciation.

We have a brand new century to improve and thousand maps to draw. It's up to us to make this century, a mapping century in which map makers will be involved at many levels. I wish everyone, a Happy New Year, a great beginning to the new millennium.



Patricia Chalk
University of Western Ontario

Vice President
vice-Président

Membership Drive 2000 Snapshots: Why We Became CCA/ACC Members and the Benefits

In my previous column, I asked that members take five minutes to respond to two questions regarding why they joined and what the current benefits are to their CCA/ACC membership. Just days after the issue would have dropped into their mailboxes, I had the pleasure of reading several thoughtful responses.

As I read the responses, it immediately became apparent that this material was not only appropriate for developing promotional material to attract new members, all of our current members would benefit from reading it as well - the responses were so heart-warming as well as informative. Accordingly, the first section of the following column outlines why current members first became interested in the association - these signal fruitful ways to expand our membership. The second section reveals our association's strengths (as noted by the respondents) and in the process, reveals why it is unique among associations.

Contact with a CCA/ACC member or conference was a common thread through several of the reasons cited for joining. A cross-section of the responses from the group appears below:

- One member reported a forward-looking company owner as being the catalyst for joining. Investing in the membership for a new employee was clearly seen as an asset to the firm as well as the individual.

- A joint conference prompted another individual to sign up. The individual reported that the diverse membership of the CCA made for a dynamic association, and an association in which it was likely that almost everyone involved in the mapping world could find a kindred spirit.

- *Cartographica* editors will be heartened to learn that it was the expanded scope of the cartographic journal several years ago that prompted another of the respondents to join. Since the CCA/ACC dues included

the journal, the individual signed up as a member, to have the benefits of both.

- Some members reported signing up while students of cartography. Membership in the CCA/ACC had been actively promoted in classes. Students subsequently participated in the conferences and stayed on as members.

Members reported an impressive range of benefits to belonging to the CCA/ACC:

- There is a pleasant sense of belonging to a community of people who share one's interests and keep up to date with developments in the field.

... the CCA made for a dynamic association, and an association in which it was likely that almost everyone involved in the mapping world could find a kindred spirit.

- *Cartouche* (our newsletter) is always informative and interesting.

- *Cartographica* (our journal), *Cartouche*, annual meetings, networking and so on are obvious benefits to one professionally involved with cartography.

- CCA/ACC conferences offer an interesting menu of content - technical, academic and discussive on topics ranging from history to design, the development of analytical tools, and teaching.

- The five Interest Groups (Analytical Cartography and GIS, Map Use and Design, Map Production Technology, Cartographic Education, and History of Cartography) reflect the range in the associations' foci and help members see where their research or work-related activities fit in.

- Specialized sessions and roundtables at conferences are invaluable. One session a few years ago for example, focussed on pricing strategies for Cartographic Labs with managers of facilities across the country comparing notes. Other sessions such as the software duel undertaken by members using professional drawing packages one year and GIS packages in another year, provided an excellent forum for comparing functionality, user friendliness, import/export capabilities and final imaging output quality of the various software packages.

- Since the annual conference and meeting is held in new venues each year across Canada, there is a conference being held "in the neighbourhood" every few years.

- Members attending the conferences make contacts and friends among a supportive community of academics, government and industry people from across the country and to some extent, internationally. Among the work-related benefits are learning about new job opportunities and having access to feedback, input and guidance on various cartographic endeavours.

- The strong sense of camaraderie in the association is unique adding a warm undercurrent to the professional activities that take place.

Thanks to all who contributed to the "Membership Drive 2000 - Do You Have Seven Minutes?" enquiry. Your responses are strongly indicative of the association's value to a broad cross-section of the membership. They also reveal that the best way to bring new members into our group is through personal contact and encouragement from CCA members themselves!

Membership forms are posted on the CCA/ACC website. Please print one off and encourage someone who has interesting cartographic pursuits to join - we have plenty to offer new members and they have plenty to offer us!



Roger Wheate
University of Northern
British Columbia

Past-President's Message
mot du Président-sortant

Cartography for a New Millennium ?

Throughout 1999, there was divided opinion as to whether we were entering a new century and millennium at the beginning of 2000 or 2001, confusing numerology and theology. This however gives the excuse for dual celebrations, and in Canadian Cartography, two 'millennial' conferences, one in the east, one in the west, one in each portion of a bilingual country.

What if we held a conference and no one came ?

'Carto2000: Cartography and Map Collections for a New century' takes place at the University of Alberta in Edmonton, May 31- June 4 in conjunction with the Association of Canadian Map Libraries and Archives, and the Western Association of Map Libraries. As a national association, the CCA is mandated to hold its annual meeting across the country, although we anticipate greater numbers when held near the centre: the joint ICA meeting in Ottawa last year saw a record turnout with approximately one-third of CCA members in attendance. With dwindling contributed papers at the meetings towards the end of the 90s, the first conference of the 'noughties' has seen a flood of over 20 presentations in Edmonton plus those from the other two organizations; among these are two from retired Past-Presidents, an indication *that old cartographers never die, they just 're-project'*

We 'close out the millennium' and celebrate the 25th anniversary of the CCA. at the site of one of Canada's largest university map collections and the home of the CCA's first President (Janus Klawe). The William C. Wonders' Map collection will be further expanded in the future as they have agreed to collect and archive maps from the CCA President's Prize competition, commencing with those from 1999. If your spring/summer plans are flexible, why not plan a trip out west: Edmonton is only a wee train ride from Jasper in the Rocky Mountains, and for the kids, a bus ride to the world's largest shopping mall.

2001

The 2001 meeting is planned for Montreal, likely in May/ early June, and possibly adjacent to the Canadian Association of Geographers (CAG) meeting. This will be our first meeting in Quebec since 1992 and we look forward to renewing bonds with Carto-Quebec and forging new initiatives for the Millennium, which by then will certainly have arrived. Plan now to come to Montreal in 2001 (more details in the next issue of *Cartouche*).

Murphy rides again

Yes, amazing: some CCA members do read their issue of *Cartouche*. In #36, I stated Murphy's Law of Cartography that dictates that any area of interest will fall on the join of four map sheets, whether analogue or digital (but GIS promised a seamless database). Hrvoje Lukatela, Calgary's creator of GIS software 'Hipparchus' (cover graphic and <http://www.geodysey.com>) 'almost' beat Murphy:

"I just loaded the digital data for all fifty 1:250,000 map sheets covering Alberta into one seamless Hipparchus database. This was our corporate contribution to a public service organization: STARS air ambulance, they operate in parts of BC too. It's fast and easy to use (in dispatch and ground control centre ops.). Then I ran into the provincial jurisdiction boundary ..."

Yes, a distinctly Canadian version of Murphy's Law: apart from a wee buffer, the data stops here at the British Columbia border and life-saving public service emergency services don't stack up against the need for provincial data cost recovery (*except no one buys it, as the cost is too high!*). Those at the last CCA meeting in the west, Calgary in 1995 may remember that it was Hrvoje who scripted a well worded statement on the ethics of distributing digital data at the same price as traditional maps (\$5 per sheet or the cost of a CD). Last year in Ottawa, a heralded announcement gave map libraries a 50% discount on federal digital map

files: yes, very welcome, but still 48% to go!. However it is preferable to the situation in the UK, where a mapping company I visited in the summer described an impromptu raid by the Ordnance Survey police to check whether the data they were using in producing street maps were based on original or OS map data. At the other extreme, a speaker in a CCA session in Ottawa99 described how all students had immediate access from their workstation to the entire national mapping database of Bahrain.

Data sharing and cost initiatives

The issue of data sharing will form the basis of the first afternoon plenary session at Carto2000, including the 'STARS' project quoted above (see elsewhere in this issue for a program summary). More than one Canadian mapping company has described how it now spends most of its resources making maps in the U.S. where data are more freely available: Canada relives the 'Arrow' experience !

Eyes in the sky

As the millennium turns, technology continues its breakneck pace. Landsat has finally dropped its scene price from \$5000 to \$900 and everyone up here is suddenly buying (a subtle hint here to Canadian government data suppliers on the 'elasticity of demand'), the first high resolution satellite 'Ikonos' successfully launched in fall 99 and the Space Shuttle is carrying a 59 metre radar arm to capture the world every 17 metres. Sorry: only the military will get the best data, we get the rest. Whatever, I'm content for now: I saw that heart shaped mesa on Mars on February 14th: the rest of the galaxy beckons to be mapped.

My wishes for the third millennium -
Free data for all; Bold new worlds to map;

Cartographers 'rule' the Worlds.



Phil Dodds
Intergraph Corporation

Analytical Cartography and GIS/
Cartographie analytique et SIG:

Sharing Data Throughout Your Enterprise

As the volume of GIS and related data have grown, organizations are facing an ever-increasing problem -- how do I share data among different departments and different applications? How do the civil engineering firms in my region create and share data with the county planning office? How does the local command center collect data from 5 different surveys and overlay them to perform a meaningful analysis? In the past, managing organizations had to either create hard-copy versions of their maps and overlay them by hand, or they had to translate the data into some common format - both options contain fatal drawbacks. New computerized data integration technology has made it possible to seamless overlay different types of data, making integration and data sharing a reality.

There are basically two types of GIS users today: 40% are highly skilled GIS users who are the creators and maintainers of the GIS databases; 60% are less skilled GIS users and are mainly viewers of the GIS data. In the future this ratio will change 10% - 90% in favor of the GIS viewers with the advancements in Web technology. GIS data is going to experience an increase in data supply and suppliers, an increase in data types, and an increase in support for data standards. Within GIS itself there are two types of GIS software: the high end GIS software which is used for the creation and maintenance of a GIS database with focus on feature based/ transaction processing with temporal capabilities; the second type of GIS software is focused on the viewing of data. Both of these types of data are experiencing an increase of functional-

The previous diagram shows that all GIS viewing software will have to work with many different data formats in the future. Hopefully, the GIS user will be able to view Cartographically pleasing maps while surfing the web. At the upcoming CCA conference in Edmonton a workshop is being planned to examine different web sites and their effectiveness in conveying data. We hope to see you there.

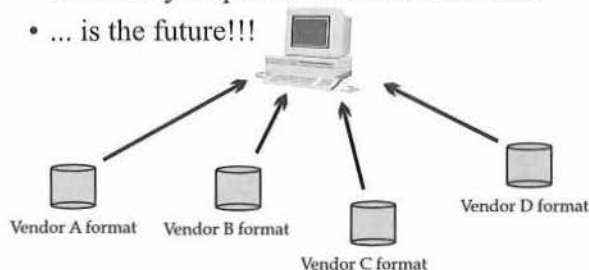
The Trends - Moving GIS into the IT Mainstream

Past		Present
• Tools	⇒	• Integrated technology
• Centralized	⇒	• Distributed
• Standalone	⇒	• Embedded
• GIS Data	⇒	• Spatially enabled data
• Mapping System	⇒	• Database System
• Legacy data migration	⇒	• Legacy data access
• Isolated spatial analysis	⇒	• Enterprise spatial analysis

In looking closely at the above diagram one can see the evolution of GIS over the past 10 years. This of course will continue to evolve as time goes by.

GIS Futures

- The GIS viewing software that will work with many disparate native data formats
- ... is the future!!!



ity and ease of use. It also helps that hardware processing power is increasing and prices are coming down.

Separation leads to redundancy

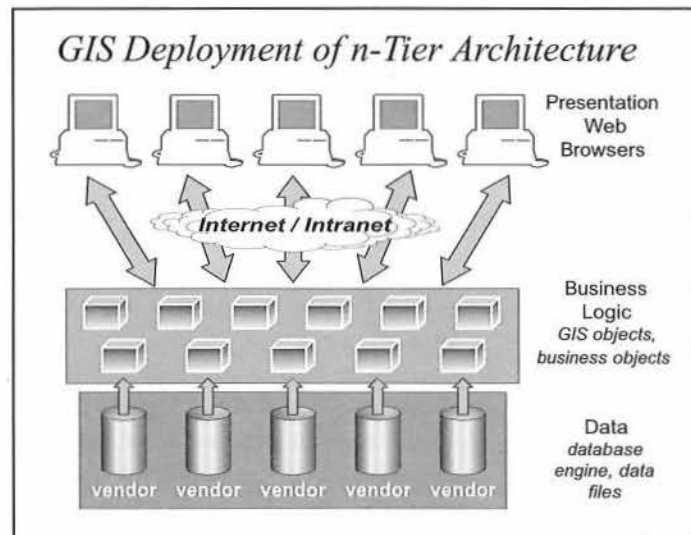
In its most primitive form, redundancy breeds at the copy machine. Someone needs a map; they make a copy of someone else's map. Someone needs a list of property owners; they make a copy of someone else's list of property owners. And they may use that map or that list for days ... weeks ... months ... even years.

In its most advanced form, redundancy breeds during system operations. A department needs a map; they procure one in digital format and may or may not purchase the updates. A department needs details about property ownership; they populate fields in their information system and may or may not update the information regularly.

There are obvious costs of maintaining redundant information solely because of the duplicated effort. But other costs of redundant information can be both hidden and staggering. Planning decisions are based on out-of-date maps. A load of cement is delivered to the wrong intersection. Or, property tax notifications are

sent to previous landowners. Organizations spend countless *hidden* dollars on activities that result from incomplete or inaccurate information.

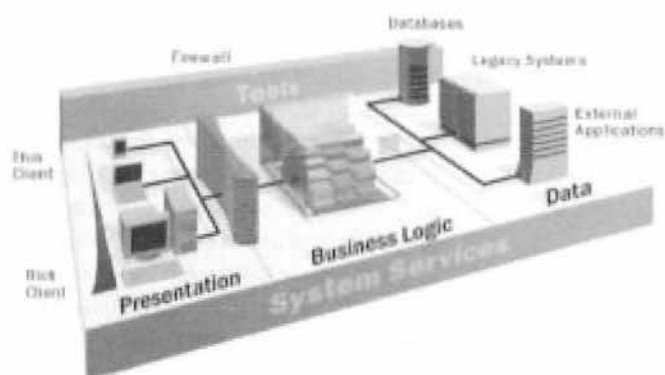
The best way to eliminate this separation of data is to adopt an n-tier architecture. As the following diagram shows, data from various vendors will be passed thru pipes into the business logic



tier and then accessed by the web browsers. With this n-tier architecture one can now distribute a GIS investment across the enterprise while lowering client administration requirements. This also improves performance across the distributed network and a system can be easily scaled by simply adding more servers.

The following diagram courtesy of Microsoft show how they adopt an n-tier architecture. Data courtesy of Microsoft.

Therefore, adopting the n-tier architecture will lead to the effective sharing of data throughout the enterprise. However, there



is the human problem of different departments holding on to and protecting their data. This may change over time—we will see. Looking forward to seeing everyone in Edmonton!



Re: Canadian Mappers on Top of the World

Dear Editor:

I greatly appreciated seeing the writeup in the winter issue of *Cartouche* about CANADIAN GEOGRAPHIC'S 70th anniversary issue, which had mapping as its theme. The writeup quoted a Southam newspaper article which described me as the designer of the wall-sized map of Canada that was included in the issue. I was indeed responsible for the design of the map, but I certainly would not want to give short-shrift to the excellent work of our collaborators in this project, the National Atlas Information Service [NAIS]. In a sense, I was simply re-frosting an already well-baked cake, since the New Century map was based on files created by NAIS. This was another in a series of collaborations between CANADIAN GEOGRAPHIC and the National Atlas, and I hope it is not the last.

Steve Fick
Canadian Geographic

Re: 'Cartographically correct maps' (Cartouche 36, page 3) What was the salesman supposed to say if not "cartographically correct maps"?

Perhaps maps done according to .. "Die allgemeine Aufloesunf der Aufgabe, die Teile einer gegebenen Fläche so auszubilden, dass die Abbildung den Abdeildenten in den kleisten Teilen aenlich wird"?

[translation for members not Deutsch-fluent: "the general scale chosen in which to present the parts of a given area that in the final presentation depicts the parts in as detailed and as accurate a manner as possible"]

But that would almost certainly scare his customer away... I guess he was - just like myself - vexed by the flood of the PC map-drawing packages which do everything in plate-carree "projection". Such maps might be quite tolerable to those inhabiting various lands of lower latitudes; they should however constitute a criminal offence in True North: they make Canada such an ugly caricature of itself!

So this salesman, in his desire for, and the promotion of, map shapes which are similar to the shapes on the ground, is right there with CF Gauss. He should - if he is not already - be made an instant member of CCA honoris causa, and we should all wholeheartedly adopt the term "cartographically correct maps" to help fight the plate-carree plague. (And promptly take all our computer buying business to him).

Hrvoje Lukatela,
Geodyssey Limited,
Calgary, Alberta

3D Desktop GIS Extensions, Cartographic Visualization and the Educator

Recently the GIS program at Algonquin College has added software extensions to two Desktop GIS packages we have been teaching over the years. The extensions are 3D Analyst for ArcView GIS and Vertical Mapper for Map Info. These extensions allow the user access to gridded information, not simply geo-referenced pictures but full fledged raster data allowing for analysis and query.

More pertinent to this discussion, however, is that both 3D Analyst and Vertical Mapper have implemented two very different approaches to displaying three dimensional spatial data. While three-dimensional display in GIS is nothing new, these implementations offer more options than many previous GISs, and a comparison between the two is instructive, especially as tied to Cartographic Visualization. Before I discuss the two extensions and their 3D viewing capabilities, I would like to differentiate between true 3D data and 2.5D data, until recently the only format supported in most GIS packages.

3D versus 2.5D

In a 2.5D data structure the X and Y coordinate values are stored as spatial data, usually in a proprietary format, and linked to an attribute store in a table, often conceptualized as a Z value. This Z value, whether it represents elevation, temperature, or a demographic variable, can be represented in a planar view using any of a range of visual variables such as value or saturation. A three-dimensional view of the data may be created but all Z values are based on height from a flat plane. Linear and polygonal features may only have one Z value associated with them.

With true 3D data, the X, Y and Z values are stored together in proprietary for-

mat, and a linkage is then made to the attribute table. The Z value is spatial data,

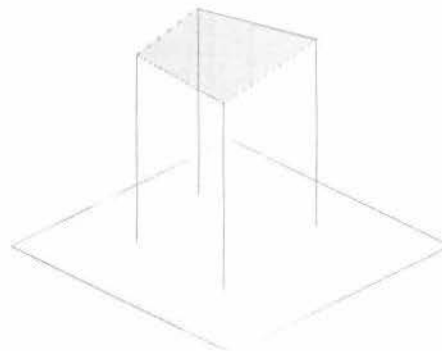


Figure 1. 2.5D The polygon is set to a constant elevation above a datum. The Z value is set from a value in the attribute table.

not attribute data. Each point making up a line or polygon boundary may then be set at a different elevation. This is nothing new: we see true 3D vector formats in CAD packages and Computer Animation pack-

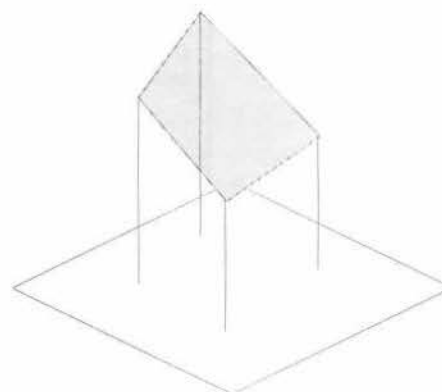


Figure 2. 3D: Each point in the polygon carries a unique Z value.

ages, but in the desktop vector GIS realm 2.5D has been the defacto standard. Let's examine the two extensions now in terms of their abilities to visualize 3D data.

3D Analyst

ESRI has implemented a number of new features with this extension, including the 3D shapefile, a simple storage format where all points are defined by X, Y and Z values. Also new with 3D Analyst is the 3D View, which allows for the display of data in three dimensions. Vector data can be located on a gridded surface, it can be extruded above a given surface based on an attribute value, or it may be located in 3D space based on its X, Y and Z values. The 3D View may be set so that you can query themes with an info tool, in the same way that one would work with a 2D Theme. Included in the 3D View are a few very simple-to-use navigation tools, which allow the user to grab, pivot, and rotate the 3D themes. The themes may also be set to spin, based on the orientation the user has already established. Thus one can view the data from a constantly changing perspective, albeit always oriented toward the centre of the themes.

With these capabilities come some limitations. One cannot set the speed of the rotation. Rather, it is controlled by the speed of the computer and the complexity of the data. One cannot create a flyover scenario, like some remote sensing software. More troubling are the limitations in the quality of the imagery as displayed in 3D. Where one is attempting to show more than one areal feature at the same elevation, the software basically makes a choice; it will display one feature or the other but not both. One surface appears torn, revealing the other through it. The solution to this problem is the use of transparency. When one surface is designated as transparent to a degree (the user has the option of specifying percentage transparency for each layer of data) then the surface no longer is broken up.

Other problems include the inability of the 3D View to show polygon boundaries as lines. Polygon boundaries disappear once in the 3D View, so that if one wants to show the boundaries, one must classify the polygon surface and let the classification indicate the polygon boundaries, or convert the polygons to lines and add the line theme. Simply moving from 2D to 3D in 3D, then, is not straightforward. Despite one's best efforts and the promise of the various 3D capabilities, the result is somehow unsatisfactory, especially with complex data sets. If the goal of visualization is to "represent large amounts of data as abstract images to better understand the meaning of the data" (Cartwright and Peterson 1999: 1), the 3D capabilities of 3D Analyst need some improvements before one could claim the software as an effective tool for cartographic visualization.

Vertical Mapper

Vertical Mapper, an extension for MapInfo, takes a different, more traditional approach to 3D visualization. The 3D view is not interactive. One must specify the view parameters prior to rendering the 3D surface. Specifically, the user must specify the X, Y and Z location of the viewer and the target, together with the angle of view. This task becomes tricky if your view angle is not one of the cardinal directions. A shift in the X direction only means a diagonal move of the imagery. A preview screen is provided, but it still is a matter of considerable trial and error. The nature of the data is different from 3D Analyst as well. The rendered information is simply a graphic; it cannot be queried. The link to attribute information is lost.

Gridded data only forms the 3D surface in the 3D viewer; any vector information must be created in the 2D View, then set as a raster image which is draped over the grid. Multiple grids and multiple drapes may be displayed, but the true 3D vector capabilities of 3D Analyst are not available in Vertical Mapper. Despite these limitations, Vertical Mapper is my students' software of choice for displaying 3D data because the image quality is

so much better. Despite the inability to interactively move around the data, the lack of true 3D data handling, Vertical Mapper is the favourite. The software allows for none of the 3D interactivity associated with Cartographic Visualization, but does come closer as an effective tool for representing large amounts of data in a clear image.

Educational Implications

The effective use of these 3D extensions requires the understanding of the extended visual variables described by MacEachren (1995: 279). The specific variable which is utilized extensively with these extensions is transparency. With 3D Analyst, the variable is used as often as not in desperation, not in any kind of analytical framework, where, for example, the degree of transparency is associated with an attribute such as data reliability. Rather, one is attempting to make the information as clear as possible, and more traditional visual variables don't work very well. Vertical Mapper is better in this respect; the appearance of the 3D View is more or less what the user would expect, once the issues of orientation are resolved. The extended visual variables can be applied in a more systematic way, although creation of a satisfying complex image takes considerable planning and time. So, as with most emerging technologies, the application of theory is not straightforward. Conceptually we are in advance of the execution, at least with the particular desktop tools under discussion. The extended visual variables become more meaningful in students' eyes however, because they can see the possibilities at least, even if the results are not as satisfactory as they would like.

References

- MacEachren, Alan M. (1995) *How Maps Work*, New York, Guilford
- Cartwright, William and Michael P. Peterson (1999) 'Multimedia Cartography' in Cartwright, Peterson and Gartner (eds.) *Multimedia Cartography*, Berlin, Springer, 1-9



Tessellations...

Much less known, but equally fascinating, almost as persistent and certainly as futile as the quest for the square of a circle - was the search for a regular and arbitrary dense tessellation of a spherical surface: various approximations are the best that can be done beyond the density of five Platonic Solids.

Such approximate subdivisions of spherical surface into many small and similar "cells" can be used with great advantage in spatial sampling, analysis and visualization of globally distributed phenomena. Depicted is one such tessellation: a "harmonic decomposition" of a dodecahedron. The process starts with a regular dodecahedron (like that on the CCA logo). Each face (or cell) can be considered to represent a spherical Voronoi polygon. Next, a new cell center is introduced at each vertex, and a new, denser Voronoi tessellation is produced. This can be repeated many times, resulting at each step in an ever increasing number of almost regular, almost of equal area, and even "almost hierarchical" cells. The whole structure can be mapped from a sphere to an ellipsoid and vice versa.

This illustration (representing the fourth, fifth and sixth level "harmonic") is a hardcopy output from a "workbench" mapping and spatial analysis application called "GALILEO", available for free download from Geodyssey's web page at <http://www.geodyssey.com/>

Hrvoje Lukatela

[Note: If all this intrigues you and you want to find out more about Geodyssey and meet Hrvoje plan to attend the workshop "Global Data Publishing with the Georama world atlas" at Carto 2000 in Edmonton. See the Draft Program on page 14 for more details.]

Brief News Items

International News

The European Science Foundation (ESF) has awarded FF 100,000 to support an "exploratory workshop in the humanities" on historic boundary mapping. The workshop, which will be held at the European University Institute in Florence, Italy, June 1-3, 2000, will examine large-scale boundary mapping and will explore avenues for future collaboration and technical assistance in historic boundary mapping across Europe. Although most European countries have a computerised record of their present-day boundaries, such is not the case with their historic boundaries. Computer systems already exist for Norway, Sweden, Belgium, the Netherlands, and Great Britain, but these countries are small and their external boundaries have remained relatively stable for centuries. With other European countries, however, their borders have changed greatly and the relevant records which document these changes may be in other countries. Although many places in the workshop are already taken, the organizers would still like to hear from computerised historic boundary mapping projects anywhere in the world. "Anyone contacting us should be clear that the Florence workshop is not an opportunity to present conventional research in pleasant surroundings at the ESF's expense. You will be asked to gather systematic information on your country's sources for historic boundary mapping ... and on major sources to be mapped..." For further information, please contact Dr. Humphrey Southall, Department of Geography, Queen Mary and Westfield College, University of London, Mile End Road, London, E1 4NS, UK; email: H.R.Southall@qmw.ac.uk.

Scholarships

The Washington Map Society recently announced the winner of its 1999 Walter W. Ristow Prize for cartographic history and

map librarianship. The first place winner is Neil Safier, a Doctoral Candidate in the History Department at Johns Hopkins University. His prize winning paper is entitled "Mapping Myths: The Cartographic Boundaries between Science and Speculation on La Condamine's Amazon, 1743-44." Mr. Safier's winning entry will be published in *The Portolan*, the journal of the Washington Map Society. He received a cash award of \$500 and membership in the Washington Map Society for the coming year. An honourable mention was extended to Jilly Traganou, a first year Post-doctorate Scholar at Tokyo Keizai University, for her paper entitled "Geographic Representations of the Tôkaidô from Edo to Meiji Japan." The yearly prize is named in honour of Walter W. Ristow who was for many years head of the Geography and Map Division at the Library of Congress and who was the founding president of the Society. This year's entry deadline is June 1, 2000. For further information contact John Docktor at jdocktor@cyberia.com.

Winners of a J.B. Harley Research Fellowship were recently announced by the Trustees of the Fund. The fellowship is designed to help support researchers, from any discipline, doing the equivalent of postgraduate level research on map collections in the London (UK) area. Each recipient receives an award of £250 per week (for a maximum of four weeks). This year's recipients include: Felicia M. Else Department of Art History, Washington University, St. Louis, USA: The Depiction of Waterways and Bridges in 16th Century Maps of Florence; Michael F. Davie, Department of Geography, Université François-Rabelais, Tours, France: Mapping of the Levant, 1840 to 1920; and Lindsay F. Braun, Department of History, Rutgers,

USA: Imperial and National Cartographies of South Africa, 1835-1948. The closing date for the next set of fellowships is November 1, 2000. For further information, applicants should contact the British Map Library at 96 Euston Road, St. Pancras, London, UK, NW1 2DB.

In honour of its former Map Librarian, Dr. Helen Wallis, the British Library has established the Helen Wallis Fellowship for scholars whose research "promotes the extended and complementary use of the British Library's book and cartographic collections." The British Library has set May 1, 2000 as the closing date for this year's applications. "This annual fellowship offers a convenient and privileged working environment in the British Library. The fellow will be treated like a member of staff (i.e., not restricted to reading room hours) and will be provided with their own work-station, an e-mail account, and access to the internet. In addition, the fellowship comes with a voucher worth 300 pounds to be spent within the Library." For further information, please contact Tony Campbell, Map Librarian, British Library, 96 Euston Road, London, NW1 2DB, UK; email: tony.campbell@bl.uk.

Recent Publications

MERCATOR'S WORLD: THE MAGAZINE OF MAPS, EXPLORATION, AND DISCOVERY, Volume 5, Number 1 (January/February, 2000): An Ardor for the Holy Land: The James C. and Adina P. Simmons Collection, by M.O. Pearce; Land of Wine and Forests: The Norse in North America, K.A. Seaver; Les

continued at Mercator's World on page 23

Canada's geography on the Information Highway: the National Atlas Information Network

National
Atlas
Information
Network



Réseau
d'information
de l'Atlas
national

La géographie du Canada et l'inforoute : le Réseau d'information de l'Atlas national

In the last issue of *Cartouche*, it was suggested by Iain Taylor that the National Atlas of Canada (<http://atlas.gc.ca>) be reviewed in the *Newsletter*. After discussing this idea with the editor of *Cartouche*, Michel Fournier and Roger Wheate, it was agreed that this would be a great benefit to the National Atlas of Canada.

The National Atlas Information Network is an initiative of the GeoAccess Division of the Canada Centre for Remote Sensing (CCRS). It is a comprehensive, state-of-the-art web facility for discovering, visualising and accessing geographic information. The National Atlas Information Network consists of CEONet (<http://ceonet.cgdi.gc.ca>), The National Atlas of Canada (<http://atlas.gc.ca>), and GeoGratis (<http://geogratis.cgdi.gc.ca>)

GeoAccess Division is looking for your feedback and suggestions on the National Atlas Information Network in general, and the National Atlas of Canada in particular. Your comments and suggestions can include a review of the current content, ideas for new information themes for visualisation in the web-mapping tool or any of the components of the National Atlas Information Network. GeoAccess Division wants to know how it is doing with our on-line services.

Please send all comments and feedback to Michel Fournier, President, Canadian Cartographic Association (acsg_mtl@mlink.net) or Roger Wheate, Past-President (wheate@unbc.ca). Michel and Roger will have a look at the comments and send them to GeoAccess Division in some kind of order such as 'content', 'tool', 'future themes'. We will answer and respond to the comments we receive and pass these on to Roger and Michel for discussion. In the next issue of *Cartouche*, we will review the comments received.

GeoAccess Division is responsive to the suggestions of users and is sensitive to the needs of Canadians and the cartographic community in preparing the 6th edition of the National Atlas of Canada. Participation of the membership of the CCA is important as it consists of cartographers and geographers that are interested in mapping. Having a collaborative review from both organisations will assure that the cartographic community plays an explicit role in the development of the Atlas.

In the Spring 2000, there will be an upgrade to the site and the table of contents is growing continuously. The team of partners, staff, contractors and students working on the National Atlas of Canada invites you to visit the site regularly, find out 'What's New' and provide feedback. The team members wish to thank all the participants in this joint venture.

Dans le dernier numéro de *Cartouche*, Iain Taylor suggérait que l'Atlas national du Canada (<http://atlas.gc.ca>) soit révisé et que les commentaires soient publiés dans le Bulletin de l'Association. Suite aux discussions entreprises avec le rédacteur en chef de *Cartouche*, Michel Fournier et Roger Wheate, on a conclu que cette entreprise serait bénéfique pour l'Atlas national du Canada.

Le Réseau d'information de l'Atlas national – une initiative de la Division GéoAccès du Centre canadien de télédétection – est un vaste groupe de ressources Web qui permettent de trouver, de visualiser et de se procurer de l'information géographique. Plus précisément, il regroupe le Réseau canadien d'observation de la Terre (CEONet) (<http://ceonet.cgdi.gc.ca>), l'Atlas national du Canada (<http://atlas.gc.ca>), et GéoGratis (<http://geogratis.cgdi.gc.ca>).

La Division GéoAccès voudrait recevoir vos commentaires et vos suggestions sur le Réseau d'information de l'Atlas national en général, et plus particulièrement sur l'Atlas national du Canada. Vos commentaires et vos suggestions peuvent inclure une revue du contenu actuel, des idées pour de nouveaux thèmes à visualiser dans l'outil cartographique sur le Web ou évaluer toute autre composante du Réseau. La Division GéoAccès veut savoir si ses services en-ligne vont dans la bonne direction.

Veuillez, s'il-vous-plaît, faire parvenir vos commentaires et suggestions à Michel Fournier, président de l'Association canadienne de cartographie (acsg_mtl@mlink.net) ou à Roger Wheate, président sortant, (wheate@unbc.ca). Michel et Roger les trieront en diverses catégories, par exemple «contenu», «outil» ou «thèmes futurs» et nous les feront parvenir. Nous répondrons aux commentaires reçus et nous enverrons nos réponses à Roger et à Michel pour discussion et publication dans *Cartouche*.

La Division GéoAccès est ouverte aux suggestions des usagers et sensible aux besoins des canadien(ne)s et de la communauté cartographique. La participation des membres de l'ACC est importante puisque cette association est composée de cartographes et géographes intéressés à la cartographie. Une revue en collaboration entre les deux organismes assurera un rôle explicite de la communauté cartographique dans le développement de l'Atlas.

Au printemps 2000, le site sera amélioré et la table des matières en constante évolution. L'équipe des partenaires, des employés, des contractuels et des étudiants travaillant à l'Atlas national du Canada vous invite à visiter le site régulièrement pour voir ce qu'il y a de nouveau, ainsi qu'à nous fournir des commentaires. Toute l'équipe remercie à l'avance tous ceux qui participeront à cette entreprise.

The GeoAccess Division
<http://atlas.gc.ca>

La division GéoAccès
<http://atlas.gc.ca>

Joe Piwowar
Spatial Information Systems

The View from Above

The Future is Now

Devoted readers of my past *Cartouche* columns know that I have been anxiously awaiting the launch of the next generation of high-resolution remote sensing satellites. Publicly available 1-metre resolution imagery finally became a reality on September 24, 1999 as the IKONOS satellite was successfully placed into Earth orbit.

The remote sensing (and GIS) community was waiting for this happy event with much anticipation. For a special CCA forum at the ICA'99 meeting held in Ottawa last August I asked three experts from the scientific, government and industrial communities to discuss their views on how we will be using high-resolution satellite imagery in the future. I now have the privilege of writing this article with over six months of hindsight and it is remarkable to see just how "bang-on" their comments were. One of the experts in particular, Dr. Stan Aronoff, focussed his discussion on five issues: Cost, Reliability, National Security, Coverage, and Competing Products. The following synopsis follows the structure used by Dr. Aronoff, flavoured with my own comments.

Cost

Even before the launch of IKONOS, SpaceImaging Corporation, the owners of IKONOS, have been coy over the price of their high-resolution data. This continues today. Realizing that they presently have a global monopoly on this type of imagery (they are also the world-wide distributors for the "next-best" resolution data – 5-metre IRS-1 imagery), I think that they are trying to see what the market will bear. After all, they are venturing into untested grounds. Their current price for a 1-metre resolution IKONOS image is about US\$1,000 per 13 km x 13 km scene. A quick look at their ordering information: "No Volume Discounts offered at this time.", and "No Rush Processing and no Rush Tasking offered at

this time.", suggests that they have set an appropriate price – they are overwhelmed by orders. SpaceImaging does not give any indication on how fast they can process your order.

The cost of high-resolution imagery doesn't end after you place your order. Getting the data onto your computer and processing it will undoubtedly "cost" you more. Consider that a full-resolution IKONOS-1 scene of a small 13 km x 13 km area is well over 300 Mb in size, it will take some time for even the fastest computer to process the imagery. And let's see ... by the time you do a couple of contrast enhancements on the data, drape a rasterized vector layer on top, do some on-screen digitizing into a blank layer, and try to do an unsupervised classification or a supervised classification, all the various permutations of your 300 Mb image will be using up over 2 Gb of disk, just for a single scene. Ouch! You will probably have to buy another disk drive and a DVD-RW to make a back-up of your work. The hidden costs of high-resolution imagery keep mounting.

Reliability

One of the key concepts which has made the first remote sensing program, Landsat, so successful is continuity. Landsat 1, launched in 1972, carried a sensor called the Multispectral Scanner (MSS). You can still buy new MSS imagery today. That is continuity. That is also important for those who wish to do long-term monitoring. The objective of extended monitoring is to look for changes over time. If you can control as many of the non-time related variables in your analyses as possible (e.g., sensor, time of day, season of year), then you will have greater confidence that the changes you are observing are real and not a result of some other change in the system. But it isn't easy to build continuity. Twenty years ago the U.S. government, who initiated the Landsat program, privatized it. Ten years ago the

company that was running Landsat was charging \$5,000 for a scene and losing money badly. If it wasn't for a massive bail-out of the Landsat program by the U.S. government, we wouldn't have any more MSS imagery. If it takes a government to keep a major remote sensing program afloat, what assurances are there that a private corporation like SpaceImaging can do it?

The satellite business is risky and the high-resolution satellite business appears to be even riskier. Three of IKONOS' predecessors failed on launch. Two of the ones that did make it into orbit either ended their missions prematurely or have had malfunctions that seriously jeopardize their longevity. If I were a potential IKONOS customer, I would be hard-pressed to develop a business plan centered around unproven technology. What would I do if IKONOS stopped working tomorrow? SpaceImaging (and other competing companies) have plans for follow-on systems, but until I see actual images sent from space, I'm not going to bet too heavily on them.

National Security

National security can be a touchy issue with seemingly irrational policies. When the Landsat program started, the MSS could acquire 80 metre imagery from anywhere on the planet. More than one foreign government raised their eyebrows over sovereignty issues. Now anyone in the world can get 1 metre imagery of their neighbour's territory. It kinda shuffles the deck again. (The U.S. does have export restrictions prohibiting the sale of technology to certain countries, but let's face it – it wouldn't be too hard for an "unfriendly" government to get imagery from a collaborator residing in a "friendly" country).

Stop to consider the possibilities for a minute. Ten years ago during the Gulf War the highest resolution civilian imagery available came from the French company

SPOT Image. The U.S. military requested – and was granted – all available SPOT imagery of Kuwait and Iraq with a total blackout for anyone else wanting these data. Now suppose the tables were turned and SpaceImaging Corporation received a request from the Russian government for exclusive rights to IKONOS imagery over Chechnya. Unless they were willing to pay big bucks for it, I suspect the answer would be a big *niet*.

With high-resolution imagery in the hands of a private corporation, "desirable" foreign imagery would go to the highest bidder. But if you think that a sovereign nation should have the right to "turn off" imagery collected over their territory, think again – it's all fair game.

Coverage

High-resolution imagery does have its drawbacks, however, especially if you are into mapping more than downtown Saskatoon or the alfalfa crops in your fields. If you want to do detailed multi-spectral land cover analyses or produce vegetation inventories on a regional scale you'd be better off sticking with the more traditional Landsat-type products. The greater number of spectral bands and the broader spatial coverage of the Landsat Thematic Mapper can give you a much bigger bang for your buck.

I once suggested that when high-resolution imagery from space finally becomes available, you'll be dusting off your old remote sensing texts because these new data will revolutionize the way GIS and other spatial technologies work (Cartouche 28, 1988). Now that I have seen IKONOS imagery, I don't think my recommendations went far enough. You need to dust off your old airphoto interpretation text as well because IKONOS images revive interpretation issues that just aren't a problem with other spaceborne images: radial and terrain distortions, image displacement, and stereoscopic parallax.

Competing Products

SpaceImaging won't be the only player in the high-resolution imagery game for long. There are several other satellites heading for the launch pad that will provide some much-needed competition. Healthy competition should ensure that imagery prices are kept in check while product quality im-

proves. But the more companies that enter this market, the more interesting national security issues will become.

The Last Word

Does all of this sound a little pessimistic? Sure. But I think that it is better to jump into the deep end of the pool with your eyes open and your mouth closed, rather than the other way around. In reality, I am anything but pessimistic about the future of high-resolution imaging. This is the best thing for the betterment of life on this planet since the launch of Landsat 1!

If you haven't had the opportunity to see what IKONOS can see, check out the sample images at www.spaceimaging.com – they'll blow your socks off! 🌐

University and College Cartographers spurn the Web!

Many apologies for my omissions in the web list that appeared in Cartouche 36 [Everybody Loves Surfing... p14], featuring CCA members involved in GIS and mapping in private companies and government. Please add to your list:

MAP PRODUCTION & DISTRIBUTION
Map Art, Hart Schwerdt, Oshawa, ON,
www.mapart.com

GOVERNMENT DEPARTMENTS Statistics Canada, Carolyn Weiss, Ottawa; Lea Selley, Edmonton www.statcan.com

However the request to do a similar page in this issue detailing college and universities involved in cartography and GIS, met with an UNDERWHELMING response! Should I assume only Carleton University and UNBC are using the Web, that students and teachers do not read Cartouche, or that there is general apathy? Let's give it another try: please send your college/university cartography/GIS web page address to: wheate@unbc.ca

HOW LONG WILL IT TAKE
TO SEND ME AN EMAIL?
wheate@unbc.ca
Roger Wheate



Calendar/ calendrier

April 04-08 april 2000
AAG Annual Meeting
Pittsburgh, PA, USA
enquires Tel: (202) 234 1450,
Fax: 1 (202) 234 2744

May 9-10 mai 2000
Northern B.C. GIS and Mapping Annual Conference (in conjunction with Forest Expo)
University of Northern British Columbia, Prince George, BC
Contact: Roger Wheate,
email: wheate@unbc.ca
Tel: 250-960-5865

May 31 mai to June 4 juin 2000
CCA ANNUAL MEETING
(Joint with ACMLA and WAML)
University of Alberta, Edmonton
Conference Web address:
www.library.ualberta.ca/maps2000/conf.html
CCA Contact: Roger Wheate,
email: wheate@unbc.ca
Tel: 250-960-5865

September 5 to 8 septembre 2000
CARTOGRAPHY 2000
(Joint meeting of the Society of Cartographers and the British Cartographic Society)
Oxford, England
For information / pour renseignements:
Dr. D. Fairbairn,
Department of Geomatics,
University of Newcastle,
Newcastle upon Tyne, NE1 7RU

October 11 to 14 octobre 2000
NACIS XX
Knoxville, Tennessee
For information / pour renseignements:
www.nacis.org/index.html

2004
XX International Congress of the ISPRS
Barcelona, Spain
For information / pour renseignements:
www.icc.es

Carto2000 Into the Millennium...

Cartography and Map Collections for a New Century

**May 31 - June 4, 2000,
University of Alberta,
Edmonton, Alberta**

A JOINT CONFERENCE OF:
CCA - Canadian Cartographic Association
WAML - Western Association of Map Librarians
ACMLA - Association of Canadian Map Libraries & Archives



DRAFT PROGRAM

Summary:

Wednesday 31 May	Executive meeting, workshops	<i>evening:</i> Icebreaker
Thursday 1 June	Opening and plenary sessions	<i>evening:</i> Orienteering event (or the Mall!)
Friday 2 June:	Concurrent sessions, site visits	<i>evening:</i> Banquet
Saturday 3 June:	AGM, concurrent sessions	<i>evening:</i> Pub night
Sunday 4 June:	Brunch and field trips	

Wednesday May 31st,

Afternoon Pre-conference Workshops -

"Cataloguing Geospatial Digital Data", Convenor: Trudy Bodak (York University)
"Global Data Publishing with the Georama world atlas", Hrvoje Lukatela, (Geodyssey Limited)

Evening: Ice Breaker, University of Alberta: dedication of the W.C. Wonders Map Collection.

Thursday June 1st

Morning: Opening Ceremony and Welcome

Plenary Session: "Developments in Cartography"

Keynote Speaker - "The Shapely Earth: Measuring and Mapping" - Don Fenna (U. of Alberta)

"The Excel Generation in Automated Cartography" - Ray Boyle (U. of Saskatchewan)

"Digital Map Publishing - the next generation" - Lou Skoda (Canadian Cartographics Ltd.)

"The Future of GIS and Electronic Cartography in the 21st Century" - Arturo Sanchez-Azofeifa (U. of Alberta)

Afternoon Session: "Data Distribution and Sharing"

"GEODE - A Prototype for Web-based Delivery of Spatial Data and Metadata" - Sharon Neary (U. of Calgary)

"Data Distribution: Technical Aspects of Sharing and Cooperation" - Carol Kennedy (Alberta Environment)

"Canadian 1:250,000 Map Sheets as Data Source for a Country-wide Digital Atlas" - Hrvoje Lukatela (Geodyssey Ltd.)

"Research use of DLI geospatial data" - (to be confirmed)

"Advancements in Cartographic Design at Statistics Canada" - Lea Selley (Statistics Canada)

"The National Atlas of Canada and GeoGateway" - Claire Gosson (Natural Resources Canada)

Evening: Orienteering event

Friday June 2nd:

Session (am): Moving a Map Collection

"Planning for Our Future: Moving and Storing Map Collections" - Joanne Perry (Pennsylvania State University)

"Relocation of a Regional Map Library-- Considerations and Assessments" - Linda Newman (U. of Nevada)

"The Care and Handling of Fragile Materials" - Tom Nagy (National Archives of Canada)

Session (am): "Map Design and Use"

"What Is It With Parallel Line Patterns?" - Cliff Wood (Memorial University of Newfoundland)

"Maps on the Internet" - Anita Muller (Carleton University)

"The Power of Maps in Resource Management Decision-Making" - Jean McKendry (University of Idaho)

"Hazards Mapping: a need for guidelines" - Ute Dymon (Kent State University)

Session (am): "Demystifying Metadata: Why It Is Important and What Our Clients Need to Know About Metadata",

Convenor: Grace Welch (University of Ottawa)

"Using and Understanding Metadata: Experience from the Alexandria Project" - Mary Larsgaard (Map and Imagery Laboratory, Davidson Library, University of California, Santa Barbara)

"Metadata, A Reference Service in Map Libraries and Geographic Information Centres" - Carol Marley (Hitschfeld Environmental Earth Science Library, McGill University)

Session (am): "Atlases"

"Canada Atlas 2000/Award in Geomatics Project" - Lou Skoda (CanCart)

"The Atlas Saskatchewan - A Product of Developmental Change" - Ka Iu Fung (University of Saskatchewan)

"A Socioeconomic Atlas Series for U.S. National Parks" - Jean McKendry (University of Idaho)

Session (pm) "GIS on the Web" - Phil Dodds (Intergraph) and Daniel Munroe (ESRI)

Site visits and tours

Evening: Banquet

Saturday June 3th

Morning: Annual Business Meetings - ACMLA, CCA, WAML

"Report of the Visual and Sound Archives Division, National Archives of Canada" Betty Kidd, National Archives of Canada

Session (am): "Cartosophy"

"Cartography as Rhetoric" - Mark Denil (Dartmouth, Nova Scotia)

"Cartosemiotics after Three Decades" - Hans Schlichtmann (University of Regina)

"A Sociological Perspective on Map Makers and Maps With a Special Focus on Gender" - Will C. van den Hoonaard

Session (pm): "Historical Roots"

"Popular Impressions - Images of the West on Maps to 1900" - Alice Hudson (New York Public Library)

"The Canadian County Atlas Digital Project" - Lorraine Dubreuil (McGill University)

"Francis Barrallier: an emerging story" - Harry Steward (Clark University)

Session (pm): "Cartographic Education"

"Visualization and Interactive GIS: Implications on Cartographic Education" - David Broscoe (Algonquin College)

"GIS Education and Training: Monograph 43 - 10 Years Later" - Sally Hermansen

"Geomatics in the New Millennium: Bridging the Secondary/Post-Secondary Divide" - Andrew Millward (University of Waterloo) and Susan Pannell (Queen's University)

"Cartography and Children - The International Scene" - Jacqueline Anderson (Concordia University)

"Manipulative Map Projections: What Can be Discovered From Their Classroom Use" - Henry W. Castner (Pittsboro, NC)

Session (pm): "GIS in Libraries: An Open Discussion Session" Convenors: Linda Zellmer (Arizona State University) and David Deckelbaum (University of California, Los Angeles);

CCA Executive Meeting.

Sunday June 4th

Walking tour, Sunday brunch, Field Trip: "Fort Edmonton - Canada's largest historic park."

Note: Members are strongly encouraged to stay for the Sunday field trip (book flights for the afternoon), and also arrive in time for the pre-conference workshops and Icebreaker. Westjet airlines (www.westjet.com) offers an alternative to the national airlines and will begin serving Hamilton in March, Ottawa and Halifax in the spring.

Poster Displays and Exhibits:

"Archaeological mapping in Newfoundland: a study of a work in progress." - Charles M. Conway and David J. Mercer, Memorial University of Newfoundland Cartographic Lab.

"Canadian Cartographics Ltd. - a quarter century of thematic mapping" - Lou Skoda (Canadian Cartographics Ltd.) "CCA 1975-2000: the matrix" - Henry Castner

"CCA photo display and contest" - Cliff Wood (Memorial University)

For the most up to date Carto2000 information see: www.library.ualberta.ca/maps2000

Mapping to Monitor: Frolic and Inquest in the Coastal Zone of the Tobago Cayes, SVG

Andrew A. Millward
University of Waterloo

Student's Corner
An opportunity for students to showcase their projects and research initiatives in the fields of Cartography and Geomatics.

Paradise in Peril

The Tobago Cayes, SVG are located in the Grenadines approximately halfway between the islands of St. Vincent and Grenada. Surrounding the Cayes is a series of shallow barrier reefs that have been a fertile breeding and sheltering area for a variety of marine creatures. Additionally, the beautiful turquoise waters have served as a favorite mooring location for many yachters navigating the southern Caribbean. Recently however, the Tobago Cayes have been witness to an appreciable deterioration in the richness and abundance of terrestrial and marine life that once formed the figurative signature of this island paradise.

What has emerged is a complex and insidious example of a 'tragedy of the commons'. Unchecked tourism has been permitted, and perhaps encouraged, by the government of SVG, while unsustainable harvesting of marine resources has never been politically acknowledged and appreciated as a problem worthy of significant address.

Such complex problems rarely have logistic and/or financially simple remedies. One of the most significant impediments to addressing the deterioration of coastal zone resources within the Tobago Cayes stems from a currently ineffective manner of documenting and monitoring change in the quantity and spatial/temporal distribution of resources. Without these data, it is extremely difficult to effectively lobby the government of SVG to establish a comprehensive and sustainable environmental policy designed to protect the precious Tobago Cayes.

The Project

Goals:

1) To facilitate implementation of a geographic information system (GIS) to

map and monitor coastal zone resources on the islands and sensitive near-shore waters of the Tobago Cayes, St. Vincent and the Grenadines (SVG).

2) To strengthen academic linkages with the non-governmental organization (NGO) *SEASCAPE Research and Education* (SRE), as it seeks to accumulate and



Seascape Volunteers Collect Data in the Tobago Cayes, SVG.

manage data necessary for environmental protection of the Tobago Cayes.

A Day in the Sun for a Caribbean Cartographer

Mapping initiatives were successfully begun during the summer of 1998 through my collaborating with a Vincentian environmental organization, *Seascape Research and Education* (SRE). Work in the Tobago Cayes was both research and educationally focussed. Research consisted

of generating detailed base maps of the islands by digitally scanning archived panchromatic air photos. The photos were then georeferenced using ground control points obtained using a global positioning system (GPS). These ground control points were collected during rigorous field visits (sun-screens and bathing suits a must!).

Image processing software was employed to integrate the site-specific coordinates (ground control points) with the digital air photos. Once georeferenced, the air photos were then integrated into a GIS. Island and reef features were digitized to create geographic files suitable for application of attribute data in the form of environmental variables.

Education and knowledge transfer formed an integral part of the research component as local Vincentians were involved at every stage of data collection and mapping. Information sharing and training extended beyond the research effort to address the potentials associated with the development of a digital and readily updateable, environmental monitoring system (EMS). This EMS would facilitate, through Vincentian operation and direction, sustainable protection of the Tobago Cayes and their fragile natural resources.

What was accomplished along with the sunburn

My travel to Bequia to share with, and learn from, SRE was a terrific success from the perspective of both parties involved. Recognizing the extremely valuable contribution that detailed basemaps of the Tobago Cayes could make in the facilitation of data collection, this became the first technical project that SRE and I collaborated on. The logistics of this work were challenging as it was quickly revealed that beach formation within the Tobago Cayes

were very dynamic and had altered considerably since the air photos were taken in 1991. Nevertheless, the project dedication of SRE staff and Tobago Cayes Marine Park wardens permitted numerous visits to the islands until enough ground coordinate data was collected to georeference the air photos to an acceptable level of error. Having accomplished this task, SRE staff, with my facilitation, began the process of digitizing the essential island features, in latitude-longitude coordinates, required to produce detailed basemaps. At the time of my departure, this process was well underway, and digital maps of the Tobago Cayes were beginning to take form.

Profile of Seascope Research and Education (SRE)

SRE is a young, developing organization which maintains a focus on environmental protection within the country of St. Vincent and the Grenadines (SVG), West Indies. Based on the island of Bequia, the organization promotes a cooperative sharing of knowledge and ideas among persons of differing disciplines, abilities and cultures. Research and programs conducted by SRE provide a vehicle to promote this sharing, and result in the collection of valuable information which may be used in the ongoing struggle to preserve the natural world.

Acknowledgements

Work with SRE was made possible through financial and logistical support from the Inter-American Institute for Cooperation on Agriculture (IICA). I would also like to thank Dr. Janet Mersey for encouraging me to pursue this project while working toward my Master's degree at the University of Guelph.

For further information about SRE please contact me my email at aamillwa@fes.uwaterloo.ca.

At present Mr. Millward is working on his Ph.D. with the Faculty of Environmental Studies, Department of Geography, University of Waterloo. Current research interests are mapping land cover/use change in Hainan Province, China and soil conservation modelling in the mountainous tropics.

More than an Atlas*

by Dale Sheehan

For my birthday this year, my wife Carol gave me the 1998 Rand McNally Road Atlas. As we were about to depart for a tour of Alberta and British Columbia, it was more than appropriate. I immediately went to the drawer where I kept my old atlas to retrieve various papers and brochures I had collected over the years.

As I picked up the fragile atlas, I noticed the date on it: 1985. I remembered that it was almost 13 years since the day I had graduated from the Royal Canadian Mounted Police Depot in Regina. Carol had flown out for the ceremonies. Posted to Prince Edward Island, we bought the atlas at a local gas station. Neither of us had ever been east of Quebec, and the atlas was first used to direct us to Montague, to begin a new life.

Our sons were one and three as we nervously made our way to the Maritimes. I had a yellow highlighter with me and traced the route through Montreal, Edmundston, Fredericton, Moncton and, finally a yellow line across the water to PEI.

Over the years there was a transfer to Nova Scotia. It did not take long before all the Maritime provinces were covered in yellow. Not knowing how long we would be there, we made it a point to see everything. For 11 years, we made numerous commutes to Montreal and Ottawa to visit family. I took pride in highlighting all the routes we used to get there: through Maine, the shortcut through Newcastle, the extended trip down to St. Stephen, both sides of the mighty St. Lawrence. Sometimes I wondered if I really wanted to see all those places or if I had just become obsessed with colouring in all the white spaces on the map.

We must have made at least 50 trips home over the years. I can recite the exact spots where we pulled over for emergency spills, car sickness, flat tires, and breakdowns. We could have made the trip with our eyes closed, but we sought the comfort of the atlas between the front seats on every trip. I looked at it every time, just to confirm that I was 23 minutes and 18 seconds away from our next reference point.

The highlighting continued into the United States. There was the time that friends told us we could save hundreds of dollars by driving to Bangor, Maine, and

flying to Florida from there. Three hours before the flight I checked the tickets and realized that we were actually flying from Portland. My son nervously etched five inches of yellow ink onto the map as we passed every landmark, trying to ensure that they would not be emotionally scarred for life by missing their flight and not meeting Mickey and Goofy.

At Windsor, NS, there is a large blue X marking the time we ran out of gas at 4:30 am. Nothing was open but we did get a ride in a milk truck. My sons bring that X up every time we go on vacation. I'm glad they were too young to draw a milk truck.

Then there was the time we ran out of diapers and had to improvise. We could not find any paper other than the atlas, and actually debated as to what state we were least likely to visit. I chose Rhode Island, figuring it was small enough that I might not need a map. We have never made the trip because my son is still mad at me for wrapping his behind in Rhode Island.

We have since transferred to Saskatchewan. One big, flat, yellow line across the atlas. Twenty-four states and every province except Newfoundland have yellow marks on them. I looked at my shiny new birthday gift again. Did Carol realize we had come full circle and that she had bought both atlases in Regina?

I picked up my old atlas. How could I cheat on it? I could only imagine the stories it could tell. Its favourite saying would have to be "Don't keep driving around lost! Read me, you idiot!"

Each rip, tear and coffee stain has a special meaning. One stain might be vomit, but I don't want to part with it for DNA testing. The index is gone. I once needed something to start a fire with while camping in California.

This is more than an atlas. It represents the history of my family. It has guided us to five houses in five provinces. One yellow line brings back stories, laughs, and memories, sometimes almost tears. There will not be too many more years before my boys will not want to vacation with us any more. Curtis might have a summer job next year. Christopher wants to visit his friends in Nova Scotia. I need to hold on to the memories any way I can.

Mr. Dale Sheehan teaches at the RCMP Academy in Regina.

** This item first appeared in The Globe and Mail, September 30, 1998; reprinted with permission.*

Candidates for Election to the 2000/2001 CCA Executive

The CCA Nominating Committee is pleased to present the following slate of candidates:

Vice-President:

Ute Dymon, Kent State University
Christine Earl, Carleton University

Chair, History of Cartography Interest Group:

Harry Steward, Clark University

Chair, Map Use and Design Interest Group:

Dianne Lacasse, NR Canada, Ottawa
Jean McKendry, University of Idaho

Nominations are now closed. Since there is only one candidate for History of Cartography, Harry Steward is declared elected by acclamation. An Election will be held for the other positions, and a ballot form is enclosed with this issue of *Cartouche*. Vote for the candidate of your choice, seal the ballot form in the enclosed brown envelope and mail inside another envelope with your name clearly marked to:

Roger Wheate, Geography
UNBC, 3333 University Way
Prince George, BC V2N 4Z9

Important: Due to the constitutional change last year ballots must be counted prior to the AGM.

BALLOTS MUST BE MAILED so that they can be received before April 10, 2000 (mail by April 1). Ballots will not be counted at the conference.

Personal profiles supplied by the candidates follow.

Candidats aux élections au Comité exécutif de l'ACC 2000/2001

Le Comité de nomination de l'ACC a le plaisir de soumettre la liste de candidats suivante aux élections au Comité exécutif de l'ACC 2000/2001.

Vice-président:

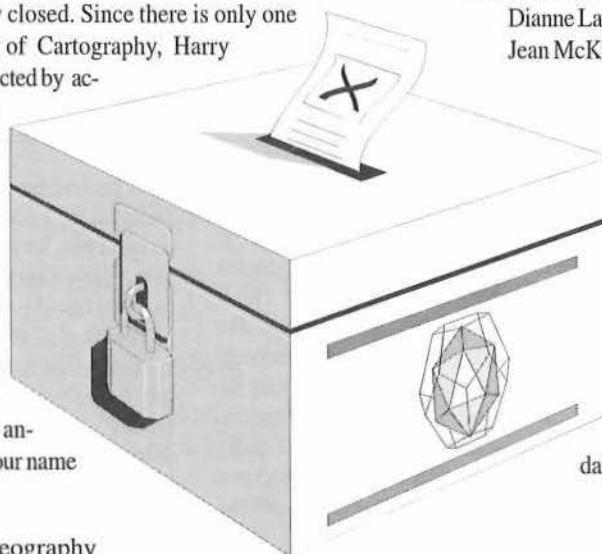
Ute Dymon, Kent State University
Christine Earl, Carleton University

Président, Groupe d'intérêt sur l'Histoire de la cartographie:

Harry Steward, Clark University

Président, Groupe d'intérêt sur la Conception et utilisation des cartes:

Dianne Lacasse, NR Canada, Ottawa
Jean McKendry, University of Idaho



L'appel pour les mises en candidature est maintenant terminé. Puisqu'il y a seulement un candidat au poste l'Histoire de la cartographie, Harry Steward est élu par acclamation. Des élections auront lieu pour les autres postes. Le bulletin de scrutin est inclus dans ce numéro de *Cartouche*. Votez pour le candidats de votre choix dans chaque catégorie, placez le bulletin dans l'enveloppe brune et cachez l'enveloppe, et postez le tout dans l'enveloppe blanche à:

Roger Wheate, Geography
UNBC, 3333 University Way
Prince George, BC V2N 4Z9

La date limite pour réception des bulletins par la poste est le 10 avril 2000 (envoyer par la poste, 1 avril).

Une courte biographie pour chacun des candidats suit.

Candidates for Vice President / candidates pour la vice présidence

Ute Dymon

Dr. Ute J. Dymon, Associate Professor in the Kent State University Department of Geography, received her PhD from the Graduate School of Geography of Clark University in Worcester, Massachusetts in 1985 and joined the geography faculty at the University of Massachusetts at Amherst. While at the University of Massachusetts, Dr. Dymon established herself as a hazards researcher, combining her geographic information systems (GIS) skills with hazards-related issues. Funded research provided her with an opportunity to conduct field work after several mega-disasters, including Hurricane Andrew, Hurricane Fran and several chemical fires. After the Gulf War in 1991, Dymon's research background provided the impetus for the United Nations to invite her to research the delineation of the boundary between Kuwait and Iraq. In January of 1992, she accepted a faculty position at Kent State University. Since her arrival at Kent, she has been an active researcher in the field of natural disasters. She has received several grants for hazards research and has published widely in national and international journals. Recently, she received a one year leave from Kent State University to serve as the Scientist-in-Residence with the United States Geological Survey (USGS) in Washington, D.C. Currently, she is part of a team of researchers at USGS investigating the effects of national and global disasters. Dr. Dymon is an active member of the graduate faculty at KSU and has advised two PhD's and three MA's to completion and is currently advising three PhD's and two MA's. Her students participate actively in her research.

Service to Profession:

1997- Chair of Cartographic Education for the U.S. National Committee for the International Cartographic Association (ICA).
1996-2000 Member of the U.S. National Committee for the International Cartographic Association. (ICA).
1997-1999 Chair of Cartographic Specialty Group on Cartographic Education, Canadian Cartographic Association.
1994-1997 Member of the International Cartographic Association Tactile Mapping Commission.

1997-1998 Chair, Cartographic Specialty Group AAG.

1996-1997 Vice Chair, Cartographic Specialty Group AAG.

1994-1996 Board of Directors, American Congress on Surveying and Mapping (2 year term).

1992-1999 Board Member, Cartographic Specialty Group.

1992-1994 Academic Director and Board Member, Cartographic Specialty Group of the AAG.

Editorship:

1999- Regional Editor, *The Cartographic Journal*

1998-present Atlas Editor for *Cartographica*.

1988-1992 Co-editor, *Newsletter Massachusetts Geographical Alliance* (MGA).

Position Statement:

Cartography has experienced major changes in the past decade and is a discipline in transition. While many of these changes were predictable, they occurred in a much faster rate than expected, requiring the Association to keep pace with the ongoing dynamics of technological changes. Today's professionals interact through computer technology such as electronic mail and fax machines allowing for faster exchange of ideas and opinions requiring the Association to look into new ways of serving members. I believe that strong interactions with members of other societies and associations needs to be nurtured and that the CCA can enrich its own research base through such alliances with other disciplines. In order to serve its members well, I believe that the CCA needs to continue to be a forum for the exchange of research ideas in the form of conferences and publications, but also needs to take on a stronger role in continuing education.



Christine Earl

Professional affiliation

Department of Geography,
Carleton University

Education and Work Experience

I completed a B.Sc. in mathematics at the University of Western Ontario in 1969 and worked for several years at OISE in Toronto.

An enthusiastic traveller, I enjoyed using maps so much that in the mid-seventies I chose cartography as a profession. Upon completing a diploma in Cartographic Technology at Algonquin College in Ottawa in 1977, I joined the Department of Geography at Carleton University as Cartographic Technologist, responsible for the design and production of maps and all kinds of graphical illustrations. In September, 1995, I was appointed Instructor and half of my time is now devoted to teaching.

My interests have evolved from a focus on the practice of cartography to a broader curiosity about its history and use. I believe that maps are more than passive representations of space and actively construct space and ideas about space. This idea led me to speculate about the relationship between cartography and cosmology and I investigated this relationship in my Master's thesis, completed in 1999.

Service to CCA:

I have been a member of the CCA since 1987, was Chair of the Map Design Interest Group 1992-94, co-coordinator for the technical programme of the joint CCA/NACIS conference in 1994, and served as a member of the programme committee for the ICA Conference in 1999. I have presented papers at the annual conference.

Goals as VP:

I would continue the membership initiatives of the present Vice-President. In my opinion, we should continue to try to make our activities of interest to a broad constituency so that membership will seem of benefit to classes of persons who may be under represented in the CCA so far: for example, those involved in the management of GeoInformation and those involved with its use. I think we should try to recruit more students by publicizing the benefits of membership more effectively to them. The annual conference is vital to maintaining a dynamic association and deserves to be considered a top priority for the Executive. As well, our newsletter, *Cartouche*, and our website, are important communication channels which should report to members, offer useful tips, news and opinion, and explain who we are to those who chance to encounter them.

**Candidate for History IG Chair /
candidate pour la Présidence du
groupe d'intérêt sur l'Histoire de
la cartographie:**

Harry Steward

Professional affiliation

Currently on the faculty of the Graduate School of Geography, Clark University, Worcester, Massachusetts.

Education can be blamed on the British Meteorological Office Training School and the universities of London, Leicester, McGill and Wales. Ph.D. at the latter, in 1972, under Derek Maling. Dissertation concerned cartographic generalization theory for computer operations, large chunks of which, much to the author's continuing surprise, still have not had all the intellectual juice squeezed out of them.

Education and Work Experience

Arrived in Canada in 1962 as a geography graduate student and spent a year in the McGill Sub-Arctic Research Laboratory in Schefferville, Quebec. Later completed Diplomas in Education and Cartography in the UK, and returned to Canada as an Instructor in the Geography Department of the University of Toronto. Efforts to stay in Canada (3 times a landed immigrant !) thwarted by family commitments and (old story) the lure of the almighty (US) dollar. In the USA, became Research Associate and Head of the Cartography Department at the American Geographical Society and taught cartography at Columbia University. From New York went to Ohio and spent 6 years at the Department of Geodetic Science, Ohio State University. Has always been something of a generalist (as a schoolboy, once upset the British A Level Exam system by taking both the Electricity and Magnetism and Roman Britain papers, which were scheduled at the same time). Has taught courses right across the board in the mapping sciences; land-surveying, air-photo interpretation, photogrammetry, design, compilation, remote sensing, et cetera. Long established interest in the history of the mapping sciences, especially surveying methodologies, topographic mapping and the use of mapping imagery in literature.

Former Fellowships at the Newberry Library, ACLS, NEH, American Philosophical Society, and (1999) as the inaugural Helen Wallis Fellow in the History of Cartography at the British Library.

**Candidates for Map Use and
Design IG Chair / candidates
pour Présidence du groupe
d'intérêt sur la Conception et
utilisation des cartes:**

Diane Lacasse

Professional affiliation

Geographer at the National Atlas of Canada, GeoAccess Division, Natural Resources Canada for 10 years.

Education

Bachelor in Arts (Hons. in Geography) in 1984 and Master of Arts in 1987 from the University of Ottawa, Ontario.

**Work experience related to the map use
and map design**

-Team member for the creation of three web sites related to mapping : National Atlas on the Net, National Atlas on Schoolnet and The National Atlas of Canada, 6th Edition.

-Formulated the National Atlas of Canada 5th edition map Canada-Ethnic Diversity (1993), the map of The Yukon Territory at a scale 1: 1 000 000 (1993), and the poster-maps Canada A land of Superlatives (1995) and Natural Hazard (1996), both published by Natural Resources Canada and the Canadian Geographic Magazine.

-Developed a database on the national road transportation network for the production of a GIS layer for the National Atlas of Canada.

-Member of the Canadian Cartographic Exhibit Committee of the Canadian National Committee for ICA and member of the selection committee for the Canadian cartographic content of the International Cartographic Exhibits in Cologne, Barcelona, Stockholm and Ottawa.

Position Statement

Digital mapping is now performing well and, if one can afford a very sophisticated

software package, good quality maps can be designed and produced. Unfortunately, the same is not true about Web mapping softwares. The World Wide Web is used more and more to disseminate information on maps. The Web mapping tools are very popular and powerful because they allow researchers to analyse databases and communicate findings of the studied phenomena, and the Web itself allows a wide audience to interact with the databases as well. Unfortunately, the cartographic tools are being built by computer scientists and programmers without necessarily consulting cartographers. The design of the maps and the lack of cartographic principles used by these tools bring us back to the beginning of computer cartography. Not being computer scientists themselves, cartographers are at the mercy of technology whereas they should be driving it.

The Map Use and Design Interest Group should become proactive and focus on finding ways to sensitise and instruct the computer science community on the cartographic techniques and needs. This will lead to better mapping tools that will allow cartographers to design and produce superior quality maps without being stopped by the technology and the price. This group, as a representative of the whole Canadian cartographic community, could become a very strong voice.

Diane Lacasse

Affiliation professionnelle

Géographe à l'Atlas national du Canada, Division GéoAccès, Ressources naturelles Canada, depuis 10 ans.

Éducation

Baccalauréat (Hons. en Géographie) en 1984 et Maîtrise ès Arts en 1987 de l'Université d'Ottawa.

**Expérience de travail relative à la conception
et à l'utilisation des cartes**

-Membre de l'équipe de la réalisation de trois sites web cartographiques soit l'Atlas national sur le web, l'Atlas national sur le RESCOL et l'Atlas national du Canada, 6ième édition.

-Réalisation de la planche Canada - Diversité ethnique de la 5ième édition de l'Atlas national du Canada (1993), la carte Le Territoire du Yukon à l'échelle de 1:1 000

000 (1993), ainsi que les cartes-affiches *Le Canada, pays sans limites* (1995) et *Catastrophes naturelles* (1996) publiées conjointement avec *Ressources naturelles Canada* et la revue *Canadian Geographic*.

-Développement d'une banque de données du réseau routier canadien pour la production d'une planche de SIG pour l'Atlas national du Canada.

-membre du comité de l'exposition cartographique canadienne dans le cadre du comité national canadien de l'ACI et membre du comité de sélection du contenu cartographique canadien pour les expositions de l'ACI de Cologne, Barcelone, Stockholm et Ottawa.

Objectifs

Les logiciels de cartographie numérique sont maintenant très performants. Si on a les moyens financiers pour se procurer un logiciel sophistiqué, il est maintenant possible de produire des cartes numériques de bonne qualité. Malheureusement, on ne peut pas en dire autant des logiciels de cartographie sur le Web. Le World Wide Web est de plus en plus utilisé pour rendre accessible l'information à l'aide de cartes. Les outils cartographiques sur le Web sont très populaires car ils permettent aux chercheurs d'analyser des bases de données et de communiquer les résultats des phénomènes étudiés. Le Web permet aussi à un vaste public d'interagir avec les bases de données disponibles. Malheureusement, ces outils cartographiques sont conçus par des informaticiens et des programmeurs sans nécessairement consulter les cartographes. La pauvre conception des cartes ainsi que l'absence de principes cartographiques utilisés par ces logiciels nous reportent souvent aux débuts de la cartographie numérique. N'étant pas informaticiens, les cartographes sont à la merci de la technologie alors qu'ils devraient la diriger.

Le groupe d'intérêt sur la conception et l'utilisation des cartes devrait jouer un rôle «pro-actif» et travailler à trouver des façons de sensibiliser et d'instruire la communauté informatique des besoins et des techniques cartographiques. Cela mènerait à de meilleurs outils cartographiques et permettrait aux cartographes de concevoir et de produire des cartes de qualité supérieure sans être freinés par la technologie ni les prix. Ce groupe, à titre de représentant de toute la

communauté cartographique canadienne, pourrait avoir beaucoup de poids.



Jean McKendry

Professional Affiliation

Jean is a Research Support Scientist with the University of Idaho Cooperative Park Studies Unit (CPSU), assigned to work with the U.S. National Park Service (NPS) Social Science Program in Washington, DC. She is also Adjunct Assistant Professor at the University.

Education

Jean received a Ph.D. (1998) and Master's degree (1994) in Geography from Clark University in Worcester, Massachusetts. Her bachelor's degree is in Political Science from the University of Arizona in Tucson.

Experience

In my current position with the NPS Social Science Program, I work on a wide variety of interdisciplinary, applied projects related to the management of "people and parks." In this role, I am encouraged to bring the insights and perspectives of cartography to projects where the importance of maps might otherwise be overlooked. For example, I am currently developing a set of prototype atlases for park managers that show socioeconomic trends in regions adjacent to national parks. In addition, I have co-authored publications about the human dimensions of ecosystem management, including several atlases (*An Atlas of Social Indicators for the Upper Columbia River Basin* and *Puget Sound Biodiversity: An Interactive Atlas of Extended Gap Analysis*).

While a graduate student at Clark University, I had the opportunity to work with the IDRISI Project for approximately four years. During that time, I helped develop some of the early workbooks in the UNITAR Series on *Explorations in Geographic Information Systems Technology*.

I recently co-taught a graduate course for the University of Idaho and U.S. Department of Agriculture on the human dimensions of

ecosystem management. The course drew strongly upon the importance of maps and models as tools in ecosystem management. I was a Visiting Instructor in Geography at Middlebury College in Middlebury, Vermont where I taught beginning and advanced classes in cartography and GIS. I have also co-taught several short courses for the National Park Service and internationally, including two separate courses in the Slovak Republic (on GIS and landscape ecology and on survey methods).

I am a member of the Canadian Cartographic Association, Association of American Geographers, and North American Cartographic Information Society. My primary interests are in the applied use of maps, particularly the influence of map design on decision-making.

Involvement with the CCA

I was first introduced to the CCA through my affiliation with Clark University, and have been a member since 1991. Much of my involvement with the CCA was attending the annual meetings, often representing the IDRISI Project (until 1994). Prior to the 1999 Ottawa Meeting, I had been unable to attend an annual meeting for several years. The Ottawa meeting helped me realize that I should try to become more involved in the Association. This is the first time I have been nominated for a CCA position, and I'm eager to serve!

Goals

As Chair of the Map Use and Design Interest Group, I have three goals. First, I would like to find ways to encourage CCA members to share their cartographic expertise with professionals in other disciplines who make maps (e.g., resource managers, demographers, epidemiologists). Cartographers can be strong, interdisciplinary advocates for the relevance of our discipline. It is important to reach out (we sometimes complain about the increase in poorly designed maps) by perhaps publishing in their journals/newsletters or participating in their meetings. Second, I would like to explore ways to establish productive links between Canadian and American cartographers. Third, I would like to assist the CCA membership in staying abreast of emerging technologies and research specifically related to map use and design.

Report on ICA Executive Committee Meeting

December 10-11, 1999

Prepared by
Alberta Auringer Wood,
Vice President (Canada)

The ICA Executive Committee met in Utrecht, The Netherlands, on Friday, December 10, and Saturday, December 11. All members were in attendance for at least part of the meeting, if not all of it: President Bengt Rystedt (Sweden), Secretary-General and Treasurer Ferjan Ormeling (The Netherlands), Past President Michael Wood (U.K.), and Vice Presidents Kirsi Artimo (Finland), Milan Konecny (Czech Republic), Li Li (China), Elri Liebenberg (South Africa), Robert McMaster (U.S.A.), Takashi Morita (Japan), and myself.

Activities started in Ottawa were discussed. The association may become registered in some country, with Sweden being considered. Certification continues to be an issue in ISO. All will look at a document relating to it.

The Working Group on Publications reported that the contract with Elsevier will be renegotiated. One idea considered was to do a book every two years using papers from the conferences. One problem area is special journal issues growing out of workshops and commission meetings.

It was agreed that the Working Group on Archives chair would draft guidelines for preserving materials relating to the association to give to past and present commission chairs, conference directors, and officers directly or via the ICA newsletter. The Documentation Centre of the Institute Geographique National will archive the material.

It was noted that the secretarial materials and treasury have been mostly transferred from France to the Netherlands. Thanks were conveyed to our French colleague for the work in this area.

Takashi Morita reported on an ISO/TC211 meeting and noted that the item about qualifications and certification of

personnel was in the second stage of a five step process. He will keep us informed.

Relationships with other international organizations were discussed. The designated contact person will note items of which ICA should be aware.

We will soon have a new association web page. Ferjan and the University of Utrecht will host it. The address will be <http://www.icaci.org/>

The latest issue of the ICA newsletter was reviewed. There were 1,500 copies printed with 10 going to each member country. There is a possibility of it being mailed to individuals or institutions by request. It is on the new web page already.

Ferjan and Bengt reported on a liaison meeting with officers of ISPRS. They plan to meet in January in New York City with Hermann Habermann of the United Nations.

Commission plans and budgets were discussed. The Board liaison person reported in each case. The funding requests were more than funds allocated in the budget. It was decided that each commission would be allocated \$1,200 for administrative support, including web site maintenance, as well as funds toward proceedings and conference related expenses not related to proceedings, depending upon what had been planned. For travel assistance, all would be directed to the "solidarity" fund. The meetings scheduled by the commissions will be on the web page. Each commission will be informed of their budget.

It was noted that the 50th anniversary of ICA is not very far off. All Executive members were asked to bring ideas to the next meeting of ways to celebrate it.

All Executive Committee members were urged to increase the visibility of the ICA. For example, do a plan of what you would like to do and indicate how the EC can help. Milan noted the Digital Earth conference he had just attended and reported that one was in the planning stages for Canada. He felt that it needed more direct reference to cartography.

The ICA information booklet was reviewed. January 10th was given as the deadline for any changes.

Two cartographic "summer schools" were noted. One will be in Finland with

Robert Weibel as the lecturer. It will be five days in length, 30 people are expected, and will be in English. Another one will be in a central European location.

The list of ICA liaison officers to various organizations was reviewed. I have been given responsibility for IFLA and will make a contact or contacts.

As requested by the Commission on Children and Cartography, the EC reviewed the proposed rules for judging of the Barbara Petchenik Children's Map Competition. The suggestions will be relayed to the Commission Chair by me as the liaison with the commission.

The next meeting of the EC will be August 7-9, 2000 in Beijing.

In addition to the business sessions, there was a visit by Sinterklaas and the EC made a visit by bus to the International Training Centre at Enschede, about an hour and an half away. Introductory remarks were given by Menno-Jan Kraak, head of the cartography program. The Dutch Cartographic Society composition, structure, and activities were described. In 1998, they had 513 common members, 71 student members, and 104 institutional members (788 total) as well as 134 subscribers to their cartographic magazine which is published four times a year. Their membership fees are 65 Guilders for regular members and 165 Guilders for institutions. Their regular members include academics, practicing cartographers, draft people and map librarians. They have had a steady growth of about 1.4% each year over the last 18 years. They have several one day workshops each year or in the case of the history of cartography two day ones, and every few years have a 2-4 day congress. They recently supported a study of the society by a communications student who reported on the results at our visit. They were interested in what the image of the society was to members and the outside world. The results are probably of interest to other cartographic organizations. The society web page is at <http://www.kartographie.nl/>. Their 1999 congress at Maastricht was described. There were 500 attendees. It included a children's map competition and the top three were sent to Ottawa for the 1999 ICA meeting. A European Cartographic Union

was established as a communication tool. The Nederlandse Vereniging voor Kartografie (Dutch Cartographic Society) is considering a bid to host the 2005 ICA conference in Maastricht, and if so, it would be done jointly with Belgium. They expect to decide early in 2000.

Menno-Jan gave a description of the Division of Geoinformatics, Cartography and Visualization and its programs. They cover all aspects of the visual display of geospatial data. Approximately 50% of staff time goes into teaching. They also give courses at other institutions and support alumni by a journal and a newsletter. In two years ITC will be part of a university, but which one is not yet known. There are almost 300 staff with 160 FTE in science disciplines and 115 FTE in support departments. They usually have about 400 students per year of an average age of 34. Since 1950, they have had 13,745 students from 161 countries, including 85 from Canada and 111 from the United States. They offer a MSc, a professional masters and a diploma, as well as a PhD, and also numerous special courses. One of the current core activities is web cartography about which a new book by Menno-Jan and Alan Brown will shortly be published. There will be a web site for it at <http://kartoweb/itc.nl/webcartography/> soon.

Edzard Bos, former ICA Vice President and recently retired ITC faculty members, gave a talk on the building followed by a tour of it. ITC moved to Enschede in 1971 as part of the Netherlands government decentralization process. This building was the result of planning from 1985 to 1992. It is an example of organic architecture, and while very functional, has few 90 degree angles except between walls and floors. Windows, mirrors, and ceilings include polygon shapes of considerable variety. The same architect designed both exterior and interior.

Informal discussions took place over meals. The visit to the ITC also involved the senior Ormelings, Past ICA President and Secretary-General Fer, and his wife Rinni. They and other ITC faculty and students went with us to eat nearby, through the rain, but protected by ITC umbrellas! Sharp as tacks, they contributed to making it a memorable event. ☉

from page 10

...Mercators World

Chateaux in the Mist: A Cartographic and Navigational Landmark on the Labrador Coast, by J.V. Owen and J.D. Greenough; Overland to the Sea: Samuel Hearne's Search for the Coppermine River, by J.R. Edinger, jr.; War of the Maps: An Inca Legacy, by E.J. Lyman; "To Make Observations on the Magneticall Needle": The Atlantic Voyages of Edmond Halley and His Charts, by N.J.W. Thrower.

ISRAELI MAP COLLECTORS SOCIETY JOURNAL, Number 17 (August, 1999): The Maps of Palestine by Rabbi Joseph Schwarz, by A. Sasson; Maps Showing Jerusalem as the Centre of the World, by G. Wajntraub; Christian Pilgrims and Travellers and Their Influence on the Cartography of the Holy Land, by E. Wajntraub.

CARTOGRAPHIC PERSPECTIVES, Number 33 (Spring, 1999): The American School Atlas: 1784-1900, by J.C. Patton ☉



Regional News from Newfoundland

by David Mercer

Memorial University of Newfoundland

The recent cartographic news from Newfoundland is marked by a series of collaborations between the Memorial University of Newfoundland Cartographic Lab (MUNCL) and provincial and municipal governments.

As a result of increased demands for office space at the Geologic Survey in the Provincial Department of Mines and Energy, the Cartographic Section has decided to close their darkroom facilities. Consequently, they have entered into an agreement with the Memorial University of Newfoundland Cartographic Lab (MUNCL) to transfer their substantial inventory of film and developing chemicals in return for support of large scale film work. This deal is seen as a definite win-win since it provides a large supply of film for teaching purposes at Memorial and the Geologic Survey are able to maintain access to extensive darkroom facilities, albeit at MUNCL.

The Provincial Department of Tourism, Culture, and Recreation has also made a significant donation to the University, via MUNCL, in providing extensive topographic coverage of Labrador at a scale of 1:50,000 and partial coverage various other scales. These maps have been passed on to the Map Library of Memorial's Queen Elizabeth II Library and are sure to become a valuable resource in their time series collection.

MUNCL is also embarking on a groundbreaking project with the City of St. John's to produce a map aimed at attracting potential investors to the city. This map will bring together valuable information previously unavailable to the public in map form and will provide potential investors with a comprehensive view of development potential within the city.

In recent years, several archaeological projects have taken place at provincial historic sites. Extensive digs at John Guy's Colony at Cupids, ca. 1610, and Lord Baltimore's Colony of Avalon at Ferryland, ca. 1620, have provided a valuable look at our province's past and have gained provincial and national recognition. MUNCL has been invited to participate in these projects to provide cartographic support in the form of large scale mapping at an approximate scale of 1:10. Another valuable element of MUNCL's participation is the digital preservation of field drawings. Assembling and vectorizing these field drawings into a single map provides the archaeologists with a complete overview of the site, virtually impossible with the field drawings in their current state. We are looking forward to a poster presentation at the upcoming CCA meeting in Edmonton outlining MUNCL's involvement with these projects, stop by and check it out.

MUNCL has also seen some changes in personnel over the past year. After almost 25 years as Departmental Cartographer and Associate Director of MUNCL, Gary McManus has moved from the eastern edge of the continent to check out sunsets on the west coast. As you are undoubtedly aware, Gary maintains his connections to the CCA as the new editor of *Cartouche*. Charlie Conway has taken up the reins at MUNCL as Cartographer, leaving a vacancy in the Assistant Cartographer position that has been filled with the temporary appointment of David Mercer, on leave of absence from the University of Western Ontario. ☉

Canadian Cartographic Association
Minutes of the Annual General Meeting
August 18, 1999 (12:00 noon)
Ottawa Ontario

Recorded by Charles M. Conway (secretary/treasurer)

1. Approval of Agenda

Change item 12: "Election results and welcome to the new president" to: "Election results and welcome to the new president and election of nominations committee".

Moved by Shelly Laskin; seconded by Clifford Wood. Carried.

2. Approval of 1998 AGM minutes at London

Moved by Carolyn Weiss; seconded by David Jones. Carried.

3. 1999 meeting report

Roger Wheate, president, noted the comments of international delegates about the conference. The CCA with ACMLA was 100% responsible for the technical program and acknowledge the persons responsible for the program: Peter Keller, Cliff and Alberta Wood, Majella Gauthier, Brian Klinkenberg, Jan Mersey and Ed Dahl. Thanks also goes to Doug Banting who organized the workshops for the conference.

Orienteering event had a record turnout as does this meeting. Acknowledge the work of Diana Hocking for her work in organizing this event. Diana was presented a gift from Intergraph.

Roger gave details of the barbeque, which is this year's substitute for the banquet, to be held the next day.

4. 2000 annual meeting

Next year's meeting will be in Edmonton in association with ACMLA and WAML and immediately following the Learned Societies meeting. The meeting in 2001 is scheduled for Montreal with an option for Wilfred Laurier University offered by Grant Head. In 2002, a possibly meeting site would be Prince George alongside the CAG meeting.

5. Constitutional amendment regarding elections

It would be good to have in-coming members of the executive present at executive meetings held around the AGM. Nominated persons do not often attend the AGM because they are not elected and that is the case at this meeting with 2 of the 6 persons not here. It may be uncomfortable for those unsuccessfully standing for office. This amendment is in line with other organizations and is the more sensible thing to do.

Motion: That election ballots will be counted and candidates informed no later than 6 weeks before the annual meeting proposed by Carolyn Weiss and seconded by Cliff Wood. Carried.

Past President to witness to the count of the ballots. Carried.

Motion: That section 2.4 (Article IV) of the constitution be amended from 8 weeks to 12 weeks to allow people to receive the ballots in time and section 5 (Article IV), 24 hours would be amended to 8 weeks. Ballots would be counted and candidates informed within the next 10 days. Carried.

Motion: That section 2.6 (Article IV) of the constitution be amended that ballots will be sent to the past president for counting, with other executive members present as witnesses. Carried.

6. Executive Reports.

The reports of president, vice president and past president are before you in hand outs as are the reports of the interest group chairs. [Note: The 1999 Reports of the IG chairs and appointees were published in *Cartouche*, Number 35, Autumn 1999]

Roger acknowledges the contributions of out going members of the executive, Brian Klinkenberg who will have taken over the editorship of *Cartographica*; Joe Piwowar, Byron Moldofsky and Ute Dymon.

7. Financial Report (Charlie Conway, Secretary/Treasurer)

Two financial statements are presented, one ending Dec. 31, 1997 and the other ending December 31, 1998. These statements are prepared using the cash basis of accounting where all revenues and expenditures in a particular are recorded in the financial statements for that year.

The Nicholson Scholarship Fund was not set up separately but rather was lumped in with the term deposits of the CCA. This should be remedied but as it stands, with interest rates so low, the fund cannot generate enough interest income to cover the scholarship prize of \$500.00. In previous years, the shortfall has been covered by the CCA.

I would like to thank Monica for all her work as well as past treasurers Shelly Laskin and Claire Gosson.

8. Membership report (Monika Rieger)

The report of the membership co-ordinator are before you in hand outs. Thanks to Monika for her contributions. Her work is as meticulous as ever.

9. Publications: *Cartouche* and *Cartographica*

Cartouche - Weldon is leaving as editor of the newsletter and has been editor since 1994. Gary McManus is taking over as editor. Thanks to Weldon Hiebert for all his work.

Cartographica - Brian Klinkenberg is the new editor of the journal and we are in the process of working with a new editorial board and advisory board.

10. Canadian National Committee

Peter term as chair ends with this meeting but will be returning for a second term. The CCA recommends the chair position. Ian Taylor's term as CCA representative on that committee has expired and Carolyn Weiss will now be the CCA representative. Roger thanked Peter and Carolyn for agreeing to carry on this work.

11. Presidents prize

Winners will be announced at the barbeque tomorrow and recognized. All the maps are of high quality.

12. Election results and election of nomination committee

The new vice president is Trish Chalk; Chair of Analytical Cartography and GIS Group is Phil Dodds, Chair of Map Production Technology Group is Ken Francis; Chair of Cartographic Education Group is David Broscoe. President is Michel Fournier, who is currently vice president. Acknowledgments to all those who stood for election.

Nominations committee: Roger Wheate is chair of the committee, as past president. Nominations: Weldon Hiebert, nominated by Dave Mercer; Lee Thompson nominated by Jim Britton. Committee as comprised is accepted.

13. Other Business

T-shirts were designed by Ada Cheung and Andrew Millward. The shirts are on sale for \$25.00 with \$5.00 going to the Nicholson Scholarship Fund. The CCA bumper stickers are priced at \$2.00

Patricia Chalk wanted to note the work Ada Cheung has done on the poster and the t-shirts and is working on the brochure that is badly needed.

Alberta Wood wanted to know if the CCA had any plans for GIS Day Nov17 which is being held in conjunction with Geographic Awareness Week.

Roger acknowledges the nomination of Alberta for the position of vice president with ICA and would like general motion to support financially for the Canadian vice president.

Alberta provided some background information. If elected she would be attending up to 6 meetings. Roger would like the CCA to support(financially) the Canadian candidate. Doug Banting would like to see a general policy on contribution of support. Jim Britton noted that the executive should make this decision based on individual situations. Shelly Laskin noted that the CCA had done this in the past.

Motion: That the CCA provide financial support, in principle, for the Canadian vice president should they be elected to the ICA. Moved by Roger Wheate, seconded by Carolyn Weiss. Carried.

Motion: To adjourn. Moved by Carolyn Weiss, seconded by Charlie Conway. Carried.

Position Available

CARTOGRAPHY/HUMAN GEOGRAPHY

The Department of Geography at the University of Saskatchewan invites applications for a tenure-track position at the rank of Assistant Professor in the area of Cartography. The applicant is expected to hold a Ph.D. in Geography at the time of appointment. All candidates must demonstrate a potential for excellence in teaching at both the undergraduate and graduate levels and in research in a field of specialty. Preference will be given to candidates who have expertise in Cartographic Communication and are able to undertake research in collaboration with colleagues in Geography. The ability to teach a regional course in geography would be an asset.

The Department offers diverse undergraduate programming in both Arts and Science, and maintains a vigorous graduate program offering M.A., M.Sc. and Ph.D. degrees. The Department has an ongoing commitment to cartography and related disciplines. It offers courses in cartography, geographic information systems (GIS), remote sensing and aerial photography. The Department offers a minor in GIS to students at the University of Saskatchewan. The second "Atlas of Saskatchewan" has just been published and is now being compiled into a CD-ROM edition. An interactive, Internet version of the "Atlas of Saskatchewan" is also under development. The successful candidate will be invited to participate and to undertake research on cartographic design and multimedia communications in interactive and animated cartography. Further information about the Department can be obtained at <http://www.usask.ca/geography>.

This position has been cleared for two-tier advertising. This means that we invite applicants from Canadians and non-Canadians, but federal immigration regulations require that Canadians be given first opportunity for positions for which they are qualified and available. The University is committed to Employment Equity and encourages applications from qualified women, members of visible minorities, aboriginal people and persons with disabilities.

Applications, including a curriculum vitae and the names/addresses of three referees, should be forwarded to: Chair, Search Committee Department of Geography 9 Campus Drive University of Saskatchewan Saskatoon, Saskatchewan Canada S7N 5A5 Fax: (306) 966-5680 e-mail randall@sask.usask.ca

Closing date for this competition is Jan. 31, 2000 or until the position is filled.

Announcing the year 2000 CCA President's Prize Competition

FIVE awards will be presented for excellence in student cartography in the following categories:

Monochrome Map: Two awards - 1 for students in undergraduate programs at University and 1 for students in a college program or in a Graduate program at a University.

Colour Map: Two awards - 1 for students in undergraduate programs at University and 1 for students in a college program or in a Graduate program at a University.

Media Map Mutation: 1 award open to all students.
Rules:

- 1- Find from any newspaper, magazine or printed document, a map which contains errors in its form (i.e. design) and/or in the data treatment;
- 2- Write a short explanation of what you feel is wrong with this map and your solutions to improve it.
- 3- Produce an improved version of the map you selected.
- 4- Submit the original map your improved map and your short text.

PLUS one award for **Best Map from GIS Output**, which is open to all students and CCA members.

A prize of \$100 each will be awarded the winners. Judging will take place at the year 2000 CCA conference to be held in Edmonton, AB May 31 to June 4.

Map entries must be accompanied by the **entry form**, a copy of which is inserted into this issue or available at www.geog.ubc.ca/~cca. Entries may be brought to the conference in Edmonton or mailed to: Dan Duda (CCA President's Prize), Science & Technology, Library 1-26 Cameron Library, University of Alberta, Edmonton, Alberta, Canada T6G 2J8. **Mailed entries must be received by May 31, 2000.**

Best Student Paper

An award of \$100 is given for the best student paper presented at the CCA annual conference. All student papers included in the program are automatically entered for the competition. A paper may be co-authored by a faculty member, but the student must have actively participated in the research and have sole responsibility for delivering the paper. Judging will be based on the content and structure of the paper and the quality of the presentation. The judges may also take into account the extent of the student's involvement in the research on which the paper is based, and his or her status (i.e. undergraduate or graduate) and year level.

For more details about the award categories, entry conditions, qualifications, and entry forms see the entry form inserted with this issue or the CCA web site or contact any CCA executive member.

Annonce des Prix du Président pour l'An 2000

Cinq prix seront décernés pour l'excellence de cartes produites par des étudiants dans les catégories suivantes :

Carte monochrome : 2 prix - 1 pour les étudiants non-gradués de l'université et 1 pour les étudiants au niveau collégial ou gradués de l'université.

Carte couleur : 2 prix - 1 pour les étudiants non-gradués de l'université et 1 pour les étudiants au niveau collégial ou gradués de l'université.

La carte Média en mutation: 1 prix - catégorie ouverte à tous les étudiants

Conditions:

- 1- Trouver dans n'importe quel journal, magazine ou document imprimé, une carte comportant des erreurs tant au niveau de la forme que du traitement des données;
- 2- Écrire un court texte qui justifie que la carte soit erronée et le choix de votre solution pour l'améliorer;
- 3- Produire une version améliorée de la carte;
- 4- Transmettre la carte erronée, votre version de la carte et votre texte justifiant les corrections.

SIG : 1 prix pour la meilleure carte issue d'un SIG - catégorie ouverte à tous les étudiants et membres de l'ACC.

Un montant de 100\$ est attribué pour les gagnants de chaque catégorie. Les cartes soumises pour les différentes catégories seront jugées lors des conférences annuelles qui se tiendront à Edmonton (Alberta), 31 mai du 4 juin 2000.

Les cartes doivent être accompagnées par un formulaire de soumission, dont vous trouverez un exemplaire dans ce bulletin, ou sur le site www.geog.ubc.ca/~cca. Les soumissions peuvent être envoyées à: Dan Duda (CCA President's Prize), Science & Technology, Library 1-26 Cameron Library, University of Alberta, Edmonton, Alberta, Canada T6G 2J8. **Les inscriptions doivent avoir été reçues le ou avant le 31 mai 2000.**

Conférence présentée par un étudiant

Un prix de 100.00\$ est remis à la meilleure conférence présentée par un étudiant lors du congrès annuel de l'ACC. Toutes les présentations contenues dans le programme sont automatiquement éligibles. Dans le cas de conférence dont les co-auteurs sont un enseignant et un étudiant, ce dernier doit avoir oeuvré activement aux travaux de recherche et devra être l'unique conférencier. Les conférences seront évaluées en fonction du contenu, de la structure et de la qualité de la présentation. Les juges pourront également tenir compte du degré d'implication de l'étudiant dans la recherche faisant l'objet de la présentation, ainsi que son statut (i.e. étudiant gradué ou sous-gradué) et du degré de scolarité.

Pour plus de détails concernant les différentes catégories, les conditions de participation et le formulaire de soumission, consultez notre site Internet ou contactez l'un des membres de l'exécutif. Les conditions et les formulaires de soumission seront postés dans le bulletin du printemps de Cartouche.

The Canadian Cartographic Association L'Association canadienne de cartographie

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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 (\$CAD):

Regular	\$80
Student	\$40
Institutional	\$100
Corporate	\$200
Family	\$95
Retired	\$40
Associate	\$40

To cover mailing costs US residents please add \$5 CDN 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 the interest groups and regional contacts.

For further information about membership qualifications and benefits contact the membership coordinator or any executive member or visit www.geog.ubc.ca/~cca

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 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 :

Régulier	\$80
Étudiant	\$40
Institutionnel	\$100
Société	\$200
Famille	\$95
à la retraite	\$40
Associé	\$40

Un montant de 5\$ (cdn\$) est ajouté pour couvrir les frais postaux aux membres américains (É-U) et de 10\$ (cdn\$) pour les membres outremer.

Les membres reçoivent la monographie trimestrielle *Cartographica*, publiée par le University Toronto Press; 4 numéros du bulletin de nouvelle *Cartouche* et le bulletin de nouvelle de l'Association cartographique internationale (ACI). L'Association organise également une rencontre annuelle avec des conférences qui donne 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 coordonnateur des adhésions ou l'un des membres de l'exécutif ou encore, visitez notre site Internet www.geog.ubc.ca/~cca.

CCA Annual Meeting: CARTO 2000
University of Alberta,
Edmonton, Alberta
May 31-June 4



*Whatever your cartographic perspective,
Edmonton is the place to be this spring.*

Conference web page:
www.library.ualberta.ca/maps2000/conf.html