

Canadian Cartographic Association
L'Association canadienne de cartographie

Newsletter

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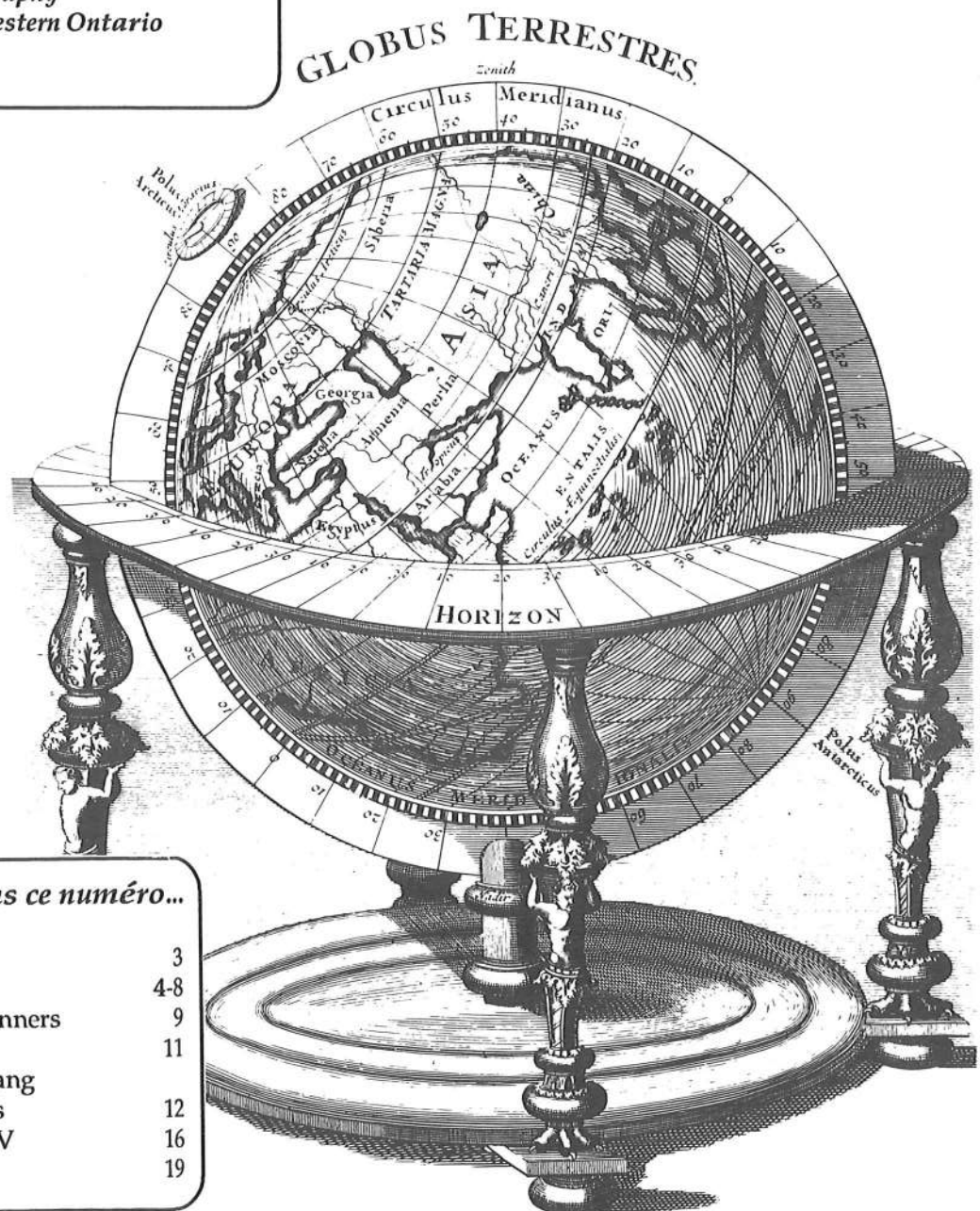
Editor/Rédacteur :

Gordon Shields

Department of Geography

The University of Western Ontario

Volume 15,#2, 1989



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!!!!!!New/ Nouveau!!!!!!

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Past-President: Norman Drummond
Treasurer: Gary McManus
Secretary: Gordon Shields
Manager: Roger Wheate
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INTEREST GROUP CHAIRPERSONS CHEFS DES GROUPES D'INTERET

Computer-Assisted
Cartography/GIS: J.Ronald Eastman
Education: Brian Klinkenberg
History of Cartography: Margaret Hutchison
Map use / Design: Diana Dacen Nagel
Technology: Tim Wood

Keeping in touch...

If you have news or information that you would like to pass along to others in the cartographic community, please send your material to the Newsletter Editor at the above address. Contributions are welcome in either English or French and will be published in the language in which they are received. The submission deadline for the next issue (Vol. 15, #3, 1989) is September 15, 1989.

*We welcome the following new members
to our association/
Bienvenue aux nouveaux membres de l'ACC*

Douglas Cochrane	Nanaimo, British Columbia
Anna Rawlyk	Ottawa, Ontario
Keith Rice	Stevens Point, Wisconsin
Amanda Tate	Woodbury, Connecticut
Matthew Tharp	University Park, Pennsylvania
Victor Tolgyessy	Toronto, Ontario
Bertrand Touchette	Ste-Martine, Quebec
Christine Voigtlander	Mississauga, Ontario

Library,
Ontario Ministry of
Agriculture and Food Toronto, Ontario

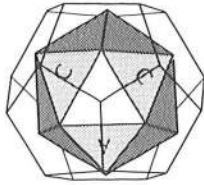
Scienze Dipartimento
di Geografiche e
Merceologiche Bari, Italy

CORPORATE MEMBERS

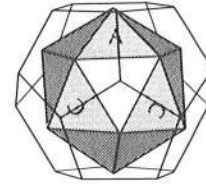
EBSCO/CENIAGY	Springfield, VA.
ESRI Canada Ltd.	Toronto, Ontario
J.M. Ellis Ltd.	Metcalfe, Ontario
Land Information Branch, Alberta Dept of Forestry, Lands and Wildlife	Edmonton, Alberta
Metropole Litho. Inc.	Anjou, Quebec
Metric Mapping Ltd.	Calgary, Alberta
Nucor Computing Services,	Kanata, Ontario
Tydac Technologies Inc.	Ottawa, Ontario
Weller Cartographic Services	Surrey, B.C.

The Canadian Cartographic Association gratefully
acknowledges the financial support given
by the Social Sciences and Humanities Research Council
of Canada

*L'Association canadienne de cartographie remercie vivement le
Conseil de recherches en sciences humaines du Canada pour son
apport financier.*



**CCA Executive
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1989-1990**



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Our executive is distributed across Canada and into the
'11th Province' to the south. If you have any questions on
the Association, please contact the executive member in
your region or any of the above.

As your Past President, may I take this opportunity to thank
all those who took part in our recent Annual Meeting in
Halifax.

The success of this meeting was due in large part to the hard
work of many people who planned the meeting, organized
sessions, presented papers and in numerous other ways
ensured a quality event.

Enjoy your summer!
Norman Drummond

Notes from Halifax

At our recent Annual Meeting in Halifax, papers and workshops were presented on a number of cartographic topics. The following notes by the coordinators and chairs of sessions try to give at least a partial sense of the range of discussion...

CCA / CISM Joint Session on GIS

The Thursday morning joint session with the CISM was, I believe, a great success. Our objectives were to emphasize to the CISM that we were technical experts in our own right in the field of GIS, to tell surveyors about the opportunities and potential of GIS and its applications to the surveying professional, and (in the morning) to present the current state of GIS centres and agencies, and (in the afternoon) to present a variety of applications of GIS that might be of interest to the practicing surveyor.

Janis Klawe started things off by reviewing his long career in the fields of cartography, surveying and photogrammetry, and gave us a good sense of perspective of the development of the technology.

David Mark and Andrew Frank reviewed one of the most significant recent developments in GIS, the establishment of the US National Centre for Geographic Information Analysis, from the point of view of the Geography and Surveying communities respectively. Clearly we are all going to be affected by the activities of this Centre in GIS development, education and training.

After coffee Angus Hamilton reviewed the developments in GIS (although he felt strongly that surveyors should be talking about LIS, or Land Information Systems) as seen by the Canadian surveying community and the Department of Surveying Engineering at UNB.

Gordon Gracie then discussed the new Institute for Land Information Management at the Erindale campus of the U of T, and Yvan Bedard reviewed the development of Geomatics in Quebec, its impact on the practicing Quebec surveyor, and the efforts of the surveyors at Laval University to respond to the changes, including the establishment of a geomatics centre. Of particular interest was his observation that surveying has become less of a male-dominated field-based profession, and now a quarter of surveyors and students are female – largely due to the increasing importance of data processing and GIS after field data collection.

While the session was of great interest, and showed how rapidly things are progressing, it was disappointing that all the GIS centres under discussion were either in the US or in the surveying community.

Tom Poiker was unable to come to discuss developments on the west coast, but nonetheless the Canadian geography community was conspicuous by its absence. Does this mean that Canadian geographers have given up trying to compete in the race for centres of GIS expertise within Canada? I hope this is not true – it is certainly not so in either the US or the UK. So what do we do about it? –Chris Gold

The wide range of users and uses of GIS was stressed by speakers who emphasized both the need for close cooperation and healthy competition between governments, industry and university. The many opportunities for research and applications to varied themes were illustrated by examples at several scales—national, regional and local.

R. Carriere described how graphic based information systems could combine spatially referenced data in both graphic and textual forms in a single homogeneous data base. The costs and risks for potential commercial development were outlined.

T. Keating urged listeners to think beyond concepts of basic data bases and predicted the greater use of topological data files. The next generation of GIS would share data between multiple data bases. Meanwhile, improvements in data base management would be a vital step in future development as well as a major role for consulting firms wishing to help new users choose the most appropriate systems.

M. Pearson described the problem of fitting polygons from one base map to another, especially when detailed monument control was not consistent between base maps. His elegant solution, the use of a medial axis function, engendered interested discussion.

Land use policy in Nova Scotia and the beneficial results of interdepartment coordination were lauded by C. Conrad. She illustrated how the horizontal flow of information between departments concerned with land and water resources improved decision making. The benefits of the use of compatible GIS and shared data bases became obvious and provided impetus for more cooperation for formulating provincial policies.

A. Robinson of the Halifax engineering department gave practical examples of the methods, problems and benefits of converting a manual records keeping system to a digital format. First applied to sewer and water records, it is to be implemented for other utilities on a broad municipal basis.

-Norman Drummond

What is a map?

Twenty eight budding cartographic theorists spent an hour and a half creating and discussing the nature of five "scales" diagrams. They described aspects of a "data set" which contained temporal, spatial and action components. Crucial to the exercise was determining how each diagram worked and how the meaning of the symbols changed from one diagram to another. While the participants produced no definitive explanation of what constitutes a map, perhaps a broader context was established in which such a definition might be forthcoming.

-Henry Castner

History of Cartography.....

Three speakers gave presentations on three widely different topics for the History of Cartography session. Dr. Philip J. Stooke of the University of Western Ontario presented "The Face in the Moon". His paper explored the possibility that the earliest mapmakers might well have based some of their representations of unknown parts of the earth's surface on features they could see on the surface of the moon. A comparison of general outlines on early maps and outlines of features on the lunar surface was used to illustrate the idea that the earth's moon offered a mirror to the earth itself for early mapmakers.

The second speaker, Mrs. Joan Dawson of the School of Journalism, University of King's College, Halifax, presented "Champlain and his successors in Nova Scotia: some early cartographic impressions". Slides were shown of the work in Acadia/Nova Scotia of Samuel de Champlain and five other mapmakers, Jean-Baptiste-Louis Franquelin, Jacques-Nicolas Bellin, Charles Morris and Charles Morris (father and son), and Moses Harris. The slides illustrated the work of these mapmakers and showed the changing picture of Nova Scotia through their skills.

The third paper was presented by Charles Burke, the Project Archaeologist at the Fortress of Louisbourg. He spoke of his work directing the archaeology survey program in the National Park and showed slides of early maps used in locating the sites of both British and French eighteenth-century seigeworks situated inland from the Fortress.

-Margaret Hutchison

The Mac as a cartographic tool.....

New developments in graphics software are now making it possible to produce, via personal computer, camera-ready cartographic artwork at very high (1200dpi+) resolution. In the workshop, we explored the capabilities of two widely-used, object oriented, Postscript based graphics applications for the Macintosh: Adobe Illustrator '88 and Aldus Freehand. Both applications allow artwork to be created on the computer, saved to disk, and sent out for printing to a high-resolution, Postscript compatible printer. Output is possible on either paper, or on film in negative form.

Workshop participants were taken systematically through the production of a small map. A scanned tracing of the region to be mapped was input on disk for use as a template. Line, area, and point symbols were created, and lettering placed using Adobe Illustrator '88. The advantages and shortcomings of desktop mapping were discussed. Examples of output at various resolutions on both film and paper were displayed.

-Anne Gibson

Computer Assisted Mapping / GIS Interest Group

The Computer-Assisted Mapping and Geographic Information Systems Interest Group (formerly the Automation IG) hosted three sessions at the 1989 AGM. In the first, Y.C. Lee and W.P. Yang of the University of New Brunswick presented a paper on the cartographic properties of mathematical lines while Hrvoje Lukatela, a surveying consultant from Calgary presented the HIP-PARCHUS global spatial data manager—a software package that demonstrates a geopositioning model based on a Voronoi polygon network that provides seamless global coverage, high resolution, and density-sensitive locational indexing.

The second and third sessions were jointly sponsored by the CCA and the IGU Global Database Planning Project. The GDPP represents one of the IGU's main contributions to the International Geosphere-Biosphere Programme. The IGBP, as it is called, is a global program initiated by the International Council of Scientific Unions that will try to describe the globe in terms of the physical and chemical processes that regulate the entire earth system. More specifically, the intention is to derive models of the geosphere-biosphere system much like the general circulation models developed by atmospheric scientists.

One of the prime requirements of this effort is comprehensive and widely accessible data sets. The Global Database Planning Project was proposed to ICSU as a mechanism for examining the problems of developing such data sets, and the ways in which they might be resolved. The project is headed by Roger Tomlinson in Ottawa, and has seven working groups concerned with various aspects of data base structuring, error characteristics, legal issues, interchange formats and the like. One of these is entitled the Working Group on an Interactive Atlas of Global Environmental Data, and is headed by Ron Eastman (also chair of the CCA's CAM/GIS Interest Group). Its goals are to encourage and help coordination between several digital atlas initiatives under way (eg., the ICSU/IGBP Environmental Data Diskette Project, the International Space Year's "Encyclopedia of the Earth", and similar initiatives by Clark University/USSR Academy of Sciences and the EROS Data Center), to explore applications of the atlas, to promote procedures for continuing access to digital data, and to evolve a functional design for a software system that would support interactive analysis and display of environmental data.

The CCA/GDPP session at Halifax was the first formal session convened by this group. Papers were presented over two sessions by Nigel Waters and Gary deLeeuw of the University of Calgary, Dick Smith of the University of Arkansas, David Beddoe of the National Geographic Society, Ron Eastman and Lee Thomson of Clark University, and Ewa Siekierska of the Canada Center for Mapping. Each of these working papers was concerned with the conceptual basis for an "atlas" software product. Judging from the papers presented, and the lively discussion which followed, it is clear that the atlas concept provides an achievable but challenging goal crossing the broad spectrum of issues related to software engineering, database structuring, map design, semiotics and artificial intelligence.

-Ron Eastman

CANADIAN CARTOGRAPHIC ASSOCIATION MINUTES OF ANNUAL GENERAL MEETING

9 JUNE, 1989, HALIFAX, NOVA SCOTIA

42 members present.

10:45 am

Norman Drummond opened the meeting and presented the proposed agenda to the membership.

Hansgeorg Schlichtmann moved the adoption of the agenda as distributed, seconded by Ron Eastman. Carried.

The minutes of the 1988 AGM at York University were circulated to the membership and their adoption moved by Gordon Shields, seconded by Jean Carrière – Carried.

President's Report - Norman Drummond

Norman Drummond reported that his principal goal during his tenure as president has been to develop closer ties with other mapping organizations in Canada. Over the past year, he reported having met with executive officers from several other groups. The development of closer ties will hopefully lead to increased awareness among other groups of the CCA and its mandate.

Several executive officers from other organizations were introduced to the membership and spoke briefly at the meeting.

Therèse Desnoyers – President – Carto-Quebec

James Weidener – President – American Congress on Surveying and Mapping

Alberta A. Wood – Association of Canadian Map Libraries and Archives

Claire Gosson – President, Ontario Institute of Chartered Cartographers

Clifford Wood – Councillor, Canadian Institute of Surveying and Mapping

Vice-President's Report – Jean Carrière

A new orientation needed by the CCA in order to reach all practitioners of cartography. If we are to grow as an association, greater emphasis will need to be placed on developing regional bases. We also need to strengthen our links to other national and international associations. Our joint meeting with the CISM is indicative of future directions. The francophone content of the association is also worth improving. More French language contributions to the Newsletter are welcome.

Past President's Report – Chris Gold

Much effort in the past year has been directed toward the organization of the Halifax meeting, in particular, the joint day with CISM, which was a continuation of the work begun by former president, Malcolm Brown, of the CCA and his counterpart, John McLaughlin of CISM. The past president thanked Brad Fay and Claudette Leblanc of LRIS for their major part in the organization of this meeting.

The results of the 1989 election of officers was announced to the membership.

President – Jean Carrière, Université du Québec à Montréal
Vice-President – Claudette Leblanc, LRIS, Amherst
Treasurer – Gary McManus, Memorial University of Newfoundland

Interest Group Chairs

Education – Brian Klinkenberg, University of British Columbia
Technology – Tim Wood, Ontario Ministry of Transportation and Communication

On behalf of the association, N. Drummond offered thanks to Chris Gold for his active contribution to the affairs of the CCA.

Moved by David Douglas, that we express our thanks to the organizers of the Halifax conference: Brad Fay, Chris Gold, Claudette Leblanc, seconded by Ron Eastman. Carried unanimously.

Treasurer's Report – Louis Cardinal

Louis Cardinal presented and moved acceptance of reports for the 1988 year and the current year to May 31, 1989, seconded by Roy Doyon – Carried.

Louis Cardinal moved the acceptance of a report on the current financial status of the Nicholson Scholarship, seconded by Roy Doyon – Carried.

A report on the financial necessity of increasing dues was presented to the membership the proposed membership fee structure for 1990 is as follows:

Full members	\$70	Institutional member	\$90
Student member	\$35	Corporate member	\$175
Retired member	\$40	Honorary member	\$0
Family member	\$85	U.S. members	\$5
		Overseas members	\$10

Louis Cardinal moved that the above rate structure apply commencing with 1990 new and renewed memberships, seconded by Clifford Wood. Carried.

On behalf of the membership of the Canadian Cartographic Association, Jean Carrière thanked Louis Cardinal for his contribution to the CCA as treasurer since 1985.

Ron Eastman moved, seconded by Clifford Wood that we institute a new level of membership, that of associate member, with such members to be full members in good standing of another Canadian association, namely Canadian Institute of Surveying and Mapping, Pacific Institute of Cartographers Society, Ontario Institute of Chartered Cartographers, Association of Canadian Map Libraries and Archives. Associate members would have no voting rights, no ability to stand for office and would not receive the journal "Cartographica". The fee for associate members would be \$40 per year with additional charges as above for U.S. & overseas mailings. David Douglas and others expressed concern for the possible diminution of the membership base of the CCA. It was finally agreed that motion would be withdrawn and treated simply as a notice of motion, to be voted on by the membership at the next AGM in Victoria, 1990.

Secretary/ Newsletter Editor's Report – G. Shields

With publication of the next issue of the CCA Newsletter (V.15 #2) in July, the publication will be back on regular quarterly schedule. Several individuals have agreed to act as regional correspondents, gathering news on a quarterly basis for publication in the Newsletter. Some columns appeared in the most recent issue of the Newsletter, and more will follow in the coming months.

Gordon Shields moved that the name of the Newsletter be changed to "Contact", seconded by Jean Carrière. Discussion followed as to the suitability of this name. The motion was withdrawn and the suggestion was made that we give the membership the opportunity to submit possible names for a vote by the membership at the next AGM in Victoria in 1990.

Manager' Report – Clifford Wood

Clifford Wood pointed out some of the significant tasks attended to over the course of the past year. Some areas still need attention, including the translation of official CCA documents and the development of a professional poster for distribution and advertisement.

Chris Gold moved a vote of thanks to Clifford Wood for his many contributions to the CCA during the past eight years on the executive, seconded by David Douglas – carried unanimously.

Peter Keller moved that we institute a revised managerial position, to commence with this meeting. The appointed unpaid position would operate with a \$2000 budget, subject to approval of the Executive Committee. The budget would provide for equipment, materials and remuneration for clerical support, if necessary, and run for a trial period of 2 years.. The duties of manager would consist primarily of maintaining membership files and conducting public relations for the Canadian Cartographic Association, The motion was seconded by Diana Dacen – carried.

Norman Drummond announced that Roger Wheate had been recommended fill this post for the next two years. Roger Wheate was asked whether he could accept this position, and after a tension filled pause, he agreed.

Other Meetings

Clifford Wood drew the attention to the membership to upcoming ICA meetings in Budapest in August 1989 and Bournemouth, UK, in 1991.

Interest Group Reports

Norman Drummond thanked outgoing executive members Peter Keller and David Mark for their contributions to the Canadian Cartographic Association during the past 2 years.

Computer-Assisted mapping/GIS – Ron Eastman

Several sessions on related themes were offered at the current conference in Halifax. Submissions of shareware to the software library are encouraged.

Education – Peter Keller

Several sessions at the current meeting – a student paper session was well received – 3 papers presented.

Map-Use/Design – Diana Dacen

Sessions were held at the meeting.

History of Cartography – Margaret Hutchison

Sessions planned for this afternoon.

Awards

The awards Committee, chaired by Norman Drummond, announced the results of this year's awards competition.

Nicholson Scholarship – no award.

President's Prize Competition

- Essay/Paper – no award
- Computer algorithm program – no award
- Monochrome map – no award
- Colour printed map
 - Community College –
 - Joanne Froescul, Sir Sandford Fleming College, Lindsay, Ontario
 - University –
 - Bruno Gendron & Suzanne Lapointe, Université Laval, Quebec
- Journalistic mapping
- newspaper –
 - Greg Nichol, University of Calgary
 - magazine –
 - Christine Gobeil & Annie Tremblay, Université du Québec à Chicoutimi

Peter Keller announced the winner of the student paper session competition – Lina Nikolova, Carleton University .

John Belbin, Nova Scotia College of Geographic Science, stated that there needs to be greater flexibility in establishing a deadline for receipt of entries so that students can submit entries at the end of school term.

Nomination Committee

Norman Drummond – chair

Two members of the CCA to be nominated at this meeting.

- Roger Wheate nominated Jim Britton to the nomination committee - accepted.
- Ron Eastman nominated Ann Gibson to the nomination committee – accepted.

Moved by Hansgeorg Schlichtmann that the nomination committee for 1989–90 consist of

– N. Drummond, J. Britton, A. Gibson – seconded by J. Carrière – carried.

N. Drummond noted that nominations for executive posts within the CCA are welcome from the membership at large.

Moved by Clifford Wood, seconded by Patricia Chalk, that the President, treasurer and secretary (any two of three) have signing authority on chequing account – Carried.

Moved by Diana Dacen, seconded by R. Wheate, that the treasurer be given the authority to select an auditor and accountant for the financial statements of the CCA.

Future Meetings

1990 – P. Keller invited all members of the CCA to participate in the meeting next year (10–13 June 1990) in Victoria, BC, Planning for this meeting is already well underway.

1991 – Open at present. Some possibilities include Queen's University, Brock University.

1992 – Gordon Shields read a letter to the membership from N. Drummond on behalf of the four universities in Montreal inviting participation in a conference to be jointly hosted by UQAM, McGill, Concordia and Université de Montréal.

Patricia Chalk suggested to the membership that higher quality accommodation options be investigated for future conferences.

New Business

Committee on Profession Affairs

Lou Skoda, chairman of the committee, outlined to the members present the goals of the committee established by Norman Drummond. The initial task ahead for the committee is the accumulation within the next five years of information on the current status of the profession of cartography in Canada.

The ultimate use of this information will be to assist the profession in establishment of a professional organization for practitioners of cartography in Canada.

Clifford Wood moved that the meeting be adjourned, seconded by Ron Eastman – carried.

12:45 pm

Submitted

Gordon Shields

Secretary, Canadian Cartographic Association

The Social Side of the 1989 CCA Annual Meeting in Halifax

Attendees at the 1989 CCA Annual Meeting in Halifax extended their fervour for cartographic endeavours into more social activities in the available evening slots. Warming up several times at the "Lower Deck" pub, the group was in fine fettle at the beach-side lobster banquet, once stomachs had settled from the winding route to the beach, taking in Peggy's Cove along the way.

The evening commenced with lobster races between "greyhound" lobsters, while their slower compatriots were cooked and eaten. After dining, retiring President, Norman Drummond was presented with a Nova Scotia Sou'wester in appreciation for his service to the CCA.

The evening could have ended there, had computer/GIS chairperson and Idrisi author, Dr. Ron Eastman not badgered his harem of "Idrisettes" and other chorus line members into performing a version of "Peel-coat, peel-coat, you're the one" to which only he knew the words.

From this point on, Dr. E showed that his talents do beyond the creation of a GIS, as he cajoled representatives from from almost every province into renditions of suitable songs. These ranged from solo performances, through small groups, up to a veritable herd of "Newfies". Once these has been exhausted, ethnic groups relived their pasts, with representatives from The North, Eastern Europe and a group of pseudo-Englishmen performing a version of "I'm a Lumberjack and I'm OK" which would have had even the hardest Python fans hurling pointed sticks and dead parrots.

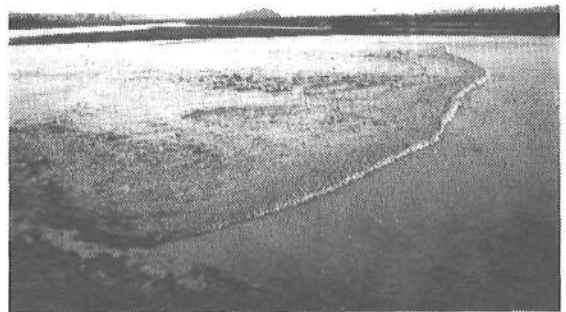
All these acts however, were outshadowed in polish and performance, by Hansgeorg Schlichtmann's solo rendition of the Depression-era protest song: "There's no place like Saskatchewan". Following the conference, travelling cartographers availed themselves of the local sites, with the famous tidal bore at Truro a popular destination. We look forward to similar ventures in Victoria in 1990.



Waiting for the bore



Nova Scotia's world-famous bore



Retiring President, Norman Drummond

Note to editor: better make sure we don't mix up these half-tones before going to print!

- Roger Wheate

CAM/GIS Interest Group Programming Project

Have you always wanted to try your hand at computer programming and graphics, but have never had the time to get around to it? Well here's your chance. In a continuing series of newsletter entries, the CAM/GIS interest group will be exploring computer graphics for mapping using the PASCAL language and the GKS graphics standard. I am assuming that you have had no previous exposure to PASCAL or GKS. However, since the format of the newsletter is small, I will also assume that you have either had some exposure to a language such as BASIC or FORTRAN or C, or that you are willing to work along in parallel with a companion text (there are many of these in local bookstores — buy any one that is specifically directed to one of the two compilers mentioned below). If you are completely new to programming, be aware that it can be self taught quite easily — I will point out with each installment the topics that should be reviewed in your text before we start the next section.

Here's what you will need. First, an IBM-compatible computer with either a Hercules, CGA, EGA or VGA graphics adaptor and a suitable monitor (the examples in this series will all refer to an EGA or VGA system — those with Hercules or CGA systems may need to adapt somewhat). Second, a copy of either Borland's Turbo Pascal (version 5.0 or later / no, the "professional" version is not needed) or Microsoft Quick Pascal (not the older and more expensive standard Microsoft Pascal). After a brief tour through the essential elements of Pascal and some associated exercises, we will then branch into the use of GKS for graphics programming using a special version that I have written for the Pascal compilers just mentioned. This version of GKS will be made available to CCA members through the disk library later this coming winter at a nominal charge (note that commercial implementations can cost almost \$500!).

What is GKS? GKS stands for the Graphical Kernel System. It has been adopted as the international standard (ISO 7942-1985 / ANSI X3.124-1985) for two-dimensional graphics programming. Its purpose is to act as an intermediary between programming languages and the many idiosyncratic graphic output devices on the market today. It does this by defining a "virtual device" — an imaginary device with standardized characteristics. A particular computer language addresses this virtual device through a standard set of function calls that are referred to as a language "binding". We will therefore be using a Pascal binding. To convert the instructions directed to the virtual device into the specific requirements of a given piece of equipment (eg., printer, plotter, etc.), the "kernel" sends standardized messages to a set of specific device "drivers". These drivers then do the translation into the device's "native" instruction set. In the ideal case, a program written for one device using GKS should run on virtually any other device for which a driver program is available.

Versions of GKS vary according to the number of features they offer. We will be using level 0b, which is a fairly common level of implementation. With it, we will build a simple choropleth mapping program that illustrates some of the fundamental characteristics of Pascal and the GKS system

Your first assignment is to get a copy of one or the other Pascal compiler and become familiar with its editor system (ie., the means by which you type in, compile, run and edit a Pascal program). This is covered in the first chapter of the manuals for either system, as well as in all texts for these specific compilers. In the next newsletter we will examine Pascal fundamentals.

— Ron Eastman

GIS Meeting held in Manitoba

On May 12, 1989 the Department of Geography of the University of Manitoba sponsored the second annual GIS Applications Colloquium. With assistance from the Canadian Cartographic Association and the Manitoba Branch of the Canadian Institute of Surveying and Mapping, the event has, in the last two years, provided agencies involved with GIS in Manitoba a forum to outline their programs.

This year's Colloquium, held at the Ramada Inn in Winnipeg, consisted of twelve presented papers from the university sector, private companies and the federal and provincial governments.

An introductory address was provided by Professor W. Norton, the Head of the Department of Geography of the University of Manitoba. His presentation emphasized the importance of geography and geographers in the GIS revolution. The ninety people in attendance were informed of the various approaches different agencies have taken in the implementation of their geographic information systems. The presentation by Mr. J. Campbell of Manitoba Hydro was of particular interest. Hydro has made use of digital data from a variety of sources to do vital corridor analysis studies.

An interesting contrast between approaches toward GIS education was evident in the papers and subsequent questions from representatives of the geography departments of the University of Manitoba and the University of Winnipeg. The University of Winnipeg puts great emphasis on commercially available GIS products where the University of Manitoba has concentrated on developing their own in-house geographic information system (MAP II).

The large attendance at the Colloquium from a cross-section of professions gives evidence that more and more agencies are utilizing or investigating the use of GIS and that there is a definite need for more meetings of this nature.

Malcolm Brown
Marcia Faurer

Ed. note:

\$25 from the profits of this colloquium was contributed to the Nicholson Scholarship fund.

MAJOR SYMPOSIUM SET FOR VANCOUVER

GIS'90, the GIS (Geographic Information Systems) symposium for 1990, will be held at the Vancouver Trade and Convention Centre, March 13 to 16.

Forestry Canada and Reid Collins, a division of H.A. Simons Ltd., will co-ordinate plans for the world's largest forestry GIS symposium.

The four day symposium will provide information on a wide variety of subjects. These range from introductory uses of GIS to the most advanced levels of application. Sample presentations mentioned by the co-sponsors include case studies, education and training, management perspectives, and technology trends.

As well as presenting a forum for practitioners and analysts in the world of GIS, the symposium will also provide demonstrations of the latest equipment in the field through its tradeshow and tutorials.

For further information, contact Hugh Legg (604) 664-5922

CHRONIQUE DE L'HARFANG DES NEIGES 2 /

THE SNOWY OWL CHRONICLE 2

Par / by Majella-J. Gauthier

La présente chronique parle de deux projets de recherche dans lesquels la cartographie assistée par ordinateur et les systèmes d'information géographique seront mis à contribution. Il sera question d'insectes et de mesures d'urgences.

The present chronicle concerns two research projects in which computer mapping and geographical information systems will be used: spatial distribution of insects in Quebec and emergency measures for environmental risks.

La distribution des insectes du Québec enfin mise sur cartes.

Qui n'est pas intéressé à connaître du moins la répartition des insectes piqueurs pour planifier le lieu et le moment de ses prochaines excursions en plein air?

C'est notamment à ce type de question que va répondre le projet BADIQ (Base de Données sur les Insectes du Québec) piloté par le Dr André Francoeur de l'Université du Québec à Chicoutimi. Le projet a pour mission de créer et de développer une base relationnelle de données entomologiques à partir des travaux effectués également dans les constituantes de l'Université du Québec à Montréal et à Trois-Rivières.

Il vise de plus à concevoir et à implanter un système permettant de supporter des inventaires sur les insectes du Québec et de produire divers types d'analyse scientifiques.

Les données ont été groupées en quatre blocs différents et complémentaires d'information: taxonomique, de l'échantillon, géographique et bioécologique. Pour le moment, on pense monter les données entomologiques sur le logiciel de base de données Oracle et on est en train de planifier les méthodes cartographiques automatisées pour représenter la répartition des insectes. La recherche vise à produire ce qui pourrait être un atlas-encyclopédie, à alimentation continue et à consultation permanente, sur les insectes du Québec. En attendant... ..BZZZZZZZZZZ.

Tydac News...

Radarsat and GIS Used for Geologic Research

Three geologic research projects have been undertaken by the Non-renewable Resource Application Group of the Canada Centre for Remote Sensing (CCRS) of Ottawa. Using radar data and digital data integration techniques available on SPANS, a PC-based geographical information system (GIS) developed by TYDAC Technologies of Ottawa.

In eastern Nova Scotia, radar has been used effectively to map geological structures which have been integrated, using SPANS, into a geologic data base containing a diverse combination of vector, raster and point data. Observations made in the field on the relationship between various geological variables and known gold deposits form the basis from which to extract relevant geologic information for gold exploration. A combination of proximity analysis, potential mapping and spatial modelling procedures are being utilized to produce 'gold potential maps' that provide the explorationist with a map which shows areas favourable for gold exploration.

Analyse et planification des mesures d'urgence.

Il s'avère de plus en plus évident que si nos sociétés veulent garantir et améliorer la qualité de vie des gens, il faudra trouver les moyens pour non seulement connaître leurs aspirations mais aussi décrire la complexité des paramètres environnementaux dans lesquels elles évoluent. Et, c'est plus fréquemment qu'autrefois que des individus, des collectivités, et des administrations de tout niveau, croient qu'est venu le temps de préciser particulièrement la nécessité de mieux organiser l'information relative aux risques environnementaux.

Au Québec, à l'échelle régionale, les bureaux de la Protection civile commencent à se convaincre de l'utilité de la gestion cartographique et de l'analyse géographique dans les questions de risques environnementaux et de vulnérabilité du territoire aux sinistres industriels et aux cataclismes naturels. Plusieurs régions, et certaines plus que d'autres, constituent des espaces où les risques catastrophiques mettent en péril la sécurité publique. Ne mentionnons que: la présence de plusieurs grands barrages de retenue d'eau, la présence de grandes industries comme la métallurgie, les pâtes et papiers, les nombreux sites d'utilisation ou d'entreposage de produits toxiques, les noeuds et les voies de transports de produits dangereux, les fortes concentrations géographiques de ces matières; sans négliger les dangers réels de glissement de terrain, d'inondation, de tremblement de terre, etc. Le péril est d'autant plus grand que la plupart des habitants sont souvent concentrés près des lieux où les dangers semblent les plus imminents.

Il est tout à fait clair qu'une bonne connaissance des dangers va de paire avec une bonne localisation de chacun de éléments qui peuvent causer des dommages à l'environnement, comme d'ailleurs l'a si bien dit, en mai dernier, M. Jacques Bastien lors de sa récente conférence à Jonquière au congrès québécois sur l'hygiène industrielle; M. Bastien est agent de recherche au bureau de la protection civile du ministère de la Sécurité publique du Québec. Les cartes actuelles dont on dispose au 1:250 000, et sur lesquelles sont reportés les risques environnementaux, ne sont pas de lecture facile et ne peuvent répondre à des requêtes dont les échelles varient, ne permettent pas d'effectuer des tris, et rendent difficile la recherche de la vulnérabilité du territoire et aussi celle d'interventions localisées.

L'outil d'analyse et de gestion par excellence s'avère le système d'information géographique (SIG). Ces nouveaux instruments informatiques permettent de procéder à l'inventaire cartographique des données, leur stockage, leur manipulation, leur analyse, leur mise à jour et leur cartographie. Pour assurer la sécurité publique des gens, il serait nécessaire d'évaluer l'espace en termes de vulnérabilité aux risques catastrophiques, de procéder à des simulation de mesures d'urgence de manière à mettre au point des plans d'information et d'interventions.

Ces systèmes ont l'avantage aussi de travailler avec le minimum d'erreur et rapidement. Ils permettent l'échange de données et de cartes et sont supportés par des ordinateurs maintenant à la portée de tous.

Radarsat and LANDSAT Thematic Mapper data have been used to identify and map a large scale conjugate fault pattern in the oil producing areas of Alberta. SPANS has been employed to assist in characterizing the spatial distribution of the oil/gas wells and to study the spatial relationship between oil wells and the fault pattern, which help define a workable model for regional oil and gas exploration.

In the remote areas of central Newfoundland, radar data is being used as a source of basic geological information since much of the area is not well mapped and difficult to access. Using SPANS, a geologic data base is being constructed to assess the area's economic potential. For example, the spatial relationship between various geologic variables such as mapped faults, lineaments derived from radar and magnetic data, lithology and mineral deposits are being investigated to aid in the development of a model for regional exploration programs. For further information, contact:

Jeff R. Harris, Technical Manager

Radarsat Project Office

110 O'Connor Street, Suite 200

Ottawa, Ontario K1A 0Y7 Tel: (613) 993-5915

**THIRD ANNUAL STUDENT HONORS
PAPER COMPETITION
SPONSORED BY THE CARTOGRAPHY
SPECIALTY GROUP - AAG**

The Cartography Specialty Group of the Association of American Geographers is please to announce the 1990 honors competition for papers on cartographic topics presented by students at the annual meeting of the AAG. This year's competition will be held in Toronto, Ontario.

- * Papers must be based upon original work done as a graduate or undergraduate student, and the research must have been completed within the past year. Topics are not restricted to work from a thesis or dissertation.
- * Papers must be written entirely by the stated author.
- * Short abstracts and appropriate program participation fees (see the AAG newsletter) are due to the session organizer by September 15, 1989.
- * Complete papers must be sent to the session organizer by December 31, 1989. (postmark will determine eligibility)
- * Complete papers must be in publishable form as outstanding papers may be invited for publication in the CSG Papers Series. All figures must be publishable quality. Figures are tables must be referenced in the text and should appear in order immediately following the references section. Both figures and tables must have typed captions appearing on them (i.e. Figure 1: Maps used as Referents", or "Table 1: Correlation Coefficients").

All papers will be presented in scheduled sessions at the meetings in Toronto. For the ten competing papers, presentations will be judged by the same committee that read the papers. Oral presentations will count for up to 40 points toward the total score.

AWARDS

Awards will be made during the meeting in Toronto. Awards up to \$300 will be made to the best papers. Depending upon the number and quality of entries, further awards may be made.

ENTRIES

Abstracts and appropriate fees must be received by the session organizer by September 15, 1989. Send these materials to:

Professor Jois C. Child
Department of Geography, MS 52
Eastern Washington University
Cheney, WA 99004
(519) 359-7962

Complete papers should be sent to the same address by December 31, 1989.

The Cartography Specialty Group will reimburse authors of the then competing papers for registration according to the student member fee schedule.

CALL FOR PAPERS

SPECIAL ISSUE OF THE AMERICAN CARTOGRAPHER ON ANALYTICAL CARTOGRAPHY

The editors of the American Cartographer are soliciting papers for a special issue on analytical cartography to be published in January, 1991.

POTENTIAL TOPICS INCLUDE

- the conceptual structure of analytical cartography
- theory of spatial operators in regular/irregular cellular systems
- spatial filtering in cartography
- spatial data structures
- relational data structures in a cartographic setting
- object oriented data structures
- mathematical definition of cartographic objects
- spatial database systems
- numerical terrain analysis/representation
- cartographic query languages
- the use of artificial intelligence in cartography
- concepts of vehicle navigation systems
- use of fractals in cartography
- concepts of numerical map generalization
- new work in map projections

Please contact the guest editor if you are interested in a topic that is not listed here. All manuscripts submitted will be peer reviewed with the normal process. For the style requirements, please refer to the July, 1989 issue of the American Cartographer.

Please send a one page prospectus to the guest editor if you are interested in writing an article.

GUEST EDITOR

Prof. Harold Moellering
Department of Geography 103 BK
Ohio State University
Columbus, OH 43210
Tel: (614) 292-2608
Bitnet: Ts0215@OHSTVMA

SCHEDULE

Prospectus due	October 1, 1989
Submission of manuscript	February 1, 1990
Notification of review	May 1, 1990
Revision of manuscript	September 1, 1990
Planned publication	January, 1991

LES GRANDS LACS: ATLAS ECOLOGIQUE ET MANUEL DE RESSOURCES

Environment Canada and the United States Environmental Protection Agency have published Les Grands Lacs: atlas ecologique et manuel des ressources, a French edition of The Great Lakes: an Environmental Atlas and Resource Book, which was published in 1987. The cartography was performed at Brock University, with Alun Hughes as cartographic editor and Loris Gasparotto and Peter Brown as cartographers. The English edition, which was recently reprinted with minor changes, won the British Cartographic Society Design Award for 1988. Copies of both editions are available at no charge from: Conservation and Protection (Ontario Region), Great Lakes Environment Program, Environment Canada, 25 St. Clair Avenue East, Toronto, Ontario, M4T 1M2.

LRIS PILOT PROJECT SET FOR REGIONAL PLANNERS

"Many computersystems fail because of problems with management rather than with the technology," says Allan Levinsohn, an Edmonton-based systems analyst. "When questions such as who will use the technology and how will it be used aren't resolved before the system appears in the office, there's likely to be trouble." It's just such a calamity that the Alberta Planning Board wants to avoid in implementing a land-related information system (LRIS) within Regional Planning Commissions. Working jointly with the Alberta Research Council and Mr. Levinsohn, who is the project manager, the Alberta Planning Board is using an innovative approach to introducing new technology. In this pilot project, the users of the computer system will actually design the system according to their needs.

The two year Pilot Project is one step in the comprehensive strategy for introducing LRIS into regional planning commissions and municipalities in Alberta. Computerized land-related information systems aid in planning by facilitating faster, more complete data management and retrieval. Because of their efficiency and flexibility, these systems are increasingly popular with municipalities and regional planning commissions. Examples of LRIS applications include automated maintenance of land ownership information, identification of potential landfill sites or recreation areas and emergency vehicle routing to speed up response times in rural areas.

The pilot project area encompasses four townships centred on the Town of Morinville, the Municipal District of Sturgeon, both within the Edmonton Municipal Regional Planning Commission. The major objectives are to determine: what is needed to implement LRIS technology; the cost and timing of implementation; and the administrative, technological and political changes resulting from implementation.

The system's designers are a group of representatives from the

regional planning commissions, municipalities, and provincial government. Aided by Mr. Levinsohn and his staff, they have already begun a five-month-long series of meetings.

We've taken the people who know their jobs and the needs of their agencies and developed a process that allows them to make effective decisions without having to know all the details of the technology," Mr. Levinsohn says.

"The technical experts are the facilitators in the working group discussions, they are not the decision-makers. The end users are the designers."

The intent of the working group discussions is to face organizational issues before expenditures are made, a critical step in this project because of the many agencies and levels of jurisdiction which will use the system.

As the system design takes shape, technical specification will be written by the project team. An important part of this process will be ensuring that the technology is appropriate to the jobs it must perform. We'll look carefully at costs and benefits. The costs have to be practical or the project's not worthwhile," Mr. Levinsohn says. Implementation of the pilot project will begin in April, 1989. The results of the project will be evaluated by the Alberta Planning Board in the spring of 1990, and decisions made as to the future of LRIS in the regional planning commissions and municipalities of Alberta.

- for more information on the APB Pilot Project, contact:

Mr. Ron Mattuissi

Edmonton Metropolitan Regional Planning Commission

9th Floor, Metropolitan Place

10303 Jasper Avenue

Edmonton, Alberta T5J 3N6

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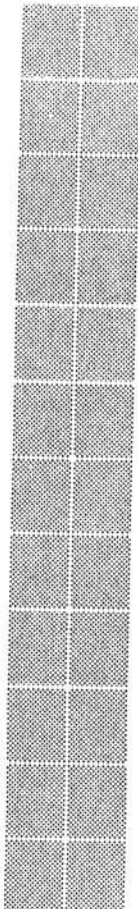
R & D

Research and Development

at the Alberta Research Council

Volume 6, number 6

- submitted by Dawn Rogal



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❖ Contact:

IDRISI/Clark University/Graduate School of Geography/950 Main Street, Worcester, Massachusetts 01610, USA
Tel: (508) 793-7336 or BITNET to IDRISI@CLARKU

!!!!BOOK REVIEWERS NEEDED!!!!

I have received copies for the following books for review in *Cartographica*. If you are interested writing a short review (about 600 words) of one of these books, please contact me. Reviews can be written in either French or English, and should be completed within three months of receiving the book.

The reviewer may keep the book they review, and will receive reprints after the review is published in *Cartographica*.

Books available for review:

1. Surveying and Mapping for Field Scientists, by Ritchie, Wright, and Tait. Softcover, 180 pages.
2. Applied Cartography: Introduction to Remote Sensing, by Rabenhorst and McDermott. Softcover, 166 pages.
3. Computers and the Representation of Geographical Data by E.E. Shiryayev. Hardcover, 264 pages.
4. Directory of the Mapping Sciences by the American Society for Photogrammetry and Remote Sensing. Softcover, 183 p.
5. Cartographic Design and Production by J.S. Keates. Softcover, 261 pages.
6. Measurements from Maps by D.H. Maling. Softcover, 577 pages.
7. Digital Image Processing in Remote Sensing edited by J.P. Muller. Hardcover, 275 pages.
8. Canada: 25 Years in Space by D.H. Jelly. Softcover, 190p.
9. Typography and Typesetting by R. Labuz. Hardcover, 272 p.
10. Thematic Mapping from Satellite Imagery by J. Denegre. Hardcover, 214 pages. Text in both French and English.
11. Remote Sensing Yearbook ed. by Cracknell and Hayes. Hardcover, 733 p.

(N.B. Atlases and books related to the history of cartography are handled by other book review editors. See the front pages of *Cartographica* for details.)

To receive a review copy of any of the above book, please contact:
Dr. Janet E. Mersey
Technical Book Review Editor for *Cartographica*
Department of Geography
University of Guelph
Guelph, Ontario
Canada N1G 2W1

A Canadian in Brussels.....

62 lakensestraat, 1820 Grimbergen, Belgium
January 18, 1989

Dear CCA,

Greetings from Brussels!

A Canadian cartographer far from home wishes to re-enlist in the CCA after almost 2 years' absence. Absent in body but not in spirit, he even proudly wears his CCA lapel pin as he dashes about Brussels, and yes, people ask, "what is that curious, but handsome, emblem?".

To his friends and associates in academia he sends greetings from Europe and from the world of "entrepreneurial" cartography in the private sector wherein he is editing the "Atlas of Brussels", a commercial city guide, wherein lurk the untold and uncounted twisting narrow by-ways and broad tree-lined avenues that inter-lace the neighbourhoods and districts of a proud old city. His long-suffering scribes silently cry over their light tables, adding, correcting, deleting; but every boulevard, avenue, laan, petite rue, clos, dreef and steenweg must have its due, and in both official languages (!), not to mention the civic bldgs., kastelen, chateaux, and sloten; and such beautiful parks!! Brussels really has many beautiful, and intriguing districts, but they are not all easy to map. And the extensive beech forests around the city disguise much.

Nevertheless, and in spite of such diversions, he misses reading the CCA's excellent journals and the entertaining newsletters with "all the news that fits". Is it possible, this lonely expatriate inquires, anxious to revel in some English reading, to acquire the back issues for 1988? Certainly one sleeps better after a well-digested article about a new algorithm or book review, n'est ce pas?

Finally, he urges members to remember Brussels on their way to the ICA Congress in Budapest this coming summer; come by, pick up the newly-edited "Atlas of Brussels" and explore a "slot" (a moated castle) or a "steenweg" (a stone-way) for yourself. For these are the stones of history, and this is a city where even today much history is being made.

Meanwhile....keep those pencils sharp!

Regards,
Stephen Pattison
de Rouck Cartography, Place de la Reine
1030 Bruxelles

P.S. Hello Tom; hello Martin; hello Ray

Canada Centre for Geomatics Le Centre canadien de géomatique

The mandate of the Canada Centre for Geomatics is to establish and to maintain the National Topographic Data Base. This data base will facilitate map production and map revision and will satisfy the requirements of the new geographic information systems used for land and environmental management. This task is becoming increasingly urgent as a result of the continuous changes that take place in areas already mapped and of the increasing demand for digital information.

The term "geomatics" can be defined as the scientific and technical domain that deals with the computerized capture, processing and utilization of spatially-related data. This new term corresponds well to the evolution of sciences linked to the field of mapping, and many educational and private sector organizations have already adopted it.

Please note the following address:

Canada Centre for Geomatics
Surveys, Mapping and Remote Sensing Sector
Energy, Mines and Resources Canada
2144 King Street West, Room 010
Sherbrooke, Quebec J1J 2E8 Tel: (819)564-5600

Le Centre canadien de géomatique a pour mandat de créer et de tenir à jour la Base nationale de données topographiques. Celle-ci, tout en facilitant la production et la révision des cartes, répondra aux exigences des nouveaux systèmes d'information géographique utilisés pour la gestion du territoire et celle de l'environnement. L'évolution continue des zones déjà cartographiées et la demande croissante pour une information numérique bien à jour rendent cette tâche de plus en plus urgente.

Le terme "géomatique" désigne le domaine scientifique et technique qui a pour objet la collecte, le traitement et l'utilisation informatisées de données à référence spatiale. Ce nouveau vocable correspond bien à l'évolution des sciences reliées au domaine de la cartographie et de nombreux organismes dans l'enseignement et dans l'industrie privée l'ont déjà adopté.

Veuillez prendre note de l'adresse suivante:

Centre canadien de géomatique
Secteur des levés, de la cartographie
et de la télédétection
Energie, Mines et Ressources Canada
2144, rue King Ouest, suite 010
Sherbrooke (Québec) J1J 2E8 Tél: (819) 564-5600

LA MÉTÉO À LA TÉLÉVISION: MÉTÉOMÉDIA /

WEATHER ON TV : THE WEATHER NETWORK

Par/by Gervais Thibeault, géographe (er)

MÉTÉOMÉDIA est un réseau national de télévision par câble diffusant des informations météorologiques 24 heures sur 24 et 7 jours par semaine. Le réseau français atteint 1,3 millions d'abonnés alors que le réseau anglais en atteint 4,2 millions. Il n'est en ondes que depuis le premier septembre 1988 et sont détenus à 80% par Lavalin Inc. et à 20% par The Weather Channel (É.-U.). Le texte qui suit décrit brièvement comment sont produites les cartes météorologiques pour la télévision.

THE WEATHER NETWORK is a national cable TV network giving meteorological information. It operates day and night and seven days a week. The english network has 4,2 million subscribers and the french one 1,3 million. It is on air since September 1st 1988. He is owned 80% by Lavalin Inc. en 20% by The Weather Channel (USA). This short text describes the ways we use to make weather maps.

La cartographie présentée à la télévision est faite à l'aide des stations de travail et du logiciel Environnemental Satellite Data (ESD). Il s'agit d'un logiciel conçu uniquement pour la météorologie et distribué par la compagnie (ESD) siégeant à Washington (É.-U.). Le logiciel fonctionne sur une station de travail comprenant comme quincaillerie: un micro-ordinateur du type AT 386, écran monochrome, un moniteur couleur RGB, une tablette graphique ainsi que plusieurs cartes internes (number nine, multi port série, monochrome, etc.).

Il est possible de générer un nombre impressionnant de cartes thématiques (météorologiques) avec ce système. Par exemple, du type zonal avec les températures, l'humidité, les zones de précipitations, zones d'avertissements, etc. Le mode de représentation linéaire sert à dessiner les isobares désignant la pression barométrique, etc. L'information ponctuelle symbolisée par les icônes représente les conditions ou les prévisions météorologiques désirées. Le système permet de générer les cartes en haute résolution, soit: 780 x 480 pixels, et ce avec 256 couleurs. Produisant environ 750 cartes par jour, il nous faut informatiser et automatiser la production de cartes au maximum pour pouvoir surmonter les contraintes de temps et de données.

Les informations météorologiques proviennent de deux sources soit, National Weather Services (NWS de Washington (É.-U.) pour les données américaines, internationales et les images satellites, et du bureau du Service d'Environnement Atmosphérique (SEA) situé à Toronto pour les informations météorologiques canadiennes.

Ces deux centres envoient l'information à Maclaren Plansearch Inc. d'Halifax (N.-É.) filiale de météorologie appartenant à Lavalin. Une fois l'information météorologique standardisée, elle est ensuite envoyée d'Halifax au siège social de Météomédia à Montréal. Aussitôt arrivées à destination, les données sont transférées dans chacune des stations de travail (ESD), gérant ainsi les 6 000 données/minutes reçues.

Météomédia compte environ 100 employés répartis en quatre départements tel que: programmation, météorologie, exploitation ainsi que marketing. Le laboratoire de météorologie où est réalisée la cartographie se compose de 17 employés soit: 1 météorologue et 2 géographes en recherche et développement.

Météomédia est en constante évolution depuis ses débuts. La cartographie thématique (météorologique) est un élément très important dans cette évolution car en innovant ou en améliorant la cartographie, le téléspectateur est en mesure d'obtenir une meilleure information et de voir l'évolution du réseau.

The cartography shown on air is produced on workstations using Environmental Satellite Data (ESD) software, which is produced for meteorological purposes and is distributed by ESD in Washington, D.C. This software runs on a workstation which has the following hardware components: a PC type AT 386, a monochrome screen, a RGB color monitor, a digitizer pad, as well as many internal cards (number nine, multiseria port, monochrome, etc.).

It is possible to create an impressive number of thematic (meteorological) maps with this system. For instance, they can be of the Choropleth type, showing temperatures, humidity, precipitation zones, warning zones, etc. Maps can also be made with the Linear representation mode, which helps technicians draw isobars showing the barometric pressure, etc. There is also Point information, represented by icons, that show the meteorological conditions or the forecasts wanted. The ESD system allows technicians to create high resolution maps (780 x 480) pixels with 256 colors.

Creating about 750 maps daily, we have had to computerize and automate the map production (to the maximum) to overcome data accumulation or time delays.

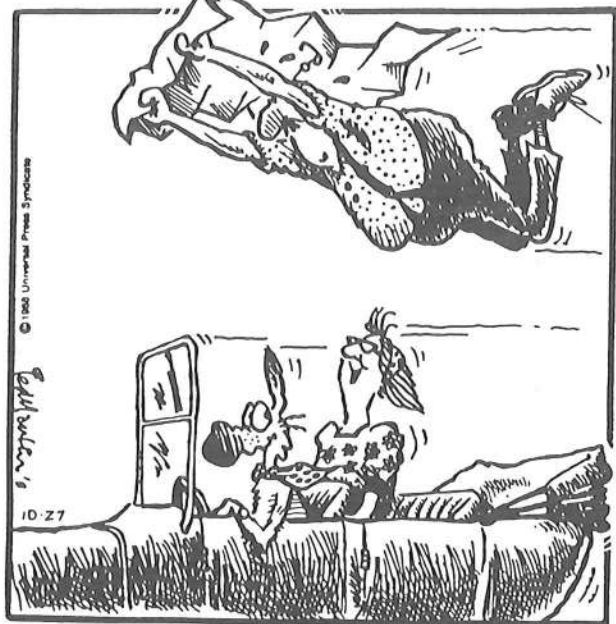
The data come from two different sources: 1) National Weather Services (NWS) and 2) Atmospheric Environment Service (AES). The NWS is located in Washington, USA, and provides American and international data as well as satellite images. The (AES) is in Toronto and gather all data for Canada.

These two centers send their information to Maclaren Plansearch Inc. in Halifax, Nova Scotia, a meteorological branch of Lavalin Inc. The information which has been standardized, is sent to the Weather Network's head office in Montreal (at the rate of 6 000 data/minute). It is then transferred to a workstation (ESD) to be processed.

The Weather Network has about 100 employees in four departments: 1) programming, 2) meteorology, 3) development, and 4) marketing. The meteorological laboratory (metlab), where cartography is done, has 17 employees itself: 1 head-meteorologist, 7 meteorological technicians and 2 research and development geographers.

The Weather Network is in constant development since its beginning. Thematic (meteorological) cartography is a very important factor in this development because it is able to display information more readily and at the same time help the network to progress.

(English translation by André Dugas)



"We've gotta remember to enroll Willard in road map-folding school."

INTERGRAPH NEWS

At the recent ASPRS/ACSM/AUTO-CARTO 9 annual meeting in Baltimore, Intergraph Corporation announced two new Geographic Information System (GIS) solutions: MicroStation GIS and TIGRIS. Now GIS users may select the workstation-based software solution best suited to their needs: MicroStation GIS, for low-cost solutions incorporating relational database technology, or TIGRIS, for sophisticated, object-oriented GIS operations.

Both MicroStation GIS and TIGRIS have been designed according to IMAP (Intergraph's map modeling system design principles), database independence, an open system environment, and multiple application software. IMAP ensures that hardware, software, and networking products are tightly integrated to provide complete application solutions and the distribution and sharing of data across a network of PC's, workstations, servers and CPUs.

MicroStation GIS and TIGRIS are workstation-based software products which run on industry-standard, open-system Intergraph workstations. Intergraph workstations offer processing speed ranging from 4 - 20 MIPS (millions of instructions per second). Intergraph provides the only industry-standard workstations and servers with complete binary compatibility across models and generations. This allows customers to size the workstation to the workload and preserves the application software, the related investments in operator training, and the databases created by those applications.

Low cost workstations such as the InterPro 125 are optional for MicroStation GIS, while high-performance machines such as the InterPro 3070, are optimal for TIGRIS. Intergraph Corporation provides complete user support of MicroStation GIS and TIGRIS with software, hardware, training, consulting services, documentation, and customer support.

MICROSTATION GIS: A RELATIONAL GIS ENVIRONMENT

MicroStation GIS is designed to combine the best features of powerful MicroStation 32 graphics with the flexibility of relational database management systems.

MicroStation GIS uses Relational Interface Software (RIS) to provide a transparent, interactive link to the relational database management system (RDBMS) of the user's choice: ORACLE, INGRES, or INFORMIX. Queries to the database are handled through RIS directly from the graphics menu, independent of the RDBMS utilized. Since RIS also allows multiple users to communicate simultaneously to their database over a network, users need purchase only one license per installation, rather than purchase a license per seat. Furthermore, binary compatibility between MicroStation 32, Intergraph's Interactive Graphics Design System (IGDS), and MicroStation PC graphics allows effective use of workstations, host CPUs and PCs in a MicroStation GIS installation.

MicroStation GIS is built on the MicroStation GIS Environment (MGE) core product. MGE offers project management, data entry, and geographic and database locate function. Raster data may also be integrated into the workflow.

MicroStation GIS users may extend MGE's capabilities with optional application modules including:

MicroStation Analyst for spatial query and analysis,
MicroStation Imager for image processing,
MicroStation Modeler for digital terrain modeling,
MicroStation Projection Manager for coordinate conversion,
MicroStation Map Publisher for publication-quality cartographic output.

MicroStation GIS Environment is scheduled for release in June 1989. Additional MicroStation GIS modules are planned to support cadastral surveying, network analysis, petroleum mapping, and geological interpretation.

TIGRIS: AN OBJECT-ORIENTED GIS ENVIRONMENT

TIGRIS is the result of Intergraph's intensive research and development in object oriented software systems and advanced topological data structures. The unified TIGRIS data model, combining geometry, topology and attribute data, provides unprecedented performance in spatial query and analysis. In a typical spatial query, a TIGRIS user may overlay multiple geographic themes—modified by multiple spatial and Boolean operators—in a single query statement. Query results may be used to aggregate data into new thematic layers, to produce printed reports, and to highlight graphic data on the screen.

TIGRIS also features interactive topology. As a TIGRIS user creates or modifies geographic data, all the necessary topological relationships are automatically built for every geographic overlay. Time consuming post-processing for topological structuring is eliminated and detailed spatial queries may be activated immediately after data input.

The TIGRIS software solution is built on TIGRIS GIS Environment (TGE) core product. TGE offers project definition, automated data cleaning and editing, coordinate transformation, raster image display, and graphic schema design and modification. TIGRIS users may extend TGE to meet specialized workflow requirements with optional application modules including:

TIGRIS Analyst for spatial query and analysis,
TIGRIS Imager for image processing,
TIGRIS Modeler for digital terrain modeling
TIGRIS Scanned Data Capture for hardcopy data conversion,
TIGRIS Finisher for cartographic detailing.

TIGRIS is scheduled for release in September 1989.

Existing Intergraph users may choose MicroStation GIS or TIGRIS to extend their VAX-based GIS and mapping databases to offload processing onto Intergraph's open systems workstations.

For further information please contact:

Sharon Conely
Manager, Marketing Services
Intergraph Canada Ltd.
2580 Matheson Blvd. E.,
Mississauga, Ontario L4W 4J1 (416) 625-2081

CAROLYN C. WEISS APPOINTED SENIOR GRAPHICS ADVISOR AT STATISTICS CANADA

Statistics Canada is pleased to announce the recent appointment of Carolyn C. Weiss as Senior Graphics Advisor for the department. This is a one-year special assignment housed in the Communications Division. The assignment carries through the main recommendation of the Final Report - Task Force on Publication Graphics: to provide a graphics consultant to the department's analysts, authors and others to promote the use and effectiveness of graphics in Statistics Canada's publications.

As Senior R&D Officer in the Geocartographics Division and task force chairperson, Carolyn was a natural choice to assume the role of graphics advisor. Some of her primary duties include: providing advice to analysts and authors on graphic display; organizing training seminars on effective graphic presentation; and contributing feature articles on graphics to Writers' Clinic (a quarterly newsletter put out by the Communications Division).

Carolyn has been an active member of the CCA for many years, including Chairperson, Map Use Interest Group (1977-78), Treasurer (1978-86), and member, Nominations Committee (1985-86).

New Title distributed by the
Canadian Cartographic Association

Nouvelle publication distribuée par
l'Association canadienne de cartographie

EXPLORATIONS IN THE HISTORY OF CANADIAN MAPPING A COLLECTION OF ESSAYS

Edited by/

Publié sous la direction de:

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Aileen Desbarats, Université d'Ottawa

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1988, 274 pp. \$25.00 soft cover.

Ottawa: Association des carto-thèques et archives cartographiques
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A collection of articles that have appeared over the years in the
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Coming Events...

17-22 September 1989 Cleveland, Ohio
ASPRS-ACSM Fall Convention
Contact: American Congress on Surveying and Mapping, 210 Little Falls St.
Falls Church, VA. USA22046-4392

11 -14 October 1989 Ann Arbor, Michigan
9th Annual Meeting of North American Cartographic Information Society (NACIS)
Contact: Diana Rivera
University Libraries
Michigan State University
East Lansing, Michigan 48824-1048
(517) 353-4737/4593

26-29 November 1989 Orlando, Florida
GIS/LIS '89
Contact: ACSM, 210 Little Falls St.
Falls Church, Va. 22046

22-25 January 1990 Calgary, Alberta
Automated Mapping/Facilities Management
Contact: Mr Rick Bugby,
AM/FM Conference,
Monenco Information Systems Ltd.,
#400 Monenco Place, 801 - 6th Ave SW,
Calgary, Alberta T2P 3W3

5-8 March 1990 Ottawa, Ontario
GIS For the '90's
contact: Canadian Institute of Surveying and Mapping
P.O. Box 5378, Station F,
Ottawa, Canada K2C 3J1

13-16 March 1990 Vancouver, B.C.
GIS '90
Contact: Reid, Collins and Assoc.
15th floor, 401 W. Georgia St.
Vancouver, B.C. V3B 5A1

19-22 April 1990 Toronto, Ontario
Association of American Geographers Annual Mtg.
Contact: Marie Truelove, School of Appl. Geography,
Ryerson Polytechnical Institute,
350 Victoria St., Toronto, Ont. M5B 2K3

23-27 July 1990 Zurich, Switzerland
4th International Symposium on Spatial Data Handling
Contact: Dr Duane Marble,
Department of Geography,
103 Bricker Hall, The Ohio State University,
Columbus, Ohio 43210

August 1990 Edmonton, Alberta
URISA '90
Annual Conference of the Urban and Regional Information Systems Association
Contact: Hiske Gerding,
Albeta Parks and Recreation,
10405 Jasper Ave.,
Edmonton, Alta. T5J 3N4 (403) 427-5989

23-28 September 1990 Atlantic City, New Jersey
ASPRS/ ACSM Fall Meeting
Contact: ACSM,
210 Little Falls St, Falls Church, Va. 22046

9-16 August 1991 Washington, D.C.
27th International Geographical Congress
Contact: Dr. Anthony de Sousa, 27th IGC,
17th and M Sts. NW,
Washington, D.C. 20036

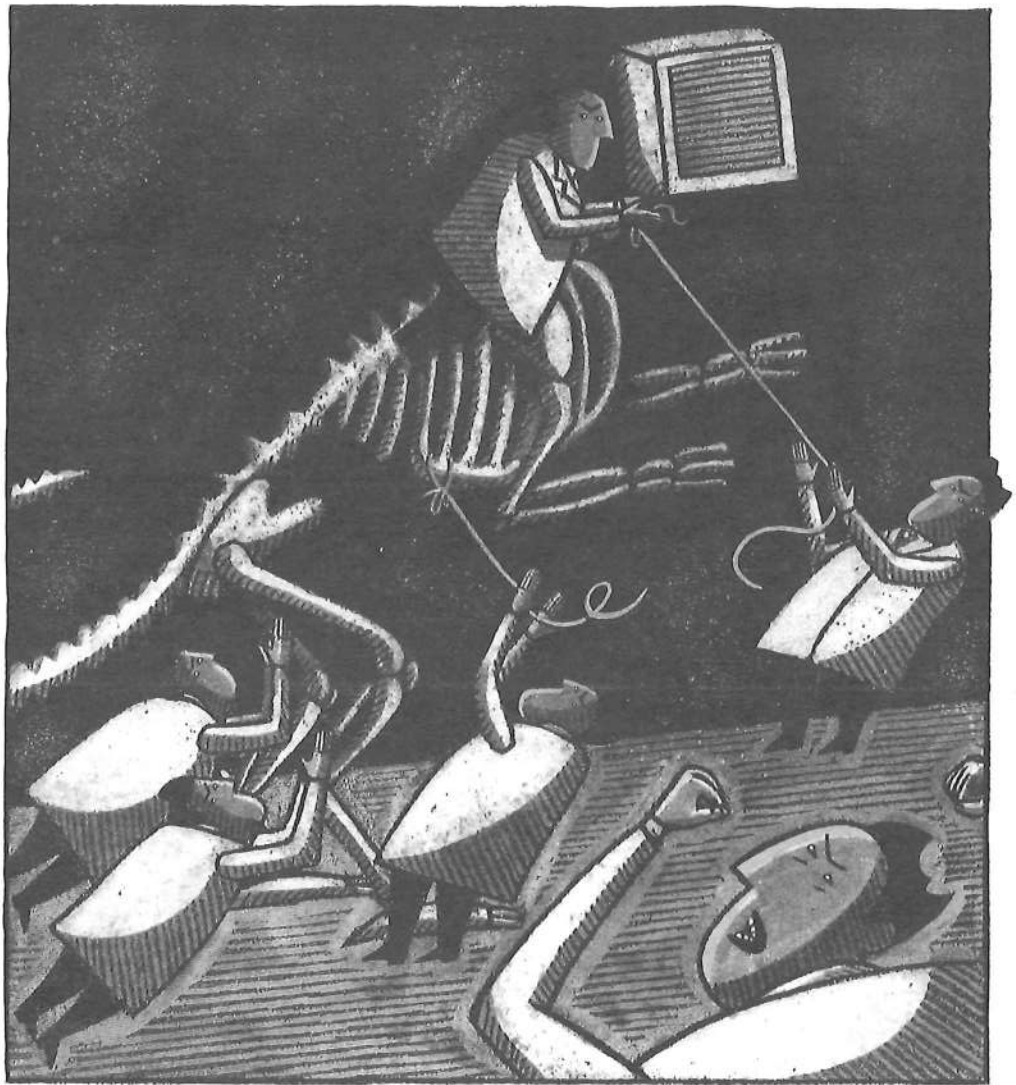
17-19 April 1992 Vancouver, B.C.
Vancouver Conference on Exploration and Discovery
Contact: Conference Director,
Department of History, Simon Fraser University,
Burnaby, B.C. V5A 1S6

*An important date to mark
on your calendar.....*

10-13 June 1990 Victoria, B.C.
Annual Meeting of the
Canadian Cartographic Association.

Contact: Dr. C. Peter Keller,
Dept. of Geography,
University of Victoria,
PO Box 1700, Victoria B.C. V8W 2Y2
tel: (604) 721-7333

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