CANADIAN CARTOGRAPHIC ASSOCIATION

ASSOCIATION CANADIENNE DE CARTOGRAPHIE

NEWSLETTER

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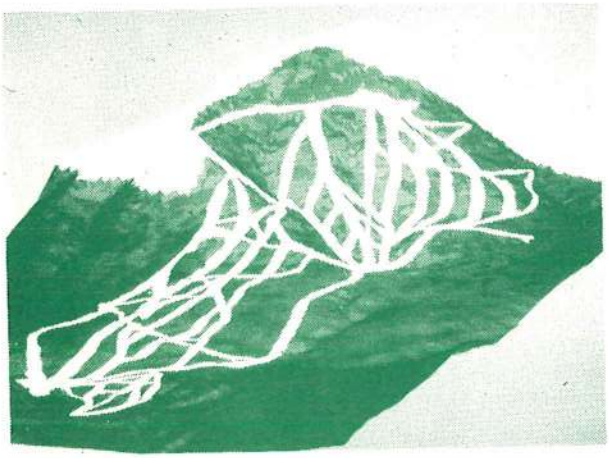

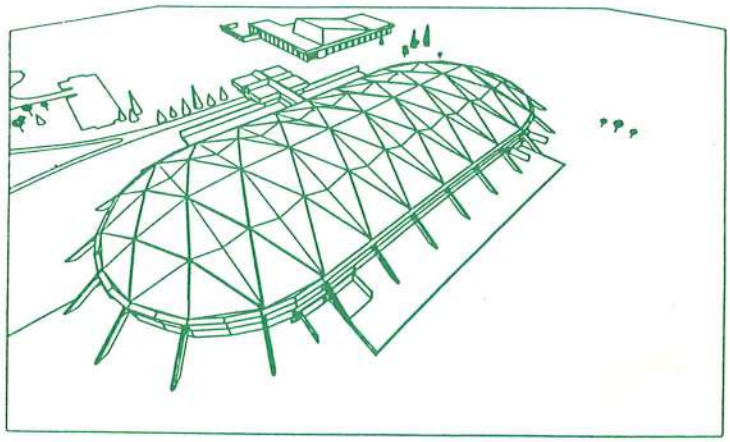

Intergraph and the Winter Olympics: DTM of Mount Allan and overview graphics of the skating Oval: p 6

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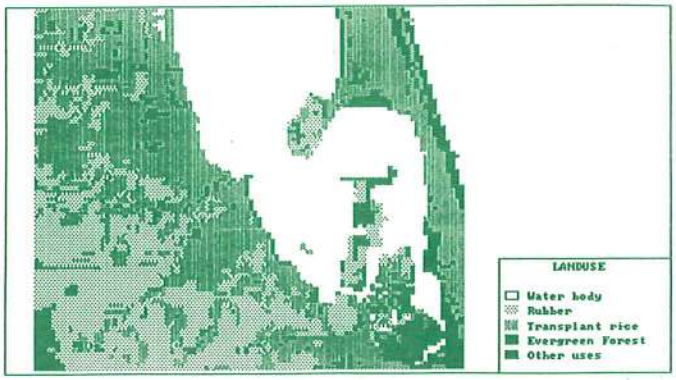

GIS software for the microcomputer: p 8, 28

PLEASE CHECK YOUR MAILING LABEL!

If you have paid your dues for 1988, the mailing label on the envelope, in which this newsletter arrived should bear the date: 31/12/88 (unless you renewed recently in February) If it does not, in order to ensure continuity in receiving the newsletter, please renew your membership immediately or contact the CCA office address on page two, if a renewal notice was not received.

CCA OFFICE ADDRESS

The mailing address for the CCA is as follows:

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CCA EXECUTIVE

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Past-President:	Malcolm Brown
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Manager:	Cliff Wood
Cartographica:	Bernard Gutsell

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Education:	Peter Keller
History of Cartography:	Gordon Shields
Map design:	Claudette Leblanc
Map Use:	Bob Packer
Technology:	David Mark

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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.

Any contributions, questions or comments, please send to the Editor at the above address. Letters, articles, reviews, queries of any kind will be guaranteed attention.
Next newsletter deadline for **1988 #1: Mar 31**

This newsletter was produced using "Ready Set Go 4", and outputted to an Apple laser printer plus. Over half the material printed herein, was received directly via the Bitnet mail network.

LOST SHEEP

The list of paid up CCA members who have moved without leaving a forwarding address is growing. If you know of their whereabouts, please contact the CCA office in St. John's:

Gerald Boulet, Peterborough, Ont.
Peter W. De Krom, St.Bruno, Que.
Therese Desnoyers, Sherbrooke, Que.
Odette Dubuc, London, Ont.
Gregoire Gagne, Calgary, Alta.
Michel Guenet, St-Redempteur, Que.
Darren Heisler, Nepean, Ont.
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Julia Sandquist, Toronto, Ont.
Spencer Sutton, Lindsay, Ont.
Gary Wagner, Calgary, Alta.
David Wigle, Calgary, Alta.
Ruth White, Dartmouth, NS.
Roger Windsor, Lawrencetown, NS
Thomas Wray, Ottawa, Ont.

WELCOME NEW MEMBERS:

Barbara Buttenfield, Buffalo, NY.
Andrew Davies, Kingston, Ont.
Darlene Hubick, Regina, Sask.
Margaret Hutchison, Regina, Sask.
Andrew McGhie, Waterloo, Ont.
Jeffrey Murray, Chelsea, Que.
Monika Rieger, Calgary, Alta.
J.S.Sandhu, Columbus, Ohio.
Daniel Swim, Bible Hill, NS.
Barbara Sutherland, Victoria, BC.

Puzzle !

At the last executive meeting of the CCA there were 16 people present including guests. Two of them had identical telephone numbers (ignoring area codes). What was the probability of this occuring?
Prize: A free CCA lapel pin for each of the first three correct entries!

Letter to the editor:

Dear sir,
I would like to voice my opinion concerning the proliferation of elections that seem to occupy a great proportion of the executives' time and the newsletter's space. Couldn't we have longer terms for all the positions in the executive, and therefore fewer elections? Other than this minor peeve, I believe our association is being run quite adequately; keep up the good work!
Yours truly,
Rick McPherson,
Edmonton, Alberta.

Editor: an appropriately timed query, as we embark on the electoral procedure in this issue! The CCA holds elections annually, announcing a slate of candidates with bio-sketches in one issue, and the results in another, possibly referring to the slate in a third, hence your perception is valid. The CCA has up to ten elected positions, each for a two-year period. For the sake of continuity, half are slated each year, rather than completely change the executive every two years, hence elections are annual.
In theory, longer terms would allow increased familiarity with the organisation, but in practise elected officials are usually limited by other business/academic activities. Two years seems to be a reasonable time period of committment, in line with other similar organisations.There is also a certain degree of 'burn-out' (which I can vouch for personally!). Where able to, officers have in the past stood for re-election and generally have been unopposed. In this regard, we have been most fortunate over the last ten years, to have enjoyed the services of only two treasurers (Carolyn Weiss and Louis Cardinal). In the context of continuity, the role of the office manager is crucial to the executive.
As to the cost in time and newsletter space accorded to elections, most of the effort is expended by a non-executive nominations committee in finding suitable candidates. Any space covered by in the newsletter is additional to other material and does not replace it. this year for the first time, bio-sketches have been typeset, which will condense the space devoted to them.
Many thanks for your correspondance!

Footnote: the Editor invites correspondance on any relevant topic for the next and future issues of the newsletter.

"BUSINESS WITHOUT ADVERTISING IS LIKE WINKING AT A GIRL IN THE DARK: YOU KNOW YOU'RE DOING IT, BUT NO-ONE ELSE DOES!"
(Steuart Henderson Britt)

So tell the newsletter what you are doing, what equipment your campany/department has, new products, new projects, etc., or even.. 'how many cartographers does it take to change a light bulb?' but don't 'wink in the dark'!

CALL FOR STUDENT PAPERS

CCA STUDENT PAPER COMPETITION

The Canadian Cartographic Association is pleased to announce the second annual student paper competition to be presented at the annual meeting in York, Ontario. There will be an award for the best paper presented.

Abstract and paper must be in either english or french. Speakers will have 15 minutes to present, and 5 minutes to respond to questions. Submit abstracts (200-300 words) with name, address, title and advisor to Dr. C Peter Keller, Education Interest Group Chairperson, Department of Geography, University of Victoria, Victoria, British Columbia, V8W 2Y2.
Deadline for abstract: March 31st, 1988
Deadline for paper: April 30th, 1988

JOURNALISTIC MAP COMPETITION

Here at the University of Calgary, Michael Coulson has modified the Final Project (Design) for his introductory cartography course (second year university) to allow the students to be eligible for the "Best Journalistic Map" competition, organized by the CCA and sponsored by Time Magazine with a $200.00 prize.

Each student is free to select a current affairs issue that would benefit from a map and will then design an appropriate general location map. Class submissions will be accompanied by three newspaper/newsmagazine articles on the issue chosen as also specifications on the publishable size of the map and a brief explanation on its purpose.
Other educators are encouraged to pursue a similar course in order to stimulate maximum student participation in the President's Prize.

1988 Election slate:

VICE-PRESIDENT:	Jean Carriere Claudette Leblanc
SECRETARY:	Jean Gosselin Gordon Shields

INTEREST GROUP CHAIRPERSONS

AUTOMATION:	Ron Eastman Sally Rudd
HISTORY:	MargaretHutchison Jeffrey Murray
MAP USE/ DESIGN:	Diana Dacen Robert Sales

From the President:Discussion on GIS/Automated Cartography

by Chris Gold

We would like to actively promote this newsletter as a forum for dissemination/discussion of issues related to the rapidly growing field of computer automation.
- This is normally mentioned under the headings of Automated Cartography, and Geographic Information Systems. Many of us are particularly involved with the educational aspects of this new emphasis - either as educators or else as government and industry management or staff who need to train, supervise or employ people who are to be "experts" in this field. What should they know? How is it to be taught? What software/equipment/techniques are relevant? What are the real world problems, as opposed to the classroom teaching curriculum? What retraining should I take?
All of these are significant issues that affect many of us, and yet, because of the newness of the discipline little is available either to inform us (tutorials) or to guide us in intelligent decision making. Hopefully we of the CCA can be influential in directing this activity down fruitful channels - in any case we will try.

Some of the issues revolving around education:
- what skills should be taught, what does the market- place require, how should this be done in a college or university environment - will hopefully be covered in various sessions at our Annual Meeting at York University in Toronto. We certainly have a significant number of interested participants who find themselves having to teach this subject - but what should they cover? Each of us have faced particular problems, and come up with our own solutions.

To start the ball rolling, I will present some of my own thoughts on the subject! They are based on my own particular biases - and I hope that they may stir you to sufficient annoyance to reply where they rub against your particular emphasis. If so we can start to form a concensus in this Newsletter that can only help guide our future directions. In subsequent issues of this Newsletter I hope we have some alternate views and I hope to contribute reviews of various technical issues, such as mathematical basics.

My own particular emphasis comes from my involvement in computer software development - I think I have a good understanding of contouring and terrain modelling problems, for example. When I was in Alberta, at the University of Alberta and with Alberta Environment, the questions came from the oil industry (sub-surface contouring with data obtained from test drillholes). Subsequently I spent two years at the Nova Scotia College of Geographic Sciences (COGS) in Lawrencetown, teaching the "theory" of G.I.S. There we had a very strong emphasis on computer programming, as our graduates were expected to move into operational jobs with small or large G.I.S. systems in government or industry. No previous experience was required, but long hours were expected to cover the one-year course. Most recently I have moved to the Dept. of Geography at Memorial University, to teach Automated Cartography and G.I.S.

At COGS, I believe I can summarize the situations as having three main thrusts. Firstly, developing solid computer programming skills - involving extensive assignments in Fortran, Pascal, or C, covering data structures, searching and sorting, databases, etc. Secondly, hands-on applications experience with one or more commercial G.I.S. systems. This started immediately at the beginning of the year with elementary digitizing and display, and culminated in a major project, probably with an outside agency, that gave the student experience in a complete G.I.S. project. The third thrust was the "theoretical" component - necessary mathematical and computing science skills. The main topics that I felt were important included introductory vector and matrix algebra; elementary computer graphics; some elements of "computational geometry" - in particular line and polygon intersection and related issues; computer searching and sorting, with particular reference to two dimensional problems; data structures (linked lists, trees, networks); graph theory, in particular graph traversal methods leading to the solution of network flow problems; and a variety of applications of these techniques to map data structures, terrain modelling, etc.

How did it work out? Very well, thank you - our graduates are all over the world, many going to U.S. or Canadian organizations. Most, but not all, of them had some previous skill to build on before they added G.I.S./computing ability. The emphasis was very heavily on the practical - they had enough experience to move immediately into operational positions. For some of them the "theoretical" material was not particularly relevant - but probably was good for them anyway!
There was a significant dichotomy between those who were likely to be programming solutions to problems in the future - writing interfaces between systems for example, and those who were likely only to be users - familiar with all the intricacies of a particular commercial system as well as all the stages involved, from data compilation to final problem analysis or map, but not expecting to be involved in software development.

In the university context, I am now involved in the development of course and program material for at least partially similar objectives. The Canadian National Report to the ICA - Cartographic Education component that I prepared last year was based on a questionaire that clearly showed general limitations in most Canadian universities - a definite desire to teach what was wanted by students and employers, but acknowledged limitations in equipment, software and sometimes expertise. Assuming that the COGS model above is satisfactory, how is this to be dealt with in the university context?

In general I think that the "theoretical" component can be handled successfully in a conventional course structure,

given certain basics. These include course prerequisites, such as intoductory programming, introductory cartography and basic linear algebra.

Reasonable access to central computing and plotting facilities are necessary, including at least a few graphics terminals for previewing. Laser-printer graphical output is often convenient for instructional purposes. At least one digitizing system - probably a pad attached to a PC - is desirable, although much can be done by hand with graph paper if necessary!

At Memorial University I am working within an inherited structure of "Computer Cartography" and "Analytic Cartography" (3rd. year) and "Spatial Information Systems" (4th. year). Based in part on student-programmed Fortran (with instructor-supplied subroutines where appropriate), the first course covers the basics of graphical programming in cartography (input and output, cartographic symbolization and a small map production project).

The second course consists of coordinate transformation problems; primarily map-to-map adjustments and the programming and selection of map projections. The third course introduces the idea of data structures and procedures fo spatial data, together with an introduction to G.I.S. and information manipulation with the M.A.P. package. It is here that we are clearly weakest, without hardware or software for "real" G.I.S. training.

Thus while theoretical components can be covered, even at the more advanced level, in cooperation with Computing Science and Mathematics departments, the weakness of most university graduates will be due to insufficient programming experience, and almost no hands-on experience with a "real" system. Some of these deficiencies can be remedied with appropriate cooperative projects with industry or government, but it would still be highly desirable to have some "in-house" equipment. Small micro-computer systems may be a part of the answer, but only a part. It also appears to be an open issue as to how much should be undergraduate, and how much graduate level activity. It is certainly a "good thing" if the student arrives with some real-world experience (such as forestry) to which he wishes to apply the emerging technology.

To summarize the key questions mentioned here:

Should we be system users, who needn't know how things work, or people with the skills to modify their workin environment?

Should we be doing this at an undergraduate level, or aiming at graduates wanting to apply their existing skills?

How do we provide the computing/graphics resources to give students a real feel for the subject? Are micro-computers really the answer?

What do YOU think, on these or the many other issues in automated cartography/G.I.S. education? Write a letter to the Newsletter, or come to the Annual Meeting, and continue the discussion.

- Chris Gold.

BOOK REVIEW

Numerical Recipes - The Art of Scientific Computing. W.H. Press, B.P. Flannery, S.A. Teukolsky, and W.T. Vetterling. Cambridge University Press, 1986, 818p.

At first sight this appears to be a strange book to review in a cartography newsletter. Nevertheless, many of our members are actively involved in Automated Cartography, G.I.S. or various aspects of mathematical geography. For all of these this book may be of significant value - whether as a personal copy (such as for this reviewer) or at least within ready access as a reference. The book is unique - if not so much in its thematic content, certainly in its style and objectives. Take four prestigious mathematical programming experts from four prestigious organizations (Harvard/Smithsonian, Exxon, Cornell, and Polaroid). Get them to compile about 200 basic routines in matrix algebra and similtaneous equation solution, interpolation, random number generation, integration, sorting, root finding, maximization of functions, fourier analysis, eigenvalues, elementary statistics, and various forms of differential equations. Rewrite them for clarity, test extensively and add an easy, almost chatty, discussion of the analytic problem and the various solution methods, intended so that anyone with moderate undergraduate mathematical and computing skills can follow the general approach. Publish the routines in both Fortran and Pascal (C is coming). Include test programs and data in separate example books for each language. Make the source code and test programs available on diskette for $19.95 each. Result: a brew that is invaluable to anyone involved in numerical programming. Use one routine and it has paid for itself several times over. It makes an excellent review text, too, to brush up on techniques you never had time to learn in school. For example, the prelude to a discussion of both linear programming and the travelling salesman problem:

"As you see, the subject of linear programming is surrounded by notional and terminological thickets. Both of these thorny defenses are lovingly cultivated by a coterie of stern acolytes who have devoted themselves to the field. Actually, the basic ideas of linear programming are quite simple. Avoiding the shrubbery, we want to teach you the basics by means of a couple of specific examples; it should then be quite obvious how to generalize."

Should everyone own a copy? Probably not. But everyone who has at least had to solve simultaneous equations should have access to it. It marks new standards in both the availability of reliable software routines, and the clear exposition of the basic concepts. It will be a classic.

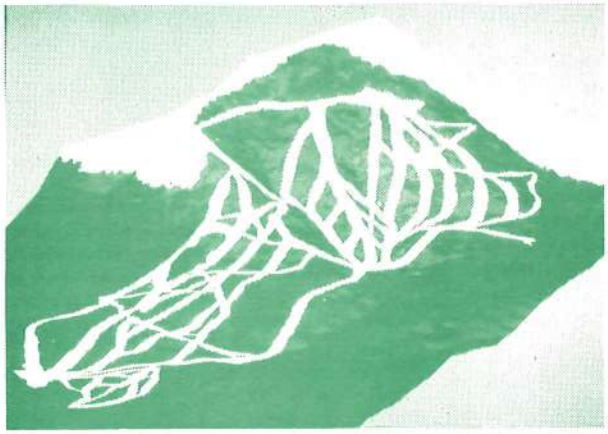
- Chris Gold

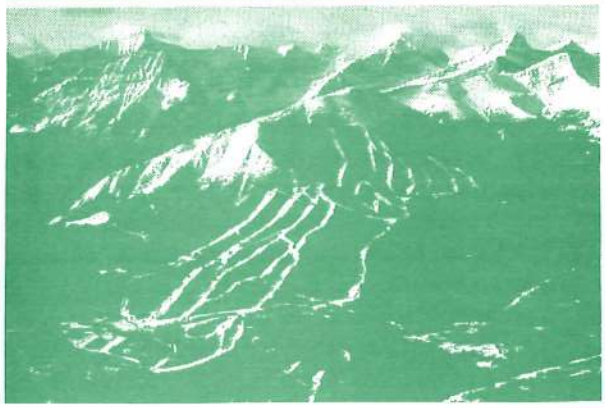
"Haiku" on Problem Solving:

Dealing with failure is easy:
Work hard to improve.
Success is also easy to handle:
You've solved the wrong problem.
Work hard to improve.

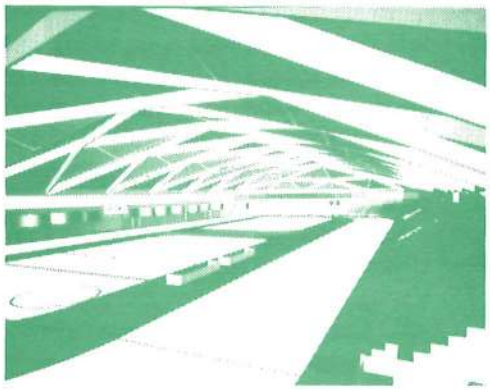
(A haiku is a Japanese non-rhyming poem, with 5, 7, 5 syllables)

INTERGRAPH AND THE WINTER OLYMPIC GAMES





Digital terrain model of Mount Allan The 'real' counterpart of the DTM



Generated views inside the Olympic Speed Skating Oval

By Tracy Spencer

The 1988 Olympic Winter Games, which will be held February 13 - 28 in Calgary, Alberta, mark a series of "firsts." The games will be Canada's first Olympic Winter Games. Calgary will be the first major city to host the Games and the first host city serviced by an international airport. Sixteen days of competition and official ceremonies will be held on all new venues. A record 1.5 billion viewers worldwide and a total of 1,600,000 spectators will watch the Games as 1,500 athletes compete in some of the best facilities, including the world's first fully enclosed speed skating oval.

The Games also represent the first time interactive graphics technology has been used extensively in planning and preparing an Olympic event. Intergraph, as the official supplier of computer graphics technology to the XV Olympic Winter Games, is proud to be a part of these "firsts."

Ski Jumps at Canada Olympic Park

Intergraph's support of the Olympics began in 1984 when the XV Olympic Winter Games Organizing Committe engaged Intergraph to model proposed ski jumps under various width and depth conditions at Canada Olympic Park. The 70-meter and 90-meter ski jumps, constructed with the aid of the models, are towering monuments to the legacy of the XV Olympic Winter Games.

Digital Terrain Model of Mt. Allan

Intergraph's involvement continued with the preparation of a digital terrain model of Mount Allan, site of alpine skiing events during the Games. The three-dimensional model allows planners to view the mountain from any point, including the top of the men's downhill course.

"Compatibility was a key issue, and our partners in the Games – the City of Calgary, the University of Calgary, and the Province of Alberta – all use Intergraph systems."

The Olympic Speed Skating Oval

As a demonstration of facilities modeling concepts, Intergraph prepared a model of the Olympic Speed Skating Oval. Scheduled for completion in April 1987 on the University of Calgary campus, the Oval will be the world's first 400-meter indoor speed skating oval and will seat 4,000 spectators. The model, compiled at Intergraph corporate headquarters in Huntsville, provides the XV Olympic Winter Games Organizing Committee with the ability to view the interior or exterior of the Oval from any vantage point.

Site Plans and Seating Arrangements

The OCO '88 graphics department employs Intergraph's Architectural Production/Design Package (APDP), and Architectural Modeling (AMOD) software, in addition to basic IGDS (Interactive Graphics Design Software) for the design of the various Olympic facilities. Olympic development on the Intergraph system will span a total of three-and-one-half years. The system is being used to construct multilevel site plans for each of seven sites, encompassing more than 49 buildings. These site plans serve a variety of purposes. Seating arrangements and availability are being coordinated using system-generated facility plans, as are space requirements for judges, competitors, media, crowd control, and food and medical services.

Opening and Closing Ceremonies

A more esoteric use of the site plans is the planning of the opening and closing ceremonies, which will be held at the University of Calgary's McMahon Stadium. Stage management activities such as lighting, cameras, and performer positions will be evaluated on the Intergraph system.

The Intergraph system also serves for space planning. Existing furniture, power supplies, and access routes are being added to the site plans. When the opening date of the Games approaches the placement of temporary facilities such as trailers, washrooms, and transit routing, will be coordinated using system-generated plans.

This article was originally published (before modification) in Intergraph's newsletter, 'Intervue', Volume 6, Number 1. It is printed here with thanks to Intergraph, for their permission. Please note that the illustrations were initially in color and hence cannot be truly represented.

Tracy Spencer is the manager of corporate communications at Intergraph Systems Ltd. in Calgary, Alberta.

JOINT VENTURE BETWEEN CCA CORPORATE MEMBERS

For Immediate Release

Victoria, British Columbia, December 17, 1987 – INTERGRAPH SYSTEMS LTD., a leading supplier of interactive graphics systems in Canada, has signed an agreement with PAMAP GRAPHICS LTD. to cooperate in the marketing of jointly developed Geographic Information Systems (GIS) solutions.

Systems solutions are derived from both firms strengths in hardware systems and application software, especially the comprehensive geographic information systems software developed by Pamap Graphics for natural resource applications.

Intergraph's powerful new standalone 32, 100, 200 and 300 series UNIX/PC–DOS workstations and fileservers, XNS Ethernet networking, and VAX/VMS based 200, 8500, and 8600 series computers provide the application software with the largest integrated hardware solutions platform for distributed GIS tasks available anywhere.

GIS solutions arising from the agreement range from single low cost, entry level workstations with Pamap Graphics GIS software up to very large distributed environments comprising mainframe computing centers and workstations running combinations of compatible Intergraph and Pamap applications software.

Under the terms of the agreement both Intergraph Systems and Pamap Graphics will also continue to operate their own independent development and marketing efforts.

For Further Information:

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Calgary, Alberta T2E 7J2
(403) 250–6100

Mr. Peter Sallaway
Vice President
PAMAP GRAPHICS LTD.
301 – 3440 Douglas Street
Victoria, British Colmbia V8Z 3L5
(604) 381–3838

Founded in 1969, Intergraph is the world's largest company dedicated to developing and manufacturing interactive computer graphics systems. More than 3,000 of its turnkey graphics systems have been installed worldwide, with over 200 systems and more than 830 workstations installed in Canada. These systems offer substantial productivity increases in mechanical design and manufacturing; architecture, engineering, and construction applications; electronics design and manufacturing; general cartography; land use and resource management; energy exploration; facilities management for public and private utilities; and electronic publishing. Intergraph Systems Ltd. is the Canadian subsidiary of Intergraph Corporation of Huntsville, Alabama.

OSU MAP-for-the-PC Version 2.0 – Fall 1987

The Map Analysis Program (MAP), originally created by Dana Tomlin, is a well-known, grid cell-based, geographic information system. The large machine version has been widely distributed, and over the last several years has been used by a number of universities to introduce their students to basic GIS concepts.

About two years ago the original main-frame code was ported to the IBM PC by Dana Tomlin, who then made the source code available to a group of universities interested in further development of the software for teaching purposes. One version of this software, incorporating a number of enhancements including a much improved use interface, is now supported and distributed by the Department of Geography of the Ohio State University.

OSU MAP-for-the-PC is primarily intended for instructional use in colleges and universities, although its enhanced capabilities may also make it useful in other situations (e.g., small planning agencies or third world situations) where professional staff need some introduction to GIS prior to the acquisition and utilization of a larger, commercial GIS. A major factor in the redesign of the OSU version has been use of a royalty-free, device independent graphics driver which may be distributed with the program without additional charge.

Non-commercial users may purchase a single copy of OSU MAP-for-the-PC and then locally reproduce additional copies of the program, data sets and documentation for use within the organization (e.g., to give to students) without any additional charge. Commercial purchasers are not permitted to make and distribute additional copies of the program, databases, utilities or documentation.

Program Capabilities

This program will operate on any IBM PC/XT or PC/AT (including 100% compatibles) with at least 512 KB of memory and with either a Hercules-compatible, monochrome graphics display or a fully populated Extended Graphics Adaptor)EGA) and appropriate color monitor installed. Preliminary tests also indicate that it will operate without modification using the VGA graphics system of the IBM PS/2.

An optimum working environment would include 640 KB of memory with a math co-processor (8087/80287) installed. This permits the program to handle databases of about 55,000 grid cells at a reasonable speed; with 512 KB of memory, and without the math co-processor, only about 15,000 grid cells may be contained in the database and certain operations (e.g., CONTOUR) will run slowly.

Graphics Driver

The program uses two memory-resident programs, products of the MetaWINDOW Software Corporation, to provide screen graphics and monochrome screen copies on the dot matrix printer. No plotter support is available at the present time, but a wide variety of graphics boards (e.g., AT&T) are supported.

User Interface

The user interface has been completely rewritten to enhance student use of the program. Most of the command-driven structure of the original MAP program has been retained, but extensive on-line help is now available, and proper command syntax may be obtained by the user even while commands are being entered. This is accomplished through the use of pull-down text, syntax and legend windows which may be created and dissolved over the basic map display without forcing the user to recreate the map.

Professor Duane F. Marble
Department of Geography
The Ohio State University
Columbus, Ohio 43210
Telephone: 614/292-2250

Sample output, see also cover illustration

Forum for Educators at the St. Louis ACSM/ASPRS meeting.

On Monday, March 14, 4 to 6 PM there will be a forum for surveying and mapping educators, arranged by Jim Carter, with 7 or 8 panelists each of whom will represent employers. The subject will be 'what employers want and expect from students entering the job market.' The idea is to get a better idea of what employers want from students and by so doing this establishing what should be covered in education programs.

" I am not looking to have accredited programs in cartography, GIS, etc., but I do think the professional organizations should go on record as to the core of the viable and professional program."

-James Carter

UNIVERSITY DEPARTMENTS NEWS

University of Syracuse, Geography

Our proposal for NCGIA will be delivered to NSF next week. It's a strong one--as, no doubt, those submitted from several other instutions will be. There is a lot of related work going on here and on the adjoining campus of the College of Environmental Scinece and Forestry (a unit of the State Univ. of New York with which SU has signed a research consortium agreement, and with which students freely and often cross-enroll for courses). We have hired two new staff to start this fall--Dan Griffith (from SUNY Buffalo, a top-notch scholar in spatial statistics) and Bob McMaster (from UCLA, the GIS geographer whom several other departments were trying to hire). In addition, we have another position, to be filled for Fall 1989, by a GIS-related geographer. And in no way are these positions contingent on winning the NCGIA.

Plus, for over a year now we have had a top-notch graphics lab, with Erdas, a Gould supermini, a micro-Vax, a Silicon Graphics, digitizers, plotters, numerous Macs and PCs, a Linotron 100 typesetter that produces graphics with 1300 DPI resolution, and (most recently) Arc/Info. And the beauty of it is that it's on the Academic Computing budget, rather than on the geography budget. Hence we can afford maintenance and expect growth.

- Mark Monmonier

University of California, Berkeley,

Perhaps as important as personnel changes (retirements and appointments) over the past two years ha been the 'computerization' blitz of the department. Out of nowhere has come a cornucopia of funds and under the leadership of DAN HOLMES, (MA'76, MLS'84) and newly appointed DON BAIN (AB'72) the department overnight has become the seat of an important computer installation, officially known as the Geography Distributed Computing Facility.

The large interior flat map room has been gutted and converted into an airy and well equipped computer graphics and cartography laboratory. (The maps were relocated.) It currently houses three Apple Macintosh microcomputers, an IBM AT, a graphics terminal, and Apple Laser Writer, a digital scanner, and several digitizing tablets, including one large enough to accommodate wall maps. The Dickinson Library has been remodeled to accommodate five Macintoshes and one IBM- Pc-XT, along with another Laser Writer. Even the departmental office is computerized, with three Macintoshes and a Laser Writer (with which the issue of the I.G. was composed and printed). A former storage room has been equipped as a color graphics lab, with AT&T TARGA boards in an IBM AT connected to a video camera and recorder. An Eikonix camera linked to a DEC MicroVAX-GPX provides truly state-of-the-art digital images.

Software in use on the various systems spans the range of computer applications, from word processing, outlining, and desktop publishing through statistical analysis and communications to graphs, maps, and animation. Many of the programs now appearing on microcomputers are reincarnations of easier to use and sometimes more powerful as well.

The computers have, in their first year, revolutionized the work habits of many of the graduate students, with near publication-quality laser printed text and graphics on computer uses in geography will be offered in Fall '87 by Homes, Bain, and Cherie Semans, who doubles as department cartographer.

(Reprinted from the University of California, at Berkeley, Geography newsletter: "The Itinerant Geographer"

University of New Brunswick, Forestry

GRADUATE STUDIES IN MAP ANALYSIS/ GEOGRAPHIC INFORMATION SYSTEMS

The Faculty of Forestry is seeking students to pursue study and research at the Master's level in the application of Geographic Information Systems (GIS) and spatial analysis in forestry. Applications are welcomed from individuals who have demonstrated academic achievement in undergraduate programs of either forestry or computer science. You will join an already active group of graduate computer-based mapping and analysis in forestry is well established and active. Examples of current graduate projects include:

*planning aerial spray block layouts for New Brunswick's spruce budworm spray program using a GIS;
*using a spatial database and map analysis techniques in scheduling urban tree maintenance activities for the City of Fredericton;
*using a microcomputer-based GIS to maintain a research and management database for UNB's Woodlot;
*GIS-assisted harvest scheduling.

Research facilities include PC and Macintosh microcomputers; Tektronix graphics hardware; full-sized digitizing table; local area network access to an IBM 3090 mainframe; microcomputer and mainframe GIS and DBMS software; and access to New Brunswick's GIS-maintained forestry database.

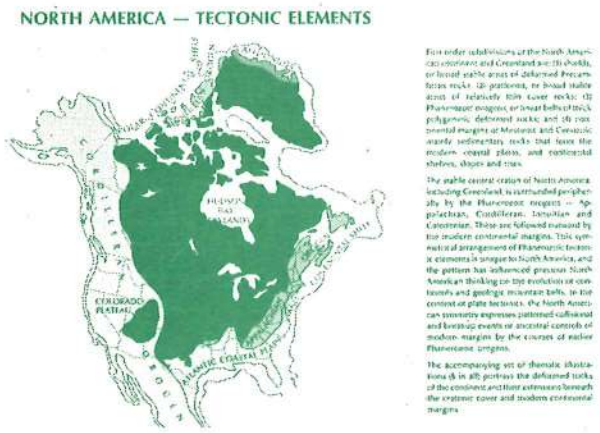
For further information and application forms:
Professor R.B.B. Dickson, Director of Graduate Studies, Faculty of Forestry, UNB-BSN 44555, Fredericton, NB E3B 6C2

What's your company/department up to?
Send suitable news for this page to the newsletter editor, address on page 2.

CARTOGRAPHIC PRODUCTS

CARTOGRAPHIC POSTCARDS

NORTH AMERICA: Thematic tectonic maps



1. Tectonic elements
2. Time of last formation
3. Time of first deformation
4. Miogeoclines and terranes
5. Suture zones and terrane boundaries
6. Time of accretion

All compatible, color postcard format. Taken from compilations by Harold Williams, Paul Hoffman, John Lewry, Jim Monger and Toby Rivers. Cartography by Memorial University Cartographic Laboratory.
Set of six=$5.00 (in advance to Appalachian Research Fund)
Available from:
H. Williams, Dept. of Earth Sciences, Memorial University of Newfoundland, St. John's, Newfoundland, A1B 3X5.

NEW BOOK:

Map Appreciation 1988, (a cartographic text) by Mark Monmonier, Syracuse University and George A. Schnell, The College at New Paltz, State University of New York.Prentice Hall, College Hall, College Operations Dept., Englewood Cliffs, NJ, 07632., 431pp.
In Canada: Carl Henderson, Prentice Hall Canada, 1870 Birchmount Road, Scarborough, Ontario, M1P 2J7.
Contents:Photomaps and remotely sensed images, maps of the landscape, and atmosphere, population, political maps, maps of the municipality, old maps, dramatic effects with maps, computer maps.

The U. of Chicago Press has accepted **Mark Monmonier's** book:

" Maps with the News: The Development of American Journalistic Cartography"

(for publication in Spring 1989 if all goes well--the press board has approved publication, but the contract is not yet final).

ATLAS REVIEWS

As Atlas and Map review editor of *Cartographica*, I receive a variety of atlases for review each year. For each I seek a willing and qualified reviewer, able to return a manuscript review to me within six to eight weeks. There is no payment, but you do get to keep the item that you reviewed. I am very appreciative of those who continue to perform such tasks, the results of which can be seen in recent issues of *Cartographica*. I am also happy to hear form more volunteer reviewers who may write to me at the Department of Geography, The University of Calgary, Calgary, T2N 1N4, Canada. Please include a brief statement of your topical and areal interests.

-Michael R.C. Coulson

High Mountain Cartography:
Mountain Research and Development, Vol 7, #4, Nov. 1987
A special issue devoted to high mountain cartography containing articles on a new Nepal map sheet, DTM's for high mountains, Orthophoto Maps and Orthophotos, geomorphological mapping, glacier mapping in the Alps, snow depletion maps (Austria), wildlife conservation and rural development planning (Ethiopia), and includes 8 color printed map sheets. Cost: US$20.

Order and enquiries :
Mountain Research and Development,
International Mountain Society, P.O.Box 3128,
Boulder, Colorado, 80307, U.S.A.

CCA PUBLICATIONS

1. **Basic Cartography, for students and technicians, Volume I,** a text dealing with chapters contributed by different authors on the history of cartography, the field of cartography, theory of cartographic expression and design, techniques of map drawing and lettering and map reproduction. Published by the ICA (1984)Price: $15 (members), $18 (non-members).
2. **Computer Assisted Cartography and Geographic Information Processing: Hope and Realism;** David H. Douglas and A. Raymond Boyle. (1982). This collection of papers by experts in these fields was compiled by two ex-presidents of the CCA from a conference at the University of Calgary in 1981. Price: $7.95 (members), $5.95 (students), $9.95 (non-members).
3. **CCA lapel pins.** Not exactly a publication, but this handsome 3 colour pin is available for $2.50.

Send orders to: Louis Cardinal (CCA), Maps Division, National Archives of Canada, 395 Wellington St., Ottawa, Ont. K1A 0N3 (tel: 613-996-7619)

POSITIONS AVAILABLE

GIS/Computer cartography positions:

Texas, San Marcos, Geography and planning. assistant professor, tenure track, Sept. 1, 1988, with secondary regional interest. Submit vita, statement of how you would fit in and three references by March 1, to; Richard G. Boehm, Chairman, Dept. of geography/Planning, Southwest Texas State University, San Marcos, Texas, 78666-4616.

Ohio, Cincinatti, Assistant professor, tenure track, Sept. 1988. secondary interest: urban-economic. Submit application, resume and names of three referees by March 1988 to: Robert South, Head, Department of Geography, university of Cincinatti, Cincinatti, Ohio.

Alabama, Auburn, Assistant/Associate professor, tenure track. Interest also in remote sensing; secondary interest: Soviet Union, travel or tourism. Submit to: tom L. Martinson, Head, Department of Geography, 2190 Haley Centre, Auburn University, AL 36849-5224.

Ohio, Toledo, Faculty member. Submit to: Henry E. Moon, Jr., College of Arts and Sciences, department of Geography and Planning, University of Toledo, 2801 W. Bancroft Street, Toledo, Ohio 43606.

Kansas, Geography, Assistant or associate professor specializing in *Geographic Information Systems.* Full-time, tenure-track appointment. Preference will be given to candidates who have expertise in GIS and who can integrate with the department's other strengths in remote sensing, cartography, physical, environmental and human geography. Candidates will be expected to demonstrate interest in development of an externally funded research program and in supervising graduate research. The department has a well-equiped remote sensing/GIS laboratory, augmented by significant external GIS facilities, and an aggressive facilities enhancement program in which the successful candidate will be involved. To begin in August 1988: Applicants should submit a letter detailing research and teaching interests, vita and names of three references by March 1, 1988. Apply: Chair, Search Committee, Department of Geography, University of Kansas, Lawrence, KS 66045-2121, (913) 864-5143.

University of Calgary, Alberta, Assistant professor. Preference will be given to candidates who specialize in one or more of the following areas: Environmental Studies, Natural Resources, Recreation, Tourism, and Remote Sensing /Air Photos and their Interpretation. Ph.D. required. Current minimum salary: $31,247 per annum, begin July 1, 1988. Applicants should send a curriculum vitae and arrange to have three letters of reference sent prior to April 20, 1988: Dr. L.A. Rosenvall, Head, Department of Geography, University of Calgary, 2500 University Drive N.W., Calgary, Alberta, T2N 1N4.

ELECTRONIC MAIL ADDRESSES

We currently have the following electronic mail addresses for (over 50) CCA members; if your name is not on this list, and you have an address, please forward it to the newsletter editor/secretary (Roger Wheate). All those who have an account with a University/College mainframe should have a Bitnet address. This is a fast, cheap, effective method of communication: much of the newsletter can be submitted using this channel. The list below has been updated and corrected; please discard previous lists. Note that David Mark has a list of over 120 geographers' addresses.

Vince Andrews:	ANDREWS@GE.BBK.AC.UK
Marc Armstrong:	BLAMMGPD@UIAMVS
Alan Baker:	ABAKER@UTORONTO
Mike Blakemore:	GGMO@UK.AC.DUR.MTS
Kurt Brassel:	K505820@CZHRZU1A
Malcolm Brown:	MABROWN@UOFMCC
Barbara Buttenfield:	GEOBABS@UBVMS
Bill Carstenson:	CARSTENS@VTVM1
James Carter:	CARTERJR@UTKVX1
Nick Chrisman:	CHRISMAN@UWARITA
Keith Clarke:	KCCHC@CUNYVM
David Douglas:	DHDAD@UOTTAWA
Karen Dutton-Marion:	KEMarion@UNCAMULT
Ron Eastman:	REASTMAN@CLARKU
Martin Feuchtwanger:	USERCJSW@SFU
Andrew Frank:	FRANK@MECAN1
Chris Gold:	CGold@MUN
Mike Goodchild:	A3751@UWOCC1.
Bernard Gutsell:	GUTSELL@YORKVM1
John Honsaker:	John_L_Honsaker@UQVMTS
Peter Keller:	SEAMUS@UVVM
Nina Lam:	GANLAM@LSUVM
Brian Klinkenberg:	USERKLNK@UBCMTSG
Y.C.Lee:	SE@UNBMVS1
Mark Maclennan:	MMACLENN@WATDCS
Duane Marble:	TS4628@OHSTVMA
David Mark:	GEODMM@UBVMSA
Matt McGranahan:	MATT@UHCCUX
Robert McMaster:	IIL2RBM@UCLAMVS
Hal Moellering:	TS4053@ OHSTVMA.
Mark Monmonier:	MMONMONI@SUNRISE
Val Noronha:	USERNORO@UALTAMTS
Donna Peuquet:	PEUQUET@PSUVAX1
Tom Poiker:	USERTONI@SFU
Wilfred Reedijk:	9069135@UNBMVS1
Michel Rheault:	CCIB@UDESVM
David Rhind:	RHIND@GE.BBK.AC.UK
Vince Robinson:	VBRobinson@UNCAMULT
Bob Rugg:	RUGG@VCUMVS
Jay Sandhu:	TS1865@OHSTVMA
Roger Tomlinson:	CAG@UOTTAWA
Mike Shasko:	Dallas@UVVM
Gordon Shields:	SHIELDS@VAXR.UWO.CDN
Alvin Simms:	Simms@UNCAMULT
Fraser Taylor:	FTaylor@CARLETON
RenVasiliev:	V073GXHM@UBVMS
Nigel Waters:	Waters@UNCAMULT
TomWaugh:	TCW@GEOVAX.ED.AC.UK
RogerWheate:	Wheate@UNCAMULT
Cliff Wood:	CHWood@MUN
Alberta Wood:	AWood@MUN
Leon Yacher:	YACHER@CTSTATEU

"YOU'RE A LONG WAY FROM HOME" (EH?)

David M. Mark
State University of New York at Buffalo
Buffalo, New York 14260

INTRODUCTION

During June and July of 1986, I made a trans-continental drive from Buffalo to Vancouver and back in my car, which bears New York state license plates. At least four times during that journey, strangers came up to me and said: "You're a long way from home." The purpose of this note is to document this phenomenon, and to call for further data. Although the phenomenon may not be "cartographic" in the narrow sense, it appears to be related to spatial cognition, often an area of study for cartographers.

THE OBSERVATIONS

On 23 June 1986, I stopped at a gas-station just north of Stonewall, Manitoba. I asked the attendant for change to use in a soft- drink vending machine, and as we walked back toward my car, he suddenly said:
"You're a long way from home." This struck me as unusual: in five previous trans-Canada drives (three times with British Columbia license plates, and twice with Ontario plates), I do not recall anyone telling me that I was "a long way from home."

Then, on my east-bound drive, this same phenomenon happened to me three times within 24 hours. As I walked out of a supermarket in Foremost, Alberta, on 15 July 1986, an employee of the store was loading groceries into a delivery truck parked next to my car.
"You're a long way from home," he said to me. The next day (15 July 1986), the phenomenon happened twice. In a self-serve gas station on the Trans Canada Highway at Swift Current, Saskatchewan, a car with Manitoba license plates pulled in next to me. "You're a long way from home" were the driver's first words to me. Just five minutes latter, I was the first car stopped by a flag-man at a bridge-repair site. The flag-man walked over to my window, and said:
"You're a long way from home."

DISCUSSION

One feature of note is that the phrase was exactly the same on each of the four occasions. Furthermore, in the last three cases, these were the very first words the person said to me. It seems safe to assume that all of the above people expected me to be aware of the relation between where I was and "home"; I assume that they actually meant something like this: "I have noticed where your home (apparently) is, and that place is a long way from here, and I want you to know that I have noticed." I do not remember this happening on previous trips when I was driving a car with Ontario license plates. However, I currently live less than 20 kilometers from Ontario, and only about 200 km from my previous residence in London, Ontario. Furthermore, almost a million Ontario residents live farther from the prairie Provinces than I do. So although the physical distance from my home to the prairies had increased very little, it seems that, in the minds of some prairie residents, the perceived distance to "New York" was much greater than the perceived distance to Ontario. All of these events ocurred more than 2000 km from Toronto, and even New York city itself is only about 800 km farther away. However, it seems that the cognitive distance to "New York", on the east coast and in another country, is much greater than the distance to "Ontario". This may be an instance of the same border influence on effective distance demonstrated long ago in J. Ross Mackay's classic study of inter-city telephone traffic.

I would be very interested to hear of any other cases of people being told: "You're a long way from home" by strangers. Are exactly these same words used? Is this phenomenon peculiar to the Canadian prairie Provinces? If so, why? If not, where else does it occur? If this has ever happened to you, please tell me where, when, where you actually lived at the time, how the person knew, and any other associated facts. If I get more data, I will report the results at a later date.

REMEMBER WHEN????

A ***byte*** was what happened to you when you teased the neighbors' dog.
ROM was a museum in Toronto.
A ***mouse*** ran across the floor.
Syntax was money you paid to the government for booze and cigarettes.
Cursors used foul language.
Basic was something that was so simple even you could understand it.
Keyboards were used only by people like Elton John
Mode was something that went à la pie.
Dim was what you did with the lights on a hot date.
Graphics was how you told your friends about it!
Output was what you used to do to the garbage.
An ***error*** was something the Montral Expos made a lot of.
Memory was something you lost before a test.
A ***chip*** was a great greasy snack.
A ***RAM*** was what chased the ewes around.
And a ***computer*** was something you could never own!

(Adapted from John Caspic McManus in Education Organization of Ontario Newsletter.)

More colorful speech:
Murine - pertaining to a mouse (similar to canine, feline, bovine, etc.), hence the little box on your digitising pad should more correctly be known as a 'murine device'.

Optical Disk Storage

Energy, Mines and Resources Canada is responsible for the compilation, production and maintenance of some 20 000 maps, including topographical, thematic and cadastral maps along with aeronautical charts and related publications. Rarely in 200-odd years of government mapmaking have cartographic experts not been busy devising ways of giving Canada better maps.

Current development includes the adaptation of optical disk technology specifically for the storage and protection of map data. Results have been spectacular. A primary objective of the centre's work is to keep EMR out of a costly technology squeeze. Findings to date, however, show that optical disk storage, using the current state of the art, could be adopted immediately.

Ben Low and David Terroux, head of the remote sensing group for mapping, began adapting the optical disk to provide much greater efficiency to digitized map storage technology. Having originally taken a leap forward with taped storage, they set out to evaluate this next significant surge. That meant overcoming the space, speed and reliability snags that overtook the earlier technology in data storage. The present tapes put a heavy demand on space. Stored tapes also have to be exercised and verified occasionally to avoid deterioration.

The data in mapping are complex and massive. A highly featured map covering an urban area like Ottawa or Calgary at 1:50 000 will require about 12 megabytes of data. A prairie map might require only half that much and a section of the Rockies would require about 10 megabytes. The 12-inch disks will capture 1.0 gigabyte of data per side. This means that a single-sided disk can contain the information equivalent to 150 of the 2400-foot tapes of 1600 bpi. And random access will turn up Paddockwood, Saskatchewan in a flash compared with a slow tape search.

The Development Centre crew has met its basic objectives, showing that OD storage for map data is viable. With fast-moving developments by competing manufacturers, they maintain respect for a galloping technology that is still in need of standards.

(From "Optical disks store map data" by Ben Low, in 'GEOS' 1987, Vol 16,

Joint Satellite Mapping and Remote Sensing Committee
210 Little Falls Street, Falls Church, VA 22046

The President
The White House
Washington, DC 20500

October 23, 1987

Dear Mr. President:

One of the truly great accomplishments of the U.S. space effort has been the Landsat Earth-sensing program which has provided valuable information to our government, industry, and the general public. The international aspects of this program have brought great economic and foreign policy benefits to the United States. We now see the United States rapidly falling behind in such endeavors, but believe there is an action that, at reasonable cost, can reestablish this country in the forefront of space technology.

We hereby propose that the United States Government establish by 1992 (the International Space Year) a truly operational Earth Remote Sensing Satellite Program. Such a state-of-the-art system would monitor and map this Earth within acceptable resolution limits and would find support from all concerned with life on this planet.

We, the American Society for Photogrammetry and Remote Sensing (ASPRS), and the American Congress on Surveying and Mapping (ACSM), speak directly for over 16,000 members. These two Societies encompass the technical expertise and experience to assist in the definition of a proper system in conjunction with the concerned Federal Agencies.

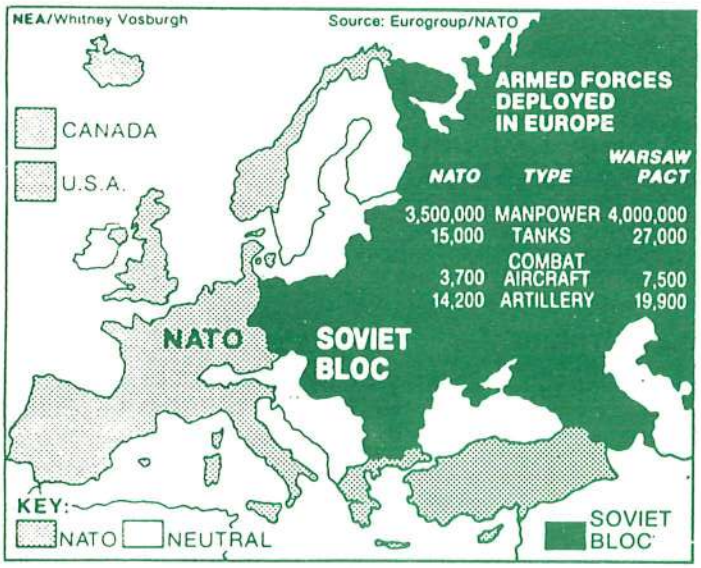
We have studied the basic problem of satellite Earth-sensing for over 20 years and offer our assistance in defining the replacement for the magnificent, but now obsolescent, Landsat system.

Sincerely yours,

John J. Graham
President, ASPRS

Alberta Auringer Wood
President, ACSM

(From the ACSM Bulletin, #111, December 1987.)



Curious map corner: "A long way from home" ?
(from the Globe and Mail)

CANADIAN CARTOGRAPHIC ASSOCIATION/
ASSOCIATION CANADIENNE DE CARTOGRAPHIE
1988
PRESIDENT'S PRIZE COMPETITION/
CONCOURS POUR LE PRIX DU PRESIDENT

Submissions are invited for the 1987-88 President's Prize competition. The competition is open to students of post-secondary institutions, and to persons occupying junior positions in places of employment where maps are made or used. The competition this year will be for awards in five general categories, each with a small monetary component, (i.e. in the order of $50.00 each, except for category 5), and certificates which will be presented at the 1988 Toronto Annual meeting. In the Monochromatic and Colour Map categories, awards will be given both to the best submission from a technical institution and to the best submission from a degree-granting university.

Vous êtes invités à soumettre votre projet au concours du "Prix du président 1987-88". Ce concours est ouvert aux étudiants de niveau post-secondaire ainsi qu'aux personnes venant d'accéder au marché du travail et occupant depuis peu un emploi dans un organisme fabriquant ou utilisant des cartes. Le concours, cette année, comprend des prix répartis dans cinq catégories. Ces prix consistent en un montant d'argent de l'orde de 50,00$ et un certificat. Les prix seront décernés lors de la réunion annuelle de l'ACC qui se tiendra cette année à Toronto.

The categories of award are:/*Les cinq catégories comprennent:*

1. Monochromatic Map (Formal or journalistic style): A printed map in black and white suitable as an accompaniment with a submission to a learned academic journal, with a brief written description (i.e. less than 500 words) stating the purpose of the map. Emphasis in this category will be placed on innovation with respect to subject selection and interpretation, symbolization and graphic design.
Une carte monochrome (conventionnelle ou de type journalistique): une carte imprimée en noir et blanc, de niveau acceptable en tant que document d'accompagnement pour un article soumis à une revue scienfifique. Celle-ci devrait être accomagnée d'une brève description (maximum 500 mots) indiquant le but de la carte. L'évaluation pour cette catégorie, portera sur l'innovations en regard du sujet choisi, de son interprétation, de sa symbolisation et de la qualité graphique.

2. Printed map in Colour (or taken to the proof stage): submitted with a brief written description (i.e. less than 500 words) stating the design objectives of the map. Emphasis in this category will be placed on excellence of execution and fulfillment of stated design objectives.
Une carte imprimée couleur (ou à l'étape de l'épreuve couleur): soumise avec une brève description (maximum 500 mots) indiquant le but de la carte. L'évaluation portera sur la qualité de l'exécution et la réalisation des objectifs déclarés du projet

3. Formal Written Page: on any theoretical, administrative or practical topic related to cartography. The paper of approximately 2000 words should be submitted in the style and format required by CARTOGRAPHICA.
Un texte écrit conventionnel: portant sur des sujets cartographiques d'ordre théorique, administratif ou pratique. L'article d'environ 2000 mots devrait être soumis dans le style et le format exigé par la revue CARTOGRAPHICA.

4. Computer algorithm (specific to a cartographic problem): submitted in code form in any language with a brief description and evidence of operation.
Un algorithme d'ordinateur (spécifique à résoudre un problème cartographique); soumis sous forme de code, de quelque langage que ce soit, accompagné d'une brève description et d'une preuve qu'il fonctionne.

5. Best 'journalistic' map design. (prize is US$200.00), donated by Time Magazine). Map should be accompanied by a brief written description, stating the purpose of the map.
Le mieux 'journalistique' dessain cartographique. Les récompenses sont US200$ donnée par Time Magazine. Celle-ci devrait etre accompagnée d'une brève description (maximum 500 mots) indiquant le but de la carte.

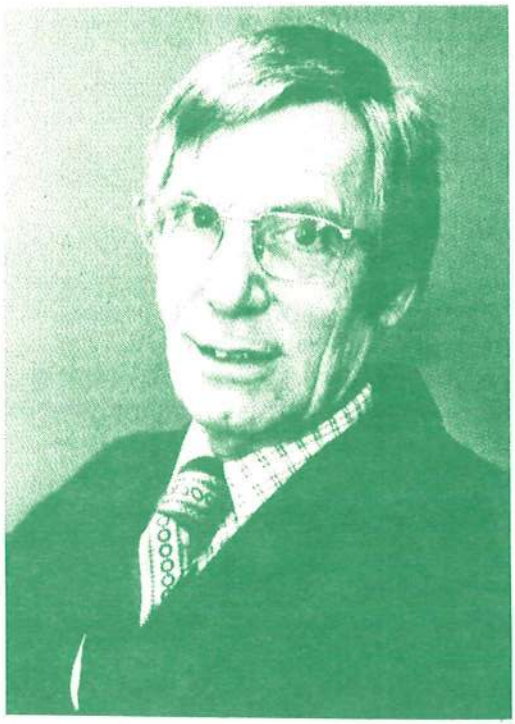
Submissions should reach the CCA office by April 20, 1988. Membership in the CCA is not required. CCA, c/o Department of Geography, Memorial University of Newfoundland, St. John's Newfoundland, A1B 3X9
Les candidatures au concours doivent parvenir a CCA, Department of Geography, Memorial Univesity of Newfoundland, St. John's, Newfoundland, A1B 3X9, au plus tard le 20 Avril 1988. Il n'est pas necessaire d'être membre de l'ACC pour participer ou concours.

NORMAN L. NICHOLSON SCHOLARSHIP IN CARTOGRAPHY

A Geographer's Geographer

Norman L. Nicholson first came to Canada as a Meteorological Officer with the Royal Air Force, seconded to the Canadian Met. Service. He served at R.A.F. Stations Mount Hope and Port Albert, during the Commonwealth Air Training Plan. He returned to the U.K. and saw service in Norway as a meteorologist. While in the UK he completed his undergraduate degree at the University of London. He returned to Canada after the war and registered as a graduate student in Geography at the University of Western Ontario. After completion of the M.A. he continued here as a lecturer in Geography. His thesis involved field research in one of the early River Conservation Authorities; the Ausable. In 1949 he was offered and accepted the post as Director of the Geographical Bureau; later the Geographical Branch of the Federal Department of Mines and Technical Surveys. While there he took a Ph.D. in Geography at the University of Ottawa. The Geographical Branch was the envy of geographers throughout the world since it was a government department that hired Geographers and Geography students in the summers to do meaningful geographic research, published the results in the *Geographical Bulletin*, edited by N.L. Nicholson and also were called Geographers. Very few Canadian Geographers of that time had not some experience with Nicholson's Branch. When the Canadian Association of Geographers was established in 1950 he was a founder member and became the first editor of *The Canadian Geographer* from 1951 to 1960. In fact the journal was for many years supported by the Geographical Branch and owes its present prestigious reputation to his work.

One of his major contributions was the production of a new Atlas of Canada in 1957 to replace the earlier edition of 1906. Nicholson and the Branch received recognition of the excellence of the work by a major internal government department award. But the Geographical Branch also supported Geomorphological Research in the Arctic, particularly Baffin Island, Railway Rationalisation in the Prairies, Ice conditions in Baffin Bay, and Coastlines in the Maritimes. If it was Geographical and Canadian, it was supported. He was a consummate civil servant and knew how to deal with bureaucracy so as to get things done.



In the 1960s the universities suddenly realised that the student population was going to grow — but who was going to teach them? The then Ontario Minister of Education was persuaded to set aside a certain amount of money to attract people back to the Universities from business and government. Nicholson was persuaded to return to Western with a newly established rank of Senior Professor. The Royal Canadian Geographical Society was in trouble. Nicholson joined the advisory and editorial Board. Norman was never happier than when he was in the classroom and teaching but the university needed experienced administrators and the post of Principal of University College tempted him. While there he was well regarded as someone who would support with money disciplines which normally had little access to research funds. He became Assistant Dean of Graduate Studies and then moved to Althouse College. He perceived a need for more information so he took a second doctorate at the Ontario Institute of Secondary Education. Finally the Geography Department reclaimed him as Chairman for three years during which he still managed to write with L.M. Sebert the definitive work on the Maps of Canada.

His service to the profession of Geography is unparalleled.

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

To qualify, an applicant must be:

1. a Canadian citizen or landed immigrant
2. a student who proposes to continue full-time studies in cartography in one of the following situations:
   a) entering the final year of community college or C.E.G.E.P. program;
   b) entering the final year of an undergraduate honours program;
   c) entering the first year of a graduate program.

To apply, the applicant must submit the following:

1. a completed application form;
2. an official transcript of all college/university courses completed and grades received;
3. letters of recommendation from **two** faculty members who are familiar with the work and abilities of the applicant. Letters must be sent **directly** to the Awards Committee;
4. a one-page, typed statement outlining the applicant's goals for continuing education in cartography.

All materials are to be received by the Awards Committee **no later than March 15.**

Persons wishing to apply may request an application form by calling (709) 737-8988 or writing:

Awards Committee — Canadian Cartographic Association
c/o Department of Geography
Memorial University of Newfoundland
St. John's, Newfoundland A1B 3X9

1988 CCA Elections: Candidate Bio-sketches

(for the offices of vice-president, secretary, and interest groups: automation, history of cartography and map use/design)

JEAN CARRIERE (Vice-President)

Professeur de cartographie à l'Université du Québec à Montréal depuis 1971, Jean Carrière est actuellement directeur du Module de géographie et co-directeur du groupe Géomatique-UQAM. Ses deux principaux champs de recherches sont les systémes d'information à références cartographiques et le langage cartographique. La thèse de doctorat soutenue en 1987 portait sur la représentation des espaces en milieu scholaire (9-11 ans) à travers les messages cartographiques.

Membre du Comité organisateur du congrès de Carto-Québec en mai 88, il a été co-responsable du groupe d'intérêts sur l'utilisation des cartes avec l'ACC en 82-83 et responsable de l'organisation du congrés de l' ACC à Montréal en 1980 dans le cadre des Sociétés Savantes.

Professor of Cartography at the Université du Québec à Montréal since 1971, Jean Carrière is presently head of the Module de géographie and co-director of the Géomatique-UQAM research-group. His two main reseach topics are Mapping Information Management System and the cartographic langage. The Ph.D. thesis presented in 1987 was developing on the representation of space in school context (9 to 11 years) through the cartographic messages.

Member of the organising comittee for Carto-Quebec meeting in May 88, he had been co-chairperson of the Map Use Interest group with the CCA in 82-83 and responsible for the organisation of the Annual CCA meeting in Montreal (1980) with the Learned Societies.

CLAUDETTE LEBLANC (Vice-President)

Claudette received a diploma in Engineering Technology from the New Brunswick Institute of Technology in 1968. She then participated in a cartographic training program at Maritime Resource Management Service (MRMS) Inc., Amherst, Nova Scotia, where she is presently employed as supervisor of Cartography and Photomechanics.

Her professional experience includes active participation in the design, production and/or supervision and management of several major thematic cartographic projects. She is presently participating in a long-term major project to create a digital data base and derived atlas for the Bay of Fundy, Gulf of Maine and Georges Bank region of Atlantic Canada. This project is being carried out jointly by Dalhousie University and St. Mary's University in Halifax, and MRMS Inc.

More recently her cartographic experience has diversified to include co-authoring a 256-page training manual entitled "Marine Resource Mapping: an Introductory Manual". This manual was published in 1987 by the Food and Agriculture Organization (FAO) of the United Nations, in Rome, Italy. She is presently editing a second manual entitlted "The Application of Remote Sensing Technology to Marine Fisheries: an Introductory Manual", scheduled to be published by FAO in early 1988. A third manual dealing with the application of GIS technology to fisheries is being considered.

Claudette is currently serving as chairperson for the Map Design Special Interest Group. During her tenure she carried out a national survey on the status of Official Tourism/Highway Map Design in Canada, with the active participation of members of the general public and numerous CCA members. The results of the survey will be available in 1988.

She considers it important to diversify the CCA membership to include more representatives from the private sector and industry. This diversification would assist in making CCA an even more dynamic association with increased membership and participation in its activities.

Claudette a obtenu un diplôme en technologie civile de l'Institut technologique du Nouveau-Brunswick en 1968. Par la suite elle participa dans un programme d'entraînement cartographique au service de Maritime Resource Management Service (MRMS) Inc., Amherst, Nouvelle-Ecosse, ou elle est présentement employée comme chef de la section cartographique et photomécanique.

Son expérience cartographique comprend une participation active dans la conception, production et/ou la supervision et la gestion de plusieurs projets cartographiques thématiques. Présentement elle participe dans un projet majeur à long terme pour la création d'une base de données et d'un atlas de la région de la baie de Fundy, Golfe de Maine et Georges Bank du Canada atlantique. Ce projet sera exécuté conjointement par Dalhousie University et St. Mary's University de Halifax et MRMS Inc.

Récemment elle fut co-auteur d'un manuel d'entraînement de 256 pages intitulé "Marine Resource Mapping: an Introductory Manual". Ce manuel fut publié en 1987 par l'organization des Nations unies pour l'alimentation et l'agriculture (FAO) à Rome, Italie. Présentement elle rédige un deuxième manuel intitulé "The Application of Remote Sensing Technology to Marine Fisheries: an Introductory Manual", prévu à être publié par FAO en 1988. Un troisiéme manuel qui traiterait de l'application des SIG aux pêches est en considération.

Claudette est couramment directrice du groupe d'intérêt "Conception des cartes". Pendant sa tenure elle a réalisé un sondage national sur la conception des cartes touristiques/routières officielles au Canada, avec la participation du public et de plusieurs membres de l'ACC. Les résultats du sondage seront publiés en 1988.

Elle considére important de diversifier la qualité de membres à l'ACC en attirant une plus grande représentation du secteur privé et de l'industrie. Cette deversification aidera l'ACC à devenir un orgaisme encore plus dynamique avec plus de membres et encouragera une participation active aux activités de l'association.

JEAN GOSSELIN (Secretary)

Currently employed as a cartographer at Memorial University with the Department og Geography. My educational background includes an M.A. in geography-cartography at "Universite Laval", Quebec. I am a member of the CCA and Carto-Quebec. I was an executive member of the latter from 1983 to 1984.

I propose to continue the work initiated by the previous secretary by improving the quality of services to members.

My research interests are in cartographic design and computer cartography (micro-computer applications). I also taught at "Universite du Quebec a Trois Rivieres" and "CEGEP Limoilou" (cartographic techniques), Quebec. I am presently in the production stage of the Atlas of Newfoundland and Labrador. This atlas is being produced for junior high school students.

GORDON SHIELDS (Secretary)

He received an M.A. in Geography (Cartography) from Queen's University at Kingston in 1980 and is presently employed as a cartographer/lecturer with the Department of Geography at the university of Western Ontario. A member of the CCA since 1977, his interests include early Canadian cartography and contemporary issues in map design. From 1985 to 1987 he served as a chairperson of the history ofCartography Interest Group and also chaired a committee to establish the guidelines for the Norman Nicholson Scholarship. If elected, he would continue to strengthen the role of the Newsletter as a medium for the exchange of news and ideas within the association.

Est présentatement à l'emploi du département de géographie de l'University of Western Ontario. Il travaille comme cartographe depuis 1980, date à laquelle il a reçu sa maîtrise de l'Université Queen's Kingston (Ontario). Membre de l'ACC depuis 1977, il s'interesse aux cartes canadiennes anciennes et la recherche contemporaine en conception des cartes. De 1985 à 1987 il a été chef du groupe d'intérêt "Histoire Cartographique". Il a aussi été coordonateur du comité pour l'établissement de la bourse Norman Nicholson.

INTEREST GROUP CHAIRPERSONS

J. RONALD EASTMAN (Automation)

Professional Affiliation : Clark University, Graduate School of Geography, Worcester, Massachusetts, 01610, USA
Relevant Educational or Experiential Background :
B.A., Bishop's University, Quebec 1971 (Psychology)
M.A. Queen's University, Ontario 1977 (Cartography)
Ph.D. Boston University, U.S.A. 1982 (Cartography)
Field experience in surveying/cartography on archaeological expeditions in Iran (Royal Ontario Museum), and Peru (Univ. of London).
Cartographic consultancy work with USAID (Baluchistan Area Development Project - Land Use Mapping), the US National Park Service (Renewable Resource Trends in East Africa atlas project), and the Commonwealth of Massachusetts (Atlas of Massachusetts project).
Author of the Idrisi GIS software system.

Service to CCA:
Interim Automation Interest Group chairman, 1987-88
Presented papers : 1977, 1978, 1982, 1985, 1987
Panel Session Discussant : 1978
Helped organize the 1977 Design IG workshop on photographic methods.
Focus Area of Proposed Activity of the Interest Group:

With my interest in geographic information systems for research and education, I am particularly concerned with fostering a very broad program for the incorporation of computer-assisted mapping technologies into the geographic and earth sciences communities. To this end, I would therefore like to focus on developing a series of support materials and activities that would allow as many members as possible to become actively involved in the development of automated cartography and geographic information systems.

Type of Activities to be Planned:

One of the main activities I would like to carry out is the development of a CCA "on-disk" library of programs, algorithms, and teaching data sets. These would be accessible to all CCA members for a modest distribution/handling fee and would provide a focus for "hands-on" participation in automation developments. In addition, I would like to see a continuation of workshops at the annual meetings, along with vendor "spotlight" sessions where members can talk to software and hardware manufacturers on a professional (non-sales) level.

SALLY RUDD (Automation)

Miss Rudd has her Masters degree in Geography from Queen's University, Kingston, Ontario. Upon leaving Queen's in 1984, she completed a one year contract as a Visiting Lecturer at the University of Victoria, Department of Geography teaching all the courses in their cartography/GIS program. She then worked with the British Columbia Ministry of Environment, Surveying and Mapping Branch to design and implement an automated toponymic data base. In May of 1986 she moved to Toronto, Ontario to take a job with ESRI Canada Limited, a firm which develops and markets GIS software, and provides consulting servies. As Manager of Consulting/Customer Support, Miss Rudd spends most of her time consulting to potential or existing GIS users and implementing GIS technology for a variety of applications and organizations.

MARGARET HUTCHISON (History of Cartography)

Professional Affiliation: Saskatchewan Archives Board
Relevant Educational Background or Experience: Master of Archival Studies, University of British Columbia. Thesis – Cartographic Records in Archives: A Shared Resource.
Staff Archivist, Maps and Architectural Drawings, Saskatchewan Archives Board, 1983 – present.
Contributing Editor, Regional News, Association of Canadian Map Libraries and Archives, 1986 – present.
Regional Editor, Saskatchewan, Association of Canadian Map Libraries and Archives, 1985 – present.

Service to CCA: Member, 1981-1983; 1987
Focus area of proposed activities of interest group: Cartographic records in Archives - what is being collected; how are the records being used;
the historical cartography of Canada and its provinces.

Type of Activity to be Planned: A session at the AGM or a one day seminar, depending on availability of speakers.

JEFFREY S. MURRAY (History of Cartography)

Professional Affiliation:
Currently employed as a map archivist with the Cartographic and Architectural Archives Division, National Archives of Canada, Ottawa, where he is responsible for the acquisition of 19th and 20th century cartographic resources showing Canada, and current foreign cartographic items of Canadian interest.
Relevant Education/Experience:
Mr. Murray has over twelve years experience in the management of heritage resources, and in the presentation of research data for the general public through lectures, exhibits, and magazine articles. He obtained his M.A. in Antrhopology from the University of Alberta in 1984. He is author of a number of publications on map archives and early Canadian cartography, including "Charting the Great Lakes," *The Archivist*, 13(3); "The Map is the Message," *The Geographical Magazine* 59(5); "Mapping the Prairies," *The Beaver* (in press); and "British - Canadian Military Cartography on the Western Front, 1914-1918," *Archivaria* (in press). He is a member of several archival and cartographic associations, and is the review editor for the Association of Canadian Map Libraries.
Focus Area of Proposed Activities:
As chairperson of the History of Cartography interest group, Mr. Murray would ensure that research papers on early cartography are reasonably well represented at the annual CCA conference and in the association's publication, *Cartographica*. In addition to these duties, Mr. Murray would also play an active part in encouraging members of the association to show an interest in educating the public on Canada's cartographic history.
Type of activity to be planned:
Mr. Murray has a strong interest in public education and in the early cartography of Canada. As chairperson of the History of Cartography interest group, he will attempt to combine these two concerns by organizing a special issue on Canada's early cartographic history for a leading national magazine.

ROBERT J. SALES (Map use and design)

Born and raised in the United Kingdom, emigrating to Canada in 1966. Completed his secondary education in Winnipeg and took Design and Drafting Technology at Red River College, followed more recently by various courses in Business Adminstration and Public Adminstration. Joined Manitoba Government in 1970 as junior draftsman in Department of Natural Resources (now known as Department of Energy and Mines). Presently holds the position of Chief, Cartographic Services, responsible for geological mapping in the Government of Manitoba.

During his tenure at Manitoba Energy and Mines he has been instrumental in upgrading their cartographic products from single colour maps made with "Letratone" patterns and "Wrico" lettering to the present standard of multi-colour maps using modern multi overlay techniques. Manitoba Energy and Mines has the largest catalogue of published maps in Manitoba.

Bob maintains an active interest in various forms of cartographic expression and is dedicated to the improvement of products and services to the map users of Canada and believes that the challenge of a succesful design is all the more critical in the relm of increased computerization of our mapping. Further use of peer group review of products published (eg. the present survey by Claudette LeBlanc on provincial highway maps) is of immense value and only will result in the furthering of "user friendly maps".

Bob is married with two children, his outside interests involve travel, reading, volunteer services (school and community councils) curling and golf.

DIANA DACEN (Map use and design)

Diana Dacen, a native of Calgary, completed both her degrees, Bachelor of Science, Geography and Master of Science, Cartography, at the University of Calgary. There, her research contributed to a rather new field - Maps for the Visually Handicapped. Presently, Diana works as an Instructor of Geography at Red Deer College, Red Deer, Alberta and as a cartographic / graphic design consultant in Calgary.
A member of the CCA since 1980, Diana has participated in the national conferences in Calgary (1982) and Burnaby (1986), presenting papers on her research and contributing to associated workshops.
As the Map Use and Design chairperson, Diana would like to encourage a more extensive and accessible communication network between those participating in innovative cartographic research and the user population.

CCA / OICC Joint Annual Conference
(York University, Toronto, Ontario
May 25, 26, and 27, 1988)

Together the CCA and the OICC invite you to participate in our joint 1988 annual conference, (which will incorporate 'Cartotechniques VIII'). It will be a fully integrated conference, with technical and paper sessions interspersed with workshops and exhibits. The conference is open to all CCA and OICC members and all others interested in cartography.

The Conference Setting

York University is situated in northwest Toronto. It is accessible by public transportation and parking is readily available. All conference activities and residence accommodations will be at one of York's colleges. Various dining facilities are available on campus for lunch and dinner.

Call For Papers

The presentation of papers and workshop sessions reflect the interests and activities of CCA and OICC members. All members are invited to participate. Some topics that have been suggested are:

. teaching GIS in post-secondary education
. provincial transportation mapping: data analysis
. cartographic language: semiology and toponymy
. geostatistical mapping
. mapping standards: the needs of government and industry
. mapping in the media and noncartographic journals
. early Canadian cartography: military and historical
. large scale municipal mapping

Workshops are being prepared on the following subjects:

. mapping on personal computers
. digital mapping
. remote sensing
. reprographic materials and techniques
. aeronautical charts
. DND mobile mapping unit

Additional papers and workshops are required to complete the program. They may be on any topic related to cartography, and may be presented in either official language. A student paper session will be presented: student papers are requested. Abstracts for papers and workshops will be published in the final program. The final deadline for submission of titles is March 25, 1988 ; abstracts: April 15, 1988, but for abstracts to appear in the newsletter, the deadline is MARCH 25.

PRELIMINARY PROGRAM

Tuesday, May 24
CCA Executive Meeting
Registration and Ice Breaking Party

Thursday, May 26
Registration
Sessions and Workshops
CCA and OICC Annual General Meetings
Conference Banquet

Saturday, May 28
Free Day in Toronto
Get Together For Remaining Delegates

Wednesday, May 25
Registration
Official Welcome And Keynote Address
Sessions And Workshops
Conference Luncheon
Wine And Cheese Party

Friday, May 27
Registration
Sessions And Workshops
Closing Session
CCA and OICC Executive Meetings
Toronto Blue Jays Baseball (50 tickets reserved, at $16.00)

Exhibits

Three types of exhibits are planned:

. examples of Canadian submissions to the International Cartographic Association, Mexico 1987.
. special exhibits of cartography (including the Historical Atlas of Canada)
. commercial exhibits

Our committee is presently contacting potential exhibitors. If you have suggestions, please contact us by March 25, 1988.

Social events:

An informal 'ice-breaking' party prior to the opening of the conference will be held on Tuesday, 24 March. May 25 will see a conference luncheon and also a wine and cheese soirée, both as part of the conference fee. The banquet on Thursday May 26, is being planned for a restaurant on the Harbour Front development, with transportation provided to and from York. On Friday May 27, 50 seats have been reserved for the major league baseball game between the Blue Jays and the Chicago White Sox at 7.30pm. Tickets are $16 each, on a first come, first served basis. Please indicate on the form provided, if you are interested: the next mailing will provide opportunities for reservations.

On Saturday 28 May, remaining attendees are invited to enjoy all that Toronto has to offer. Suggestions will be made including: Canada's wonderland, Metro Toronto Zoo, Ontario Place, Ontario Science Centre, the Royal Ontario Museum, CN Tower, or just shopping and walking in the city. Entertainment maybe provided in the evening if warranted (e.g. a BBQ), and possibly watching the Maple Leafs in the Stanley Cup Finals??

Accommodations

York University Residence

Single ($25/per night), and double ($20/per person/per night) accommodations are available. Breakfast is included. Please indicate on the preliminary registration form the nights that accommodationswill be required. Advance payment for one night will be required.

Off-Campus Accommodation

No off campus accommodations are available within easy walking distance. The closest hotels to York are:
Journey's End, 66 Norfinch Drive (Hwy 400 & Finch)
4167634700 Single $47.12, Double $54.47
Relax Plaza Hotel, 50 Norfinch Drive (Hwy 400 & Finch)
416-663-9500 Single $53.95, Double $57.95
Ramada Hotel 400/401, 1677 Wilson Avenue 416-249-8171 Single/Double $60.00 ($10.00 per additional person)
Government rate $58.00 plus tax. j
Skyline Triumph Hotel, 2737 Keele Street 416-633-2000
Single/Double $78.00 plus tax (Govt. Rate $63.00 plus tax)

The Hotel Association Of Toronto operates a free reservation service,please call 416-596-7117. Toronto is a major tourist area, please arrange accommodations early.

Registration

In order to help us to plan the Conference, we ask that you fill out the attached preliminary registration form if you are interested in attending the conference. The pre-registration fee will be approximately $100.00. Daily and Student fees will be available.Complete registration information will be available by the end of March, 1988.

We look forward to seeing you in Toronto and to a successful annual meeting.

Your Conference Organizing Committee,

Shelley Laskin, Chairman
CCA / OICC Joint Annual Conference,
c/o 608 Millwood Road,
Toronto, Ontario, M4S 1K8
(416) 4819513

CCA / OICC JOINT ANNUAL CONFERENCE

PRELIMINARY REGISTRATION FORM

York University

May 25, 26, & 28, 1988

NAME: _____

Affiliation: _____

Address: _____

_____

_____

Telephone Home: _____ Office: _____

Membership: CCA ____ OICC _____ Other _____

Planning to present a paper. Title _____

Planning to give a workshop. Title _____

Residence Accommodation Required: Single Double

Dates Required: _____

Planning To Attend:

Wine And Cheese May 25,1988	_____
Luncheon May 25,1988	_____
Banquet May 26,1988	_____
Blue Jays Game vs White Sox 7:30 PM May 27, 1988	_____

Special Needs (Disability, Dietary, etc) _____

*** REGISTRATION IS LIMITED - RETURN BY MARCH 4, 1988 ***

Shelley Laskin, Chairman,

CCA / OICC Joint Annual Conference,
c/o 608 Millwood Road,
Toronto, Ontario M4s 1K8
(416) 481-9513

CANADIAN CARTOGRAPHIC ASSOCIATION
ASSOCIATION CANADIENNE DE CARTOGRAPHIE

APPLICATION FOR TRAVEL ASSISTANCE

TO THE CCA ANNUAL GENERAL MEETING

_____
LOCATION

_____
DATE

Name _____

Address _____

_____

_____

_____

Telephone: ( ) _____ (office); ( ) _____(home)

	YES	NO
Are you:		
-- CCA member	___	___
-- Member of the Executive	___	___
-- Giving a paper	___	___
-- If yes, have you already supplied an abstract	___	___
-- Moderating a session	___	___
-- Attending Executive Meetings	___	___

PLEASE RETURN YOUR APPLICATION BY 20 APRIL AT THE LATEST TO:

Louis Cardinal, Treasurer
Canadian Cartographic Association
c/o Cartographic and Architectural Archives Division
National Archives of Canada
Ottawa, Ontario K1A 0N3

Telephone (613) 996-7619

Travel assistance is made possible by a grant from the Social Sciences and Humanities Research Council of Canada (SSHRCC); consequently it is only available to members residing in Canada. In certain cases the Association might consider granting small assistance to members residing outside Canada. Only transportation costs are eligible. The grant will be distributed according to criteria already established by the Association.

November 1987

Conférence annuelle mixte de l'ACC et de l'OICC

Université de York, Toronto, Ontario

Les 25, 26, et 27, mai 1988)

L'Association canadienne de cartographie (ACC) et L'Ontario Institut of Chartered Cartographers (OICC) sont heureux de vous inviter à participer à leur conférence annuelle mixte (inclus 'Cartotechniques VIII) Ce sera une confèrence complètement intègrée , à laquelle des sessions techniques et des communications alterneront avec des ateliers et des expositions. Tous les membres de l'OICC , de même que toutes personnes intéressées à la cartographie peuvent y assister.

Lieu de la confèrence

L'université de York est située au nord-ouest de la ville de Toronto. On peut s'y rendre en utilisant les transports en commun. Les personnes qui sont en voiture pourront profiter d'un stationnement sur place. Toutes les activités de la conférence auront lieu à un des collèges de York et du logement y sera également disponible.

Invitation à présenter des communications

La présentation de communications et les sessions d'ateliers reflètent l'intérêt et les activités des membres de l'ACC et de l'OICC. Tous les membres sont invités à participer. Certains thèmes suggérés sont:

l'enseignement du Système d'information à réfèrence spatiale (SIRS) au niveau post-secondaire;
-la cartographie du transport provincial: analyse des donnes;
-le langage cartographique: sémiologie et toponymie;
-la cartographie géo-statistique;
-les normes de la cartographie : les besoins du gouvernement et de l'industrie;
-la cartographie dans les media et dans les journaux non cartographique;
. la cartographie du début de l'époque canadienne: militaire et historique;
. la cartographie municipale grande à échelle.

On prépare des ateliers sur les sujets suivants:
-la cartographie sur les ordinateurs personnels;
-la cartographie numérique;
-la télédetection;
-les matériaux et les techniques de réprographie;
-les cartes aéronautiques;
-l'unité de cartographie mobile du MDN.

Il faudra plus de communications et d'ateliers pour compléter le reste du programme. Les sessions peuvent être présentées en français ou en anglais sur tout sujet dans le domaine de la cartographie. Des sessions de communication pour étudiants seront présentées et nous demandons une communication par étudiant. Les résumés des ateliers et les communications seront publiés dans le programme final. La date limite pour résumés dans le 'Newsletter' est le 25 mars 1988. La date limite pour presenter toutes les demandes est le 15 avril 1988.

PROGRAMME INITIAL

Le mardi 24 mai
Réunion de l'exécutif de l'ACC
Inscription et accueil

Le jeudi 26 mai
Inscription
Sessions et ateliers
Réunions annuelles générales de l'ACC et de l'OICC
Banquet

Le samedi 28 mai
Journeee libre Toronto
Petite réunion des délégués restants

Le mercredi 25 mai
Inscription
Discours inaugural et présentation du programme
Sessions et ateliers
Déjeuner-causerie Vin et fromage

Le vendredi 27 mai
Inscription
Sessions et ateliers
Session finale
Réunions des exécutifs de l'ACC et de l'OICC
Rencontre de baseball des Blue Jays de Toronto (50 billets réservés, coût 16$, veuillez signifier votre intérêt)

Expositions
On prévoit présenter trois types d'expositions:
-des exemples de présentations soumises à l'Association
-cartographique internationale (ACI) au Mexique en 1987;
-des pièces spéciales de cartographie (y compris l'Atlas Historique du Canada);
-des expositions commerciales.
Notre comité s'est déjà mis en contact avec des exposants possibles. Si vous avez des suggestions, veuillez les proposer avant le 4 mars 1988.

Les événements sociales
Il y a un 'brise-glace' soirée devant de la conférence le mardi 24 mars. Le mecredi 25 mars, y-at-il un déjeuner et aussi un causerie vin et fromage.On fait les plans du banquet le jeudi 26 mars, sur le développement du 'Harbour Front' avec transport à/de York. Le vendredi 27 mai, nous avons réservé cinquante billets pour le rencontre de baseball les Blue Jays de Toronto et les White Sox de Chicago. S'il vous plait, indiquez sur la forme, si vous êtes intéressé. Le samedi 28 mai, nous vous invitons à prendre plaisir à la cité de Toronto. Nous suggèrons pourexample, le "'Wonderland', Metro-Toronto zoo, la place d'Ontario, le Centre de science d'Ontario, ROM, le tour CN, ou à courir les magasins. Les divertissements peuvent inclure un barbecue et à voir les Maple Leafs dans le finale du Coupe Stanley! (* ce paragraphe était traduit par l'editeur à la hâte: s'il vous plaît à excuser mon français 'Calgarienne'!)

Réservations
Résidence de l'université de York
Chambre individuelle (25$ /nuit par personne), chambre à deux lits (20$ /nuit épar personne), les petit déjeuners sont inclus.
Prière d'indiquer lors de l'inscription initiale si vous avez besoin d'une réservation.
Le paiement anticipé pour une nuit sera exigé.

Logement hors du campus
Aucun logement hors du campus et à proximité de marche n'est disponible. Voici une liste des hôtels les plus proches de l'université de York.
Journey's End, 66 Norfinch Drive (Hwy 400 & Finch)
416-763-4700 Chambre individuelle 47,12 $, Chambre à deux lits 54,47 $
Relax Plaza Hotel, 50 Norfinch Drive (Hwy 400 & Finch)
416-663-9500 Chambre individuelle 53,95 $, Chambre à deux lits 57,95 $
Ramada Hotel 400/401, 1677 ave Wilson 416-249-8171
Chambre individuelle et à deux lits 60 $ (10 $ par personne additionnelle) Taux du gouvernement 58 $, taxe en sus
Skyline Triumph Hotel, 2737 rue Keele 416-633-2000
Chambre individuelle et à deux lits 78 $, taxe en sus,Taux gouvernement 63 $, taxe en sus

L'"Hotel Association Of Toronto" offre un service gratuit de réservation, veuillez appeler au 416-596-7117. La région de Toronto est très touristique, assurez-vous de faire vos réservations très tôt.

Inscription
Afin de nous aider à la planification de la conférence, veuillez remplir le formulaire d'inscription initial ci-joint, si vous désirez participer à la Conférence. Les droits d'inscription seront environs 100$. Des tarifs journaliers et des tarifs spéciaux pour étudiants seront offerts. Des renseignements complets concernant l'inscription seront disponibles à la fin mars 1988.

Nous attendons avec impatience le plaisir de vous voir à Toronto et nous réjouissons à l'avance du succès de la conférence

Votre comité organisateur de la conférence,

Shelley Laskin, présidente
Conférence annuelle mixte de l'ACC et de l'OICC
608 Millwood Road,
Toronto, Ontario, M4S 1K8
(416) 481-9513

CONFERENCE ANNUELLE MIXTE DE L'ACC ET DE L'OICC

FORMULAIRE INITIAL D'INSCRIPTION
UNIVERSITÉ de YORK, TORONTO
LES 25, 26, et 27 MAI 1988

NOM : _____

Affiliation : _____

Adresse : _____

_____

_____

Téléphone Résidence: _____ Bureau : _____

Adhésion : ACC _____ OICC _____ Autres _____

Communication Proposée. Titre _____
Atelier Proposé Titre _____

Besoin d'une réservation à la résidence :

Chambre individuelle _____ Chambre à deux lits _____

Dates : _____

Participation Prévues

Vin et fromage, 25 mai 1988	_____
Déjeuner-causerie 25 mai 1988	_____
Banquet, 26 mai 1988	_____
Rencontre Blue Jays / White Sox 19/h/30 27 mai 1988	_____

Besoins particuliers (infirmité, diète, etc _____

*** L'inscription est limitée - Retourner avant le 4 mars 1988 ***

Shelley Laskin, Présidente,

Conférence annuelle mixte de l'ACC et de l'OICC
608 Millwood Road,
Toronto, Ontario M4S 1K8
(416) 481-9513

CANADIAN CARTOGRAPHIC ASSOCIATION
ASSOCIATION CANADIENNE DE CARTOGRAPHIE

DEMANDE D'AIDE

AU VOYAGE AU CONGRES ANNUEL DE L'ACC

_____
LIEU

_____
DATE

Nom _____

Adresse _____

_____

_____

Telephone: ( ) _____(bureau); ( ) _____(maison)

	Oui	Non
--Etes-vous membre de l'association?	___	___
--Etes-vous membre du Conseil d'administration?	___	___
--Donnerez-vous une communication au congres?	___	___
--Si oui, avez-vous deja soumis le resume de la communication?	___	___
--Serez-vous moderateur ou president de seance au congres?	___	___
--Assisterez-vous a une seance du Conseil d'administration?	___	___

Priere de retourner votre demande au plus tard le 20 avril a:

Louis Cardinal, Tresorier
Association Canadienne de Cartographie
a/s Cartographie et Architecture
Archives Nationales du Canada
Ottawa, Ontario K1A 0N3

(613) 996-7619

L'aide au voyage provient d'une subvention accordee par le Conseil de recherches en sciences humaines du Canada et est donc accessible uniquement aux membres residant au Canada. Dans certains cas l'association pourra considerer verser une petite aide a des membres de l'exterieur du Canada. Seuls les frais de transport peuvent etre pris en consideration aux fins de cette aide.

La subvention sera distribuee selon les criteres deja etablis par l'association.

CALENDAR OF EVENTS

Mar 13-18, 1988, St. Louis, Missouri, ACSM/ASPRS Annual Convention, Contact: George T. Cline, 8 Fairlake Dr., Chesterfield, MO 63017, 314- 263-4604. Student program: Tuesday 15 March, contact: William Hemple, 314-263-4405. Free exhibit space to universities: contact: Sue Luthy, 703-241-2446

April 7-10, 1988, Phoenix, Arizona, Association of American Geographers, Annual Meeting.

May 25-27, 1988, Joint annual meeting CCA/OICC, Toronto. Contact: CCA, Geography Department, Memorial University of Newfoundland, St. John's, Newfoundland, A1B 3X9, or Shelley Laskin, CCA/OICC meeting, c/o 608 Millbourne Road
, Toronto, Ontario, M4J 1K8.

Aug 22-26, 1988, Sydney, Australia. 7th Australian Cartographic Conference. Incorporating Austra-Carto III, and held in conjunction with the 26th International Geographic Congress.Theme: "From the age of discovery to the age of space". The Secretariat, 7th Australian Cartographic Conference, G.P.O.Box 2609, Sydney, NSW Australia 2001.

Sept 20-22, 1988, Eurocarto Seven, ITC, Enschede, Netherlands. "Environmental applications of Digital Mapping": FINAL CALL FOR PAPERS.
Send paper abstracts to: Prof. J-C Muller, Dept. of Cartography, ITC, P.O.Box 6, 7500 AA Enschede, Netherlands. (500-1000 words in english, by Feb 1, 1988). Completed papers by May 1) Conference sub-topics: remote sensing applications, integrated digital mapping applications, GIS for environmental impact assessment, existing databases and data exchange in Europe for mapping of environmental data.

Further details: Eurocarto Seven, Rene Bertrand, c/o ITC,P.O.Box 6, 7500 AA Enschede, The Netherlands.

April 1992, Simon Fraser University, Burnaby, B.C. Vancouver Conference on exploration and Discovery, (To commemorate the arrival of Captain George Vancouver on the Pacific Northwest Coast in 1792). Please direct enquiries to: Director, Vancouver Conference, Department of History, Simon Fraser University, Burnaby, B.C., V5A 1S6.

June 25- July 1, 1989, 13th International conference on the History of Cartography, Amsterdam, Leiden and The Hague, Netherlands.
Details: The Organising Committee, The History of Cartography Conference, c/o Jan Werner, Universiteits bibliotheek van Amsterdam, P.O.Box 19185, 1000 GD Amsterdam, The Netherlands.

March 19th, 1988, University of Victoria, B.C.,PICS (Pacific Institute of Cartographers Society) AGM.
Agenda:
Terrain Resource Information Management (TRIM): An Update by Roger Balser, Ministry of Environment and Parks, B.C.
Automated Geological Mapping and Modelling Techniques by Ward Kilby, Ministry of Energy Mines and Petroleum Resources, B.C.
Digital Mapping for Navigation by Brian Klinkenberg, University of British Columbia
Software demonstrations of PAMAP GIS, Eidetic Digital Imaging, AtlasAMP and IDRISI

Registration: $15.00 Contact C. Peter Keller, Vice-President PICS, Department of Geography, University of Victoria, Victoria, B.C, V8W 2Y2 (604) 721-7333.

March 8-11, 1988, Edmonton, Alberta, Forestry GIS: The Next Step. Several sponsors, including 5 national and provincial forestry organisations.
Contact: Dennis Thompson, Land Information Branch, Alberta Forestry, Lands and Wildlife, 4th Floor, N. Petroleum Plaza, 9945-108th St, Edmonton, Alberta, T5K 2G6. (403-427-7222)

Aug 17-24, 1989, Budapest, Hungary. 14th International Cartographic conference. Preliminary programme: automation in cartography, geographical information systems, uses of remote sensing in the national economy, maps for organising and controlling agricultural and water resource management, national and regional atlases, modern education-modern maps, maps in the service of tourism, technologies of map production.Further details from: Conference Secretary, Institute of Geodesy, Cartography and Remote Sensing, H-1373 Budapest, POB 546, Hungary, or CCA Office (address on page 2).

Geographic Information Systems and Image Processing

A summary of some software packages available for the PC

Roger Wheate, University of Calgary

Introduction

Geographical Information Systems (GIS) and Digital Image Processing Systems (DIPS), have dramatically altered the nature of the fields of Cartography and Remote Sensing. Images derived from these systems, because the data is digital, hold significant advantages over the traditional map and air photograph products. These can perhaps be generalised into three categories:

a. Each pixel or element can be represented by any color or gray level, giving a whole new freedom to the producer in design options to maximise contrast and effect; (e.g. map design in GIS, contrast stretching in DIPS)
b. Each element can be selectively included or excluded, enabling a variety of products, which previously necessitated independent multiple production; (e.g. specialist products in GIS, color composites in DIPS)
c. Combination and manipulation of several data elements help create products previously impossible or possible only by extremely tedious calculations (e.g. overlay operations, surface fitting and modelling capabilities in GIS, band ratios, classification in DIPS), (see fig. 1).

In the dawn of GIS history, the merest of nanoseconds ago on the geologic time-scale, those who wished to work on Geographic Information Systems and Digital Image Processing were restricted to the availability of expensive mainframe or minicomputer systems, if they could afford the software. Much has changed since the introduction of the personal computer and the development of the PC market. A variety of software systems have been developed by a wide range of individual researchers and specialist companies. Hence today even the poorest of students and humblest of civil servants can afford to work in these areas; for the reasonably affluent department or small company (i.e. with an amount of money equivalent to an average family motor vehicle), there is a bewildering array of software packages from which to choose, assuming the acquisition of a reasonably basic IBM-PC/AT or compatible configuration. Continuing the vehicular analogy, the hierarchy of configurations range from PC with CGA graphics (bike), to PC/AT with EGA graphics (mid-size compact), to PC/AT with VGA graphics (full-size compact) up to PC/AT with deluxe card, such as Vectrix Pepe, Revolution #9, (Cadillac) . In the pages following, I have attempted to compile a first list of available options. It is not intended to be complete, nor since the author has not worked with all of them (a two car department with two bikes!), is this a critical evaluation of the capabilities and performance of these packages. Suggestions and suitable additions from readers will be gratefully accepted: the list reflects a bias towards Canadian products; there are perhaps many more options south of the border, which would deserve to be listed.

GIS software for the PC/AT

In the last five years, available software packages have multiplied, offering options even to educational establishments in the current budgetary restraint. These have been developed by a variety of individual researchers, departments and companies. some are modified from earlier mainframe versions while others have been created from scratch in response to the explosion in the microcomputer market. These could be divided perhaps into two broad groups. At the budget end, there are packages with low resolution, based on CGA graphics, dot matrix output, and no supported input devices beyond standard files. Initially these had very limited research and commercial potential but were nevertheless an excellent tool for teaching the principles of GIS, and are still the most familiar in educational establishments (most were written by academic researchers). Several of these had their roots in a mainframe package called MAP, written by Dana Tomlin as a doctoral dissertation, and now distributed out of Harvard University for a nominal cost. Since the fortran code was made freely available, other versions are on the market including aMAP (Joe Berry, Yale) and OSU MAP-for-the-PC (Duane Marble, OSU). Another package, IDRISI, has been developed from scratch by Ron Eastman at Clark University. This group is priced from US$40-200, with lower prices for non-commercial applications; they require only a basic configuration with minimum 256K RAM, monochrome monitor, 360K disk drive and dot matrix output. However, a hard disk and math co-processor are preferred. Where these have been upgraded to embrace EGA graphics, they have closed the gap with the higher priced commercial packages.

The 'costlier' group of packages designed and marketed by private companies are generally based on EGA graphics with options for VGA and even higher resolution such as Vectrix (1024 x 1024). Owing to the size of data files, they require hard disk, math co-processor, and at least 640K RAM. A 386 machine (based on the 80386 chip assists further in speeding up some of the lengthy data processing operations). They usually are supported by several digitising systems for data input and support popular plotters. In addition for flexibility and improved input/output, they include the ability to interface with files from other vector, raster, CAD (computer-assisted drafting) and image processing (satellite data) systems.

The characteristics of the packages mentioned in this article are summarized in table 1, page 30. Prices are approximate with considerable discounts available for academic applications, and for second copies at the same site.

UDMS (Urban Data Management System)
UDMS is a polygon based GIS, which can store, analyse and display data related to points, areas and networks of any 2D surface, performing mapping, statistical analyses and location/allocation modeling. It was developed by the United Nations centre for Human settlements (Habitat), for the application of microcomputers to human settlements planning and management. Available in english, french, spanish and serbo-croatian!. There is no charge for non-commercial users.

MAP (Map Analysis Package)
One of the first GIS package designed for academic use, originally developed on mainframe as a student project at Harvard and a doctoral dissertation at Yale by Dana Tomlin under Joe Berry. Since the fortran code was made available, it has spawned several related packages, which like the original now have a PC version. These packages have been limited in resolution, color and output capability, and hence in consulting/ commercial production, but they are excellent tools for teaching the principles of GIS in education. There is a nominal charge ($20) to offset costs of reproduction, postage and handling of the two disks (made payable to Harvard University). MAP is available in executable or source code (Fortran) form.

aMAP (Academic Map Analysis Package)
From Joe Berry at Yale University, aMAP (for the PC) was also created from a mainframe version with the common root of Tomlin's MAP, and rewritten in Pascal. Like MAP,(also on two disks), it is a fine teaching tool, with a range of classification, overlay and distance functions, but has an extremely low resolution (25x63) and costs $199. The related pMAP (professional) is higher (100x100) and costs $985. Demo disks are available. aMAP includes several useful (and highly entertaining) lab tutorials for teaching which compensate for a manual lacking in organisation and reproduction quality.

OSU MAP-for-the-PC
A modified version of Tomlin's MAP, including an enhanced user interface, this is a recent addition to the field (version 2.0 was released in Fall 1987), distributed by Duane Marble at Ohio State University (see ad. this issue). Like MAP, it is intended for instructional use and small planning agencies, possibly prior to investing in a more expensive commercial system. All three MAP systems encourage the purchaser to make multiple copies of the program and data sets for educational use. Includes one year subscription to an 'irregular' newsletter from the GIS Laboratory at OSU, and a fortran routine for conversion of ARC/INFO files. Source code is available but not automatically provided. Either hard disk, or 1.2K drive is necessary; contained on two high density disks. Cost: $70 (Educational), $160 (Non-profit & Government), $285 (Commercial).

IDRISI
Idrisi was written by Ron Eastman of Clark University, in Turbo Pascal (not from MAP), but also offers a grid-based GIS, designed to provide inexpensive access to computer-assisted analysis technology. Idrisi consists of 40 modules on 6 disks, containing core modules (fundamental utilities for entry, storage, management, display and analysis of raster images), and ring modules providing extensions commonly associated with GIS and image processing. Peripheral modules may be added by the user in any language. It is supported by the Harvard ROOTS digitising package and itself has plotter support in addition to the dot matrix output shared by all packages. Vax and MacIntosh versions are planned or in progress. Price: $40 (students), $70 (academic), $100 (other), add $7.50 for shipping and handling.

COMPUGRID
Compugrid was produced by Glen Langford of Geo-Spatial Systems in Edmonton. It includes vector/raster and raster /vector conversion, geo-processing, modelling, digital terrain modelling, image processing, windowing. UTM-Lat/Long conversion, cross tabulation, cluster analysis with interface to vector GIS ('STRINGS') and CAD systems., supporting Calcomp digitizers for input.It costs $5000 for academic use, $10,000 otherwise.

PAMAP
Pamap Graphics Ltd., is a Victoria based company and CCA corporate member, developing GIS software for resource and engineering applications. It provides support and consulting services to CIDA, CCRS and several B.C. ministries in the areas of geographic data processing.Its GIS consists of an integrated suite of five principle subsystems: MAPPER (digital mapping), ANALYZER (detailed geographic analyses), PLANNER (interactive analyses), TOPOGRAPHER (topographic studies) & INTERPRETER (remote sensing interface). Data may be exported/imported between Pamap and ARC/INFO and Intergraph.Appoximate prices are $15,000 for Mapper and Analyzer, $25,000 for all, with educational discounts available.

TERRASOFT
Terrasoft is produced by Digital resource Systems, founded in1981 to develop forestry and land management software. Like PAMAP, this B.C. based company is heavily involved with the forestry industry, in British Columbia, and also in Norway and Sweden. Its product includes CAD, GIS and DTM functions and has conversion utilities with Intergraph IGDS, Autocad, and ARC/INFO files. The University of British Columbia is interfacing this GIS with its Meridian satellite imaging system.

SPANS
Spans is a quadtree based GIS, created by TYDAC Technologies, founded in 1982. The quadtree data structure enables a significant reduction in data structure and hence computation time over raster based systems; quadtree to raster conversion is available iwhere required. Can directly input files from PCI (EASI/PACE) image processing, ARC/INFO and Intergraph IGDS. The price of the first system is $20,000, with a 40% academic discount. Subsequent systems are $5000.

STRINGS

PPL Computer Graphics, established in 1984, contracted with GeoBased Systems of North Carolina, to acquire the STRINGS (vector-based) software. Integration with compugrid in Edmonton, has provided a complete vector/raster/vector GIS package. It is also integrated with the relational database INGRES. Also available for VAX and DEC PDP.

ARC/INFO

pc ARC/INFO is a subset of the well-known,Prime/Vax version. A starter kit at $3600 is essential to run all other modules of which there are up to 10 at $1800-3600. Special modules can convert Statistics Canada, Intergraph IGDS and Autocad files, to ARC coverage and vice versa.

Digital Image Processing software for the PC/AT microcomputer

In using a GIS, a major expense in time and effort lies in entering data for analysis and display. Digital data tapes are sometimes available through federal, provincial and corporate sources, containing digitised topographic and thematic information. A vast quantity of continuous raster data, however, exists from satellite scanning systems, particularly at the time of writing from the Landsat satellites, with ground data at 30 metre and 80 metre resolution. Most of the above GIS packages have incorporated image processing modules to enhance this type of data or include the capability to transfer files from image processing software, which contain broad capabilities in manipulating satellite image data.

As with GIS software, there are low-priced products for basic configurations using CGA and EGA graphics, with a maximum of 16 colors and low resolution. These are aimed at educational establishments where the principles of image processing can be taught on a small budget. Some enhancement procedures such as classification and density slicing are unaffected by the low number of colors, but the display of more than one band simultaneously, is not possible. At the budget end, a public domain package simply called LANDSAT can be acquired by sending 4 floppy disks to the address listed. This training package includes histogram and classification functions but can be used to classify up to a full Landsat scene. PCIPS, MICROPIPS and DRAGON provide basic image processing operations within the limitations of CGA graphics, now upgrading to EGA. While EGA standards are suitable for a high level of GIS applications, this is not the case in image processing of satellite data. Owing to the intrinsic nature of the data, with each band containing up to 256 gray levels, a higher resolution graphics board is required to display the 256 reds, blues and greens necessary to create a photo-like image.

Intermediate systems, capable of displaying more colors than EGA graphics but not 'true color', include the RIPS/VIP and EIDETIC systems, while MIPS provides entry level, medium and high resolution systems. At the high resolution level (512x512 or beyond), MIPs is joined by the ERDAS and EASI/PACE software packages both of which utilise the Revolution 32-bit board (giving 256x256x256 colors) These higher priced packages offer a wider array of processing options and in some cases digital terrain model (DTM) operations. Table 2 on page 30 lists some of these characteristics. Approximate prices are in U.S. dollars unless stated.

The Apple/MacIntosh Market

All of the above software packages run on an IBM-PC/XT/AT or compatible. What of the Apple/Macintosh market. In GIS, two packages are in progress for the Macintosh: a version of Idrisi and another from the University of Texas. Others may exist already but not to my knowledge. In image processing, the Applepips for the Apple IIe is parallel to Micropips with 140x96 resolution, and other low resolution teaching systems have been developed at several universities. In the future, we can hopefully look forward to software in both fields becoming available to take advantage of the power and color capabilities of the Mac II.

GIS SOFTWARE FOR THE PC

UDMS: Special Advisor, Data Management, United Nations Centre for Human Settlements (HABITAT), P.O.Box 30030, Nairobi, Kenya.
MAP: Laboratory for Computer Graphics and Spatial Analysis, Harvard Graduate School of Design, 48 Quincy Street, CAMBRIDGE, MA ,02138
aMAP: aMAP Materials School of Forestry and Environmental Studies, 205 Prospect Street,NEW HAVEN, Connecticut, 06511
OSU MAP-for-the PC: Professor Duane F. Marble, Dept. of Geography, Ohio State University, COLUMBUS, Ohio, 43210
IDRISI: IDRISI, Graduate School of Geography, Clarke University, 950 Main Street, WORCESTER, MA., 01610
COMPUGRID: Geo-Spatial Systems Ltd.,
54 Goodridge Drive, ST. ALBERT, Alberta, T8N 2B2.
TERRASOFT: Digital Resource Systems Ltd.,
103 - 238 Franklyn Street, NANAIMO, BC., V9R 2X4.
PAMAP: PAMAP Graphics Ltd.,
301 - 3440 Douglas Street, VICTORIA, BC.,V8Z 3L5.
SPANS: Tydac Technologies Inc., Suite 310,
1600 Carling Avenue, OTTAWA, ONT., K1Z 8R7
STRINGS: PPL Computer Graphics,
5638 - 103A Street, EDMONTON, Alberta, T6H 2J5
(PC) ARC/INFO:ESRI, 44 Upjohn Road,
DON MILLS, ONT., M3B 2W1

DIPS SOFTWARE FOR THE PC

LANDSAT: Major Scott A. Loomer, 5 Fourth Artillery Road
FT. LEAVENWORTH, Kansas, 66027
MICROPIPS: Telesys Group, Inc.
5455 Winborne Court, COLUMBIA, MD, 21045
PCIPS: IBM Canada Ltd., 3500 Heeles Avenue East,
MARKHAM, ONT., L3R 2Z1
DRAGON: Goldin-Rudahl Systems, P.O.Box 648, NORTH AMHERST, MA., 01059
EIDETIC: Eidetic Digital Imaging Ltd.
1210 Mann Park Drive, BRENTWOOD BAY, BC, V0S 1A0
RIPS/VIP: Spectral Digital Services Inc.,
P.O. Box 480, MARKHAM, ONT., L3P 3R1
MIPS: Microimages, Inc., 932 North Lakeshore Drive
LINCOLN, Nebraska, 68528
ERDAS: Erdas, Inc., Advanced Technology Development Center,Suite N206, 430 10th Street NW, ATLANTA, GA., 30318
EASI/PACE: PCI Perception Computing Inc.,
Suite 202, 4800 Dufferin Street, DOWNVIEW, ONT., M3H 5S8

TABLE 1: SUMMARY OF GEOGRAPHIC INFORMATION SYSTEMS SOFTWARE FOR THE PC

	COLOR ADAPTER				Mini/ Mainframe Version Avail.	Minimum RAM Required	Hard Disk Drive Required	8087/ 80287 Required	Vector, Raster, or Quadtree Format	File Transfer With Other Systems	Special Input/ Output Devices	Approximate Price ($ Cdn unless stated)
	CGA	EGA	VGA	Vectrix								
UDMS	X					256K			V			0
MAP	X	P			X	256K		X	R			20 US
aMAP	X				X	256K		S	R			199 US
OSU-MAP	X	X	X			512K	X	S	R	V, I		70/300 US
IDRISI	X	X	X		P	256K	S	S	R	R	X	40/100 US
COMPUGRID		X	X	X		640K	S		R	V, C	X	5000/10,000
TERRASOFT	X	X				640K	X	X	R	V, C, G	X	15,000*
PAMAP		X	X		X	640K	X	X	R	V, G	X	15,000*
SPANS		X	P			640K	X	X	Q	V, I	X	12000/20,000*
STRINGS			X	X	X	640K	X	X	V	C,V,R	X	15,000*
ARC/INFO	X	X	X		X	640K	X	X	V	C, I	X	3,600-27,000*

P = Planned or in progress
S = Strongly suggested
V = Vector (R=Raster, Q=Quadtree)
C = CAD
G = Intergraph IGDS
I = Image Processing
* = Academic discounts negotiable
Range of prices (/) indicate lower for academic users, higher for others.

TABLE 2: SUMMARY OF DIGITAL IMAGE PROCESSING SOFTWARE FOR THE PC

	COLOR ADAPTER (number of colors in brackets)				Hard Disk Required	8087/ 80287	Color Output Devices	Joystick /mouse	Approximate Price ($U.S unless stated)
	CGA	EGA	VGA	Other					
LANDSAT		320 x 160		320 x 184					0
PCIPS	320 x 200 (16)								469 Cdn. (-20% academic)
MICROPIPS	160 x 100 (16)	640 x 350 (16)							CGA: 500 EGA: 750
DRAGON	320 x 200 (4)	320 x 200 (27)	1. 320 x 200 (256) 2. 640 x 400 (16)		X				750 995
EIDETIC				512 x 480 (256)	X	X	X		9,950-11,150 Cdn. (includes hardware + video digitiser)
RIPS/VIP				1. 240 x 256 (4096) 2 512 X 480 (4096)			X	X	7,400 (includes video image processor)
MIPS				1. 256 x 256 (512) 2. 512 x 512 (512) 3.1024 x 1024 (256)	X	X	X	X	2,000 3,000 4,000
ERDAS				512 x 512 (32 bit)	X	X	X	X	15, 750 + options
EASI/PACE				512 x 512 (32 bit)	X	X	X	X	10,500 Cdn

INTERNATIONAL CARTOGRAPHIC ASSOCIATION / ASSOCIATION CARTOGRAPHIQUE INTERNATIONALE

ICA NEWSLETTER

EDITORS: *R.W. Anson / Oxford Polytechnic / Oxford OX3 OBP / United Kingdom*
B.V. Gutsell / Winters College, York University / Downsview M3J 1P3 / Canada

NUMBER 10, DECEMBER 1987

8th General Assembly and 13th ICA Conference

The 8th General Assembly and 13th Conference of ICA concluded in Morelia, Mexico on October 22, 1987. Despite many difficulties, the meetings were very successful and full praise is due to the Organizing Committee of Mexico for maintaining the standard required by the Association.

Four sessions of the General Assembly were necessary in order to complete the business of the Association. Representatives of 40 member countries and 4 non-member were registered, although 35 was the maximum number at any session. All the sessions were conducted in a friendly atmosphere and with little controversy.

The absence of many selected authors at the Plenary Sessions threatened to disrupt the program, but a good number of authors on the reserve list were present and they were able to fill the gaps with good quality papers. The sessions were well attended and the technical facilities in the auditorium were excellent. Abstracts of papers received on time were published in book form.

At the opening ceremony, many Government officials participated; they included the Governor of the State of Michoacan, the President of the State Congress, the President of the Supreme Court of Justice, the Secretary General of the Interior, as well as heads of government departments. In addition, the Presidents of the sister societies IGU, ISPRS and FIG brought greetings, as did representatives of UNESCO, FAO and PAIGH.

In all, a total of 466 registered for the conference plus another 243 persons in various categories.

A wonderful social program supported the conference that gave delegates a feast of Mexican culture ranging from folk dancing to a symphony concert and much in between. Few would deny that the accompanying persons' program was full of special treats that will remain long in their memories as one of the best conferences ever. It would also be true to say that income in the various markets was many times higher than normal.

Excellent reports were produced by the following commissions for the conference and may be obtained from the respective chairmen: Advanced Technology; Population Cartography; and The Cartographic Enterprise. Due to problems with Customs in Mexico many boxes of materials failed to reach the Conference Centre; however, a number of excellent National Reports were distributed to the delegates.

The technical exhibition was disappointingly small due partly to problems with customs and transport to Mexico. The international map exhibition was housed in the Planetarium, one of the convention centre buildings. Some wonderful examples of new maps were displayed in this pleasant environment. The historic map exhibit was superb, brought mostly from archives in Mexico City and displayed in a perfect building at the Palace of Culture. Many of the items shown have never been displayed in public before.

The press and TV gave generous coverage to the conference and numerous interviews were conducted with speakers and officials.

The only aspect of the conference that did not get much enthusiasm was the appearance of 'Montezuma's Revenge' that laid low most delegates at some stage. However, it was a small price to pay for a rich experience at a great conference.

ICA 8th General Assembly

Items of business:

1 The four Standing Commissions, nine Commissions and four Working Groups were approved. A resolution was passed giving all member nations the right to nominate members for all commissions and working groups.

2 A significant number of amendments to the statutes were approved. A complete new set will be published in both English and French and distributed to all member nations by January 1988.

3 The subscription unit will remain at US$250 for the next four years.

4 An application for membership by Jordan was approved; this brings to 63 the number of member countries in the Association.

5 A new position of Past-President was created and the title Secretary was amended to Secretary General to conform with the title in usage in other international societies.

6 The 9th General Assembly and the 15th Conference will be held in Bournemouth, United Kingdom in 1991.

7 The Mannerfelt Medal, the Association's highest award, was presented to Professor Dr. F.J. Ormeling Sr. for his great contribution to ICA and to cartography generally. ICA Fellowships were awarded to Olof Hedbom for his outstanding work as Secretary Treasurer of ICA and to David Bickmore for his contributions to advanced technology and for his establishment of the Euro-Carto Seminar Series.

8 Meetings of the International Union of Surveys and Mapping (IUSM) were held to discuss a proposed set of statutes. A first meeting of the General Assembly of IUSM was suggested as a possibility for 1992 in the USA to coincide with the possible meetings of ISPRS and IGU.

D.T. Pearce, Secretary ICA

Report of the President 1984–87

Three short years ago we marked the twenty-fifth anniversary of ICA in Perth. That ceremony served as notification to the world that our youth and adolescence are behind us, that the ICA should no longer be considered a young organization, and that ICA must accept the responsibilities of maturation. Over these past three years, the elected leadership of the ICA has recognized and accepted the responsibility which the ICA, as the preeminent world organization of cartographers, has to the science of cartography. We have viewed ICA's main responsibility as one of the promotion of cartography worldwide, the development of its basic theories, the creation of its products, and their dissemination to all peoples.

We also view ICA as a scientific society, not a political one. Two things are important to remember as a result. First, as a scientific discipline, especially a young one, we must be very rigorous in pursuing our discipline. We cannot afford to be less than rigorous in our research, less than perfect in our public presentations and especially we must be very professional in our relations with other scientific organizations. We must assure that every item that bears the ICA name is of the highest quality.

Second, there is simply no appropriate place for national or international politics in a scientific society. The work of the ICA must be done by competent scientists who may and can do the work. The ICA represents a small discipline, and we can ill afford to assign any of our important tasks to either individuals who may occupy a prestigious national position in cartography only because of current politics, or to those serious professional cartographers who are unfortunately prevented from pursuing their scientific tasks because of international politics.

I promised the General Assembly in my acceptance speech in Perth that during the three years of my term as President of the ICA, I would give top priority to three areas of activity: 1 The promotion of the continued development of the cartographic discipline through the scientific and technical work of the Commissions and Working Groups of the ICA; 2 the continuance of the ICA work on the transfer of technology to the developing world; and 3 the establishment of the world's cartographers in their rightful place among the scientists of the world. I would like to report on the results achieved in these areas.

As I worked in each of these areas I realized that the internal structure of ICA was underdeveloped. By this I mean standard procedures or policies were either nonexistent or else regularly modified, often apparently by the whim of an individual. Therefore, we have worked over the past three years to set procedures and policies so that the organization can develop and maintain consistency regardless of its elected leadership.

In a mature scientific organization the scientific work of an organization must be accomplished by carefully selected world experts dedicated to well defined tasks. ICA has an established set of Commissions and Working Groups and it is through these groups that the scientific work of our association must be done. This Executive Committee has attempted to foster the work of the thirteen current ICA Commissions and Working Groups by closely supervising their work and by encouraging (requiring in the case of the Standing Commissions) regular contact between each group and the Executive Committee. To further ensure this, I appointed one member of the Executive Committee to monitor the work of each Commission and Working Group over the past three years. The process seemed to work and I am happy to announce that the following have been accomplished by the Standing Commissions, Commissions, and Working Groups of the ICA over the past three years.

The Standing Commission on Education and Training has finally seen the finish of Volume II of *Basic Cartography*. It is in press. The Standing Commission on Education and Training has also forged ahead on producing exercises for use in conjunction with *Basic Cartography* Volumes I and II.

The Standing Commission on Map Production Technology under the skillful leadership of Kjeld Burmester has in press a *Compendium of Cartographic Techniques*. It promises to be an exciting and much sought after volume. The Standing Commission on Advanced Technology has distributed to principal delegates a *Report on International Research and Development*. Dr. Anderson's volume includes essays on timely topics plus a series of national reports on the employment of advanced technology in the cartography of the reporting nations.

The Standing Commission on the History of Cartography has produced the volume *Cartographic Innovations* which is available here and will be officially launched later this week. Dr. Wallis has also been instrumental in starting several additional worthy projects that are outlined in the Commission's proposed Terms of Reference for 1987 – 1991.

The Commissions have produced rather prolifically: Urban Cartography – 2 volumes of papers, and an exciting volume by the Commission on Thematic Mapping from Satellite Imagery entitled *Thematic Mapping from Satellite Imagery*. Details about this volume are available here in Morelia. The Commission on Marine Cartography published the second volume on *Methods of Display of Ocean Survey Data*.

The Working Groups have also been busy. The Cartographic Enterprise, under Chairman McGrath, has produced a report being distributed here in Morelia and the joint IGU/ICA working group under David Bickmore, our newest honorary fellow, has contributed a report on World Digital Data Base for Environmental Science.

Not all the work accomplished was done by Commissions and Working Groups however. India has contributed proceedings of two conferences. *Cartographica*, Volume 23 contains "A Review of Coastal Zone Mapping" and several recent volumes of conference proceedings contain the ICA logo including the highly successful AUTO CARTO LONDON. We have also had works that have not been as

successful, but the Publications Committee under the hard work of Roger Anson is in full charge of the problems and is methodically seeking solutions to them. The most notable problem is the proposed second edition of the *Multilingual Dictionary of Cartographic Terms*. Finally, I can report that *25 years of the ICA*, which had been hoped for the Perth General Assembly, has been completed by former President Ormeling and is available here in Morelia. I want to thank Mr. Anson's publication committee for its hard work. As most of you know ICA has contracted with Elsevier Science Publishers to be the distributor of ICA volumes. The transition to Elsevier from our former distributor, Rudolf Muller, was affably accomplished. ICA is indebted to Mr. and Mrs. Muller for their many years of service to ICA. Under Elsevier we now will have author's contracts and the help of a worldwide distribution network to advertise our publications. The work by Mr. Anson in all of the necessary negotiations is gratefully acknowledged.

Clearly the Commissions and Working Groups have done an outstanding job during the past 3 years. Work remains to be done, and along these lines I have taken steps in proposing and receiving Executive Committee approval to seek a future limit on the number of regular members on each Commission. This rule we hope to implement starting with the newly established Commissions and Working Groups here in Morelia. At the same time the Executive Committee stated that each Commission could establish an hierarchical structure of subcommissions similar to the approach taken in the International Geographical Union. For an individual to be named as a regular member of an International Commission is an honor and that honor should be reserved for the true experts in that part of the cartographic discipline with which the Commission's work is concerned. Too often in the past, ICA Commissions have been hampered by politics. This happened when more attention was paid to the home country of the Commission Members, in an attempt to 'politically balance' each Committee, than to the individual scientist's recognized expertise in a given subject area or his ability to regularly attend Commission meetings. In the future, I am hopeful that proposals to establish ICA Commissions and/or Working Groups will contain the proposed chairman as well as the membership. I suggest that in the future each ICA member nation should be able to name National Corresponding Members to all Commissions and Working Groups. The Regular Members of each Commission should be proposed by the chairman, and either elected by the General Assembly, and/or approved by the Executive Committee. We are experimenting with the Standing Commission on Advanced Technology in this structure. You will note that the proposed terms of reference for this Standing Commission call for eight subcommissions each headed by a Regular Member. Although this is an ambitious task, we will gain valuable experience about the workability of this type of Commission structure by 1991.

In 1976 the ICA embarked on a program of sponsoring seminars in developing nations. The idea was to transfer the new technologies of cartography to the developing world as quickly as practicable. From 1976 until 1984, 5 symposia were held. During the period 1984–1987 a symposium was held in Indonesia (1984) following the Perth conference and a second in China (1986). Other proposals for future seminars have been made, most notably one in Thailand.

Often when I have recounted the successes of the ICA transfer of technology to the Third World program, I have been told that technology transfer is also needed within the more developed parts of the world. Specifically, many of our cartographic colleagues in the more advanced nations are aware of the new technology permeating cartography but need the help of experts to implement its use. To help satisfy this need in transferring technology the ICA Executive Committee assumed during the past three years an active role in the promotion of regional conferences on computer-assisted cartography. To date ICA has subsidized the Euro Carto series of seminars. Since our Perth meetings Euro Carto III was held in Graz, Euro Carto IV was held in Frankfurt, Euro Carto V was held in Paris in May 1986, and Euro Carto VI was held in Brno, Czechoslovakia in April 1987. Euro Carto VII has been accepted by the ICA Executive Committee at its meeting yesterday. Euro Carto VII will be in Enschede in September 1988. Guidelines have been drafted for the operation of Euro Carto meetings and ICA will serve as the focal point for the future scheduling of these events. Elsewhere in the world, Austra Carto I was held in conjunction with the Perth General Assembly in August 1984. Austra Carto II was held in Melbourne in October 1986 and ICA will lend its sponsorship to Austra Carto III to be held next year in Sydney in cooperation with the AIC and IGU meetings in August. Additionally, ICA co-sponsored a worldwide technical conference called Auto Carto-London in September 1986. This event was highly successful. The ICA was also a named sponsor of Auto Carto VII held in Washington, DC, in March 1985.

As one can sense, the ICA's goal of fostering the transfer of new technology to all of the world's cartographers is now moving forward on two fronts simultaneously. However, the current number of conferences and symposia is about the limit which ICA can sponsor within its present budgetary limits.

To promote ICA amongst the world community of scientists, the ICA Executive Committee has decided to apply to the International Council of Scientific Unions (ICSU) for Scientific Associate status. The ICSU is the preeminent body of scientists in the world today. The ICA would like to gain the official recognition of ICSU and to play a more active role in that organization. We in ICA now have a twenty-five year history and are at the stage of development where Scientific Associate status within ICSU is a sensible goal. Application has been made and support is being sought from current ICSU union and national members.

In the past, the ICA has been invited to send official observers to UN Regional Cartography Conferences.

We have been represented at those to which we have been invited. Unlike the Fédération International des Géomètres (FIG), however, the ICA has never been officially recognized by the United Nations as a non-Governmental Organization (NGO). In May 1987 ECOSOC granted ICA Consultative Status in Category II and I have named three cartographers to represent us at the three ECOSOC headquarters. We will now seek the same status in UNESCO.

In Harrogate, UK on September 10, 1985, the International Union of Surveying and Mapping (IUSM) was formed. The founding members are ICA, International Society for Photogrammetry and Remote Sensing (ISPRS), and FIG. This Union, IUSM, has resulted from a series of eight meetings of the executive officers of the so-called 'sister societies'; International Cartographic Association (ICA), International Society for Photogrammetry and Remote Sensing (ISPRS), Fédération International des Géomètres (FIG), International Association of Geodesy (IAG), International Society of Mine Surveying (ISM), the International Hydrographic Organization (IHO), and the Hydrographic Society which have been held over the past seven years. The new IUSM is operating under the Guiding Principles adopted by the ICA General Assembly in Perth. One primary objective of the new union is full membership in ICSU. The rigorous requirements to join ICSU are being studied and the appropriate actions will be proposed. Each necessary step will be submitted to the ICA for discussion and possible ratification.

For the codification of the internal structure of ICA I have relied on the work of the Services to Members Committee headed by Mr. Dex Johnson, a task force headed by Gen. Agarwal which reviewed the categories of membership in ICA, and on a Statutes and Bylaws Committee headed by Dr. Christopher Board. The results of the work of all three of these committees will be evident at our Second General Assembly Session tomorrow when we consider 34 proposed changes to our Statutes.

As you can see, the ICA is moving ahead in promoting scientific and technical work in cartography, the transfer of cartographic technology, and in establishing the cartographic science among the other sciences. To further strengthen and increase our activities will require considerably more money than is now available. The goals undertaken by the ICA for this three-year period can be summarized as: To take the necessary steps to clarify the internal structure and the external activities of the ICA to enable the ICA to be recognized as a mature scientific organization within the world community of scientists. I feel we have made significant progress in these endeavors and I thank the members of the Executive Committee, and the chairmen of the commissions and working groups for their hard work and support.
Dr. Joel L. Morrison

Mannerfelt Medal Awarded to Dr. F.J. Ormeling Sr.
In presenting this award at the 8th General Assembly in Morelia, Mexico, Dr. J.L. Morrison said: "I take great pleasure in this next official act. The highest honor which the ICA awards is the Carl Mannerfelt medal. Our ICA founder, Dr. Mannerfelt himself recently called our honorary fellow and past secretary treasurer Olof Hedbom to express his continued interest in the recipients of the medal which bears his name and he is well aware of this presentation taking place today. Today we present the 6th Mannerfelt Medal to Prof. Dr. F.J. Ormeling of The Netherlands.

It is almost unnecessary to reiterate the contributions of Prof. Ormeling to the ICA. We would not be here today if it were not for his hard work as President of ICA and the preliminary discussions with Mexico about this conference. No single individual has been more intimately involved in the working of ICA than Prof. Ormeling. He joined the Executive Committee in 1964 as Secretary Treasurer and has served on the Executive Committee continually since that time – 23 years on the Executive Committee. His contributions will be missed in the next Executive Committee but he deserves a rest from our activities. He has dedicated his professional life to the furtherance of the ICA and, at times, it has been hard to separate the organization, ICA, from the man, F.J. Ormeling. The volume *25 Years of ICA* is a fitting testimony to his love of the ICA. Probably no other human could have written and compiled this volume. It will stand in perpetuity as a monument to Prof. Ormeling's dedication to the ICA. Of course I could go on relating to you at some length his many individual achievements, but I would be remiss if I did not mention his right hand support in the person of Rini Ormeling, his charming wife. No cartographer who has ever had the opportunity to meet the Ormelings will forget that meeting.

It gives me great pleasure indeed then to present the 6th Carl Mannerfelt Medal of the ICA to Prof. Dr. F.J. Ormeling Sr., – MR. ICA."
Dr. J.L. Morrison/President ICA/October 1987

Report of the Secretary 1984–87

INTRODUCTION

At the beginning of the period under review, the ICA had completed its first 25 years of existence. It was a period of many distinctions, growth and development for the Association, dominated by cartographers and Europe, the United States and the United Kingdom.

For the first time in its history, the General Assembly moved to the southern half of the world for its meeting in Australia and an Executive Committee was elected that represented cartography across almost the four corners of the earth.

The new committee was conscious of the work of its predecessors and aware of its enormous responsibilities in not only continuing the growth of the ICA but meeting the challenge of the new technologies that cartographers around the world were facing.

THE GENERAL ASSEMBLY & 12TH CONFERENCE IN RETROSPECT

Although it was felt that the costs and distance to Australia might be an inhibiting factor for many delegates, this was not the case and a record number

of 934 delegates from a record number of 54 countries with 134 accompanying persons, descended on the city of Perth for almost two weeks.

Because of the enormous interest and response from authors to automation in cartography, a special seminar called Austra Carto One was organized to precede the main event and more than 400 delegates attended.

Five exhibitions supported the conference and a wide ranging social program made the Perth Conference an outstanding event in the history of ICA.

DISTINCTIONS

Two long-time stalwarts of the ICA were presented with Honorary Fellowships at the Perth Conference. Mr. Rolf Böhme of the Federal Republic of Germany served with great distinction as a Vice-President and was called upon to deputize on many occasions for President Ormeling when he was ill. His communication and diplomacy skills were very much valued. He also made a significant contribution as a member of the Publications Committee.

Harold Fullard of the United Kingdom gave his long experience in printing and publishing to the ICA as Chairman of the Publications Committee. The publication of many text books developed from the Commissions and Working Groups of the ICA was made possible by his expert guidance.

EXECUTIVE COMMITTEE (EC)

The EC elected by the 7th General Assembly was:

President

Dr. J.L. Morrison (USA)

Secretary-Treasurer

D.T. Pearce (AUSTRALIA)

Vice-Presidents

Maj.Gen.G.C. Agarwal (INDIA)
Dr. E.P. Arzhanov (USSR)
Nestor Duch Gary (MEXICO)
Dr. F.J. Ormeling Sr. (NETHERLANDS)
Dr. D.W. Rhind (UK)
Dr. D.R.F. Taylor (CANADA)
Dr. Hu, Yuju (P.R. CHINA)

The Committee met briefly in Perth to form an initial plan and then met in London in January 1985, Lynaes Fort, Denmark, August 1985, Prague, September 1986, Dehra Dun, January 1987 and Morelia, October 1987.

The President and Secretary met frequently at other meetings to maintain the attention necessary to continue the work of ICA.

The pattern established the previous EC of meeting with Standing Commissions was continued, and the meetings in Denmark in 1985 and Prague in 1986 were both combined with the Standing Commissions and were highly successful.

Both meetings were combined with seminars and the presentation of papers on cartography. The meeting in Dehra Dun was combined with a seminar entitled 'The Future of Cartography' and papers were presented by D.R.F. Taylor, J.L. Morrison, F.J. Ormeling, D.T. Pearce and Maj.Gen. Agarwal.

Apart from their attendance at EC meetings, all Vice-Presidents represented ICA at a variety of meetings around the world.

F.J. Ormeling Sr. attended the following on behalf of ICA:- 11th Meeting of the U.N. Group of Experts in Geographical Names, Geneva, October 1984; 34th Annual 'Tagung' of the German Cartographic Society in Berlin, October 1985; 75th Anniversary of ISPRS, Vienna, October 1985. Dr. Ormeling also represented ICA at the funeral service of first ICA President, Eduard Imhof in May 1986.

D.W. Rhind attended the following on behalf of ICA:- Auto Carto 7, Washington, DC, March 1985; Euro Carto IV, Frankfurt, October 1985; an international meeting on Population Mapping, Calcutta, December 1985; Euro Carto V, Paris, May 1986; IGU International Symposium on Spatial Data Handling, Seattle, July 1986; SORSA Conference, Vancouver, July 1986; Auto Carto Japan II, Tokyo, November 1986; International Meeting on Environmental Information Systems, FRG, December 1986; Auto Carto 8, Baltimore, March 1987; GIS Conference, Beijing, May 1987; FI3G Conference, Lyon, June 1987.

Other Vice-Presidents were also active but reports are not available.

As part of the plan to help Commissions and Working Groups achieve more positive results, each Vice-President was asked to act as a Supervisor to one or more as follows:-

Maj. Gen. G.C. Agarwal/Environmental Maps and Atlases;
Dr. E.P. Arzhanov/Training and Education in Cartography;
Dr. N. Duch Gary/Map Production Technology: Map Use;
Dr. J.L. Morrison/Marine Cartography;
Prof. Dr. F.J. Ormeling/History of Cartography: IFLA-ICA Documentation;
Mr. D.T. Pearce/Tactual and Low Vision Mapping;
Dr. D.W. Rhind/Thematic Mapping from Satellite Imagery: Population Cartography;
Dr. D.R.F. Taylor/Advanced Technology: Cartographic Enterprise;
Dr. Hu, Yuju/Urban Cartography: Concepts and Methodology.

EC WORKING GROUPS

Statutes

Although amendments were made to the Statutes in 1984, comments suggested that a further review of all statutes was necessary. A Working Group was established of C. Board (UK) *Chairman;* P. Legris (France); K. Lester (South Africa); A. Papp-Váry (Hungary) and O. Hedbom as an advisor, to re-examine the ICA Statutes. A comprehensive report was prepared and will be submitted to the General Assembly by the Executive Committee.

Services to Member Countries

The EC decided that a review of present services was necessary and a working group was established under the chairmanship of D. Johnston (Australia) to put forward a report. The report was accepted by EC and will be submitted to the General Assembly as

part of the Statutes' amendments.

Membership Categories
An application for affiliate membership in 1985 revealed possible difficulties with this type of membership as defined by the Statutes. Thus it was decided to establish a working group to examine affiliate membership and prepare guidelines. The Committee consisted of Maj. Gen. Agarwal (India) *Chairman*, D.R.F. Taylor (Canada), Hu, Yuju (P.R.China). A detailed report was accepted by EC and will be submitted to the General Assembly as part of the Statutes.

COMMISSIONS AND WORKING GROUPS
At the 7th General Assembly, 4 Standing Commissions were confirmed, 5 Ad Hoc Commissions, 3 Working Groups and 2 Joint Working Groups with IGU and IFLA respectively.

The 3-year term was a restriction for some but the Standing Commissions continued their level of activity. It is hoped that a number of major publications generated by the Commissions with be available or in proof form at Morelia. In particular they are:-
The Compendium of Cartographic Techniques, Basic Cartography Vol. 2, Glossary of Cartographic Innovations, Thematic Mapping from Satellite Imagery.

Comprehensive reports are expected from the Cartographic Enterprise Working Group, the IGU/ICA Joint Working Group on a World Digital Data Base and Ad Hoc Commissions Urban Cartography, Population Cartography and Marine Technology.

Unfortunately, it was found necessary to terminate the Ad Hoc Commisson on Concepts and Methodology.

PUBLICATIONS COMMITTEE
The Publications Committee was revised following the completion of specific tasks by former members Ormeling, Hedbom and Böhme. Their great contributions were acknowledged.

The new committee was as follows:
Chairman: R.W. Anson (UK); H. Fullard, Adviser (UK); *Members*: B.V. Gutsell (Canada), Mrs. H. Ravenstein (FRG), J. Shupe (USA); *Corresponding Members:* F. Depuydt (Belgium), M. Osché (France), J. Szep (Hungary); *Ex-officio Members*: J.L. Morrison (USA), D.T. Pearce (Australia).

The Committee met on six occasions and a great deal of work fell upon the Chairman Anson to coordinate all of the activity particularly with Commissions.

The long running Vol. 2 of *Basic Cartography* should be produced at Morelia and the large *Compendium of Cartographic Techniques* should be available.

The even longer running *Multilingual Dictionary* reprint proved to be an impractical proposition and a very costly one in its present form. It was decided that if a dictionary was proceeded with, it should be restricted to 5 languages only.

At the recommendation of Rudolf Muller, distributor of ICA Publications, a new distributor was sought and the large international publisher of scientific books, ELSEVIER agreed to accept the task. A favourable contract was prepared and a new era began in September 1986 when President Morrison and Secretary Pearce signed the contract with Drs. H. Frank of ELSEVIER.

The great work of Rudolf Muller and his wife was acknowledged with a presentation and dinner in Amsterdam.

NEWSLETTER:
The *ICA Newsletter* continued to be the voice of the ICA bringing to all member countries news of the activities of the Association. The Editor, B.V. Gutsell despite the difficulties of getting copy in time, managed to produce two copies a year. The mailing list has grown to 130.

INTERNATIONAL YEARBOOK OF CARTOGRAPHY (IYC)
The EC accepted a recommendation from the PC that involvement with the IYC should be discontinued after the 25th edition in 1985. The wide range of cartographic journals available had now replaced the original function of the IYC. Its foreign language content was not popular in English-speaking countries.

INTERACTION ICA/IGU
The Presidents and Secretaries of both Societies met in Honolulu in March 1985 and again in Barcelona in September 1986. The purpose of both meetings was to explore ways of continuing co-operation between ICA and IGU.

Although a number of proposals were discussed, nothing concrete has eventuated, other than agreement to participate in each others' conferences.

In view of the success of the *ICA Newsletter*, it was agreed to discontinue the ICA content in the *IGU Bulletin*.

INTERACTION WITH ICA/FIG/ISPRS
Guidelines for the establishment of an International Union of Surveying and Mapping Societies had already been accepted and ICA Executive continued with joint meetings between other societies known as the Joint Board.

In 1985 at Harrogate, England, the International Union of Surveying and Mapping was born with ICA, ISPRS and FIG as the founding members.

Meetings of the Joint Board have continued as well to allow associations not part of the IUSM to continue discussions of mutual interest.

Proposals have been put forward to have the first General Assembly Meeting of the IUSM in 1992 to coincide with meetings of ISPRS and FIG.

INTERACTION WITH UN
An application was made by ICA to become an NGO member of the UN and this status was granted in February 1987.

Participation in the UN regional meetings continued in New York and Bangkok.

ICSU
An application for Associate Membership of ICSU was made and the necessary support obtained from

existing members, including IGU. It is expected that the application will be successful.

ICA CO-SPONSORED CONFERENCES

ICA acted as a co-sponsor to a number of conferences throughout the World, in particular the Euro Carto Series IV, V, VI, Auto Carto 7 and 8, Austra Carto II, the FI3G, GIS Seminar in Lyon, GIS Seminar in Portugal and a number of smaller meetings.

In most cases co-sponsorship meant lending the ICA name and logo while others involved a $500 subsidy on the understanding that it would be returned if a profit was made. The only return that was made was from Austra Carto II, Australia. Auto Carto London in 1986 was a major conference, listed as a technical conference of the ICA in the promotion circulars. Vice-President D.W. Rhind was appointed Deputy Chairman of the Conference.

SEMINAR IN CHINA

At the invitation of the Chinese Society of Geodesy, Photogrammetry and Cartography and the Wuhan Technical University, a Seminar on Advanced Cartography was organized by the ICA Commission on Education and Training at the Wuhan Technical University. An ICA Lecture Team of President Morrison, Secretary Pearce, K-.H. Meine, R. Dahlberg, F.J. Ormeling Jr., J.P. Grelot and K. Kanazawa presented lectures over a two week period in association with Chinese lecturers. The Seminar was considered to be highly successful.

MEXICO

During the current term the President and Secretary visited Mexico to meet with the organising committee of the 8th General Assembly and 13th Conference on three occasions.

They were impressed with the enthusiasm of the people despite their many difficulties and the problems created by the major earthquake.

The City of Morelia has excellent conference facilities and it is expected that delegates will be glad they made the effort to go. Excellent support has been given by the Government of Mexico.

NEW MEMBERS

An application for Affiliate Membership was received from the Canadian Cartographic Association which will be submitted for approval to the General Assembly.

An application for membership was received from the Royal Jordanian Geographic Centre, Jordan to be submitted for approval to the General Assembly.

CONCLUSION

Although the current term was reduced to 3 years only instead of the normal 4 years between General Assemblies, it was nevertheless a very active one for the Executive.

Many new ideas were put forward to improve the operations of the ICA, particularly with Commissions and Working Groups and to improve the way that publications were handled.

At all times the promotion of the ICA as the authority for cartographic matters on the international scene was kept in view and the Executive accepted every opportunity to have ICA seen as a co-sponsor of all worthwhile meetings around the world.

The ICA had to face the increasing expansion of other professions into the traditional areas of cartography as everyone embraced the new technologies.

It can safely be said that ICA increased in stature in this period under the Presidency of J. Morrison, supported by the co-operation of an excellent Executive Committee that represented such a vast area of the earth's cartographic population.

The large number of nominations for the positions of Vice-Presidents in the next Executive indicate the interest in ICA and ensures that the good work of the past will be maintained.

D.T. Pearce, Secretary ICA / 25 September 1987

ICA Financial Report 1984–87

The financial situation of the ICA depends almost entirely on the contributions of its members. Previous administrations built up a healthy reserve of funds which were transferred to the new Treasurer at Perth in 1984. At the time, the exchange rate between the American and Australian dollar was very favourable. However, the rate has changed considerably over the period and it is difficult to establish an accurate financial picture in American currency.

INVESTMENTS

A total of AUS$30,000 was invested and returned $10,482 in the period. In addition, $1,494 interest on the trading account was returned.

RECEIPTS AND PAYMENTS

Although receipts exceeded payments by $7,942, this was only achieved through the investment and bank interest. The only items to exceed the budget estimates were the President's office, travel costs for the President and Secretary, postage, publications and miscellaneous items.

Due to government restrictions, the generous support of the USGS to the President was reduced, and the distance to travel for the Secretary increased the travel costs overall. This was also due to considerable activity by the President and the Secretary.

Financial support for publications well-advanced was necessary for completion, and postage overall increased.

SUBSCRIPTIONS

Unfortunately, some member countries have fallen into arrears and others have reduced their category. It is essential that countries maintain their payments and they must be paid to the Treasurer and the Treasurer must be advised. On many occasions countries that pay through US banks were not identified on the transfer to Perth. The Treasurer must be advised when a transfer is made, otherwise a country will be shown in arrears.

It is essential that all countries pay if the ICA is to be maintained. According to ICSU, a Society such as ICA should have at least one year's operating expenses in reserve and this has more than been achieved. However, this reserve needs to be preserved for future expansion of activities and possible losses.

The budget for 1987–1991 has been prepared on the basis of no increase in the unit cost of $250 and 85% of the fees being received. Member countries are requested to give serious consideration to payment of their fees on time.

D.T. Pearce, Treasurer/25 September 1987

ICA Publications Committee Report 1984-87

Since submission of the report on the activities of the Publications Committee (PC) to the first session of the 7th General Assembly of the ICA in Perth, 1984, meetings have been convened on seven occasions. These have been held in Perth (two during the 12th International Cartographic Conference); Enschede, The Netherlands, 18.1.85; Paris, France, 4.9.85; London, UK, 11.2.86 and 16.9.86; and Amsterdam, The Netherlands, 10.4.87. The PC members are extremely grateful for the generous hospitality provided by ITC, IGN Paris, the Royal Society and Elsevier Science Publishers. Further thanks must be expressed for the secretarial assistance kindly provided by Miss Marlies Simmons and Mr. Don Pearce.

MEMBERSHIP

During the period of this review the composition of the PC has been revised, and now consists of the following individuals:-R.W. Anson (UK) Chairman and Co-Editor, *ICA Newsletter*; H. Fullard (UK) Adviser to the Chairman; B.V. Gutsell (CANADA) Member and Editor, *ICA Newsletter*; Mrs. H. Ravenstein (FRG) Member; J. Shupe (USA) Member. *Corresponding Members*: R. Bertrand (NETHERLANDS); F. Depuydt (BELGIUM); M. Osché (FRANCE); J. Szep (HUNGARY). *Ex-Officio*: J.L. Morrison (USA); D.T. Pearce (AUSTRALIA).

All of the members named above have been active in particular areas and have taken special responsibility for varying tasks and projects.

DISTRIBUTION

In addition to the consideration and supervision of potential and intended publications, the PC has been involved in negotiations with respect to the appointment of a new co-publisher and distributor of ICA works. This became necessary because of the stated wish of Rudolf Muller to relinquish his responsibilities on behalf of the Association after some ten years of dedicated service. Past and present members of the PC are extremely grateful to both Rudolf and Christine Muller for their friendship and advice during this period, and also for the excellent service provided to intending purchasers of ICA volumes. The rapid growth of the list of Publications in Print imposed an ever increasing and eventually impossible work load on the Mullers and it was with considerable regret, on both sides, that co-operation had necessarily to cease.

A contract with our new partners, Elsevier Science Publishers, was signed on behalf of the ICA by President Morrison and Secretary Treasurer Pearce in Amsterdam on 10 September 1986. In future, ICA volumes will be distributed by Geo Books of Norwich, UK, a subsidiary company within the Elsevier group. A new catalogue has been produced and the prices of our publications now appear in both English Pounds and U.S. Dollars. The availability of an extensive new network for promotion and distribution will enhance the availability of ICA volumes worldwide, and should result in an increase in sales and consequently revenue to the Association.

The rather more formal arrangements necessarily resulting from our interaction with a highly professional publishing organization require that many of our currently employed procedures must be tightened up. Greater notice must be taken, by all of those involved in the preparation of our products, of the need for the implementation of realistic deadlines and the production of accurate manuscript materials and illustrations etc. In an attempt to overcome potential difficulties, the PC has prepared a revised draft version of its Rules of Procedure, and an Author Contract which, it is hoped, will be acceptable to Elsevier and can be approved by the Executive Committee in Morelia. In future, Commission and Working Group Chairmen are strongly advised to contact the Chairman of the PC before embarking on new projects which it is anticipated will culminate in publications. It is intended that the PC will hold at least one of its business meetings each year at the headquarters of Elsevier Science Publishers in Amsterdam in order to ensure that relevant timings and production procedures are fully discussed and understood by both partners.

PUBLICATIONS AND CO-PUBLICATIONS, 1984-87

The following works have been issued since the 7th General Assembly. Purely ICA volumes are available from Geo Books, Regency House, 34 Duke Street, Norwich, NR3 3AP, UK. The suppliers of joint publications are recorded after the appropriate title.

25 Years of ICA, 1959–1984. Edited by Prof. Dr. F.J. Ormeling Sr., 1987.

La Formation des Cartographes (Compte rendu du séminaire de Rabat, Maroc, 16–21 avril, 1984). Edited by R.J.M.J. Bertrand, 1985. (Publication financed in part by UN).

Proceedings of the International Seminar on Computer-assisted Cartography, New Delhi, India, November 22–29, 1983. Published by the Survey of India in collaboration with ICA, 1985.

Methods of Display of Ocean Survey Data, Volume 2. Edited by R.H.W. Linton. Published jointly by NERC and ICA, 1985.

Papers from Euro-Carto IV Seminar, 15–18 October, 1985. Compiled and edited by IfAG, Frankfurt am Main. Published in cooperation with ICA *in* 'Nachrichten aus dem Karten- und Vermessungswesen, No.´44, 1986. (Available from IfAG).

Séminaire Euro-Carto V, Paris 27–29 Mai, 1986. Published by the Comité Français de Cartographie in

collaboration with ICA *in* Bulletin No. 34, 1986. (Available from IGN).
Coastal Zone Mapping. Edited by R. Perrotte. Published by University of Toronto Press in conjunction with ICA as a special issue of 'Cartographica', Volume 23/1 & 2, 1986. (Available from UTP).
Cartographical Innovations: An International Handbook of Mapping Terms to 1900. Edited by Helen Wallis and Arthur H. Robinson. Published by Map Collector Publications (1982) Ltd., in association with ICA, 1987. (Available from Map Collector Publications).
ICA Newsletter, Nos. 4, 5, 6, 7, 8, 9. Edited by B.V. Gutsell and R.W. Anson, 1984-87. (Available through National Committees).

WORKS IN PREPARATION

Anticipated dates of publication are quoted in brackets.
"Basic Cartography for Students and Technicians" Volume 2. Edited by R.W. Anson (late 1987).
"Compendium of Cartographic Techniques". Commission on Map Production Technology (late 1987).
"International Report on Thematic Mapping from Satellite Imagery". Ad-Hoc Commission on Thematic Mapping from Satellite Imagery (late 1987).
"Report on International Research and Development in Advanced Cartographic Technology". Commission on Advanced Technology (late 1987).
"Inventory of World Topographic Mapping". Section 1. Edited by R. Böhme (early 1988).
"Author and Subject Indices of the IYC". Edited by R. Böhme (early 1988).

All of these projects are in an advanced state of completion and, in several instances, much of the manuscript material has been transferred to the co-publisher for the setting of type etc. The PC is grateful for the efforts being made by the respective Editors and Commission Chairmen, and for the assistance, both financial and practical, provided by a variety of highly supportive organizations and individuals.

OTHER PROJECTS

"Multilingual Dictionary of Technical Terms in Cartography" 2nd. Edition. It is with great regret that the PC must inform the membership that this project has been deferred. Considerable efforts have been made by the committee and other interested individuals in order to complete the work undertaken by Prof. Meynen on behalf of ICA. However, the current state of the manuscript material makes our publication of the work in its present form impracticable. Negotiations with Elsevier suggest that the production of a five-language version is possible at some time in the future, and to this end the President has written to all Commission and Working Group Chairmen requesting editorial assistance. In addition, it is tentatively proposed to issue a secondary volume listing equivalent terms to those defined in the MLD in as many ICA languages as possible. The PC meetings during the Mexico Conference should result in the making of decisions relating to the intended work.

"Exercise Manual" (to supplement *Basic Cartography for Students and Technicians*, Volumes 1 and 2). The PC has reluctantly decided that this project should not be discussed further until the new composition of the Commission on Education and Training is resolved, and a firm written proposal is received. The PC Chairman will attend meetings of the Commission in Morelia.

ICA NEWSLETTER

The PC wishes to record its unanimous thanks for the 'herculean' efforts made by Prof. B.V. Gutsell in his capacity as Editor of the *ICA Newsletter*. Information received from member countries suggests that published information is disseminated to more than 9,000 cartographers worldwide, and reactions received from readers are very encouraging. Unfortunately, the supply of appropriately written and edited English-language copy is scarce, and the Editor is to be congratulated on his very considerable expertise in producing six issues since 1984.

The Chairmen of Commissions and Working Groups are encouraged to send their regular contributions to Toronto, and are requested to take special note of the closing dates for the receipt of copy which are cited in the preceding numbers of the Newsletter. Information on forthcoming events is especially welcome and will be included in the Calendar, as will concise reports (c. 500 words) relating to national and international meetings which are relevant to the various aspects of mapping.

The possibility of introducing a subscription scheme for the Newsletter has been fully debated by the PC, but it is not considered to be either appropriate or economically feasible at this juncture. National Committees are once again encouraged to further disseminate included information, ideally through their own journals or other publications, using the camera-ready copy made available to them.

CONCLUSION

The report/review period has, of necessity, been a time of significant change and development. Not as many volumes have been issued since 1984 as during the previous 4-year period, but it is considered that the quality of content and relevance of both purely ICA and also joint publications has been maintained. A number of the works in preparation have caused considerable frustration for all concerned during the editorial stages, but it is expected that the problems experienced will be overcome in the short or medium terms. It is also anticipated that our recently agreed partnership with Elsevier will result in significant advantages, both of a financial and professional nature, to the membership and the cartographic community as a whole. The Publications Committee is enthusiastic with respect to the progress of current projects and looks forward to even more rewarding assignments in the future.
R.W. Anson/ Chairman, ICA Publications Committee/August 1987

ICA's New President

Dr. D.R. Fraser Taylor

Dr. Fraser Taylor was educated at the Universities of Edinburgh and London and has done post doctoral work at Harvard. At present he is Professor of Geography and International Affairs at Carleton University in Ottawa, Canada. He also holds the administrative position of Director of The Paterson Centre for International Programs. This latter post is best described as the 'foreign office' for the University.

Dr. Taylor has extensive field experience in developing nations especially in Africa which included a six-year period as an education officer in rural Kenya where he completed his Ph.D. thesis on rural development in Murrang'a District.

Dr. Taylor's main research interests in cartography lie in the application of computer-assisted cartography to the understanding of socio-economic issues. He also has a strong interest in the theory of cartography and in cartographic education. His interests in cartography and international development issues are often inter-related. He is the author of twenty books and major research reports on cartography and over fifty articles and book chapters. These include *The Computer in Contemporary Cartography*, *Graphic Communication and Design in Contemporary Cartography* and *Education and Training in Contemporary Cartography*. He is currently preparing with David Rhind a volume entitled *Cartography: Past, Present and Future* as a festschrift in honour of Ferdinand Ormeling.

Dr. Taylor was Secretary-Treasurer of the Canadian Association of African Studies from 1970 to 1985, and President of the Canadian Cartographic Association in both 1978 and 1979. He also serves on the Canadian Commission for UNESCO and the editorial boards of several learned journals. He served as Vice-President of the ICA from 1984-87.

Dr. Taylor enjoys many sports, especially tennis, field hockey, table tennis, golf, badminton, curling and cross country skiing. He is fluently tri-lingual in English, French and Swahili.

ICA Executive Committee 1987–1991

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Commissions and Working Groups / Terms of Reference 1987–1991

General Terms of Reference for Standing Commissions, Commissions and Working Groups of the ICA

It is understood that every Standing Commission, Commission and Working Group constituted by the General Assembly or the Executive Committee of the ICA agrees to follow the set of General Terms of Reference specified below in addition to the specific terms of reference approved by the General Assembly or Executive Committee.

1 Appoint or elect a deputy chairman who will be responsible for the commission or working group in the event of an emergency.

2 Undertake initiatives to organize seminars and/or workshops in consultation with the Executive Committee. (Particular attention should be given to requests from developing nations).

3 Establish working contracts as appropriate between related ICA commissions and working groups.

4 Establish working contracts (in consultation with the Executive Committee) with related commissions and working groups of sister organizations.

5 Contribute information on activities to the *ICA Newsletter* on a regular basis (suggested once per year).

6 Disseminate results of work to ICA members and the Executive Committee through reports and publications.

STANDING COMMISSION ON ADVANCED TECHNOLOGY

Chairman: Dr. K. Eric Anderson (USA)

Terms of Reference

1 Identify research and development topics important to the continued advancement of cartography and promote scientific interchange through participation in and sponsorship of conferences and symposia.

2 Promote and develop publications relevant to advanced cartographic technology and, in particular, prepare a volume focused on the cartographic research agenda for the 1990s.

3 Undertake these efforts through the formation of working groups on critical topics of research interest

and through cooperative efforts with other international societies.

STANDING COMMISSION ON THE HISTORY OF CARTOGRAPHY
Chairman: Mme Monique Pelletier (France)
Terms of Reference
1 Complete International Dictionary of Cartographers 1450-1950
2 Investigate and suggest how teaching of the history of cartography should be accomplished.
3 Carry out the carto-chronology project that will enable the geographical elements of a cartographic document to be dated.
4 Investigate the history of non-conventional cartographic systems (e.g., maps used in non-literate cultures).

STANDING COMMISSION ON EDUCATION AND TRAINING
Chairman: Dr. F.J. Ormeling (Netherlands)
Terms of Reference
1 To revise, re-edit, update and expand *Basic Cartography* and to complete the accompanying Exercise Manual.
2 To conceptualize, encourage and assist in the implementation of workshops and seminars for the updating of current cartographic teaching programs, stressing the role of the cartographer.

STANDING COMMISSION ON MAP PRODUCTION TECHNOLOGY
Chairman: Mr. K. Burmester (Denmark)
1 Investigate the needs for a standardization of flow diagrams for map production.
2 Elaborate and publish *Map Design in Practice*, a book of map samples from all over the world. First proposed volume: Topographic Maps.
3 Support the *Twenty-four Language Dictionary of European Topographic Terms and Abbreviations* (EURTOP) which will be published under the auspices of the Commission.

COMMISSION ON CONCEPTS IN CARTOGRAPHY
Chairman: Dr. T. Kanakubo (Japan)
Terms of Reference
1 Review and discuss the various concepts in theories of science and technology and specify their influence on the theory of cartography.
2 Compile a reader on the major theoretical issues in cartography during the last 25 years.

COMMISSION ON MAP AND SPATIAL DATA USE
Chairman: Dr. J. Olson (USA)
Terms of Reference
1 Identify user problems and concerns, with special emphasis on the modern and changing context in which people use spatial data. Accomplish this by means of short, informal papers submitted annually by each member of the Commission. A request for other individual contributions will also be made by contacting all members of ICA.
2 Communicate findings to the cartographic community. Accomplish this by means of a panel discussion on map and spatial data use at the 1989 ICA Conference, and a formal paper session at the 1991 Conference. Commission members, in addition to their own participation, would identify others doing work in the area and would encourage them to submit papers for consideration.

COMMISSION ON MARINE CARTOGRAPHY
Chairman: Mr. R. Linton (USA)
Terms of Reference
1 Examine the current methods of presentation of marine data to users with special emphasis on electronic chart systems.
2 Perform a review of design, content and legibility of current Yachting and Small Boat Charts.

COMMISSION ON NATIONAL ATLASES
Chairman: Dr. B. Rystedt (Sweden)
Terms of Reference
1 Serve as a source of information for ICA members producing national atlases.
2 Identify technical facilities and their current use in national atlas production.
3 Identify possible gaps in new techniques.
4 Encourage further production of national atlases.

COMMISSION ON POPULATION CARTOGRAPHY
Chairman: Dr. P. Nag (India)
Terms of Reference
1 Detail how population mapping technology can be transferred to developing countries.
2 Organize an international volume on population mapping technology.
3 Collaborate with the IGU Commission on Population Geography.

COMMISSION ON TACTUAL AND LOW-VISION MAPPING
Chairman: Mr. J. Wiedel (USA)
Terms of Reference
1 Disseminate information on tactual and large print map design and production for the blind and visually impaired.
2 Develop a technical exchange procedure to ensure that the commission stays abreast of state-of-the-art technology in mapping for the blind and visually impaired.
3 Study the needs for and recommend ways for promoting mapping for the blind and visually impaired.
4 Distribute and maintain a bibliography on mapping for the blind and visually impaired.

COMMISSION ON THEMATIC MAPPING FROM SATELLITE DATA
Chairman: Dr. J. Denègre (France)
Terms of Reference
1 To promote the cartographic expression of the results of space remote sensing.
2 To collect material for a guide book or technical manual presenting different methods, data and techniques for production of maps and video-images from space imagery, according to problems and innovations the cartographers now encounter.

3 From the international report published by the commission in 1987 and from the contributions to the technical manual, to establish a cooperative program with the Standing Commission on Education and Training, in order to define the content of relevant training and to compile existing training facilities in that field.
4 To organize in 1989 a seminar on cartographic applications using spatial imagery, with a special concern in technology transfer towards developing countries.

COMMISSION ON URBAN CARTOGRAPHY
Chairman: Prof. Dr. Heinz Pape (FRG)
Terms of Reference
1 Perform a systematic analysis of urban base maps, urban thematic maps and urban atlases.
2 Develop modern methods and techniques useful for urban information systems and urban data management.

COMMISSION ON WORLD DIGITAL DATA BASES FOR ENVIRONMENTAL SCIENCE
Chairman: Mr. D. Bickmore (UK)
Terms of Reference
1 To bring the existing work on a digital topographic data base (WDDES) to a successful completion.
2 To keep under continuous review the scientific need for improved and updated digital world cartographic data bases.
3 To liaise with ICA members and with scientific and other organizations working in related areas.
4 To take all steps necessary to bring about these improved data bases, including holding meetings and assembling the necessary scientific expertise to facilitate the desired results.
5 To report progress to ICA at each conference and General Assembly.

WORKING GROUP ON CARTOGRAPHIC DEFINITIONS
Chairman: Dr. C. Board (UK)
Terms of Reference
1 Study and revise the ICA definition of cartography.
2 Study and systematically revise the common terms used in the field of cartography, e.g., map, map reading, map use, image map etc.
3 Review official definitions of surveying, photogrammetry and remote sensing as specified by FIG and ISPRS.

IFLA/ICA JOINT WORKING GROUP ON DOCUMENTATION IN CARTOGRAPHY
Chairman: Dr. J. Neumann (FRG)
Terms of Reference
1 Provide a standard for marginal information on cartographic materials.
2 Undertake a feasibility study for an international standard cartographic code, including the use of ISBNS and bar codes for maps.
3 Promote the inclusion of cartographic materials in current national bibliographies.
4 Publication of the second edition of the multilingual dictionary of technical terms in cartography.

WORKING GROUP ON THE MARKETING OF SPATIAL INFORMATION
Chairman: Prof. G. McGrath (Canada)
Terms of Reference
1 To compile a directory of map publishers in the member nations of ICA (with a target date for completion of 1 December 1988 and future publication by ICA).
2 To establish the present practices in a sample of public and private sector organizations with respect to warehousing, the methods and degree of inventory control, receiving and filling orders, and alternate solutions.
3 To undertake a study of the marketing of national digital spatial data, with particular reference to promotional activities.
4 To prepare guidelines for determining the functions, geographical distribution and number of sales agents, and the terms of agreements to ensure efficient service.

Awards and Fellowships

AUTO CARTO LONDON/RICS EDUCATION TRUST AWARDS
As a result of the very large attendance at the Auto Carto London Conference in September 1986, a substantial financial surplus was generated. As indicated by Walter Smith, Conference President, during the Conference, this money has been deposited with the Education Trust of the Royal Institution of Chartered Surveyors (RICS) to be used for the objective shown below. To this end, applications are invited for awards to be made available, commencing on 1 September 1987.

Objective
To advance knowledge through the sponsorship of research or travel in the fields covered by Auto Carto London, namely to secure the optimal use of land and related resources by improvement in the collection, handling and use of spatially-related data using computer-assisted techniques.

Conditions
1 The Scheme is open to all individuals, irrespective of race, colour, creed, nationality, sex or age.
2 Other things being equal, funding will be allocated to younger applicants. Similarly, research or research-related travel involving international links will be favoured.
3 In making awards, account will be taken of efforts made by applicants to obtain whatever assistance is available from their employers or from other sources. The Scheme has only limited funds to disburse.
4 Successful applicants will be expected to provide a short report on the results of their projects and the Trustees reserve the right to publish these reports.

Other Guidance
1 Applicants should submit applications on the prescribed forms, obtainable from the address below, ensuring that these are received by 1 September 1987 or by 1 February or 1 September 1988 or 1989, during which the Scheme is expected to operate.

2 The funds available each year are expected to be of the order of £15,000. Whilst neither upper nor lower limits are set on the sums requested, the Trust would normally intend to make a number of awards each year.

3 Assessment will be made by an advisory panel chaired by the President of Auto Carto London, under the auspices of the Trustees of the RICS Education Trust, whose decision will be final. Members of the Panel will be appointed by the President of Auto Carto London.

Method of Application

Complete the prescribed Application Form, Parts A and B, and return to:- The Secretary for Education and Membership, The Royal Institution of Chartered Surveyors, 12 Great George Street, Parliament Square, London SW1P 3AD, United Kingdom. Arrange for the completion and return to the Institution of two Referee Report Forms. Applications will be acknowledged.

THE HERMON DUNLAP SMITH CENTER FOR THE HISTORY OF CARTOGRAPHY FELLOWSHIPS

The Smith Center of The Newberry Library invites applications for short-term and long-term fellowships in the history of cartography. These fellowships are designed to enable scholars to spend time in residence at The Newberry Library working with the Library's extensive map collection and primary source material relating to the history of cartography. Short-term fellowships may be for two weeks to five months and carry a monthly stipend of US$750. A limited number of long-term awards are available for six to 12 months with a maximum stipend of $25,000. Applications for short-term fellowships are considered twice a year with deadlines of 1 March and 15 October. The annual deadline for long-term fellowships is 1 March. For additional information and application materials, write to Maureen Flanagan, Assistant Director, Hermon Dunlap Smith Center for the History of Cartography, The Newberry Library, 60 W. Walton Street, Chicago, Illinois 60610, USA.

Deadline for next ICA Newsletter is March 31 1988

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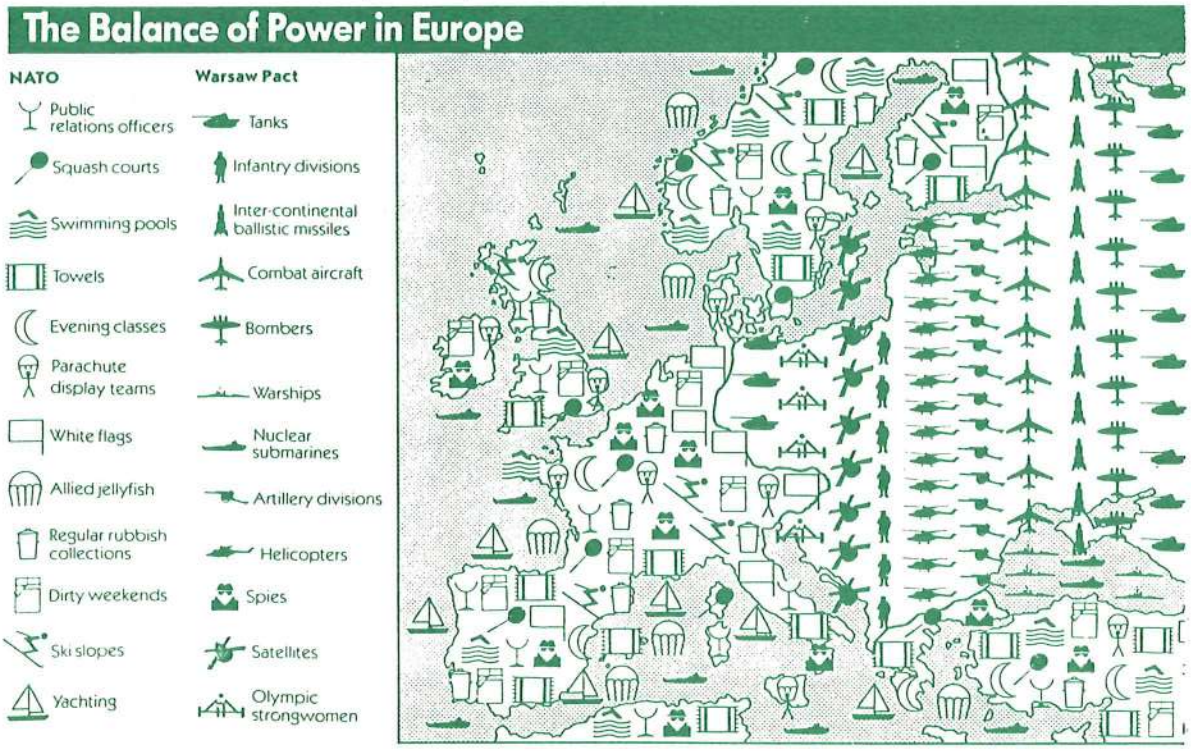

NOT! HE KNEW HE WOULD 43

One last map: (from "Not the Nine O'Clock news")