Cartouche

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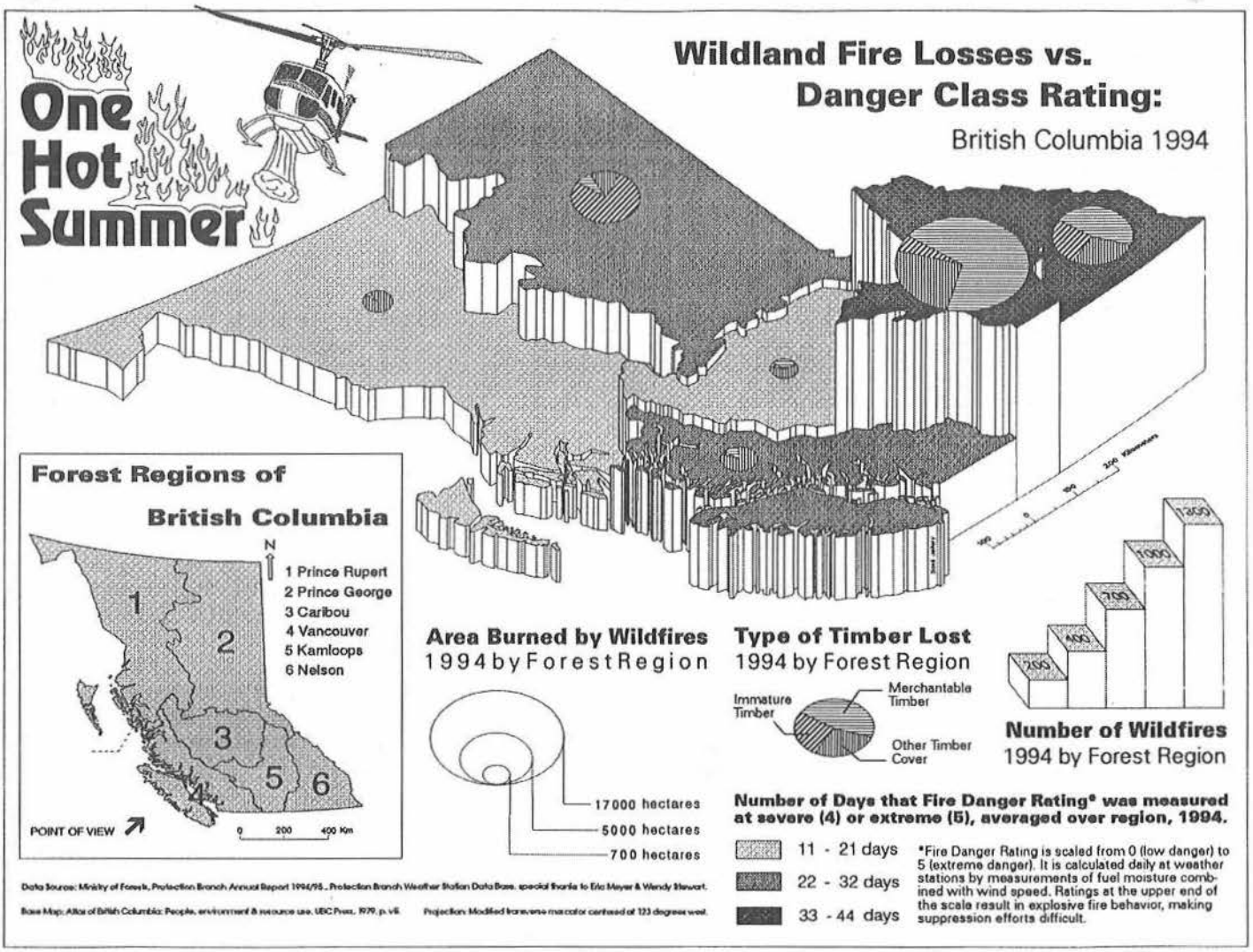

This map, entitled ***Wildland Fire Losses in BC in 1994,*** was one of the winners of the President's Prize Competition (Monochrome Map - undergraduate) at this years' AGM in London, Ontario. The map was drawn by Scott Jeffrey, a student at the University of Victoria. The winners of all the President's Prize categories can be found on page 8.

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

Cartouche *est publié trimestriellement par l'Association canadienne de cartographie. N'hésitez pas à soumettre des articles que vous désirez publier dans le bulletin. Les articles et annonces soumis pour parution sont sujets à l'approbation de la rédaction. Veuillez les adresser à l'éditeur. Selon la politique en vigueur, l'éditeur publié, en français et en anglais, l'éditorial ainsi que la description du processus de publication du bulletin. Les autres articles paraîtront dans la langue dans laquelle ils ont été écrits. Bien que beaucoup d'efforts soient déployés en vue d'eviter de tels problèmes, l'éditeur n'est pas tenu responsable des erreurs de compilation on de la perte d'articles que leur seront soumis. Les opinions exprimées dans le cadre des éditoriaux, des articles et des lettres publiées dans le bulletin ne reflètent pas nécessairement celles de l'Association canadienne de cartographie. L'Association canadienne de cartographie remercie vivement le Conseil de recherches en sciences humaines du Canada pour son apport financier.*

Editor / *éditeur:*
Weldon Hiebert
Department of Geography
University of Winnipeg
Winnipeg, Manitoba CANADA R3B 2E9
Tel / *tél:* (204) 786-9483
Fax / *télec:* (204) 774-4134
E-mail / *courr. élect:* hiebert@uwinnipeg.ca

Translation / *traduction:*
Michel Fournier
Tel / *tél:* (514) 522-5715
Fax / *télec:* (514) 522-5715
E-mail / *courr. élect:* acsg_mtl@mlink.net

CCA Mailing Address / *Adresse de correspondence de l'ACC:*
c/o Department of Geography
University of Calgary
Calgary, Alberta CANADA T2N 1N4
Fax / *télec:* (403) 282-6561

CCA Membership Department / *Département des adhésions de l'ACC:*
Monika Rieger
Tel / *tél:* (403) 278-5069
E-mail / *courr. élect:* cca-membership@geog.ubc.ca

Web Site / *Site Internet:* www.geog.ubc.ca/~cca

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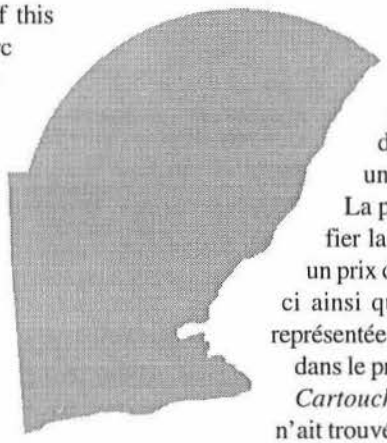
15 septembre 1998

Rorschack's Map

Congratulations to John Belbin, winner of last issue's blot, the island of **Gotland, Sweden**. John receives a copy of *Fodor's Guide to Scandinavia*.

The unique feature of this issue's blot is the partial arc of a circle forming the northern boundary. The first person who gives us the correct answer will win a valuable prize and will be acknowledged in the next issue of *Cartouche*. Please send your answer to the editor (address above). The identity of this blot will revealed in the next issue.



Carte énigmatique

Félicitations à John Belbin, qui a su trouver dans notre denière énigme l'***Île de Gotland (Suède)***. Il se mérite le livre *"Guide to Scandinavia"* de Fodor.

La principale caractéristique de notre énigme d'aujourd'hui représente une portion d'arc d'un cercle formant une frontière septentrionale. La premiere personne à identifier la représentation se méritera un prix de valeur et le nom de celle-ci ainsi que la réponse sur l'entité représentée par l'énigme seront connus dans le prochain numéro de la revue *Cartouche* à moins que personne n'ait trouvé la solution.

Faites parvenir votre solution le plus tôt possible à l'adresse de l'éditeur mentionnée à la page 2.

Inside this issue / *Sommaire....*

ISSN 1183-2045

Closing Thoughts

Brian Klinkenberg
University of British Columbia

As my tenure as President comes to a close, a few thoughts come to mind. All organizations, and the CCA is no exception to this, are going through a period of constriction as memberships decline. Even so, when I think of the ever increasing number of jobs which involve the use of maps, the performing of spatial analysis, or the collection the spatial data, I am surprised that organizations such as the Canadian Institute of Geomatics and the CCA are finding that their ranks are declining.

Why do people join an organization such as the CCA? One reason could be that their instructor, or professor, or supervisor, might have indicated that belonging to such as organization might benefit them by, for example, exposing them to the thoughts and aspirations of people more established in the field. Why do people stay in an organization like the CCA? Again, some of the same reasoning may apply. The columns in Cartouche written by the Interest Group Chairs may provide relevant tips and pointers, or they may contain reflections on job aspects that the person can identify with. *Cartographica* may also be a reason for some to remain as members of the CCA.

Why do people not join the CCA, or drop their membership? The main reason for not joining might be because they do not know of our existence, while, on the other hand, they might leave because of apathy or economics.

What factors can we identify which could pull members into the organization and ensure that they maintain their membership? A quality newsletter is one such factor. *Cartouche* has, in my mind, become that. The articles are interesting, informative, and of broad appeal to most of our members. Ensuring that it maintains its high standards is up to individuals such as the Interest Group Chairs, a challenge they appear to be more than up to. The excellent volunteer work of our newsletter editor is something everyone in the CCA gratefully appreciates! A quality journal is another such factor. *Cartographica* is an internationally-recognized journal, in spite of recent publishing scheduling problems.

A factor which many members may be less aware of, but one that may have major longer-term implications, is the representation that the CCA has on various committees across Canada. Issues such as certification will have a dramatic impact on the role that cartographers / geographers can and will play in the future of Geomatics in Canada. Without the CCA's involvement we may find that 'professionals' in the Geomatics field come solely from engineering or computer science programs, much as the Geographers have found that the designation of Professional Geoscientist has given to Geologists much of what was traditionally the bailiwick of the Geomorphologist. A vibrant CCA, with active members–both within and outside of the executive–is vital if cartographers are to remain an integral part of Geomatics in Canada.

"Without the CCA's involvement we may find that 'professionals' in the Geomatics field come solely from engineering or computer science programs"

To increase our vitality, and the effectiveness of our representation on national committees, we need to capture a greater share of the emerging cadre of those working in jobs related to cartography, spatial analysis, and spatial data collection. The most effective way to do that is to advertise, to let people know what benefits belonging to the CCA brings to them. If we take a cue from successful movies, the most effective means of advertising is through word of mouth, people telling people they should see a movie (or not, in the case of the most recent block-buster failure), people telling people they should join our organization. So, the baton has been passed to you–go out and spread the word. The more people are aware of our organization, the more people will join, and the stronger our voice will be at a time when an effective voice is vital to our profession.

On a final note, I would like to thank everyone for their support over the past year. It was greatly appreciated. The next year promises to be a very full year, and I wish Roger and Michel all the best. I hope to see many of you in Ottawa next summer, when the CCA will hold its AGM in conjunction with the ICA99 conference. Till then, all the best.

Interactive Web Map Publishing

Joe Piwowar
University of Waterloo

Publishing maps on the world-wide-web was the topic for two workshops organized by Byron Moldofsky (see his Map Production Technology column in this issue) and myself at the recent CCA conference held in London at the end of May. Although Byron did have some experience in this area, I have to admit that my motivation for setting up these sessions was self-indulgent - I knew nothing about interactive web map publishing and this forum was a good place to start my education! At the start of the workshop I identified 5 issues which were key to discovering how far along the technological time line this issue has advanced:

1. What is possible in web map publishing?
2. What are the limitations of current technology?
3. What do you think the future of this technology will look like?
4. Is there some new enabling technology needed / being developed to make your vision of the future a reality?
5. What are some copyright and liability issues surrounding publishing maps on the web?

In the next few paragraphs, I hope to share with you some of what I learned from these 5 issues.

What is possible in web map publishing?

In the workshops we saw presentations which define two ends of the web mapping spectrum. First, from Avenza Global Technologies Corp. (www.avenza.com) we saw demonstrations of the MAPublisher / JAMBuddy software duo. By itself, MAPublisher is a nifty tool designed to make publication quality maps from GIS files more easily and quicker, but in the present context its strength lies in its ability to save GIS files in Adobe's Portable Document Format (PDF). PDF has become the de facto standard for publishing formatted text documents (such as journal papers or government documents) on the web. Using this free and widely available tool, anyone can read a PDF file from the web and it will appear as if they were viewing it in Microsoft Word, or another word processor, and not restricted by some of the formatting limitations of the web's standard language, HTML.

I said that MAPublisher can not just save map files, but GIS files in PDF format. That is, the maps it saves are not just pretty pictures. They know about the regions which are drawn upon them, along with attribute lists associated with each region. These are known as "intelligent maps." Thus, if you create a PDF file using MAPublisher and post it on your web site anyone in the world who can access your site can view your map, click on a region and see its attributes. The map reader can even set up complex queries like, "show me all the regions with attribute X and attribute Y, but not attribute Z." All that the map reader needs to view the MAPublisher PDF file is the small plug-in program from Avenza called JAMBuddy which, like Adobe Acrobat, is free and available from Avenza's web site.

On the other end of the mapping spectrum, we saw a demonstration of Intergraph's GeoMedia Web Map (www.intergraph.com). This product also serves up GIS data to the web so that map readers anywhere in the world can click on regions to see their attributes and view the results of complex queries (this also requires a plug-in program, freely available at Intergraph's web site). What separates GeoMedia Web Map from MAPublisher is the method in which GIS data is provided on the web. In MAPublisher, you create your map in advance and the map reader is restricted to viewing your map in the form you have created it. In GeoMedia Web Map, your users can create their own maps of your data dynamically. Instead of posting a raster image of a map to the web, GeoMedia sends the vector line work to the map reader's computer so that the map is physically drawn on their screen. Panning and zooming tools are built into the plug-in program to give the map reader further control over what they see.

Intergraph's approach has other implications as well, especially for those who wish to publish maps covering large areas and/or time-critical data. If the mapped region is quite large, covering several physical map sheets and data files for example, the map reader can pan seamlessly across map boundaries. Intergraph even claims that the map reader will be unaware if the map sheets are stored in different formats (e.g., ARC/INFO, AutoCAD, etc.). A second implication important to rapidly changing information is that your map readers see the data which is current in your database, not a snapshot which may have been created sometime ago.

What are the limitations of current technology?

Speed. Speed. Speed. Even over high-speed ISDN lines like we tried at the University of Western Ontario, we had to wait for several minutes for some maps to come up. In this respect, Avenza's MAPublisher may have an advantage. An entire PDF map file can be downloaded to your computer (perhaps at a not-so-busy time) and viewed off-line at your leisure.

A second limitation is the inherent graphics mode of the Internet. Most pictures you see when you browse the web are raster graphics (i.e., pixels & images), whereas much of the GIS world operates using vector graphics (i.e., points, lines & polygons). Intergraph is trying to break new ground by displaying their maps in vector form, but they are only one of a few companies attempting

this. In an ideal, non-web world, a full-featured GIS displays its maps using a combination of both vector and raster graphics, perhaps using a satellite image or scanned map as a raster backdrop over which thematic polygons are drawn in vector form. It would be ideal if the web could imitate this.

A third limitation: Did I mention speed?

What do you think the future of this technology will look like?

Computer technology moves so fast that imagining what will be possible in the future is hard. Consider that not even five years ago a 386-computer running at a blistering 33 MHz was king and most of us had not even heard of the World Wide Web. Today it is a Pentium II clocking in at more than 10 times that speed which reigns and the web is infiltrating almost every aspect of our lives. I suppose at this rate, we will be driving gigahertz (1000 MHz) class machines five years from now and the web will have become as essential to our society as electricity.

As far as web map publishing goes, I think there will be a trend away from simply putting interactive maps up on the Internet (although this will still fill an important role in disseminating more static spatial information), toward having fully functional web-based GIS systems running. Intergraph is already trying to position themselves in this arena. We may see web-GIS systems running on top of truly distributed databases. For example, you may not need to buy and/or download Statistics Canada's Area Master Files or the U.S. Geological Survey's Digital Line Graphs, you will just point your web-GIS to the on-line versions and use the data at its source. At least you will then know that you are using the most recent version of the data files and they will not clutter your own disk space with local copies. Many organizations will be posting digital spatial data sets on the web and providing either free access or through some on-line licensing agreement.

One of the newest trends hitting the GIS market now is the idea of a "virtual reality" map. That is, instead of just being able to view a map in plan view (i.e., from a view location directly over the surface), you can view the data as if you were walking down the streets with buildings towering around you or flying through a mountain canyon. While this idea is being developed now in a non-networked environment, I think that the concurrent explosion of web and virtual reality technologies over the next couple of years will dictate that the Internet will be the natural home for virtual reality tours . . . and maps. Do you want a taste of things to come? Check out www.intoronto.com/toronto.wrl and www.casa.ucl.ac.uk/vc/cities.htm

Is there some new enabling technology needed / being developed to make your vision of the future a reality?

Although there was not much discussion about this during the conference workshops, we can take for granted that computer speeds will continue to increase and software developers will make fully functional web-GIS a reality. What is needed is a breakthrough in web communication speeds. I expect that new initiatives from telephone and cable companies will help solve this problem, at least temporarily. For example, Bell Canada's Asymmetric Digital Subscriber Line (ASDL) technology is reported to be up to 75 times faster than a 28.8 KB modem.

What are some of the copyright and liability issues surrounding publishing maps on the web?

For those of us who were at the CCA/ACMLA conference, this question brought us back full-circle to the conference's enlightening and entertaining opening address by copyright lawyer Serge Anissimoff. It goes without saying that anything you post on the web is open for anyone to copy and use, legally or not. The best advice that Mr. Anissimoff offered was to be sure you put the copyright symbol (©) on your map. Many, but not all, countries in the world abide by an international convention respecting copyright ownership. Intergraph has taken a proactive approach to maintaining data ownership and security by filtering the data which are presented to web users. Thus, although Intergraph gives a web user an unprecedented amount of flexibility at viewing different parts of the data, they can never reassemble the entire data set.

As far as liability issues go, Mr. Anissimoff said that this area of the law was one of the hardest to protect because you cannot possibly imagine all of the different uses to which your map might be put. His advice: put no liability statement at all on your maps. If you insist on putting a disclaimer on your work, to be absolutely safe against liability claims, Serge's tip-of-the-day was to inscribe on your document, "This map is not a map intended for navigation, location, way-finding, or any other mapping purposes." We think that he was joking . . . but perhaps not!

Summary

At the outset of these workshops I confessed to knowing very little about interactive web map publishing. Those of us who attended the workshops learned a lot. We saw two very different views of putting maps on the web from Avenza and Intergraph. Putting the company names aside and looking at their approaches generically, I think we can see the breadth of what is possible. I see the fundamental difference in web mapping strategies arises from whom controls the appearance of the posted map. On one hand, you can put together "intelligent" maps so that the web reader can view the spatial arrangement of your data, retrieve attribute information, and even perform some complex attribute queries. At the other extreme, you can host a web-GIS in which your network readers dictate the area and themes they would like mapped. These two approaches differ in terms of complexity and cost. Clearly, both approaches are valid and necessary for different applications.

The future of interactive web map publishing promises to be exciting - what it will look like five years from now, however, is anybody's guess.

Now that you know what I think, let me know what YOU think! E-mail me at piwowar@watleo.uwaterloo.ca

Interactive Web Map Publishing with Arcview Internet Map Server

Byron Moldofsky
University of Toronto

In the previous article, Joe Piwowar reported on the workshops on Interactive Web Map Publishing held at the recent CCA Conference in London. He discusses the presentations made by representatives from Intergraph and Avenza on their tools for publishing interactive maps on the Internet. At the same session, I presented a review of the experience we have had in our office using the ESRI product Arcview Internet Map Server (IMS). I dealt mainly with the graphic design issues raised in publishing fully interactive maps to the web.

The Arcview IMS is one option provided by ESRI designed for making Arcinfo and Arcview files available to Web browsers. Arcview IMS is intended as an 'out-of-the-box' package that enables one to mount Arcinfo coverages or Arcview shape files, and allow users basic viewing, querying and manipulation of the display. Arcview IMS works by downloading a Java applet called 'MapCafe' which contains an Arcview-like window and buttons for viewing map data. For a fully customized interface, the MapObjects IMS is the preferred tool. Links from the ESRI home site can access a variety of Web sites using these two approaches at: *www.esri.com/base/products/internetmaps/visit_sites.html*

Several that I would recommend looking at to view divergent approaches are:

Massachusetts Electronic Atlas
Interrain Pacific's Bioregional Information System (from B.C.)
Florida Marine Research Institute/EPA Watershed Project
(also see from FMRI Ocean GIS: *www.fmri.usf.edu/sori/index.html*)

Looking at these and other examples of interactive maps on the web, many issues come to the fore. These fall into two main categories:

1. Speed and power of response to user interaction
2. Graphic design of maps and mapping interface

Speed and Power

Issues regarding speed and power of response to user input (interaction) are related to image generation, the size of the image being served, the efficiency of the interactive map serving software and the hardware capabilities of the server, client and network connection. To serve maps from Arcview IMS, Arcview itself must be running. It receives calls from the web server, generates a new view, and then captures it as an image file (JPEG by default.) The image is sent to the user's browser and popped into the MapCafe window.

The main difference between this and other methods (such as Intergraph's) is that a raster file instead of a vector file is sent to the user's web browser. Sending a vector file (such as the 'SmartCGM' format Intergraph uses in its GeoMedia Web product) improves the response time at the user's end, after the file has been downloaded. A special plug-in must be downloaded to view their maps, reducing the speed advantage as the map graphics to be viewed increases in complexity. My inclination is to discount differences in this area. Without being complacent, assuming that all hardware and software will become more powerful and more efficient is safe. It would surprise me if the next version of Arcview IMS did not incorporate some capability for sending vector files for local viewing - competition is a great leveller.

Graphic Design of Maps and Mapping Interface

As with any discussion of graphic design, the list of issues here could be infinite. The favourite pastime of cartographers is criticizing maps. Many cartographers are appalled by some 'Map-like objects' available for viewing on the Net. My experience in this area is in working on the Historical Atlas of Canada Online Learning Project, which is under development at University of Toronto, using the Arcview IMS. I did show this example at the workshop, but I cannot reveal the site location to look at for one main reason: we have not yet got it right!

The main groups of issues we are struggling with are:

A. Effective design of symbols and use of colour
B. Labelling or other identification of features
C. Effective use of limited screen 'real estate'

Effective Design of Symbols and Use of Colour:

Designing symbols and using colour effectively for screen viewing is a major concern, especially when creating maps on the fly, and where the users' viewing environment varies considerably. Users' terminals may have limits on available colours and on screen resolution, for example. One may design for either the 'lowest common denominator', or else make assumptions about minimum hardware configuration, and advise users of these limits. Our approach has been to assume a minimum display setting of 800 by 600 pixel resolution, and 256 colours, running a Java-enabled browser package.

Within these constraints, our approach has been to use the same principles for cartographic design as we used for printed maps: maintaining clarity, legibility, colour and

symbol contrast - all in the service of an appropriate visual hierarchy. The main problem in symbol design is dealing with the coarse resolution of the CRT screen. Detailed symbols with fine distinctions are not possible here - line weights must vary by hundredths of an inch rather than thousandths, point symbols must become broadly iconic rather than pictorially detailed.

Another concern is how to deal with viewing maps at many scales. Since the interactive environment allows 'Zooming in', symbols good at one viewing scale are completely inappropriate at another. Arcview IMS allows the designer to make layers viewable only within specific scale ranges. This is really an essential feature for customizing the display. It does introduce complexity for the user that needs explaining. Discussion on handling this and other on-screen explanations is found below.

The appearance of colours changes significantly from one screen to the next. Your computer's colour map and the other programs running at the same time as your browser also limits the number of colours available. Under the best of conditions, 256 different colours defined in the RGB colour space should be available. The Internet browsers generally use only 216 of these without dithering (there is a good explanation on colour use and limitations in ***Netscape*** by Bob Cunningham, at *www.connect.hawaii.com/hc/webmasters/Netscape.colors.html*). As well, many of these 216 colours are impossible to differentiate on most screens. Arcview IMS addresses this problem by providing a 'Safe Color Palette' of the 216 standard RGB combinations. If this palette is used, the designer can be sure of WYSIWYG (what you see is what you get) colour on similar monitors.

Labelling or other Identification of Features:

Again, the basic principles of clarity and legibility prevail. Type faces that are 'screen friendly' are Helvetica, Univers, and other sans serif faces with small stroke variation. Regarding type size, Arcview allows the designer two options: labelling can be at a constant size despite map scale, or it can size proportionally depending on display scale. The latter option works well in that the size of type gives the reader a visual reference as to map scale.

Many web sites avoid the labelling question entirely, using the feature identification function of the GIS as the only guide to identification. Thus, in Arcview IMS, clicking on the 'I' button and then on a map feature brings up a small table containing the attribute values attached to the feature, or any text string or table the designer builds in. Confusion may result, about how the user can be sure he is selecting the feature he wants. Again, on-screen explanatory tools are useful.

Unlabelled features lose the opportunity for highlighting information that text labelling provides. One hybrid method of achieving this while avoiding the problems of conventional type placement is some form of 'data brushing,' in which a text 'balloon' appears when the mouse pointer is positioned over the feature in question. In a recent issue of the journal *Cartographic Perspectives* (Winter 1997), James Swanson outlines a method of doing this on a standard web image using the "Mouseover mapping" technique in Javascript within HTML. Java examples also abound on the Internet. Arcview IMS does not provide such a solution in its present version, but it is an obvious area for future development.

Effective Use of Limited Screen 'Real Estate:"

The biggest problem in designing for this medium is the limited screen area or 'real estate' one has with which to work. In most examples currently on the web, the actual map area on the screen is less than half the web page holding it. Apart from the map itself, it is usually necessary to have on the screen: a legend, viewing control buttons, a text display window, and explanatory and contextual information regarding the map and the web site. All within an area 800 by 600 pixels in size (or less!)

There are a number of ways of laying out the page to deal with this problem. Most web pages containing interactive maps are divided into *frames* for holding different panels of information. In Arcview IMS, the default HTML template includes one frame to hold the MapCafe applet, and one to hold attribute information accessed by map queries. The basic rule of thumb should be to use as few frames as your design will allow, to maximize the size of each. It is also helpful to define your frames as *adjustable* rather than *fixed* in size. This allows the user to enlarge the area of interest as necessary while viewing the page.

Regarding legend display, reducing the visible legend as much as possible is advisable, while retaining everything necessary for interpretation. Arcview IMS allows one to select which of the mapped layers to show in the legend. Standard base map features can be removed, to simplify the display. Arcview IMS also includes a button to hide the legend temporarily, to allow more area for the map, as part of its standard interface.

Finally, user instruction in the way of Help or Explanatory information is necessary. It was found that utilizing buttons that launched help screens into new browser windows worked well, rather than trying to squeeze supplementary information into the existing crowded window. The user can read the help messages, and then close or minimize the browser window as desired, until needed again.

Summary:

Arcview IMS held a number of surprises for us, some pleasant, some not. It was relatively easy to set up and install on the web server. The inclusion of features such as the button to hide the legend, and the ability to 'hot link' areas of the map to bring up associated data, are useful and sophisticated functions. Arcview IMS allows significant menu-based customization of the user interface. As well, it is open to infinite further customization, limited only by one's ability to write code in Avenue and Java.

Unforeseen problems also arose. We found it necessary to convert Arcview coverages to shape files to provide rapid map generation, a significant effort for a large data base. The system generates JPEG files by default - an add-on is necessary to create GIF files instead, which are superior for most map images. The IMS web server does not run on all server software, but is designed for Netscape servers (Fasttrack, Enterprise) and will not run on others (such as Apache.) Tech support from ESRI is minimal at this stage. We were referred to the Arcview IMS help page (FAQs) on the main ESRI web site. Finally, since Arcview needs to be running

(continued on page 11)

Students Excel at Conference

Ute Dymon,
Kent State University

Students gave two excellent presentations at the AGM in London, Ontario. Anita Muller, a Masters student in the Department of Geography at Concordia University, critically evaluated evacuation maps found posted in buildings and offered some guidelines for consideration of future evacuation maps. Her thought provoking presentation fueled lengthy debates and discussions. We all will feel safer knowing that capable students such as Anita worry about our public welfare through the redesign of useful and appropriate evacuation maps for buildings.

Erin Kuyenhoven presented another high quality paper written in conjunction with Peter Keller. This interactive presentation explored maps and images of space employed to market tourism destinations on the Internet. After viewing rendered maps on the Internet of various vacation spots, the audience was asked to express opinions about the usefulness and attractiveness of these tourist maps in depicting these sites. Anita and Erin both received prize awards for their student paper presentations and were recognized at the conference banquet.

Two other students actively participated by organizing workshops. Janet Mersey and her student, Andrew Millward, from Guelph University arranged a workshop on Working with Digital Elevation Models. At the conference, Andrew ran this hand-on workshop that gave participants an opportunity to learn how to produce digital elevation models. Rick Gray, a student in the Department of Environmental Biology at Guelph University, organized a GIS challenge where invited software vendors demonstrated their various software products. Participants had an opportunity to prepare a map with their software products and to rate them according to their ease of use. Both Andrew and Rick received recognition for their efforts at the banquet.

My sincere congratulations to student paper presentation winners Anita and Erin and kudos to Andrew and Rick for their workshop presentations. After attending this inspiring AGM, I urge all teachers to encourage your students to participate in the meetings of the CCA.

Erin Kuyenhoven (left) and Anita Muller, co-winners of this years' Presidents Prize for best student paper.

President's Prize Competition
Le concours pour le Prix du Président

Congratulations to the following students, who were recipients of awards at this year's conference in London.

Félicitations aux étudiants récipiendaires des accordés lors de l'Assemblée annuelle de l'Association canadienne de cartographie tenue à London.

NORMAN NICHOLSON SCHOLARSHIP
BOURSE D'ÉTUDE DE NICHOLSON:
Anita Muller, Concordia University

MONOCHROME MAP (Undergraduate)
CARTE MONOCHROME (sous-gradués)
Chris Ashurst and Kelly Babcock,
University of Victoria,
Nagano 1998: Winter Olympics Winners by Nation
and/et
Scott Jeffrey,
University of Victoria,
Wildland Fire Losses in BC in 1994

MONOCHROME MAP (Graduate or College)
CARTE MONOCHROME (gradués ou collégiaux):
Rachelle Ciassie, COGS,
Moncton has it all! / a de tout

COLOUR MAP (Undergraduate)
CARTE EN COULEUR (sous-gradués):
Eric St-Pierre,
Université de Québec à Chicoutimi,
Retombees potentialles des excursions de motomeige dans les regions du Quebec en 1997

COLOUR MAP (Graduate or College)
CARTE EN COULEUR (gradués ou collégiaux):
Andrew Murray, COGS,
The Geological History of St. Margarets Bay

JOURNALISTIC MAP
CARTE JOURNALISTIQUE:
Christy Sigurdson,
University of Winnipeg,
Population in the Northwest Territories by Ethnic Group in June 1991

Annual CCA Conference

London, Ontario, May 27-30 1998

Roger Wheate,
University of Northern B.C.

The annual CCA meeting at the beautiful London campus of the University of Western Ontario, was the usual meeting of ideas and auld friends, but with the added attraction of a joint meeting with the Association of Canadian Map and Library Archivists (ACMLA). A trim selection of papers ensured minimum overlap and missed sessions, but enabled concurrent sessions with the ACMLA and space for some lively workshops.

The first day opened with an address on the issue of copyright, in which cartographers were invited to relate the risk of the users of their maps to the like of lawn mower manufacturers who were sued by users who injured themselves attempting to 'trim the hedge'. This was followed by a map design panel, covering the spectrum of designers from private industry, university and government. The afternoon saw the first of two workshops run by students: a 'GIS software challenge' organised by Rick Gray (Guelph), in which five companies (Avenza, CARIS, Intergraph, PCI and ThinkSpace) were given tasks involving data input, analysis and output, using the same database from the University of Guelph agriculture station. The afternoon concluded with the exposition of maps in the Serge A. Sauer Map library and the student map exhibit for the President's Prize competition.

Day two started with a session on data cost and liberation in Canada. The restricted access to digital data in Canada and cost (compared to the U.S.) remains a recurring theme and hindrance to progress in Canadian Cartography, while software and mapping vendors redirect their energies to the more productive U.S. environment. The afternoon saw the second student organised workshop, by Andrew Millward (also Guelph), on digital elevation models, using IDRISI, and later the first part of a workshop on interactive web map publishing, to be concluded the next day. In the evening a healthy quorum of delegates were treated to an entertaining talk and tour of the University Observbatory by Dr. D.F. Gray, resident Professor of Astronomy, who was unperturbed by frequent questions from X-philes obsessed with the likelihood of extra-terrestrial life.

The third and final program day concluded early in the afternoon after the annual general meetings and workshop to leave time for joint field trips. While the navigationally challenged opted for a double-decker bus tour of London, complete with greenhouse effect, those capable of clockwise or counter clockwise travel circumnavigated the campus in the third annual CCA orienteering event, again successfully organised by Diana Hocking. All members finished in time to attend the banquet, which featured CCA awards to Steve Fick, Arthur Robinson and Cliff Wood, student awards and an awesome table full of draw prizes provided by vendors, highlighted by a seemingly endless supply of 'ACE' software.

London meeting organizers (from left): Trish Chalk, David Mercer, Cheryl Woods and Melissa Leitch.

On Saturday a busload of conference attendees travelled to Stradford for a day at the theatre. The first stop was at the "stone" town of St. Mary's, where some of the more husky members of the entourage displayed their masculinity by pushing EdDahl's stalled car away from a busy intersection. The group was given a short tour of downtown St. Mary's including the flood control measures along the local waterways. The tour ended at city hall where coffee and donuts were supplied. From St. Mary's the busload, plus Ed Dahl, went on to Stratford for an afternoon at the theatre. At Stratford, the entourage split into two groups to see their respective plays. One group went to see ***A Man For All Seasons*** while the other saw ***The Prime of Miss Jean Brodie***. Both groups were treated to a highly entertaining afternoon at the theatre.

As always, it seems a pity that only a small percentage of CCA members get to the annual meeting. Thanks again to a first-class meeting run by organisers Cheryl Woods, Patricia Chalk, Melissa Leitch and David Mercer. Members should pencil in next year's dates, when it will be held in conjunction with the ICA meeting in Ottawa, August 14-21, 1999.

Third Nearly-Annual CCA Orienteering Event
London, Ontario, May 29, 1998

Diane Hocking,
University of Victoria

With the whole conference taking place at the University of Western Ontario, we were lucky that the Forest City Orienteering Club was able to provide an orienteering map of the campus for this year's event. It was especially convenient that the start and finish could be located right on the steps of Delaware Hall, where most delegates were staying. After waving off the less active CCA and ACMLA folks on their non-airconditioned bus tour, participants enjoyed the course along the cool and peaceful wooded Medway valley, and the excellent views over the city from the high open grounds of Brescia College. I enjoyed seeing several new faces in the group of 17 who took part.

There are always some in any crowd who choose their own way to handle challenges. Among these, David and Weldon decided a new trail was required in the thickest forest beside the creek, ably demonstrating why full legcover is generally indicated for orienteering. Andrew found a creative way of crossing the stream, somehow keeping his feet dry in the process. Most of us tend to use the bridge.

After comfortably winning the competition last year in St. Johns, Michel received the award this year for the most excuses for his delays en route. Such a great display of creativity is a good sign in our new VP. Meanwhile new President, Roger, showed that he may be easily sidetracked, choosing to take the "scenic" route along the river, rather than the shorter line across the fields. He was not alone in taking detours: Erin and Rick took time out to track down a cooling drink in a restaurant kitchen. And Tim came in with the report that Ed was last seen heading for his car! (He had not in fact left for home, was merely collecting some items as he passed).

I was horrified to hear that Joe, "rookie of the year" award winner, travelled along the road clearly marked as a "dangerous area" to achieve his success. I hope he is still with us to challenge winner Peter next year in Ottawa.

RESULTS

Peter Keller	39:40 minutes
Joe Piwowar	40:44
Roger Wheate	43:50
Erin Kuyvenhoven and Rick Gray	48:21
David Mercer and Weldon Hiebert	56:42
Andrew Milward	57:10
Michel Fournier	63:55
Philip Dodds	69:00
Ute and Mike Dymon	73:20
Magnus Cottam	74:13
Tim Ross	74:15
Lori Sugden and Gillian Foster	74:20
Ed Dahl	84:00

Participants of the third nearly-annual CCA Orienteering Event, outside Delaware Hall.

GIS in Northern BC

Roger Wheate,
University of Northern British Columbia

Thirty years ago, Canada was the birth place of GIS as mapping specialists designed the first system to inventory the natural resources of the world's second largest country. Northern BC might be considered a microcosm of the country as a whole, combining a vast area needing input, a sense of frontier isolation and a high impact resource industry (forestry).

Approximately 200 people attended the first ever Northern BC GIS conference at the University of Northern British Columbia on May 6, 1998. The conference was a result of three factors:

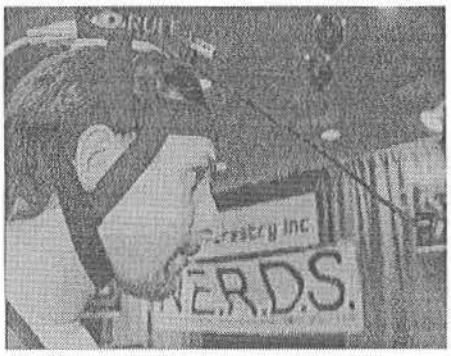
a. the formation over the last year of a Northern BC GIS group based in Prince George, consisting of representatives from Forestry companies, consultants and government, college and university, interested individuals and local computer and communications companies;

b. the biannual Forest Expo that draws about 25,000 attendees to Prince George every even year;

c. the disappearance of the GIS trade show that had taken place in Vancouver every spring since 1986; started by local forestry enthusiasts, this very popular conference/show has declined in attendance and interest with escalating attendance fees after GIS World took over (they moved it to Toronto in 1998, but will be back in BC in 1999).

The one day conference showed that there is tremendous interest in GIS and mapping, if fees are affordable. Those present enjoyed a mix of applications, products and processes over three concurrent sessions. Of the presenters, there were 10 each from southern BC (Vancouver/Victoria) and northern BC (Prince George) with 5 from Alberta.

The first sessions featured Autodesk, Heritage potential modelling (Digital Environmental management) and First Nations GIS (Lheit Lit'En Nation), and GPS



NERD demonstrating EyeRULE Laser Surveying System.

(TerraPro). Those present unanimously agreed the demonstration of the EyeRULE Laser Surveying System, by the Northern Electronics Research and Development Society (NERDS) was the highlight of the day (see photo).

The late morning saw sessions on watersheds and fisheries applications (Environmental Dynamics, PG; Min. of Environment and Northern Business Communications), ESRI GIS solutions which included automated labelling solutions (GISmo Solutions) present and future trends (ESRI) and TRIM II, the new BC provincial mapping database.

The unexpected popularity of the conference caused havoc in the lunch lineups as hungry delegates waited patiently to eat. The welcome session after lunch had brief descriptions of training offered in the University and College programs, followed by the new provincial Real-Time differential GPS program, described by Amin Kassam, Ministry of Environment, Lands and Parks.

Afternoon sessions were on remote sensing (Min. of Forests and Geomatics International), forestry applications with representatives from Canfor, Northwood and Timberline, Intergraph - GeoMedia and PCI Pacific software solutions, digital orthophotography (Triathalon), INCOSADA (provincial forestry data standards), GIS implementation and visualization (Industrial Forestry Services and McGregor Model Forest) and digital processing of high resolution imagery by ITRES, Calgary.

By now, most people were fading as we tried to pack a little too much into a full day ending at 5.30pm. However this over-zealousness by the organizers was quickly overlooked as most headed down to the social at the Buffalo Brew pub, with plentiful food and beverages and draw prizes donated by Silicon Graphics Inc.

The next Northern BC GIS conference is planned with Forest Expo 2000, and will likely be expanded to 2-3 days incorporating workshops and training courses. The group will also hold evening meetings twice annually in November and May. Details on the User Group and conference can be found at *http://www.nbcgisug.org*

(from page 7)

always when maps are served, using a separate high-powered computer, dedicated to this purpose, is recommended for generating the map images.

Overall, truly interactive mapping on the web has come a long way in the past two years. Joe Piwowar's article looks at the big picture; as usual, the devil is in the details. If any other CCA members are developing sites and would like to share their experiences, please let us know by E-mail. I would be happy to highlight such sites in future issues of *Cartouche*.

1999 Elections to the CCA Executive Committee

The Nominating Committee of the Canadian Cartographic Association seeks the names of suitable persons to stand for election to the Executive Committee. The following positions are to be filled at the Annual General Meeting in Ottawa in August, 1999:

-Vice President (1 year)
-Chair, Analytical Cartography and GIS (2 years)
-Chair, Cartographic Education (2 years)
-Chair, Map Production Technology (2 years)

The quality of the Executive Committee is crucial to the success of the association. If you know of someone who would serve us well, please submit his or her name for consideration by the Nominating Committee. Or, if you feel that you yourself have a role to play, feel free to forward your own name.

Send your suggestions for candidates by October 30 to:

Brian Klinkenberg, Chair, Nominating Committee
Department of Geography
University of British Columbia
Vancouver, B.C. V6T 1Z2
Tel: (604) 822-3534 Fax: (604) 822-6150
E-mail: *brian@geog.ubc.ca*

The other members of the Nominating Committee are Majella Gauthier, David Mercer and Andrew Millward. The Committee will present its slate of candidates in *Cartouche* #32, due for publication in December, at which time further nominations may be submitted by members. The final list of candidates, together with candidate profiles and a ballot form, will appear in *Cartouche* #33, which you should receive in March.

Results of the 1998-99 Election to the CCA Executive

Congratulations to the following CCA members who were elected to the 1998-99 CCA Executive:

Vice President: **Michel Fournier**

Secretary-Treasurer: **Charles Conway**

Chair, Map Use and Design: **Ada Cheung**

Chair, History of Cartography: **Jeffrey Murray**

Élections au comité exécutif de l'ACC 1999

Le comité de candidature de l'ACC est à la recherche de membres éligibles pour occuper les postes ci-dessous de l'Exécutif. Ces postes seront à combler lors de l'Assemblée générale annuelle qui se tiendra à Ottawa au mois d'août 1999 :

-vice-Président (mandat de 1 an)
-Président du groupe d'intérêt Cartographie analytique et SIG (mandat de 2 ans)
-Président du groupe d'intérêt Éducation cartographique (mandat de 2 ans)
-Président du groupe d'intérêt Technologie de production cartographique (mandat de 2 ans)

La qualité des membres de l'Exécutif est un atout primordial pour le rayonnement de l'Association. Si vous connaissez une personne qui pourrait apporter une contribution appréciable à l'Association ou si vous vous sentez apte à remplir l'un de ces postes, faites parvenir vos mises en candidature au Comité d'ici le 1 octobre 1998 à :

Brian Klinkenberg, Président du comité de candidature
Département de géographie,
University of British Columbia
Vancouver, B.C. V6T 1Z2
Télé : (604) 822-3534 Téléc : (604) 822-6150
Courr. élect : *brian@geog.ubc.ca*

Les membres du comité de candidature sont Majella Gauthier, David Mercer et Andrew Millward. Le comité publiera la liste préliminaire des candidats dans le numéro 32 de la revue *Cartouche* (décembre 1998), période où des mises en candidature additionnelles pourront être soumises par les membres. La liste finale des canditats ainsi que leur curriculum vitæ et les bulletins de vote seront fournis dans le numéro 33 de la revue *Cartouche* (mars 1999).

Résultats des élections au comité exécutif 1998-99 de l'ACC

Félicitations aux membres suivants de l'ACC qui ont été élu à l'exécutif 1998-99 de l'ACC.

vice-Président: **Michel Fournier**
Secrétaire-trésorier: **Charles Conway**
Président du groupe d'intérêt sur la Conception et utilisation des cartes: **Ada Cheung**
Président du groupe d'intérêt sur l'Histoire de la cartographie: **Jeffrey Murray**

The Norman L. Nicholson Memorial Scholarship In Cartography

The Canadian Cartographic Association is proud to offer the Norman L. Nicholson Memorial Scholarship in Cartography in honour of our late colleague. The scholarship, valued at $500, is awarded annually, and is intended to recognize and encourage exceptional student achievement and ability in any aspect of cartography.

Eligibility:

To qualify the applicant must be:

1. A Canadian citizen or landed immigrant.
2. A student who proposes to continue full time studies with a concentration in cartography, and is:
   a) entering the final year of a college, CEGEP or under graduate honours program, or
   b) entering or enrolled in a graduate program.

Membership in the CCA is not required.

Application:

The applicant must submit the following:

1. Official transcripts of all college/CEGEP/university courses completed and grades received;
2. A one-page typed statement outlining the applicant's plans for continuing education in cartography;
3. Letters of recommendation from two faculty members who are familiar with the work and abilities of the applicant (to be sent directly to the Chair of the Awards Committee by the faculty members in question).

All materials should be sent by May 1, 1999 to:

Brian Klinkenberg
Chair, CCA Awards Committee
Department of Geography
University of British Columbia
Vancouver, B.C. V6T 1Z2

Tel: (604) 822-3534 Fax: (604) 822-6150
Email: brian@geog.ubs.ca

Judging:

Applications will be judged by the CCA Awards Committee, and the name of the winner will be announced at the Annual Conference in Toronto. The Committee reserves the right to withhold an award if the applications are not of sufficient standard. The winner must accept the award in writing within two weeks of notification by the Chair of the Awards Committee.

Bourse d'étude en cartographie en mémoire de Norman L. Nicholson

L'Association canadienne de cartographie est fière d'offrir une bourse d'étude en cartographie en mémoire de notre collègue le Dr. Nicholson, professeur reconnu et respecté dans la communauté et également membre de l'Association. La bourse d'étude d'une valeur de 500$ sera remise annuellement. Elle est dédiée à la reconnaissance et à l'encourragement du travail exceptionnel d'un étudiant et de sa capacité dans différents aspects de la cartographie.

Conditions d'eligilibité:

Pour se qualifier le candidat doit:

1. Être citoyen canadien ou immigrant reçu;
2. L'étudiant doit poursuivre à temps plein des études orientées en cartographie et:

a) doit être rendu dans la dernière année du programme d'étude suivi dans un collège, un CEGEP ou un programme d'étude spécialisé sous-gradué ou
b) doit débuter sa première année d'un programme de second cycle.

L'adhésion à l'Association canadienne de cartographie n'est pas requise.

Règlement:

Le candidat doit soumettre les pièces suivantes:

1. Un relevé des cours suivis et diplômes obtenus dans un collège, un CEGEP ou une Université;
2. Un exposé dactylographié d'une page décrivant le plan d'études en cartographie de l'étudiant;
3. Une lettre de recommandation de deux représentants du département qui sont familier avec le tavail et les capacités du candidat (Les lettres doivent être envoyées directement au Président du Comité des Prix par les représentants de l'institution).

Faire parvenir les pièces avant le 1 mai 1999 à:

Brian Klinkenberg, Président du Comité des Prix
Département de géographie
University of British Columbia
Vancouver, B.C. V6T 1Z2

Téléphone: (604) 822-3534 Télécopieur: (604) 822-6150
Courr. élect: brian@geog.ubs.ca

Jugement:

Les soumissions seront jugées par le comité des prix de l'ACC. Le nom du récipiendaire sera annoncé lors de la conférence annuelle qui se tiendra à Toronto. Le Comité se réserve cependant le droit de suspendre la remise de la bourse si les candidatures n'atteignent pas un niveau satisfaisant. Le gagnant doit accepter son prix par écrit dans les deux semaines de sa notification par le Président du Comité des Prix.

Call for Nominations CCA Awards of Distinction 1999

The CCA Awards of Distinction recognize persons who have made major contributions to the profession or to the association, and we invite nominations for the 1999 awards. Names are sought in three categories:

1. Award for exceptional professional contributions to the practice of cartography

2. Award for exceptional scholarly contributions to cartography

3. Award for exceptional contributions to the Canadian Cartographic Association.

In 1994, the inaugural year of the Awards program, the recipients were Lou Skoda, the Historical Atlas of Canada Team, and Fraser Taylor. Since then awards have been presented to Claire Gosson, Paul Pugliese and Steven Fick (Category 1); J.R. Eastman and the IDRISI Project, Henry Castner, J. Ross Mackay, Leonard Guelke and Arthur Robinson (Category 2); Norman Drummond, Bernard and Barbara Gutsell, Michael Coulson, Carolyn Weiss, and Clifford Wood (Category 3). Citations accompanying this year's awards are published elsewhere in this issue of Cartouche.

There remain many other worthy candidates for recognition, and we urge you to submit names for consideration by the Awards Committee. The awards will be presented at next years' CCA conference in Ottawa, Ontario.

Each nomination should be accompanied by a brief explanation of why the person in question merits an award. Please forward nominations by November 30 to:

Brian Klinkenberg, Chair, Awards Committee
Department of Geography
University of British Columbia
Vancouver, BC V6T 1Z2

Tel: (604) 822-3534
Fax: (604) 822-6150
E-mail: *brian@geog.ubc.ca*

Appel aux candidatures pour les Prix de Distinction 1999 de l'ACC

Nous vous invitons à nous soumettre des candidatures pour les Prix de distinction 1999. Ces prix sont remis à des personnes qui ont apporté une contribution particulière à l'Association ou dans l'exercice de leur profession et ce pour les catégories suivantes :

1. Prix pour une contribution professionnelle exceptionnelle dans la pratique de la cartographie;

2. Prix pour une contribution exceptionnelle d'érudition sur la cartographie;

3. Prix pour une contribution exceptionnelle à l'Association canadienne de cartographie.

Ces prix créés en 1994, ont été remis à Lou Skoda, l'équipe de l'Atlas historique du Canada et Fraser Taylor. Depuis, ces prix ont été remis à Claire Gosson, Paul Pugliese et Steven Fick(catégorie 1), Ron Eastman et l'équipe du Projet IDRISI ,Henry Castner, J. Ross Mackay, Leonard Guelke et Arthur Robinson(catégorie 2) ainsi qu'à Norman Drummond, à Bernard et Barbara Gutsell, Michael Coulson, Carolyn Weiss et Clifford Wood (catégorie 3). Les textes de présentation des prix de cette années sont publiés dans le présent numéro de la revue.

Il reste encore de nombreux candidats à honorer. Vous en connaissez peut-être un, à moins que ce ne soit vous. Alors, n'hésitez pas à faire des suggestions au Comité des candidatures. Les prix seront remis lors de la prochaine Assemblée générale annuelle qui se tiendra à Ottawa(Ontario).

Chaque mise en candidature doit être accompagnée d'un bref texte justificatif. Vous avez jusqu'au 30 novembre pour faire parvenir vos mises en candidature à l'adresse ci-dessous:

Brian Klinkenberg, Président du comité de candidature
Département de géographie
University of British Columbia
Vancouver, BC V6T 1Z2

Téléphone : (604) 822-3534
Télécopieur : (604) 822-6150
Courr. élect : *brian@geog.ubc.ca*

CCA Awards of Distinction 1998

Award for Exceptional ProfessionalContributions to the Practice of Cartography: STEVEN FICK

Steven Fick, the 1998 recipient of the Canadian Cartographic Association's **Award of Distinction** ***for exceptional professional contributions to the practice of cartography***, is a talented artist as well as a cartographer. Steve's most recent work at the Canadian Geographic Magazine has gained him some notoriety and recognition as one of the foremost practicing cartographers in Canada today.

Steve was born and raised in Colorado. He began his university studies at the University of Colorado (Boulder) where he was awarded almost every scholarship available. Some of these include the National Honor Scholarship, Boettcher Scholarship, Regents Scholarship. He was Phi Beta Kappa and was presented with the Presidential Recognition Award for the Outstanding Undergraduate. He came to Canada in 1977 to continue his education at Simon Fraser University where he attained an MA. Steve has remained in Canada ever since.

In his younger days Steve joined the Peace Corps where he served in Thailand. When he wasn't teaching English, he was drawing illustrations for educational materials for the Thailand school system. While in Thailand, he also assisted in the emergency resettlement of the Laotian refugees. For this service his group was awarded special recognition by the U.S. Secretary of State Henry Kissinger.

In his own right Steve is an accomplished artist with a fondness for painting wilderness landscapes in oil or water color. Steve's works have been shown in several juried art shows including those sponsored by the Federation of Canadian Artists. He has won the 'best of show' award at the Shuswap Lake Festival of Arts.

Needless to say Steve's artistic talents complement his cartographic ones. In the 1980's Steve ran his own company - GeoScapes, located in Prichard(?), British Columbia. Here he specialized in relief shading, perspective views and panoramas. He produced a variety of cartographic products for such clients as Tourism British Columbia, Pacific Western Airlines, Canadian Encyclopedia and Parks Canada just to name a few.

Byron Moldofsky (right) presents Award of Distinction to Steven Fick. ***Byron Moldofsky (à droite) remet un Prix de Distinction à Steven Fick.***

One of Steve's early clients was Canadian Geographic Magazine. They must have been impressed, for that is where he works today. Steve's work at the Canadian Geographic Magazine serves to illustrate his superior abilities as a cartographic designer. While at the Canadian Geographic he has been responsible for putting together a team of cartographers, who under his leadership have produced many exciting and innovative maps. For several years now many of these maps have been selected to be part of the Canadian Cartographic Exhibit which is displayed at the Conferences of the International Cartographic Association and the International Geographic Union. Steve has also been responsible for building working relationships between Canadian Geographic and other mapping facilities which have resulted in maps such as - *Canada, a land of Superlatives*. Steve's cooperative effort has shown us how the sharing of talents and resources can result in a superior product to the benefit of all.

Those who know Steve know him as soft spoken humanitarian, a man of many talents and interests. The caliber of the maps he has produced speaks for itself. Steve's work, which is always of the highest quality and sets the standard.

Prix de Distinction 1998 de l'ACC

Prix pour une contribution exceptionelle dans la pratique de la cartographie: STEVEN FICK

Notre récipiendaire de 1998, pour sa contribution professionnelle exceptionnelle dans la pratique de la cartographie, Steve Fick est un artiste talentueux en plus d'être un cartographe. Ses récents travaux dans le magazine "Canadian Geographic" lui a valu une certaine notoriété et reconnaissnace comme l'un des cartographes de premier plan dans la pratique de la cartographie au Canada.

Steve est né et a vécu au Colorado. Il y débute ses études à l'Université de Colorado où il a obtenu à peu près tout ce qu'il y avait comme récompense disponible dont, la bourse d'honneur National, la bourse Boettcher, la bourse Regent. Il a été "Phi Beta Kappa" et s'est vu offir le Prix de reconnaissance Présidentiel pour ses études exceptionnelles. Il arrive au Canada en 1977, il y poursuivra ses études de Maîtrise à l'Université Simon Fraser. Depuis, Steve vit au Canada.

Dans sa jeunesse, Steve, s'est joint à un Corps de Paix stationné en Thaïlande. Lorsqu'il n'enseignait pas l'anglais, il réalisait des illustrations pour des manuels scolaires Thaïlandais. Durant son passage en Thaïlande, il a participé au repeuplement de réfugiés laotiens.Ce service a valu à son groupe une reconnaissance spéciale, du Secrétaire d'État américain Henry Kissinger.

Steve est un artiste accompli avec un fort penchant pour la peinture à l'huile ou à l'aquarelle, de paysage. L'oeuvre de Steve a été exposée et jugée à maintes occasions dans des expositions dont celles organisées par la Fédération des artistes canadiens. Il a gagné le prix "Best of Show" au Festival des Arts du lac Shuswap.

Point n'est nécessaire de vous dire que le talent artictique de Steve complète fort bien sa formation cartographique. Dans les années 80 il a fondé son entreprise GeoScapes à Pritchar en Colombie Britannique. Il se spécialise dans l'estompage du relief, les vues en perspective et les panoramas. Il produira une grande variété de produits pour des clients tels que l'Office de tourisme de la Colombie Britannique, la compagnie aérienne Pacific Western, l'Encyclopédie canadienne et Parcs Canada, pour n'en citer que quelques uns.

L'un de ses premiers clients fut le Magazine *"Canadian Geographic"*. Il semble qu'il y a laissé plus qu'une bonne impression puisqu'aujourd'hui il y travaille. Il utilise ses grandes capacités d'illustrateur pour réaliser les productions cartographiques du magazine. Il a eu la responsabilité de monter une équipe de cartographes qui sous sa conduite ont produit plusieurs cartes passionantes et innovatrices. D'ailleurs, plusieurs d'entre elles ont fait parti des Exposiotions canadiennes de cartographie qui ont eu lieu dans le cadre des Conférences de l'Association internationale de cartographie et de l'Union internationale de géographie. Steve a également été responsable de tisser des relations de travail entre le monde des géographes canadiens et les autres intervenants impliqués dans la cartographie afin de produire la carte *"Le Canada, pays des records"*. Les efforts de coopération de Steve, nous ont démontré comment le partage de talents et de ressources peuvent générer des produits de qualité supérieure pour le bénéfice de la collectivité.

Ceux qui connaisse Steve, le connaisse comme un humaniste, un homme de talent, un homme aux mutiples intérêts. Le calibre de sa production cartographique

This award which we present to Steve Fick here today is to recognize his talent's and his professionalism as a cartographer who creates only the best.

Award for Exceptional Scholarly Contributions: ARTHUR H. ROBINSON

It is indeed an honor and a pleasure to be able to present Professor Arthur H. Robinson with this year's Canadian Cartographic Association's **Award of Distinction** ***for exceptional scholarly contributions to cartography.***

Being honored with awards is nothing new to Arthur Robinson. In 1953 the American Association of Geographers awarded him with the *Citation for Meritorious Contributions to Geography (Cartography);* in 1959 the Geographic Society of Chicago presented him with the *Distinguished Service Award (cartography);* in 1964 he was awarded as a *Guggenheim Research Fellow,* and the list goes on. It is of little surprise that he is listed in the Who's Who of America. It is however, a little ironic, at least for the Canadian Cartographic Association, to learn that such a well-known American scholar and educator was actually born in Montreal.

Professor Robinson's college education commenced at Miami University in Ohio. By 1947 he had completed a Ph.D. at Ohio State. During the Second World War he served as Chief of the Map Division of the OSS where he attained the rank of Major. After the war he joined the faculty at the University of Wisconsin and served as a Professor until his retirement in 1980, where he now continues as Professor emeritus.

Gary McManus (right) presents Award of Distinction to Grant Head on behalf of Arthur Robinson. ***Gary McManus (à droite) remet un Prix de Distinction à Grant Head pour Arthur Robinson.***

It is probably an understatement to say that Arthur Robinson has contributed immensely to the scholarly literature of cartography. His first book the *Look of Maps* published in 1952 set the stage for decades of inquiry into cartographic design. The textbook *Elements of Cartography* first published in 1953 has undergone numerous editions and still remains a standard on many university cartography course lists. His scholarly interests span the whole spectrum of the discipline, from the mathematical to the historical, from the theoretical to the practical. His writings and teachings have served to influence a whole generation, maybe two generations of cartographers and students of cartography. I doubt there are few cartographers today who have not read at least some of his writings.

Professor Robinson has been a long standing member of numerous professional societies including the CCA. He was contributing Editor to *The Canadian Cartographer* from 1966-1973 before it was renamed *Cartographica.* He also developed the Robinson Projection which was adopted by the National Geographic Society as its world projection for general reference maps. It is with great honor, that the Canadian Cartographic Association presents this Award of Distinction to Professor Robinson to recognize his many scholarly accomplishments.

parle par elle-même. Le travail de Steve est toujours de grande qualité et sert de modèle. Ce prix que nous remettons à Steve aujourd'hui, symbolise la reconnaissance de son talent et de son professionnalisme, en tant que cartographe, à produire des oeuvres considérées comme les meilleures.

Prix pour une contribution exceptionelle d'erudition sur la cartographie: ARTHUR H. ROBINSON

C'est certainement un honneur et un plaisir de présenter, aujourd'hui, au professeur Arthur H. Robinson le Prix de distinction pour une contribution particulière à la cartographie, de l'Association canadienne de cartographie.

Arthur Robinson n'en est certes pas à son premier hommage récompensé par un prix. En 1953, l'Association américaine des géographes l'a récompensé en lui remettant une citation pour ses Contributions méritoires en géographie (cartographie); en 1959 la Société géographique de Chicago lui a remis un Prix de distinction pour ses contributions en cartographie; en 1964, il a été récompensé en tant que Membre du centre de recherche Guggenheim et ce n'est là que le début de la liste. Ce n'est pas surprenant qu'il figure dans le *"Qui fait quoi"* d'Amérique (Who's who). C'est cependant ironique pour l'Association canadienne de cartographie d'apprendre que ce savant, cet éducateur américain bien connu, est né à Montréal.

Les études du professeur Robinson ont commencé à l'Université Miami d'Ohio. Dès 1947, il a complété son doctorat à l'Ohio State. Durant la seconde guerre mondiale, il a servi comme Chef de la division cartographie de l'"OSS" où il a atteint le rang de major. Après la guerre il est devenu professeur à la faculté de géographie de l'Université de Wisconsin et ce, jusqu'à sa retraite en 1980. Ce qui ne l'empêche pas de poursuivre son travail à titre de Professeur émérite.

Ce n'est certainement pas un euphémisme de dire qu'Arthur Robinson a apporté une contribution littéraire scientifique immense en cartographie. Son premier livre *"Apparence des cartes" (Look of Maps)* a été publié en 1952 et a servi de modèle pendant plusieurs décades, aux recherches sur les représentations cartographiques. La première édition du manuel *"Éléments de cartographie"* publiée en 1953 a nécessité de nombreuses rééditions et demeure un standard pour plusieurs institutions universitaires dans le cadre des cours de cartographie. Ses intérêts académiques couvrent l'ensemble du spectre de la discipline, des fonctions mathématiques jusqu'aux aspects historiques, en passant de la théorie à la pratique. Ses écrits et ses enseignements ont influencés toute une génération de cartographes (possiblement deux) et d'étudiant en cartographie. On peut dire que la majorité des cartographes ont consulté, un jour, un de ses textes. Il serait douteux qu'il n'en soit pas ainsi.

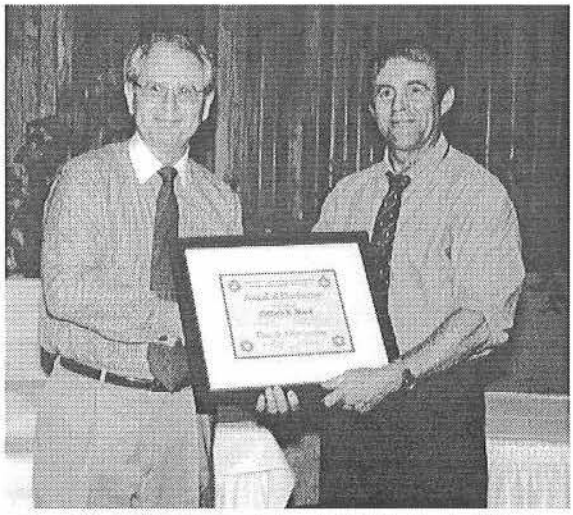
Le Professeur Robinson a été un membre assidu, pendant de nombreuses années, d'un grand nombre d'associations de professionnels dont l'ACC. Il a été éditeur du *"Cartographe canadien" (The Canadian Cartographer)* de 1966 à 1973, l'ancêtre de *Cartographica.*. Il a également développé la projection de Robinson qui a été adopté par la Société Nationale de Géographie (National Geographic Society), pour sa carte générale du monde. C'est un grand honneur pour l'Association canadienne de cartographie de remettre ce Prix de distinction au Professeur Robinson en reconnaissance de ses maintes réalisations d'érudit.

Award for Exceptional Contributions to the CCA: CLIFFORD H. WOOD

It is with great pleasure today that we honor Clifford H. Wood by presenting him with the **1998 Award of Distinction** ***for exceptional contributions to the CCA***. Cliff has had an extensive and distinguished career which involves both the academic and professional sides of the discipline. This award is to acknowledge his service and dedication to the Association and to the profession of cartography.

Cliff originally hails from the northwest United Sates, where he earned a B.S. in Geography from the University of Idaho and began a life long journey into the profession of cartography. After earning his first degree he served a tour of duty with the United States Air Force. Eventually he ended up working as a cartographer for the Central Intelligence Agency. His work experiences made him realize he wanted to know more and led him back to the University of Idaho where he completed a MS in Geography in 1972 and then went on to complete a Ph.D. at the University of Wisconsin. Just more than 20 years ago he arrived at Memorial University of Newfoundland where today he is a full Professor of Geography and Director of the Memorial University of Newfoundland Cartographic Laboratory.

Cliff s arrival in St. John's may have landed him on the eastern edge of Canada, but it didn't take him long to get to the center of the Canadian Cartographic scene. He very quickly became involved in the CCA and was elected Secretary and became the Newsletter editor. These were in the years 'BC' (before computer) were editors had to rely on typesetters, strippers, printers who used real ink, and a spell checker was 'just in your head'. Cliff brought the Newsletter to the next level of excellence, a trend which all subsequent editors have followed. Cliff went on to serve on the executive as President, but that was not enough for him, he then became the Associations first Executive Manager. In this position he strove to create order and consistency into the daily business of the CCA. He took over the tedious tasks of nominations, promotions, memberships, and established sound organizational polices.



Roger Wheate (right) presents Award of Distinction to Clifford Wood. ***Roger Wheate (à droite) remet un Prix de Distinction à Clifford Wood.***

Cliff's dedication to the profession does not end with the CCA. He also has a distinguished record of service to other Professional Cartographic organizations, including serving on the executive of the American Cartographic Association and the Canadian Institute Geomatics where he served as president. In 1993 Cliff played a key role in establishing the Memorandum of Understanding between the CIG and the CCA which has helped to foster and promote the best interests of Canadian cartography both nationally and internationally.

Cliff has represented Canada as a Chief or a Deputy Chief Delegate to the General Assembly and the International Cartogarphic Conference of the ICA on many occasions. His national involvement also includes serving as Chair of the Canadian National Committee for the ICA. Cliff was appointed Chair of the Steering Committee for Canada's bid to host the 1999 ICA and is currently Deputy Director of the Organizing Committee for the 1999 meeting in Ottawa. We present Cliff this Award of Distinction to recognize all of his hard work, dedication and determination in support of the CCA and the Canadian cartographic community.

Prix pour une contribution exceptionelle à l'ACC: CLIFFORD H. WOOD

C'est avec un immense plaisir qu'aujourd'hui, nous honorons Clifford H. Wood, en lui offrant le Prix de distinction pour sa contribution exceptionmnelle à l'Association. Cliff a eu une carrière particulièrement vaste et remarquable tant en milieu académique que professionnel. Le prix se veut la reconnaissance des services qu'il a rendu à l'Association ainsi que la consécration de sa carrière de cartographe.

Cliff nous vient du Nord-Ouest des États-Unis, de l'Idaho. Il obtiendra son baccalauréat en géographie à l'Université de l'Idaho et y débutera sa carrière de cartographe. Puis, il sera au service de l'armée de l'air des États-Unis et aboutira comme cartographe au CIA (Central Intelligence Agency). Ses expériences de travail lui ont permis de réaliser son vif désir d'en savoir toujours plus, ce qui l'a entraîné de nouveau à l'Université de l'Idaho où il fit une Maîtrise en géographie (1972) et enfin, un doctorat à l'Université de Wisconsin. Il y a un peu plus de 30 ans, il atterrissait à l'Université Memorial de Terre-Neuve où il exerce aujourd'hui en tant que professeur et directeur du laboratoire de cartographie.

Bien que l'arrivé de Cliff, à Saint-John se soit faite sur la côte Est du Canada, il s'est rapidement retrouvé au centre de l'activité cartographique en s'impliquant dans l'ACC où il fut élu secrétaire et éditeur du bulletin de nouvelles. C'était l'époque avant l'ordinateur où, les éditeurs devaient compter sur les typographes, les monteurs et les imprimeurs, qui utilisaient l'encre et le correcteur orthographique mental. Cliff a amené le bulletin de nouvelle à un niveau supérieur d'excellence, une tendance qui a été suivie par tous les éditeurs qui l'ont succédé. Cliff a servi l'exécutif comme Président mais, comme cela n'était pas assez pour lui, il est devenu le premier Directeur exécutif de l'Association. À ce poste, il s'est efforcé de mettre de l'ordre et de la cohérence dans les affaires quotidiennes de l'Association. Il a eu la responsabilité de nombreuses tâches que sont les nominations, la promotion, les adhésions et l'établissement de la structure organisationnelle.

La consécration professionnelle de Cliff ne s'est pas limitée à l'ACC, il s'est également illustré dans d'autres organisations cartographiques professionnelles à titre de Président pour l'Association américaine de cartographie (ACA) et l'Association canadienne des sciences géomatiques (ACSG). En 1993, Cliff a joué un rôle clé dans l'établissement d'une entente de services entre l'ACC et l'ACSG pour favoriser et promouvoir les intérêts de la cartographie tant sur la plan national qu'international.

Cliff a représenté le Canada, à plus d'une occasion, en tant que représentant ou directeur-délégué aux assemblée générales et aux Conférences internationales de l'AIC. Son implication sur le plan national s'est également manifesté à la présidence de comités nationaux canadiens de l'ACI. Cliff a été nommé Président du Comité organisateur, pour la préparation de la proposition canadienne de la tenue de l'ACI en 1999 à Ottawa. Il est actuellement Directeur-délégué du Comité organisateur pour les rencontres de 1999 à Ottawa. Nous remettons, à Cliff, ce Prix de distinction en reconnaissance de tout son labeur, son dévouement et sa détermination à l'ACC et à la comunauté cartographique canadienne.

A GIS Software Challenge: Overview and Observations

Rick Gray,
University of Guelph

Introduction

There are many GIS software packages on the market today, each with its own strengths. However, many GIS users can afford only one or, at most, a few GIS and mapping packages. The first CCA GIS Software Challenge was organized in London Ontario, May 27, 1998 at the joint CCA/ ACMLA conference to allow participants and audience alike a chance to "compare apples to apples." A diverse set of data was collected from the University of Guelph Agroforestry Research Station, Guelph, Ontario, in various formats and media, and each participant was asked to develop an output based on selected criteria. This article discusses the development of the Challenge - its design and format, the choice of data, the methods of dissemination of that data and the selection of competitors. It also discusses the outcome of the process - the presentation of the Challenge at the CCA conference, the results of the voting, and the lessons to be learned for future Challenges.

Methods

Design and Format:

The Challenge was designed to emulate many "real world" projects that we, as users of GIS software, confront daily. Sources of information would be provided in various formats and media types. The diversity would also ensure that no one software package would likely have all the advantages. The necessary information was provided to the software challengers approximately one month before the conference so they would have time to produce a top quality product. It was suggested that the challengers receive the data on the day of the conference, but the organizers felt that would only show the abilities of the person assigned to the task and not necessarily the capability of the software.

The Challenge consisted of three separate tasks. Conference delegates were given the opportunity to cast ballots indicating their choice of the best map output. These tasks were as follows:

Challenge 1 - Detail Map

A map of the entire Agroforestry Research Station showing the location of all trees by species. Challenge 1 was designed to show how the software handled detail. The output would contain a large number of points in a small area, and there needed to be a way to differentiate the points clearly. Symbols and/or colouring would be critical.

Challenge 2- Elevation Map

Produce a terrain map showing variations in elevation. Challengers could decide to present a contour map, a 3D perspective map, or to overlay the air photo, or find another interesting way to represent the site. They could garner data from GPS Z-values or from the contour map, or from any other source the challengers could devise.

Challenge 3 - GIS Query

A map showing the average height of all the three-year-old black walnut (Juglans nigra) trees, grouped by soil type. The complexity of this challenge resulted from the fact that not all the trees survived every year. This meant that the challengers had to query the database to find the height of all walnut trees that survived for at least three years. The rationale behind this test was that a user might want, for instance, to determine if soil type affects tree growth. This challenge also included the basic "overlay" capabilities of any GIS software.

The Choice of Data & Methods of Dissemination:

The data used was readily available as part of the organizer's M.Sc. thesis work, which is currently in progress. A database saved as a spreadsheet in TXT format contained information about tree species, heights and diameters, and dates of planting of approximately 4,000 trees in an agroforestry intercropping system. The trees were identified in the spreadsheet by their XY coordinates, as measured using survey precision GPS. Also provided was a non-georeferenced, scanned (JPG, BMP and TIF formats) black and white air-photo of the 20 hectare site. A digitized version of the contours and soil boundaries was also made available because some challengers did not have the facilities to digitize the maps. Finally, an oblique colour air photo of the site was scanned and saved as a BMP file.

The original plan was to provide all the digital information on a CD-ROM, but the inability to readily provide corrections or updates required a better solution. At first it was thought that the information could be disseminated as E-mail attachments, but the large size of the images far exceeded the quota allowed on the university server. Finally, a friendly neighbour allowed access to an FTP site and the data was loaded there for all the competitors to pick up at their convenience. This worked out extremely well because the files could be readily updated and instantly accessed.

All competitors received, through the mail, copies of the paper maps. One competitor preferred the CD-ROM version, and was given that as well.

Selection of competitors:

Ten software companies were contacted, of which six participated. The six companies represented (and software used) were:

AutoDesk Canada Inc.,
Markham, Ontario (AutoCAD Map)

Avenza Software,
Burlington, Ontario (MAPublisher)
Intergraph Canada Ltd.,
Mississauga, Ontario (GeoMedia)
PCI Carto Inc.,
Gatineau, Quebec (Ace)
ThinkSpace Inc.,
London, Ontario (MapFactory)
Universal Systems Ltd.,
Fredericton, New Brunswick (CARIS)

AutoDesk chose to have their software demonstrated by the GIS department at Algonquin College, Ottawa, Ontario. One software company declined our invitation because they felt the judging by conference delegates was not in their best interest. The other three companies that declined gave no reasons for not participating.

Results and Discussion

Presentation of the Challenge at the CCA Conference:

The software challenge was presented at the 1998 joint CCA / ACMLA conference held at University of Western Ontario in London, Ontario. A computer lab was provided but most of the competitors preferred to use their own equipment. A brief introduction of the Challenge and the challengers was followed by an open forum during which clusters of delegates were free to wander among the displays. Although the intent was to divide the two hours provided into six 20 minute segments for demonstrating the process each challenger used, by the end of the first hour most had seen all they wanted to and the crowd had thinned considerably.

Results of the Voting:

The voting was conducted using a ballot box placed at the door. Approximately one-fourth of the delegates viewing the display voted and the results produced four winners. In Challenge 1 (detailed map), the map produced by Intergraph was chosen as the best in that category. Their large format map showed each species as a different colour and the choice of symbols for the individual trees made it clear what was being represented. Intergraph was the only one to include a key map showing the location of the site. In Challenge 2 (elevation map), the winner was ThinkSpace, with a detailed contour map overlaid on a black and white air photo. Finally, attention to detail and clear, readable maps by both CARIS software and Avenza produced a tie between these two companies in the third challenge (GIS query map).

Lessons to be learned for future Challenges:

The 1998 CCA GIS Software Challenge was designed in the spirit of friendly competition and this aspect was emphasized to the competitors on numerous occasions. Perhaps because of this, the competition turned out to be enjoyable for everyone involved.

From an organizer's perspective, the greatest lesson to be learned was that keeping the data simple to avoid confusion is essential. Knowing the data set intimately allowed fast response to most problems. However, one drawback to such a personal familiarity with the data was that some instructions became clear after working with the data for a while. In the short period allowed and over the great distances between the organizer and competitors, very straightforward instructions and a simple data set are essential.

Apparently the one month of preparation time the competitors were given was necessary but ample. Sometimes, "passing the buck" through the organization meant that the person actually doing the work did not receive the information until only a week or two before the Challenge date. Comments from some technicians indicated they had to work hard and fast to get everything done on time. Since most challengers brought their own computer equipment, the room became congested as viewers tried to move between each station. Finally, a method to encourage conference delegates to vote needs to be found. A prominently displayed ballot box and greater promotion are two possible solutions. The Challenge was a great success overall and is something that should be refined and repeated at future CCA conferences.

Calendar / *calendrier*

September 10-13 *septembre* 1998
35th Annual Symposium of the British Cartographic Society
Keele, England
For information / *pour renseignements:*
Mr. Dave Fairburn
E-mail/*courr.élect: dave.fairburn@mcl.ac.uk*

September 15-19 *septembre* 1998
International Map Trade Association 18th Conference and Trade Show
Seattle, Washington USA
For information / *pour renseignements:*
Ms Linda Mickle
E-mail/*courr. élect: imta@maptrade.org*

October 1-4 *octobre* 1998
9e Festival International de Géographie
Vosges, Cedex France
For information / *pour renseignements:*
Tel/*Tél:* 33 (3) 2952 6678

October 13-17 *octobre* 1998
First International Conference on GIS Education
Ypsilanti, Michigan USA
For information / *pour renseignements:*
Mr. Jay Morgan
E-mail/*courr. élect: jmorgan@towson.edu*

November 10-12 *novembre* 1998
GIS/LIS
Fort Worth, Texas USA
For information / *pour renseignements:*
ACSM, 5410
Grosvenor Lane, Suite 100
Bethesda, MD 20814-2122, USA

March 15-18 *mars* 1999
ACSM 1999
Portland, Oregon USA
For information / *pour renseignements:*
Ms Denise Calvert
E-mail: *deniseacsm@mindspring.com*

August 14-21 *août* 1999
ICA 99
Ottawa, Ontario
For information / *pour renseignements:*
E-mail/*courr. élect:*
ica1999@ccrs.nrcan.gc.ca

1999 CCA Presidents Prize Competition

The President's Prize Competition provides awards for excellence in student map making. It also provides an award for the best student paper presented at the CCA annual conference. A prize of $100 will be awarded to the winners of each category.

The five categories in the student mapping competition are:

- ❑ **Monochrome Map** (Undergraduate Program)
- ❑ **Monochrome Map** (College or Graduate Program)
- ❑ **Colour Map** (Undergraduate Program)
- ❑ **Colour Map** (College or Graduate Program)

A monochrome map is drawn in colour, usually but not necessarily, black. A colour map is created using two or more colours.

❑ **Journalistic Map** *A journalistic map is one which is created to accompany and elucidate a published article taken from a newspaper or magazine. The map must be created at a size to fit the page format of the newspaper or magazine it is to illustrate. The map may be monochrome or colour. Every journalistic map submitted is automatically entered in the appropriate monochrome or colour category also, but a map may win no more than one award.*

ENTRY CONDITIONS FOR THE STUDENT MAP COMPETITION

1. **Every entry must be accompanied by a completed ENTRY FORM**. The entry form is published in *Cartouche*, on the CCA web page (http://www.geog.ubc.ca/~cca/) or is available from any Executive member of the CCA.
2. The competition is open to all students in post-secondary institutions. Membership in the CCA is not required.
3. Maps may be submitted in any finished form (e.g., ink drawing, computer printout, proof copy, etc.).
4. Each entry must be a single composition. The composition may incorporate more than one map as well as other graphics, but multiple map entries are not allowed.
5. All non-original artwork, photographs, maps used in the work must be clearly credited and referenced.
6. Entries in the journalistic map category must also be accompanied by an **original copy** or **photocopy** of the published article that the map is intended to illustrate. Journalistic map entries must be drawn to a size which fits the page format (e.g., full page, column width, bound-in fold-out, etc.) of the newspaper or magazine it is intended to accompany.
7. Entries must be received the day prior to judging.
8. Neither the CCA nor the conference organizer is responsible for returning entries.

JUDGING CRITERIA FOR THE STUDENT MAP COMPETITION

1. Entries **will be disqualified** if any of the above conditions are not met.
2. Entries will be judged at the 1999 annual conference in Ottawa, Ontario by a three-person panel including the chair of the CCA Map Use and Map Design Special Interest Group.
3. One award will be made in each of the monochrome and colour map categories. Up to two awards can be made in the journalistic category, in the event of two winners the prize money will be shared equally.
4. The judges reserve the right to withhold an award if the standard of the entries is inadequate.
5. Maps will be judged in terms of their design, originality of content, overall communication effectiveness and technical quality. In addition, journalistic maps will be evaluated in terms of how well they support the article they accompany.
6. The judges may also take into account such factors as student year level, time available for completion, number of students involved, techniques and equipment employed, depth of research and innovativeness in design.
7. No map can win more than one award.

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. The entries will be judged by a three person panel including the chair of the CCA Cartographic Education Special Interest Group. 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.

Prix du Président

Les prix du Président sont des récompenses pour souligner l'excellence de travaux cartographiques réalisés par des étudiants et pour la meilleure conférence présentée par un étudiant lors du congrès annuel de l'ACC. Un prix de 100$ récompense chaque gagnant.

Les prix du Président sont remis dans 5 catégories dont les conditions et les critères d'attribution sont décrits cidessous:

- **Carte monochrome** (étudiants dans des programmes sous-gradués)
- **Carte monochrome** (étudiants dans des programmes gradués ou collégiaux)
- **Carte couleur** (étudiants dans des programmes sous-gradués)
- **Carte couleur** (étudiants dans des programmes gradués ou collégiaux)
- **Carte journalistique** *Une carte journalistique est une carte qui accompagne un article dans un journal ou une revue et qui permet d'éclaircir le contenu de l'article. Les dimensions de la carte doivent correspondre à l'espace présumé qu'elle devrait occuper dans l'article de journal ou de la revue concernés. La carte peut être monochrome ou en couleur. Chaque carte soumise est automatiquement éligible aux autres catégories de carte cependant, chaque carte ne peut gagner qu'un seul prix.*

CONDITIONS DE PARTICIPATION

1. **Chaque inscription doit être accompagnée d'un formulaire d'inscription complété**. Le formulaire est publié dans *Cartouche*, disponible sur le site Internet de l'ACC (http://www.geog.ubc.ca/~cca) ou auprés des membres de l'exécutif de l'ACC (voir liste dans *Cartouche* et sur le site Internet).
2. Le concours est ouvert à tous les étudiants du post-secondaire membres et non-membres de l'ACC.
3. Les cartes peuvent être soumises sous différents supports (tracé à l'encre, sortie d'imprimante, copie d'épreuve, copie imprimée, etc...).
4. Chaque inscription n'est valable que pour une seule carte. Toutefois, un document cartographique peut incorporer plus d'une carte et des graphiques, l'inscription pour plusieurs cartes, dans ce contexte, n'est pas permise.
5. L'usage de documents, photographie(s), carte(s) ou autres matériels n'originant pas de l'auteur du document cartographique présenté est permis, il faut toutefois en indiquer la ou les source(s) et le ou les auteur(s).
6. Les inscriptions dans la catégorie carte journalistique doivent être obligatoirement accompagnées par une **copie originale** ou une **photocopie** de l'article publié pour lequel la carte a été conçue. La carte doit être conçue en tenant compte de la dimension du format de la page de l'article de référence (i.e. pleine page, largeur de colonne, limite d'un dépliant, etc...) du journal ou de la revue en question.
7. Les inscriptions doivent être reçues au moins un jour avant le jugement des cartes soumises.
8. L'ACC et les organisateurs ne sont pas responsables de la perte ou de la détérioration des documents.

CRITÈRE D'ATTRIBUTION DES PRIX

1. Les inscriptions seront **rejetées** si elles ne respectent pas scrupuleusement les régles mentionnées ci-dessus.
2. Les inscriptions seront jugées par un comité de trois personnes dont le Président du groupe d'intérêt Utilisation des cartes/dessin des cartes, lors du congrès annuel de 1999 qui se tiendra à Ottawa (Ontario).
3. Un prix sera remis pour chaque catégorie monochrome et couleur. Lorsqu'il y a plus d'un lauréat (maximum trois) à la catégorie carte journalistique, le prix est partagé entre ceux-ci.
4. Le jury se réserve le droit de suspendre la remise de prix si les inscriptions ne rencontrent pas les règles de base.
5. Les cartes sont jugées en fonction de la qualité générale du document, de la représentation graphique et de l'efficacité du message véhiculé. Quant à la carte journalistique, elle sera évaluée en fonction de la complémentairité de la carte avec le texte d'accompagnement.
6. Les juges pourront tenir compte des critères tels que le degré d'avancement scolaire de l'étudiant, le temps nécessaires pour réaliser la carte, le nombre d'étudiant concerné, les techniques et les logiciels utilisés, l'importance et la profoundeur de la recherche ainsi que l'innovation dans la représentation visuelle de l'ensemble.
7. Aucune carte ne peut gagner plus d'un prix.

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 jugées par un comité de trois personnes dont le Président du groupe d'intérêt sur l'Éducation de l'ACC. 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 de son statut (i.e. étudiant gradué ou sous-gradué) et de son degré de scolarité

Cartographica Report

Michael Coulson,
University of Calgary

The past year has been extremely frustrating. Four issues were published, while the original estimate was for six! In addition, and a contributing factor, a higher percentage of manuscripts than usual required major revisions or were not of a quality for publication. Among those with major revisions, some authors chose not to resubmit. Another concern has been the lengthy return time for referees' reports - although I must admit that

I listed the wrong deadline (about 10 days) on two manuscripts and received the reports almost by return mail. In general the deteriorating situation in universities, coupled with the lack of respect given to the work of referees seems to be a major reason for delays.

Vol. 34 #1, contained a Tribute to Bernard and Barbara Gutsell, whose founding of *Cartographica* and its development over some thirty years will never be equalled. Bernard and Barbara wrote to me to say how much they enjoyed and appreciated the Tribute. They also noted that the people in the portrait looked 'pretty good.' It was great to see how well they both looked at the recent CCA conference in London, Ontario.

As of the time of writing we have two issues in the Press for printing, being Vol. 34 #2, ***Mapping Time: an Analysis of the Cartographic Problem of Representing Spatio-temporal Information***, a monograph issue by Irena Vasiliev (S.U.N.Y., Geneseo), and Vol. 34 #3, ***The Look of Map Distortion Measures***, by Peter Laskowski, (Intergraph Corporation).

Vol. 34 #4, will almost certainly be a set of papers and most of the material for the issue is already with our Manuscript Editor, Art Cuthbert for page setting. Contents will include *Visual Search Processes and the Multivariate Point Symbol*, by Elizabeth Nelson et al(San Diego State University); *The Use of Scale Factors in Map Analysis: an Elementary Approach*, by Timothy Feeman and the late Elaine Bosowski, (Villanova University);*(Un)folding the Map of Early Modern Ireland: Spenser, Moryson Bartlett and Ortelius*,by Mercedes Camino (University of Auckland, New Zealand).

We have two other monograph issues in a late stage of approval. ***Cartography and Statecraft*** is a collection of eleven papers with international authors which were originally presented at in International History of Cartography conference and have now been rewritten and reviewed. The full manuscript should reach us by the end of June and we anticipate that it will be ready for page setting.

The second monograph issue has a working title of ***Cartography as Mediated Seeing***, by Gerald Fremlin with Arthur Robinson. The referees expressed strong support for the publication of this manuscript, and I think that we shall find it a challenge to our linear thinking on cartographic evolution. By the end of the month we expect to receive the final revisions to the manuscript, with the figures to follow shortly thereafter.

Completion of the last two mentioned monographs would put us half way through issues for 1998 (Volume 35). Beyond them, estimating contents is difficult. I have nine manuscripts at various stages in the review process, but two will probably not be returned in revised form. There are several other promised papers and monographs, including a critical evaluation of the work of David Harley, by Matthew Edney, but I cannot schedule these items until a manuscript reaches me.

We are never overwhelmed with manuscripts and as persons professionally interested in Cartography (the full range, including Geographic Information Systems, Cognitive Studies, History of Cartography, etc.), you can do two things for your journal, first write papers and second, when you here a paper of interest, suggest to the author that they consider *Cartographica* as a journal to publish in.

I wish to thank those who assist so ably in contributing to the journal's publication; Anne Marie Corrigan at the University of Toronto Press, for her patience and perseverance as we struggle to establish a regular publication schedule; Art Cuthbert, who not only sets up the page proofs and does the final work with authors, but who has done wonders with our opaque writing styles; Ed Dahl who is our link to those who work in the History of Cartography and the steady flow of good quality material is a testimony of his contacts and reputation; Abstract translators Denis Genest and Hansgeorg Schlichtmann, who tend to get the text as page proofs are being assembled and are very conscientious in making impossible deadlines; the review editors, Jan Mersey and Helen Clarke, who have continued the tradition of a strong reviews section for Cartographica. Helen is leaving that position after four years of coordinating map and atlas reviews - my sincere thanks to her for all her work. Ute Dymon is taking over that responsibility and will handle atlas and map reviews. Finally, but by no means least, my Editorial Advisory Board, Ed Dahl, Michel Rheault, Henry Castner, Peter Keller and Jan Mersey who have dispensed advice, generated papers and monographs and have been a constant source of support to me.

The final section of this report concerns my own plans. I have written to Anne Marie Corrigan, Vice-President for Journals at the University of Toronto Press, requesting that she initiate the process to appoint my successor. There are many reasons why I have decided to resign, but most important is the realization that having retired, I am no longer in the thick of research and conferences.

(continued on page 26)

Canadian National Committee for Cartography and the CIG Technical Councillor for Cartography

C. Peter Keller, Chair

The Canadian National Committee for Cartography met in an open forum on Thursday, May 28, 1998 in conjunction with the joint meeting of the Canadian Cartographic Association (CCA) and the Association of Map Librarians and Archivists (CCA). Following items were discussed:

1: ICA News

Two new ICA working groups are becoming active. They are "Census Cartography" and "Planetary Cartography." Canada's representatives to these two working groups are Larry Li from Statistics Canada and Philip Stooke from Geography at the University of Western Ontario respectively. You can contact them at:

lilarry@statcan.ca
STOOKE@SSCL.UWO.CA

2: ICA Ottawa 1999 Conference

Conference planning is progressing on schedule. The conference planning and advisory committees will be meeting with members of the ICA executive in Ottawa in June. Planning for Canada's map exhibit is well on the way under Claire Gosson's leadership. A call for submissions will be out soon. You can reach Claire at:

Claire.Gosson@geocan.emr.ca

Deadline for submission of abstracts is September 15. For more details see:

http://www.ccrs.nrcan.gc.ca/ica1999/

3: Canada's 1995-99 four year *Report on Canadian Cartographic Activities* to the ICA

It is tradition for Canada to publish a four-year report summarizing cartographic activities in Canada as a special issue of GEOMATICA in conjunction with each full ICA conference. Guest editorship of this issue traditionally falls to the Chair of the Canadian National Committee. Given competing responsibilities and duties this year especially as chair of ICA Ottawa 1999's Scientific and Technical Program, I am grateful to Cliff Wood for agreeing to co-edit this issue with me. Planning is on the way.

4: The Glengarry Initiative and the proposal for a new Geomatics Association of Canada

Questions were raised at the meeting concerning the initiative called the *Glengarry Group* (established last September) as well as a more recent initiative to form a new association to be called GAC (Geomatics Association of Canada). I was not able to give clear answers to members from the cartographic community about details and possible ramifications to applied and academic cartography in Canada resulting from these initiatives. It was agreed that there is need for an open dialogue between the executives of the various associations with an interest in cartography and the champions of the Glengarry and GAC proposals. One opportunity for such dialogue will be by attending a meeting about all this to be held in conjunction with the SDI conference in Ottawa this June. It appears, however, that few CCA and ACMLA attendees will be able to make this meeting due to previous commitments and travel difficulties.

5: The ISO/TC211 Initiative

Questions also were raised concerning Canada's proposal to the ISO for standards in qualifications and certification of Geomatics and Geographic Information Sciences personnel. The advantages and disadvantages of professional certification to the various sectors represented under the geomatics umbrella were raised, and the relationship of this certification initiative to other past and ongoing provincial geomatics certification initiatives were questioned. There was uncertainty about the level and nature of participation and involvement in this initiative by the various professional groups involved in geomatics.

6: Selection of next chair for this committee

The term of office for chair of the Canadian National Committee ends August 1999 and a new chair will need to be nominated and ratified.

Peter Keller
Chair, CNC for Cartography

Canadian Cartographic Exhibit Committee

Claire Gosson, Chair

The Canadian Cartographic Exhibit Committee is organizing the map and atlas exhibit for the Canadian contribution to the 19th International Cartographic Conference of the International Cartographic Association (ICA). The ICA conference will be held in Ottawa in August 1999.

Your assistance is now being sought to identify and provide copies of significant maps and atlases, produced in Canada since 1995 that would be appropriate for the Canadian display.

The Canadian Committee would be pleased to receive reference to and examples of cartographic materials, displaying new information and/or communication techniques. All types of cartographic products - including experimental and student work - will be considered. We would also be pleased to show your latest electronic and multimedia products - if these are included, we will request special instructions and in some cases, they may be a requirement to send personnel to operate specialized systems.

The Exhibit will be divided into the following themes:

- Topographic Maps
- Nautical and Bathymetric Charts
- Geological Maps
- Urban Maps
- Satellite Images and Satellite Image Maps
- Recreational and Orienteering Maps
- Globes and Atlases
- Other Cartographic Examples

Cartographic materials to be exhibited in Ottawa must have been published after January 1, 1995, and must not have been exhibited in either the International Exhibit in Barcelona (1995) or that in Stockholm (1997).

We hope you will send material for consideration. You are requested to:

1. Please send three (3) copies of the printed material (one copy for the Ottawa exhibit, one spare copy, a third for the National Archives). For digital products, please send details on the set-up to display them.
2. Maps should be sent flat or loosely rolled, NOT folded. Please ensure that materials are wrapped safely in sturdy map tubes or boxes.
3. Send the materials to:

Canadian Cartographic Exhibit Committee
c/o Claire Gosson,
GeoAccess Division, Canada Centre for Remote Sensing
615 Booth St., Room 650
Ottawa, Ontario K1A 0E9

4. Prepare a brief summary of approximately 200 words indicating:
   - -Map/Atlas title
   - -Date of publication
   - -Name and address of map/atlas author
   - -Name and address of publisher
   - -Official retail price
   - -Scale and dimensions (in cm) of the map/atlas
   - -The purpose and intended user for which it was developed
   - -The type of information portrayed.
   - -Include any outstanding or unique features related to map/atlas content, technique or design
   - -Language(s) in which it is available
5. Submissions must be received no later than October 1, 1998. Please note that all materials will not be returned and will become the property of the Canadian Cartographic Committee and that the decisions of the Committee will be final. Materials will remain in Canada after the conference and a copy will be deposited at the National Archives in Ottawa.
6. In addition to the maps and atlases requested for the formal displays, the Committee is interested in acquiring any recent map catalogues and indexes, governmental or private; journals, newsletters, posters, etc. that could be shown to the conference participants to indicate the broad range of cartographic materials that are presently available in Canada.

We look forward to receiving your submissions and to prepare an interesting and impressive exhibit for Ottawa. The Canadian Cartographic Committee sincerely requests your assistance and cooperation at your earliest convenience.

Comité de L'exposition cartographique canadienne

Claire Gosson, Présidente

Le Comité de l'exposition cartographique canadienne est responsable d'organiser l'exposition cartographique qui fera partie de l'exposition internationale à la conférence de l'Association cartographique internationale (ACI), qui aura lieu à Ottawa, en 1999.

Afin de mettre sur pied cette exposition, les membre du Comité canadien vous demandent d'identifier et fournir des cartes et des atlas d'importance particulière, produits au Canada depuis 1995 et qui conviendraient à l'exposition canadienne.

Le Comité vous prie également de lui fournir des références concernant des documents cartographiques de tous genres et de lui faire parvenir des exemples de ces documents. Tous les types de produits cartographiques,dont les travaux expérimentaux et les travaux d'étudiants, devraient être envisagés. Nous serons heureux de présenter vos produits électroniques et multimédias. Si vous incluez ces produits, nous vous demanderons des instructions spéciales et dans certains cas, vous devrez peut-être envoyer du personnel pour assurer le fonctionnement des systèmes.

L'exposition sera divisée en thèmes suivants:

- Cartes topographiques
- Cartes marines et bathymétriques
- Cartes géologiques
- Cartes urbaines
- Image-satellites et spaciocartes
- Cartes de loisirs et de courses d'orientation
- Globes et atlas
- Autres produits cartographiques

Le matériel cartographique qui doit être présenté à Ottawa doit avoir été publié après le 1er janvier 1995 et ne pas avoir été exposé lors de l'Exposition internationale de Barcelone en 1995 ou celle de Stockholm en 1997.

Les personnes intéressées à soumettre des documents sont priées de prendre note des instructions suivantes:

1. Envoyer trois (3) examplaires des documents imprimés; soit un exemplaire pour la conférence, un deuxième exemplaire sera gardé en réserve en cas de besoin et le troisième sera déposé aux Archives nationales à Ottawa.
2. Expédier les cartes à plat ou roulées sans être sérées, et surtout, NE PAS les plier. S'assurer que les documents soient placés dans des tubes ou des boîtes solides et à ce que le tout soit bien emballé
3. Envoyer les documents à l'adresse suuivante:

Comité de l'exposition cartographique canadienne
A/s Claire Gosson
Division GéoAccès
615, rue Booth, pièce 650
Ottawa, Ontario K1A 0E9

4. Rédiger un résumé d'environ 200 mots,selon le modèle ci-joint:
   -Le titre de la carte, de l'atlas ou autre document
   -La date de publication
   -Le nom et l'adresse de l'auteur du document
   -Le nom et l'adresse de l'éditeur
   -Le prix officiel de détail
   -L'échelle et les dimension (en cm) de la carte ou de l'atlas
   -Le but du document et l'utilisation auquels il est destiné
   -Le type d'information qui y est présentées (souligner toute particularité quant au contenu, à l'aspect technique ou à la conception du documents) et
   -Les langues dans lesquelles le document existe
5. Les documents doivent être livrés au plus tard le 1re octobre 1998. Veuillez prendre note que le matériel ne sera pas retourné et deviendra la propriété du Comité national de l'exposition et que toute décision sera san appel.

Outre les cartes et les atlas, le Comité est intérerssé à se procurer d'autres documents récents tels des catalogues ou des index de cartes publiées par des gouvernements ou des entreprises privées, ou encore des périodiques, des bulletins, des affiches ou toutes autres publications qui pourraient être présentées aux congressistes afin de leur donner une idée du grand choix de documents cartographiques offert actuellement au Canada.

Afin qu'il puisse préparer une exposition aussi intéressante qu'impressionnante, le Comité vous prie de lui accorder votre aide et votre collaboration dès que possible.

Canada and Qatar Sign Agreement to Cooperate on Geomatics Initiatives

Canada and Qatar have formally agreed to share their world-class expertise in a fast-growing, high-tech area that is crucial to decision making -- geomatics. On June 9, 1998, the two countries signed a memorandum of understanding at the 10th International Geomatics Conference held in Ottawa.

The five-year agreement, signed by Ralph Goodale, Minister of Natural Resources Canada, and H.E. Ali Bin Saeed Al-Khayarin, Minister of Municipal Affairs and Agriculture for the State of Qatar, emphasizes the use of modern technology for surveying, mapping, geographic information systems and remote sensing.

"The State of Qatar was one of the first countries to implement a national spatial data infrastructure, and like Canada, it has an excellent geomatics industry," said Minister Goodale. "Together, Canada and Qatar will use their know-how to build on their strengths as high-tech and environmentally responsible natural resources developers. Cooperation on spatial data will also provide both countries with powerful decision-making tools."

Spatial data, when organized and interpreted, permits the creation of pictures of an area's geographical, environmental and socio-economic characteristics. Governments and businesses can access these pictures through the Internet to help them make decisions about such wide-ranging matters as land use, transportation, the environment, natural resources and business development.

"Both Canada and Qatar are blessed with natural resources," said Qatar Minister Al-Khayarin. "The agreement is a measure of our commitment to continue to promote effective stewardship of these resources through access to rich databases of technical, scientific and economic information."

The two countries will encourage the exchange of qualified personnel in the fields related to geomatics and will develop links between academic and professional organizations.

Although Qatar, with a population of 641,000, is a relatively small country, it boasts one of the most amazing spatial data infrastructures in the world. It supports a digital database network that can disseminate to any national agency that needs geospatial data, including agricultural, health and environmental organizations.

Canada has been a world leader in geomatics for more than 30 years. It supplies leading-edge knowledge products and sophisticated technology dealing with the landmass to countries all over the world. Canadians saw firsthand the benefits of the reliable, high-quality information that geomatics can provide during Manitoba's flood and the eastern Canadian ice storm.

(from page 22)

North America and around the world, a new and active editor would be much better placed to carry the journal forward. There will be no hiatus, since I continue my responsibilities until a successor is appointed.

Plans for the new appointment will be arranged in the early Fall and Anne Marie has every intention of working with the Editorial Advisory Board and the Executive of the Canadian Cartographic Association in this process. If you wish to express interest in the position of Editor, you can write to her at *acorrigan@utpress.utoronto.ca*

A New Publication on Mass Media Maps

Proceedings of the International Conference on Mass Media Maps, Berliner Geowissenschaftliche Abhandlungen, Reihe C, Kartographie, Band 16, Berlin, Friei Universität, Technische Universität und Technische Fachhochschule,1997.

The Proceedings of the International Conference on Mass Media Maps held in Berlin in June 1997 are now available. The Conference itself was organized to bring together people from different spheres of activities and from different regions of Europe and North America to exchange and discuss their works and experiences under the issues "approaches, results, social impacts." According to theses assumptions, an international conference like this has never taken place before.

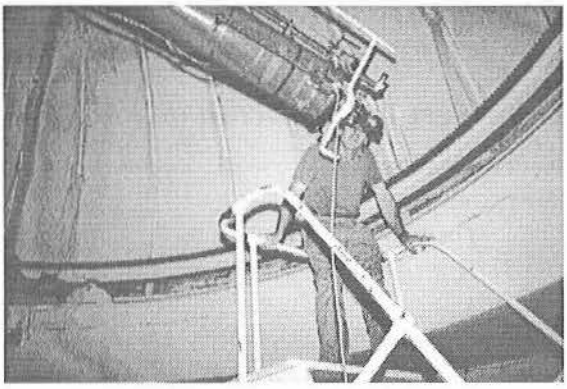
The Proceedings are edited by Professor Wolfgang Scharfe (scharfe@geog.fu-berlin.de). They contain 29 papers dealing with cartographic thought, theory and the development of consciousness in cartography. Nine papers are national reports on mass media map research (Canada, France, Germany, Hungary, Netherlands, Poland, Spain, United Kingdom, United States). Some papers present cases on weather mapping and others show the importance of German enterprises in journalistic cartography. It is interesting to underline the participation of Majella-J. Gauthier, James Carter and Patricia Gilmartin.

All papers are in English except three that are in German. This 243-page book contains maps and illustrations (some in color). You can order the book at the cost of 84 DM. Send inquiries to:

Prof. Wolfgang Scharfe,
Free University of Berlin,
Section of Cartography
Arno-Holz-Str. 12
D – 12165 Berlin
Germany

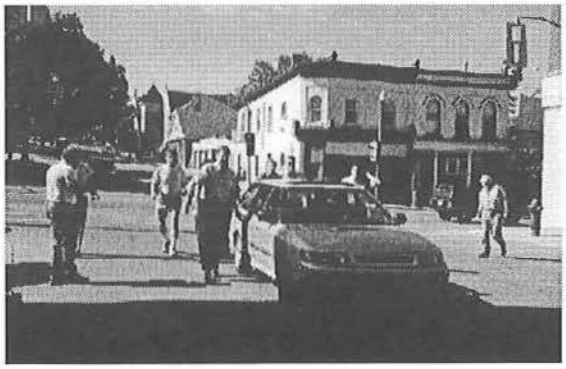
Images of London AGM

Delegates checking out merchandise at CCA's first ever Carto-Product Showcase. *(Photo by Weldon Hiebert)*



CCA Vice-President Michel Fournier searching for extra-terrestrials at the Hume Cronyn Memorial Observatory. *(Photo by Weldon Hiebert)*

Group shot of the CCA contingent. *(Photo courtesy of Alberta Wood)*



Ed Dahl's disabled car rescued from St. Mary's traffic by burly cartographers. *(Photo by Alberta Wood)*

Conference delegates enjoying a game of pool at the "Getting to Know You" Pub night. *(Photo by Weldon Hiebert)*

The Canadian Cartographic Association
L'Association canadienne de cartographie

CCA Executive / *Exécutif de l'ACC:*

President / *Président:*
Roger Wheate
University of Northern British Columbia
Prince George, British Columbia V2N 4Z9
Phone/*Tél:* (250) 960-5865 Fax/*Téléc:* (250) 960-5587
E-mail/*courr. élect:* wheate@unbc.ca

Past-President / *Président-sortant:*
Brian Klinkenberg
University of British Columbia
Vancouver, British Columbia V6T 1Z2
Phone/*Tél:* (604) 822-2663 Fax/*Téléc:* (604) 822-6150
E-mail/*courr. élect:* brian@geog.ubc.ca

Vice President / *vice-Président:*
Michel Fournier
Cartologique, 1853 boulevard Pie IX
Montréal, Québec H1V 2C7
Phone/*Tél:* (514) 522-5715 Fax/*Téléc:* (514) 522-5715
E-mail/*courr. élect:* acsg_mtl@mlink.net

Secretary-Treasurer / *secrétaire-trésorier:*
Charles Conway
Memorial University of Newfoundland
St. John's, Newfoundland A1B 3X9
Phone/*Tél:* (709) 737-7912 Fax / téléc: (709) 737-4000
E-mail/*courr. élect:* cconway@morgan.ucs.mun.ca

Interest Group Chairs and Appointees:
Présidents des groups d'Intérêt et les personnes nommées:

Analytical Cartography and GIS / *Cartographie analytique et SIG:*
Joseph M. Piwowar
University of Waterloo
Waterloo, Ontario N2L 3G1
Phone/*Tél:* (519) 888-4567 ext. 6563 Fax/*Téléc:* (519) 888-6768
E-mail/*courr. élect:* piwowar@watleo.uwaterloo.ca

Cartographic Education / *Éducation cartographique:*
Ute Dymon
Kent State University
Kent, Ohio USA 44242-0001
Phone/*Tél:* (330) 672-3226 Fax/*Téléc:* (330) 672-4304
E-mail/*courr. élect:* udymon@kent.edu

History of Cartography / *Histoire de la cartographie:*
Jeffrey Murray
383 River Road, RR3
Merrickville, Ontario K0G 1N0
Phone/*Tél:* (613) 995-9519 Fax/*Télec:* (613) 996-8982
E-mail/*courr. élect:* ac295@freenet.carleton.ca

Map Use and Design / *Conception et utilisation des cartes:*
Ada Cheung
COGS, RR 1
Lawrencetown, Nova Scotia B0S 1M0
Phone/*Tél:* (902) 584-2073 Fax/*Téléc:* (902) 584-7211
E-mail/*courr. élect:* cheunga@sun1.cogs.ns.ca

Map Production Technology / *Technologie de production cartographique:*
Byron Moldofsky
University of Toronto
Toronto, Ontario M5S 1A1
Phone/*Tél:* (416) 978-3378 Fax/*Téléc:* (416) 978-6729
E-mail/*courr. élect:* byron@geog.utoronto.ca

Cartographica Editor / *Éditeur de Cartographica:*
Michael Coulson
University of Calgary
Calgary, Alberta T2N 1N4
Phone/*Tél:* (403) 220-6587 Fax/*Téléc:* (403) 282-6561
E-mail/*courr. élect:* coulson@acs.ucalgary.ca

Canadian National Committee Chair / *Président du Comité national canadien:*
Peter Keller
University of Victoria
Victoria, British Columbia V8W 3P5
Phone/*Tél:* (604) 721-7333 Fax/*Téléc:* (604) 721-6216
E-mail/*courr. élect:* keller@geography.geog.uvic.ca

CCA Representative on the Canadian National Committee / *Délégué de l'ACC au Comité national canadien:*
Iain Taylor
Environment Canada, 45 Alderney Dr., 5th Floor
Dartmouth, Nova Scotia B2Y 2N6
Phone/*Tél:* (902) 426-3267
E-mail/*courr. élect:* iain.taylor@ec.gc.ca