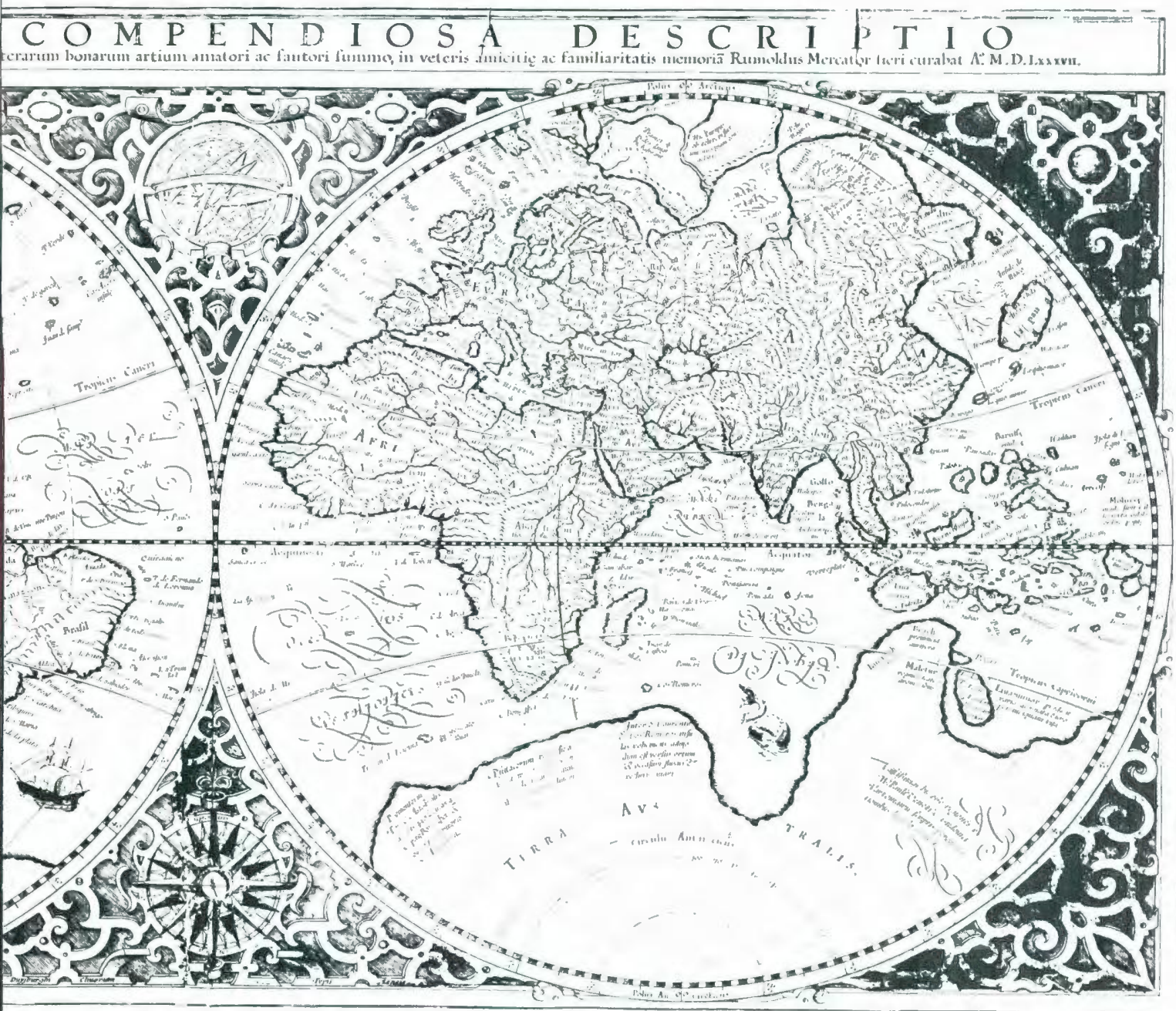
ASSOCIATION OF CANADIAN MAP LIBRARIES AND ARCHIVES

# BULLETIN

ASSOCIATION des CARTOTHEQUES et ARCHIVES CARTOGRAPHIQUES
du CANADA




NUMBER 89/DECEMBER 1993

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## ASSOCIATION OF CANADIAN MAP LIBRARIES AND ARCHIVES

MEMBERSHIP in the Association of Canadian Map Libraries and Archives is open to both individuals and institutions having an interest in maps and the aims and objectives of the Association. Membership dues are for the calendar year and are as follows:

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| Full (Canadian map field) | $35.00 |
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Views expressed in the **Bulletin** are those of the contributors and do not necessarily reflect the views of the Association.

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## ASSOCIATION DES CARTOTHEQUES ET ARCHIVES CARTOGRAPHIQUES DU CANADA

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Les opinions exprimées dans le **Bulletin** sont celles des collaborateurs et ne correspondent pas nécessairement à celles de l'Association.

L'Association des cartothèques et archives cartographiques du Canada remercie le conseil de recherches en sciences humaines du Canada pour son apport financier.

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**COVER**: Orbis Terrae Compendiosa Descriptio, by Rumold Mercator, 1587. This map, the original of which is in the National Archives of Canada has been reproduced as ACML Facsimile Map Series, Map No. 104 (ISSN 0827-8024).

**COUVERTURE:** Orbis Terrae Compendiosa Descriptio, by Rumold Mercator, 1587. Cette carte, dans l'Archives nationales du Canada a été reproduite dans la Série de cartes fac-similés de l'ACC, carte no. 104 (ISSN 0827-8024).

**From the Editor's desk....**

I write this last note with not a little regret. It is hard to believe that it is four years ago that I agreed to take over the editorial pen, or should I say computer, from Lorraine Dubreuil. As I look back it has been an interesting four years, I remember the first issues I put out and am aghast at the errors that I let slip through. I can only hope that over the years they have become less frequent. The experience brought me back into a more active involvement in the association, which I hope to continue, and was an excellent opportunity to renew old friendships and make many new ones with members. We are all members of an association of which we can be justifiably proud.

As I reflect back over my tenure I cannot help but remember all the people I have to thank for assisting in the **Bulletin**'s publication. For the *ACMLA Bulletin* is very much a team effort and without the able assistance and support of individuals such as Colleen Beard, Ron Whistance-Smith, Beverly Chen, Carol Marley, Margaret Hutchison, Ed Dahl, Cheryl Woods and Grace Welch none of this would have been possible. I also enjoyed the ongoing support of the executive, especially Richard Pinnell, Cheryl Woods and Robert Grandmaitre. Last but not least, the association membership supported the cause by submitting material for publication. **A sincere thank you to all concerned.**

It is with considerable pleasure that I announce that beginning with the March 1994 issue Colleen Beard will take over as editor. I know the *ACMLA Bulletin* will continue to grow and reach new plateaus under her able guidance, as I know the membership will support Colleen in her new responsibilities.

Don Lemon

# CENSUS MAPPING OF NEWFOUNDLAND[1]

Rick Mitchell
Geography Division, Statistics Canada, Halifax

I have been invited to speak about 1991 Census mapping of Newfoundland and while the examples I will cite are of Newfoundland, my remarks will pertain to the census mapping program and products in general.

The Census of Canada is Statistics Canada's largest survey and provides Canadians with the most comprehensive source of information available on the demographic and socio-economic situation of their neighbourhood, municipality, county, province and the nation as a whole.

A detailed geographic structure is necessary for both census-taking as well as for tabulation and analysis of the data collected. Maps are an essential, indeed indispensable, part of the geographic activities of the census. Statistics Canada produced over 45,000 maps for 1991 Census collection purposes and almost 6000 reference maps to support the dissemination of census data.

Census maps are available for many geographic levels, with various degrees of detail. Furthermore, digital files, such as street network files and boundary files, used in census map production are also available to census users.

Census mapping was, for many years, strictly a manual drafting exercise. Only reference maps of basic reporting units such as census divisions and subdivisions and census tracts were available to users in support of published data. As census data became available by enumeration area (the basic census geographic collection unit), maps for these and other small areas were made available as well.

Since the advent of computer mapping technology in the early 1970's, more and more census mapping has been done using the computer and more and more digital geographic data have been made available to users. What began in 1971, with the production of digital street network files to support the tabulation of census data for customized user-defined areas, has expanded to introduce efficiencies in delineation and mapping for census collection and dissemination purposes and as an important by-product for census data users.

For the 1991 Census few census geographic and mapping activities are unaffected by the transition to the digital world. Increasingly, delineation and mapping in support of census collection is done using the computer. For example, of the 45,000 1991 Census Enumeration Areas (EAs), about 10,000 were delineated and almost 24,000 mapped using automated or semi-automated processes and geographic files. In addition, almost 2000 reference maps were produced using the computer. It is expected that for the 1996 Census the proportion of EAs delineated using digital processes will increase significantly.

As a result, more of the map products you are seeing released in support of the data are produced using the computer and more of the digital data used to produce these maps is also being made available.

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(1) Presented at 1993 ACMLA Annual Conference, St. John's, Newfoundland, July 1993

Digital **Street Network Files (SNF)** (previously called Area Master Files) are now available for 342 municipalities accounting for 60% of the Canadian population (but less than 1% of the land area). These are digital files, in ARC/INFO Export format, that define the street networks for large urban centres in Canada. A SNF geographically references streets, address ranges, block-faces coordinates and includes such features as rivers, railroad tracks, and municipal boundaries that are basic elements found on large scale maps.

For the first time, the 1991 Census has made available, **Digital Boundary Files** (previously called CARTLIBs) for Enumeration Areas in addition to those previously available for Census Tracts (neighbourhoods), Census Divisions (counties), Census Subdivisions (municipalities) and Federal Electoral Districts. In fact, these boundary files are now available for most standard census geographical areas. With the appropriate software and geographic linkage files, the user can utilize a EA boundary file to construct a boundary file for any standard census geographic area or combination of standard areas. With the appropriate commercially available mapping software and Geographic Information Systems, these boundary files provide the framework for computer analysis and mapping of census data, or user's data, linked to these geographic areas. These files are available in ARC/INFO Export format and are topologically consistent, with no gaps and overlaps, all levels are consistent with each other and are consistent with SNF features.

Although it is not a cartographic file, the **Postal Code Conversion File (PCCF)** provides the correspondence between the six character postal code and Statistics Canada's standard geographical areas, including the enumeration area. The current version of the PCCF links over 726,000 postal code records (effective December 1991) to the 1991 Census geography and to Universal Transverse Mercator System and latitude/longitude coordinates. Using many commercially available mapping software packages, this file can be used to link census data with other user data (such as customer lists) in order to plot approximate customer locations by postal code and map census data of the population in those locations.

In addition to these digital files you will notice that an increasing number of reference maps are generated using these files. These maps include 20 **CD/CSD reference maps** and approximately 2000 **Series 1 maps** for Large Urban Centres (formerly G-13 and G-13A series maps). This latter series is produced, not by census tract as in the past but, by map tile like the National Topographic System maps.

Nevertheless, there remain a significant number of conventionally (i.e. manually) produced maps. These include a combined **Census Tracts, Census Metropolitan Areas and Census Agglomeration reference maps series** of about 200 maps as well as over 700 **Series 2 maps** for Smaller Urban Centres (formerly G-14 and G-16 series) and almost 2500 **Series 3 maps** for Rural Areas (formerly G-12 series).

Due the potential cost of production, the map series showing enumeration areas by Federal Electoral District (FED) (previously known as the **G-18 series**) is not available for the 1991 Census. Nevertheless, users can map the boundaries of EAs by FED using the digital EA boundary file.

Unfortunately, due to recent budgetary reductions, the popular **Metropolitan Atlas Series**, mapping many themes from the census data, has been cancelled for the 1991 Census. However, Statistics Canada does offer a limited custom mapping service on a fee-for-service basis.

For that matter, if standard geography products do not satisfy a user's need, then our **custom service** may be able to produce the required product as a special request. The minimum cost for this service is $350.00 and estimates of cost and turn-around time will be provided based on the complexity of the request.

Extensive **documentation** is available with each product. This includes user guides that provide statements of data quality, coverage, technical specifications and supplementary information.

In addition, there are a number of **geographic reference tools** available to help users locate and relate the geographical areas, identify historical relationships and census population, land areas, population density and dwelling counts. These include, for example:

Enumeration Area Reference Lists - linking the EAs to all other census geographies;

GEOREF - a new user-friendly software and data package that is a powerful data retrieval tool allowing users to utilize a PC to explore population and dwelling count data for all standard census geographic units;

Street Indexes - an alphabetical listing of streets and address ranges from the Street Network Files; and

Block-face Data File - that identifies population and dwelling counts, geographic coordinates and standard geographic areas for block-faces on the Street Network Files.

Place Name Master File - a file containing the "master" list of place names with standard geographic codes and coordinates and population counts from the 1991 Census.

To help users understand Census geography and products, including maps, the **Complete On-line Guide to Geography** is an interactive hypertext document, in which text can be linked to other text or images, that runs as a WINDOWS application. It includes an Electronic Guide to Geography, an Illustrated Glossary and a Reference Dictionary and can quickly illustrate geography concepts, products and applications.

For additional information on availability, prices, format, documentation etc., of any of the products I have described, you can contact your nearest Statistics Canada Regional Reference Centre. A completed **catalogue** of geographic and cartographic products, describing each product, its cost, release date, format and providing examples, is also available from the regional reference centres.

# GEOLOGICAL MAPPING IN NEWFOUNDLAND[1]

Stephen Colman-Sadd
Geological Survey Branch, Department of Mines and Energy, Government of Newfoundland and Labrador

## Introduction

Newfoundland like most provinces, territories and states in Canada and the United States has its own geological survey. Both Canada and the United States also have federal geological surveys.

The role of a geological survey was traditionally to produce maps that showed what kinds and ages of bedrock are present beneath our feet. The first geological map of insular Newfoundland was produced in 1842 by Joseph Jukes, after just three years of work and 22 years before the formal establishment of the Geological Survey of Newfoundland under Alexander Murray. Since then numerous geological maps of increasing detail and accuracy have been produced for both the island portion of the province and Labrador. These maps have reflected the advances in the earth sciences in the past century, incorporating developing concepts about the Earth's formation and evolution, and they have branched out from the restricted field of bedrock geology to examine and record other perspectives on the land that forms our province.

## Bedrock Geological Mapping

For a competent geologist, it is a straightforward matter to identify the kind of rock present in a place like Signal Hill, where the rock is exposed to view. The more subtle aspect of a bedrock geological map is that it also makes educated guesses about everywhere else, where the bedrock is not directly visible. For instance the "Geological Map of St. John's" indicates the kind of rock that underlies Memorial University's Queen Elizabeth II Library, although these rocks have not been seen since construction, and it also indicates what kind of rocks underlie the vast majority of locations where the bedrock is hidden by soil, bog and forest and has never been seen.

Determining the age of a rock is even more difficult than identifying rock types that are hidden from view. On most geological maps, rock units are distinguished by age as well as rock type. The "Geological Map of St. John's" shows that the rocks under the Queen Elizabeth II Library are about 570 million years old and that they are slightly older than the rocks that make up Signal Hill.

Basic observations for a geological map are usually made at point locations and some of the information, like measurements of the attitude of rock layers, remain that way when plotted on the map. However, other information, particularly that concerning rock type and age, is interpreted by the geologist before plotting and presented on the map as polygons which represent rock units.

Geological maps are as much concerned with the distribution of rocks through time as they are with their distribution through space. Because of this, geological map legends are much more than simply the keys to symbols. The map showing the "Geology of the Island of Newfoundland" is in fact smaller than the legend. The map shows the

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(1) Presented at 1993 ACMLA Annual Conference, St. John's, Newfoundland, July 1993

geology in terms of the conventional dimensions, length, breadth, and to some extent depth. The legend shows the geology in terms of the fourth dimension, time, from 1.6 billion years ago until the events that formed the youngest rocks on the island about 140 million years ago. The size of geological map legends sometimes requires that they be printed on separate sheets from the map, which is a matter of some significance to map librarians because both map and legend are useless if they become separated.

Bedrock map coverage is available at some scale for the whole province. However, mapping done since the 1970 at a scale that is currently considered acceptable (1:50,000 for the island and 1:100,000 for Labrador) is available for about 60% of each part of the province.

**Thematic Geological Maps**

There are also many different kinds of thematic maps, some concerning bedrock geology, some concerning other aspects of earth science. One recent example that is based on bedrock geology is the map showing the "Metallogeny of the Vestiges of Iapetus". About 470 million years ago, parts of the island of Newfoundland were widely separated across the globe. The Avalon Peninsula was a part of northwest Africa and western Newfoundland was attached, as it is now, to North America. In between was a wide ocean, the Iapetus Ocean, with large numbers of volcanic islands similar to the present southwest Pacific Ocean. The processes of plate tectonics caused Africa, with the Avalon Peninsula at its leading edge, to collide with North America, sandwiching the volcanic islands of the Iapetus Ocean between them. These volcanic islands form most of central Newfoundland and are the "Vestiges of Iapetus". They are also rocks with very high potential for precious and base metal deposits. The map only shows rock units that formed in the Iapetus Ocean and as such is a "snapshot" of a brief, but important, interval in Newfoundland's history. It also shows much more information about the mineral deposits than would normally be found on a geological map and in this way meets the needs of a particular target group, the mining industry.

**Other Geoscientific Maps**

Modern earth science is concerned with much more than just bedrock geology. Although there is no bedrock in the province younger than about 70 million years, in the last million years and up until about 10,000 years ago much of North America, including Newfoundland and Labrador, was periodically covered by glaciers during a series of ice ages. As the glaciers melted, they left behind loose sand and gravel forming a cover over much of the bedrock. Maps showing glacial deposits and dividing them into various types have been published for both the island (1:500,000) and Labrador (1:1,000,000). They only show bedrock where there are no glacial deposits covering it and make no attempt to describe it. Once again these maps represent a "snapshot" in time that shows only the history of the last million years. More detailed maps, at a scale of 1:50,000 which is considered the optimum scale for this type of mapping, are presently available for less than 10% of the province.

The maps discussed so far show what kind of rock or deposit is where. They are only selective in the age or kind of material shown and they present data principally as polygons, which are defined subjectively by the geologist. Earth scientists also use and produce maps that show measurements of a single type at point locations. Most geophysical and geochemical maps are like this. In GIS terminology they show one layer of information only. This type of information, which is usually numeric, is easy for a computer to handle and commonly these maps are produced by computer in false colours and shaded images; before computers were available they were generally contoured. Coverage of the province is complete for some geophysical parameters (e.g. magnetism) and not so good for others (e.g. radioactivity). Geochemical coverage is also complete for lake sediments analysed for a large range of elements. The sediment at the bottom of a lake provides a

kind of average value for how much of an element is present in the area that drains into the lake.

Most mapping techniques in the earth sciences were initially developed for onshore application. However, similar maps can be and are produced for offshore areas as well. These are appearing in increasing numbers as technology improves our ability to collect offshore information and makes it possible to exploit offshore resources, so creating a demand for the information.

**Presentation Formats of Geoscientific Maps**

Regardless of the type of map, the format of map presentation is currently being revolutionized by computer technology. The Newfoundland Geological Survey Branch (GSB) is attempting to keep up with the changes but because of tight budgetary constraints still produces most of its maps non-digitally. It is not alone in its problems and a review of the various publication formats probably applies at least in part to many of the geological surveys across North America.

The most rudimentary maps published by the GSB are released as "Open Files". These generally consist of a chronaflex master copy which is used to produce blueline or sepia copies on demand. Production is quick, easy and cheap, and there is no inventory. The maps may be professionally drafted but often are only hand drawn by the geologist who did the field work. They are aimed at a limited number of users who need the information quickly and are not concerned with quality of presentation. Typical users are mining companies who have an interest in the latest information on a specific area.

The next level is to have the map professionally drafted and printed, usually for inclusion in a report which describes the geology of the area at some length. Most of these maps are uncoloured, with just lines and symbols depicting the geology and superimposed on a standard topographic base. A print run of only 500 to 1000 copies would be normal because like the Open File maps, these maps show detailed information in a small area and have a very limited audience.

Less detailed maps covering larger areas appeal to a larger number of users and are commonly used for lectures and displays. They are usually produced at scales of between 1:250,000 and 1:1,000,000 and combine information from several of the more detailed maps. They are often produced in full colour with print runs of 1000 to 5000.

The movement to digital maps has been led by geophysics and geochemistry, where the large volumes of numeric data are awkward to deal with in any other way, but the GSB is now moving into producing all its maps by computer. Maps for which a big demand is anticipated will still be printed in volume, but the printing negatives will be produced by computer rather than using peel coats. Maps for which there is less demand and which are currently bluelined will be produced on demand on a raster printer. This will allow a better quality because of computer drafting of lettering and symbols and, most important, will allow cheap maps to be produced in full colour.

The really important aspect of digital mapping, however, is the power of the computer to organize the information as a series of databases and to combine information of different kinds on demand to show relationships that might not have been recognized previously. An example is a series of maps currently in production which shows geochemistry superimposed on geology. At present the GSB is predicting what combinations are needed and publishing them as standardized maps because there are insufficient staff to customize maps for each client and insufficient equipment to allow individual clients to do this themselves.

The objective is to publish maps as computer files on a GIS platform, most probably Arcinfo. Clients could come into the office and customize their own maps from GSB databases, or they could do this on-line, or they could buy or download the databases and use their own hardware and

software. There are already a number of agencies that have downloadable GIS files on Internet.

Experimental maps have been produced for the Baie Verte peninsula and parts of central Newfoundland using Arcinfo. They show geology, mineral occurrences, a wide variety of geophysical and geochemical parameters, mineral rights holdings and other information. Particular portions of the map can be selected and viewed at any scale with any combination of information. Particular locations can be indicated with the cursor, bringing up windows that show background data for that location and that parameter. There is too much information on the map for the user to view it all at once, but it is a simple matter to mix and match information according to the user's needs.

Although there will still be paper maps, especially of the more generalized kind, geoscientific maps will increasingly come on computer disk or off a network. They are going to have far more information on them than can ever be printed on a single sheet of paper and a computer is going to be an essential tool for the user.

**Where to Obtain Geoscientific Maps of Newfoundland and Labrador**

Geoscientific maps for the province are available principally from three agencies:

1. Publications and Information Section, Geological Survey Branch, Newfoundland Department of Mines and Energy, P.O. Box 8700, St. John's, Newfoundland A1B 4J6. Most onshore areas.

2. Geological Survey of Canada, 601 Booth St., Ottawa, Ontario K1A 0E8. Some onshore areas and all offshore areas.

3. Department of Earth Sciences, Memorial University of Newfoundland, St. John's, Newfoundland, A1B 3X5. Mainly maps of a thematic nature; also publishes maps through the two geological surveys.

# MAP LIBRARY DESIGN
# GUIDELINES, IDEAS, TIPS AND PITFALLS[1]

Beverly Chen
Geological Survey of Canada

## MAP DESIGN

The following is based on a handout prepared for the ACMLA Annual Conference in Newfoundland. The handout was intended to supplement the information given in a half-hour slide presentation on map library design. The presentation focused on the design of the University of Ottawa Map Library and the Geological Survey of Canada Map Library and provided illustrations of many of the guidelines, ideas and tips discussed in this text.

Beverly was the Map Librarian at the University of Ottawa from 1968 to 1976, during which time she designed the new Map Library. She became Map Librarian of the Geological Survey of Canada in 1990 and in 1991-92 designed the renovations for the area housing the Map Library and other components of the Special Collections.

Many ACMLA Map Librarians/Archivists have already been involved in the design of a map library/archives or are in the design process right now. Some have even been involved in the design of more than one map library/archives as I have.

In some cases it is new construction, usually an area in a new library building. You may be assigned an area and told to do the best you can do with it; or you may be given the opportunity to make preliminary sketches and floor plans and determine the ideal amount of space and its configuration as I was able to do for the University of Ottawa Map Library.

You may be called upon to participate in the design of a renovated space, either your existing space or another space to which you will have to move. At the Geological Survey of Canada, I had to plan for renovations to an existing space. Renovating can present more and different challenges than new construction, especially when you have to upgrade older mechanical and electrical systems.

In all cases, the principal challenge is to strike the best balance between available financial resources, the physical conditions and constraints of the allotted space and the efficient and effective arrangement of functional areas and furnishings and equipment.

If you have already gone through the design process, you have likely done a good job of trying to think of all the options and have come up with the best design you could given the resources available to you, the circumstances and conditions of the project and the amount and kind of space with which you had to work.

The purpose of this paper is to give those new to the experience a general overview of the design process and to provide, both for the neophytes and the seasoned survivors, some guidelines and tips on design elements to take into account or potential problems to watch for now or the next time you have to go through the exercise. Depending on your individual circumstances and the type and scope of the building or renovation project, you may be involved in all or only some of the stages of the design process as outlined and

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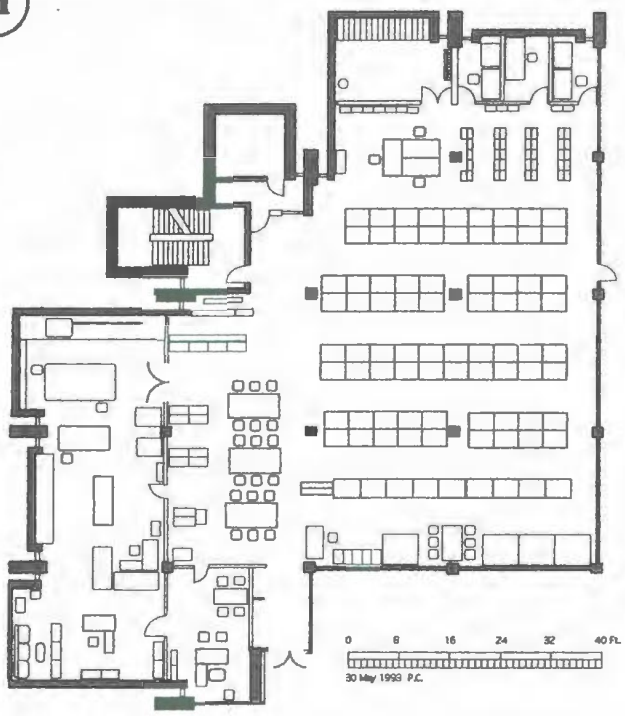
(1) Presented at 1993 ACMLA Annual Conference, St. John's, Newfoundland, July 1993

# Map Library Design

## New Construction

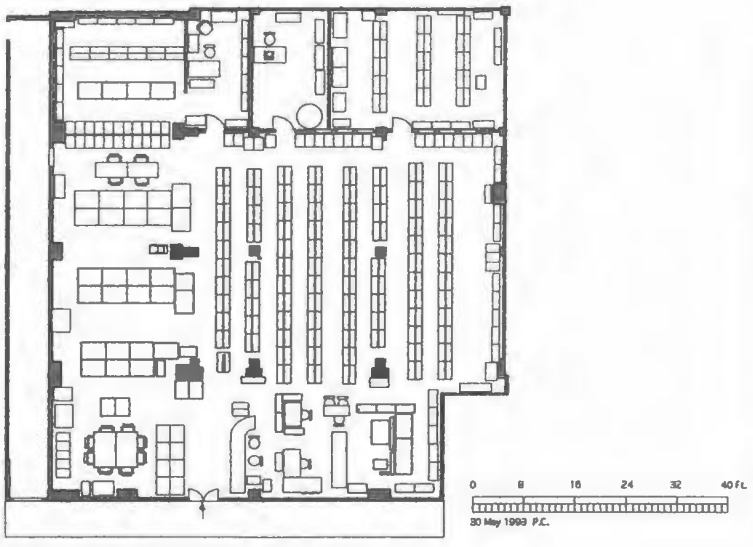



**University of Ottawa**
**Map Library**
**Completed 1972**

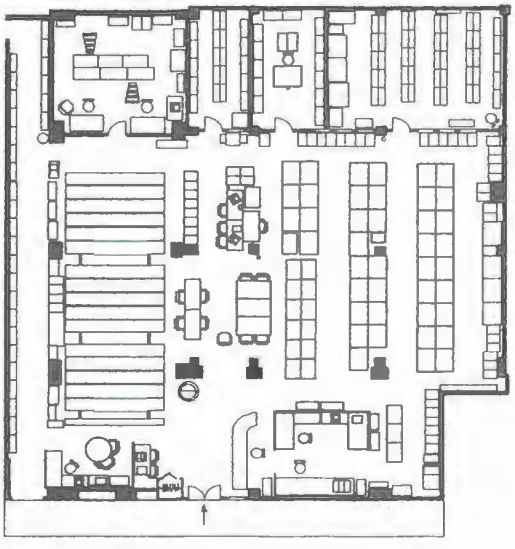
**Design - Beverly Chen**

## Renovation

**Before renovation 1991**




**After renovation 1992**



**Geological Survey of Canada - Map Library**

**Design - Beverly Chen**

described. Much of what follows is quite general and may seem self-evident, but, hopefully, each of you will find some idea or fact that will prove useful to you.

To begin with, you should keep in mind the 3 "I's" that I consider concepts critical to a successful design project.

**INVOLVE** yourself as early in the planning process as possible and try to maintain that involvement. If you are not invited, ask to be able to participate on the planning team as the expert on the needs of the Map Library.

You may find yourself working directly with the architect and engineers or with an interior designer, project manager or library consultant who acts as the liaison with the architect and contractors. It is critical to establish early on and as clearly as possible, the roles and responsibilities assigned to everyone as part of the building project team.

Maintaining channels of communication with those involved in the planning process is crucial.

It is important to have or create the opportunities to explain your objectives and priorities and work out compromises and trade-offs that will have the least negative impact.

**INITIATE** proposals. Do your homework to know what you have and how it is used as well as what you will need.

Take the initiative to present documentation and preliminary plans even if they are only simple squares or rectangles with approximate square footage but do provide as much detail as possible and use colour shading on the plans for emphasis and clarity.

Take the initiative to present preliminary designs for custom, specialized equipment or furnishings.

Make your official presentation materials as professional-looking as possible. Call on other expertise, if necessary.

**IMAGINE** the possibilities. Use whatever tools are helpful to increase your understanding and stimulate your imagination. Keep a knowledge of the map library's functions and operations in your head or create flow charts or diagrams as graphic presentations to aid in the design process. Research and, if possible, visit as many other map libraries and map archives as you can. Call on other expertise, solicit opinions, read the literature. Make mock-ups and floor plans with equipment and furnishings cut-outs that you can easily manipulate; use homemade or commercial design kits or CADD programs.

Allow yourself time to imagine and play with all the possibilities; this is a creative process. In the beginning stay flexible so good ideas do not get discarded too soon. Follow ideas and concepts for some length until a logical end. If the process does not result in a useful idea, it may trigger other useful ideas along the way that can then be pursued. Include the ideal; this may be your only opportunity to try to reach it. Try to make the best of whatever conditions are imposed. Imagine how everything will work from as many points of view as you can think of.

## THE DESIGN PROCESS

### Analysis of Your Map Library's Functions and Operations

1. Analyze the nature and flow of holdings, staff and users.

   Include statistics on the collection and its use - size and type of current holdings, growth rate per year for each category of material, processing, cataloguing, reference (types of inquiries and types of users), circulation.

   Use statistics for at least 5 previous years, if available, to indicate trends.

2. Survey existing facilities, equipment and furniture and accurately measure.

3. Analyze relationships and patterns of interaction with other operations and services in the organization and/or institution.

**The Facilities Programming Stage**

This stage will define the scope of the building project and will suggest size and location options for the map library. Contribute to the information being compiled by the architect or consultant by:

1. Defining the map library's role and its users' needs. Take into account the relationships and patterns of interaction with other operations and services that were identified earlier.

2. Including short and long-term projections for growth in number and kind of collections, facilities and equipment, staff, users and services especially in terms of space requirements.

Relate these to your mandate and back them with results of analyses and surveys and statistics on collection development, staffing and client use.

Keep in mind space standards and internal and external functional requirements, as well as critical constraints such as the floor-loading factor.

Try to maintain the balance of stack (storage capacity), staff and user space (seating capacity and consultation space including the surface of map cases) that is appropriate for your role, i.e., academic map libraries usually need more user space than specialized map libraries.

Predict changes that may impact in 5-10 years, especially in terms of automation and alternative forms of storage; plan for future change so it can be incorporated into the design.

Check and recheck space calculations, especially for storage; remember that storage equipment should only be ca. 80% full for ease of access and to allow for logical expansion.

You may want to translate your projections for space requirements and ideas for space utilization into a very general floor plan to present with any written documentation.

**The Conceptual Design Stage**

Insure at this stage that the proposed map library has adequate size and that the suggested location/s will enable it to function properly.

1. Detailed written and illustrated design criteria will be developed by the architect based on your overall requirements.

2. The general blocking of spaces will be shown on plans and diagrams of the building, generally at a scale of 1/8 inch to a foot.

3. The basic architectural, structural, mechanical and electrical components that may be indicated on similar or other scaled plans should be consulted for major conflicts posed by columns and projecting duct works.

**The Schematic Design Stage**

This is the stage when the specific square footage and location are established.

1. The architect's plan will show the exact amount of space allotted for the map library.

2. Architectural, structural, plumbing, HVAC (heating, ventilation and air conditioning) and electrical components are developed, usually on 1/4 inch plans.

3. General furniture and equipment layouts may be done.

4. Cost estimates for the space envelope and overall building components are determined but you likely will not be directly concerned with these.

For renovations you are more likely to be directly concerned with the costs for the architectural and building systems (mechanical, electrical, etc.,) affecting the map library itself. General cost estimates could be initiated at this time for the map library equipment and special interior finishes.

4. Structural Considerations: At this stage, or even earlier for new construction and before a move is considered to another existing space, the floor-loading, or weight-bearing, factors must be dealt with.

The factors include dead load and live load.

A building is designed to withstand the weight of the structure itself (dead load) and the contents, equipment and people, (live load). You will primarily be concerned with the live load capacity of the floor design, especially in the case of an older building where the floor may have been designed for other types of live loading.

It is therefore important to know the live weight floor-loading limits as this can determine whether or not the floor structure can withstand the weight of fully loaded map cabinets and also how high you can stack the cabinets which can affect your projections on the amount of space needed.

Obtain the floor-loading factor **in writing** from the architect, structural engineer or responsible building officer who can verify the planned or original specifications for the building.

A common allowable range for the live floor-loading factor is 40 to 100 lbs. per sq. ft. Buildings designed as libraries or to house laboratories generally have a higher floor-loading factor of about 150 lbs. per sq. ft. The Geological Survey of Canada building has a live floor-loading factor of 300 lbs. per sq. ft.

Weight of map cabinets unloaded and loaded:

A typical 3' x 4', 10-drawer cabinet, unloaded, can weigh ca. 725 lbs. and a base weigh ca. 45 lbs.;

Depending on the type of map, drawers with a 1 3/8" inside depth generally hold 20-50 lbs. of maps per drawer, although 20-25 is most common for an active collection;

Two stacked, 10-drawer cabinets plus base, loaded with an average of 25 lbs. of maps per drawer, would weigh ca. 1,995 lbs. and the same cabinets with 50 lbs. per drawer would weigh ca. 2,495 lbs.;

A floor-loading factor of 300 lbs. psf could accommodate a weight of 3600 lbs. for a 3' x 4', or 12' sq. area, so the above cabinets would be within the allowable range. A factor of 150 lbs. psf could only accommodate a weight of 1800 lbs. for the same 12' sq. area that would not be adequate for two stacked map cabinets as described;

Adding a third tier of cabinets would bring the totals for the stacked weight of 3 fully-loaded cabinets to 2,970 lbs. and 3,720 lbs. with the latter being unacceptable;

By comparison to the map cabinets, a fully loaded, double-faced, 3' x 2' section of metal shelving (7 shelves) weighs 800-900 lbs. A fully loaded, 30" x 22", 10-drawer microfiche cabinet weighs ca. 700 lbs. A floor-loading factor of at least 150 psf would be required;

Verify the weight information for any other heavy storage equipment;

Check the live floor-loading factor if installing mobile shelving;

A steel platform grid can be installed extending out from under the equipment on a floor to help distribute the weight of heavy loads in specific areas.

**Developing the Design**

End products will include large-scale floor plans of the map library indicating the arrangement of space and layout of furnishings and equipment; architectural, structural, HVAC, plumbing and electrical components will be detailed with enlarged sections showing critical joints and connections; written specifications will be produced by the architect and others for architectural and engineering materials.

1. This is an evolving, gradual and repetitive process in which the map library plans become more and more refined and acceptable; it will take time, thought, imagination and probably several preliminary versions of floor plans.

2. Costs of design components for the map library based on increasing detail are estimated and necessary trade-off decisions are made.

3. A variety of different kinds of plans and diagrams will be used to show developing details:

Floor plans – Show the arrangement of rooms and other architectural and structural details as well as varying degrees of HVAC, plumbing and electrical information.

Reflected ceiling plans – Indicate all the pipes, ducts, conduits, fixtures, and sensors on the ceiling that would have to be taken into account in planning the location of collections, equipment, etc.

Cross sections – Show ceiling heights of bulkheads enclosing beams, pipes and ducts as well as separate beams, pipes and ducts.

Using cross sections was critical for the GSC Map Library design because of the varying ceiling heights and the vast number of pipes and ducts at different heights that had to be considered in deciding where to place the mobile shelving unit that is on a raised platform and the Photo Library storage units that are 8' in height. It even affected the placement of individual tall shelving units.

Sketches (line), renderings (sketches with shading and colour) and perspective drawings – useful to illustrate view lines, aesthetics, etc.

Use hand-drawing methods or CADD (computer-assisted design and drafting) systems to produce your own preliminary plans and drawings:

Use tracing graph paper for plans, measure and cut out all furniture and equipment from graph paper, attach to plans with removable tape so you can move pieces around;

Use a commercial library design kit with small templates and patterns for most common furnishings and equipment;

Obtain access to a CADD system if you do not have your own and prefer to try automated design techniques and presentations that make revisions painless.

Learn as much of the architectural and engineering jargon as possible as well as frequently-used coding and abbreviations.

Ask to see architectural and engineering plans at each stage in the revision process. Read all architectural and engineering plans submitted to you as carefully as possible watching for omissions and revisions and then make certain any needed corrections are made as soon as possible. The following are two examples of the kinds of omissions that can occur:

At one stage, the workroom extractor fan, which was to be separate from the central air conditioning system, was left off the University of Ottawa Map Library's architectural drawing; in map repair work chemicals such as benzene, toluene, alcohol, acetone and carbon tetrachloride may be used and such a fan is critical;

Depending on whether wall display panels are considered architectural elements or furnishings, they may or may not show up on architectural drawing. They were architectural elements for the GSC Map

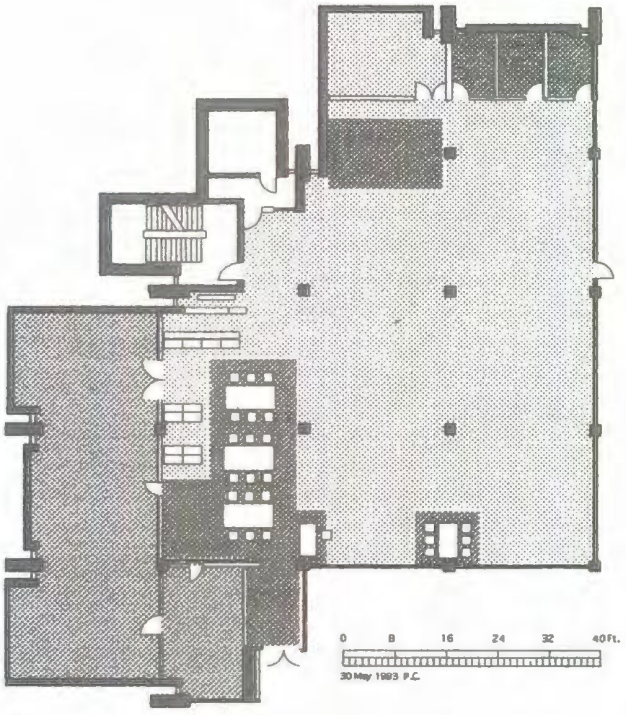
# Map Library Design

## Functional Zones

Reference & Circulation Services, Consultation Areas.....

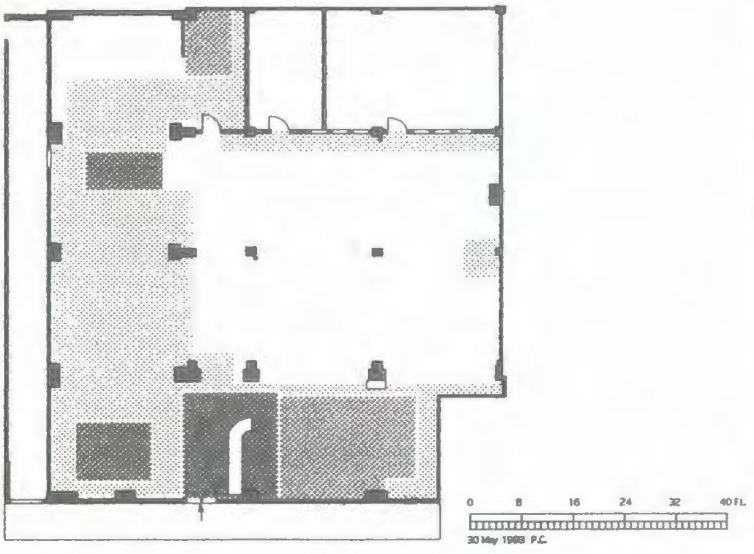
Technical Services Area & Map Librarian's Office.....

Storage Areas.....

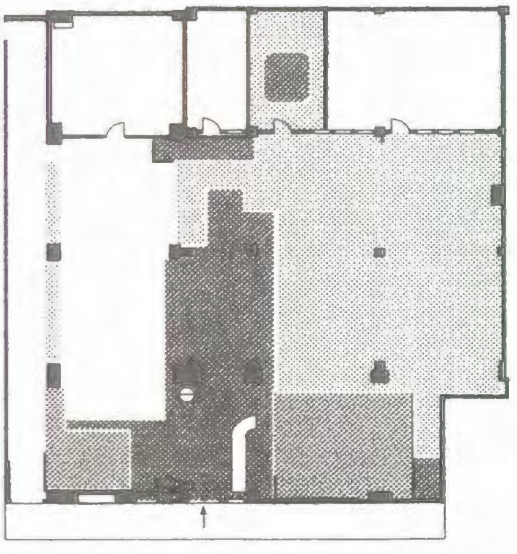



**University of Ottawa Map Library Completed 1972**

**Before renovation 1991**




**After renovation 1992**



**Geological Survey of Canada - Map Library**

**Design - Beverly Chen**

Library but were omitted on one set of plans and shown incorrectly on another;

Vigilance is the name of the game!

Make sure all plans, diagrams, documents and correspondence are dated.

Maintain a project log book to keep track of names, dates and tasks.

4. Space Utilization Considerations: Planning and arranging space and locating furniture and equipment.

Try to maximize efficiency, convenience, visibility, accessibility and planned flexibility.

Take into account patterns of interaction and inter-dependence of operations and services: Adjacency — Put like or dependent operations and functions in close proximity if they share facilities, equipment and staff.

Plan for the most direct flow of materials, staff and users.

For visual contact between users and staff for communication and control, plan for direct view lines through the use of elements such as internal windows and/or mirrors and the strategic placement of furniture or equipment.

"Wayfinding" — Lay out space so that users can find the various facilities obviously and logically; create a system of well-placed and well-designed signage to reflect this layout.

Create large spaces that are adaptable for multiple uses; keep small, specialized areas to a minimum and generally on the periphery of the total space available.

Create functional, comfortable and accessible work and user areas:

Work station standards include a recommendation of at least 150 sq. ft. for technical service staff and library managers. More space would be needed in map libraries/archives to allow for extra-large tables or counters to accommodate map sheets;

Consultation areas also require more space in map libraries/archives to allow for some extra-large tables;

Create a welcoming entrance area.

Aisle and standing space:

Provide for ease of movement with clear and wide aisle ways and connecting pathways — Allow for movement of map carts, dollies, wheelchairs, forklifts, etc;

Provide adequate space to open drawers and stand to consult material;

Provide adequate movement and standing space in service areas;

Some standards include —

| | |
|---|---|
| center or main aisle | 4-4.5 ft. |
| aisles in front of rows of map cabinets | 5-6.0 ft. |
| space between tables, if chairs are back to back | 5-6.0 ft. |
| aisles in front of vertical files | 5-6.0 ft. |
| aisles between book stacks | 3.0 ft. + |
| (2 ½ ft. between rows of shelving is minimum and can increase storage capacity by 10%) | |
| areas in front of circulation counter, and reference desk and catalogue | 6.0 ft. |

Place storage equipment and shelving so that it is easy to follow the sequence of classification.

5. Architectural and Structural Considerations

Make sure room dimensions are accurate and all columns are shown correctly for placement and dimensions.

In renovations, make sure that the original floor is level or can be made level for proper drawer or door functioning of equipment.

Make sure ceiling heights are adequate to accommodate height of storage equipment and for visual and psychological comfort.

Walls and partitions:

Factors to take into consideration include open-concept vs. closed-concept, privacy vs. visibility, security and flexibility;

Consider the use of demountable wall or movable partitions for flexibility and walls with half or full glazing (windows) for separation of functional areas but visibility for service and security.

Doors – Use a combination of single and double doors with double or extra-wide doors being used for the main entrance to the technical services area and wherever map carts or wheelchairs will be moved.

6. Environmental Considerations

Lighting – There is a need for different levels and types of lighting in different functional areas and the goal is to achieve the best lighting through a combination of natural and artificial lighting or through well-designed artificial lighting.

Natural lighting:

Orientation of windows – South sun can be too hot and bright for too much of the day for both materials and humans;

Locate windows where people are working for the longest periods of time, including staff areas, and also in small, enclosed areas where people could feel claustrophobic;

Maximize the sharing of natural light through the use of interior walls with half or full glazing which also allow people to work in specific areas and still oversee other large areas.

Artificial lighting:

Placement can be very important. For example: Lighting should follow aisles and the rows of map cabinets that are being used for consultation surfaces; Over mobile shelving, lighting should not follow rows but be at right angles to the rows so that no areas are not lighted when the rows of shelving are moved.

Spotlighting and task lighting should be used for exhibit areas and work areas to correct shadowing.

Take into account reflection off metal, very smooth or polished surfaces. Map cabinets create a large reflective surface.

Candle power and energy efficiency – Lighting should be bright without glare, especially if there are no windows for natural daytime light. Place lighting an appropriate distance apart so that there will not be any dark areas. Use light covers for ceiling lights that diffuse lighting.

HVAC – heating, ventilation, air conditioning.

Important factors to manage are air temperature, radiation temperature, humidity and air circulation.

Research recommended temperature and humidity standards for the various types of materials and equipment in your collections and for different functional areas.

Insure that systems are designed to maintain acceptable temperature and humidity ranges.

Insure that there is an adequate supply of fresh air and that air movement provides an adequate number of air changes per hour.

Check the placement of air supply and return plenums to ensure a functional and adequate pattern of air circulation. Also check placement in relation to the possible location of high shelving and partitions that could block air circulation.

Make sure that there are appropriate and adequate filters to remove dust, sulphur dioxide and hydrogen sulphide that can affect paper and binding.

Install extractor fans where chemicals may be used. There are now new, more specific standards for protecting the worker from exposure to chemicals in the work place.

Noise.

Quiet zones vs. noise zones.

Remember in your planning to take into account work noise, traffic noise, conversational noise, and mechanical noise from air conditioning or equipment.

Create zones for quiet and noisy functions and try to isolate the noisy ones. Use sound absorbing surfaces as much as possible.

7. Plumbing Considerations

A large sink in the workroom area is useful for map repair work, etc.

The location of water pipes, sewer pipes, as well as air conditioning ducts and bulkheads, can pose special problems:

Pipes, ducts and bulkheads can create height limits;

Pipes can create areas of susceptibility to leaks – One option is to keep pipes exposed or easily accessible behind hinged panels so that leaks can be seen more easily; Another option is to have a suspended ceiling to cover the pipes but with tiles that can be easily moved for inspection and replacement of damaged tiles; Put the most vulnerable materials the furthest from pipes, to reduce problems from leaks; Install a metal drip pan/trough under pipes on a slope towards column pipe chases for drainage.

8. Wiring Considerations

Carefully plan the location of electrical outlets and communication network and computer network nodes.

Build in extra lines and nodes to allow for flexibility if you have to move furniture or change the function of a room.

9. Preservation, Safety and Security Considerations

Plan for a system of smoke and heat sensors, sprinklers, fire alarms and security alarms as well as emergency lighting.

Mobile shelving and areas containing non-replaceable and vulnerable materials or materials that are highly flammable and would release chemicals if burned, all require more intensive treatment with sensors and sprinklers.

Find out about the different types of sprinkler systems in order to choose the most appropriate one.

Fire hose cabinets have to be properly placed and contain hoses long enough to reach all areas effectively.

10. Designing for Computer Technology

This is becoming more important for map libraries/archives because of the increasing variety of cartographic databases, digital maps and GIS systems being integrated into the collections and the new generations of copiers and printers for map reproduction.

There are specific space and layout requirements to consider for hardware.

Understand and plan for power and connectivity requirements.

Environmental considerations such as acoustics, lighting and temperature and humidity are important to the proper operation and use of computers and related equipment.

Security – Place computer hardware in secure areas or else where it will be highly visible.

11. Some other factors for Consideration

Finishes for walls, floors and ceilings.

Flooring – carpet vs. vinyl tile: In the case of leaks or flooding, carpeting would have

to be removed; Ease of cleaning – generally easier to clean and maintain tile floors; Noise – carpeting acts as a sound absorber; Aesthetics and client comfort – carpeting adds a feeling of warmth, comfort and texture to a room; Carpet runners for aisles, rather than full carpeting, may be a good compromise.

Exhibit space on walls: magnetic white board wall covering to display maps using magnets in order to reduce damage to maps; tackable natural cork; cork covered with Bur-Fab for Velcro mounting.

Plan for external, glass-enclosed exhibit space related to the map library/archives.

Aesthetic factors

Create a feeling of spaciousness, organization and functionality – It looks good and seems to work well: To increase a sense of spaciousness, keep equipment and furnishings which are higher than eye level towards the perimeter of the area.

Carefully choose a palette that communicates calm and warmth.

Include clothes and storage closets that will help maintain a neat environment.

Cost factors – A choice between options will often be made based on cost-effectiveness, short-term and/or long-term.

**Post Design**

1. Contracting Process

Try to review relevant tender and contract documents and look carefully for omissions or mistakes in details. If it is not in the specifications, you will not get it. Substituting materials or equipment later is always more costly.

2. Construction Period

Monitor progress and anticipate the use of contingent allocated time periods.

Make periodic and frequent visual checks of the renovation or new construction site.

Make preparations for move to new location or back into renovated space slotting contingent time into the schedule to insure a minimum of delays.

Finalize interior plans, especially colours and finishes.

Prepare now or earlier, depending on the circumstances, the preliminary designs and specifications for any custom, specialized equipment and furniture that you feel would better meet the needs of your map library/archives. Remember, specialized equipment may take more time to obtain because of untried processes.

Now or earlier, depending on the circumstances, select and order standard equipment and furniture: select furniture that can be adapted for computer technology.

Make any minor design revisions that are necessary.

Help to compile the preliminary and final lists of deficiencies in construction or installation and insure that corrections are made.

3. Congratulations on your Grand Opening!

**REFERENCES**

The stages in the design process and the guidelines, ideas and tips included in the text are drawn from my own design experience and a synthesis of the knowledge I have gathered over the years from a number of written sources, including unpublished reports and notes, and personal contacts.

The terminology used to identify my **Facilities Programming, Conceptual Design and Schematic Design** Stages of the design process is taken from the architectural planning phases described in:

Thrun, Robert. "The Role of the Architect in Library Planning." In: Creative Planning of Special Library Facilities. Mount, Ellis, ed. New York: Haworth Press: c. 1988. Chapter 8, p. 67-74.

The weight factors for standard library shelving and microfiche cabinets, the work station space standard and the separation space standards, except that for map cabinets, are taken or adapted from:

Mount, Ellis, ed. Creative Planning of Special Library Facilities. New York: Haworth Press. c. 1988. Chapter 3, "Space Utilization," p. 17-20

The Mount book would be an excellent book for background reading for anyone embarking for the first time on his/her own design project. Chapter 12 in the book is "An Annotated Bibliography on Planning Special Libraries" by Beverly Gordon and includes 24 pages of annotated references.

If you would like more information on specific aspects of map library designs, please contact Beverly Chen at: Phone (613) 996-1194, Fax (613) 954-1109 or Internet: chen@gse.cmr.ca

**PRIX DU MEILLEUR ESSAI**

Le comité des prix et mérites invite également les membres de l'ACACC à soumettre la candidature du membre qui, à leur avis, est admissible au prix du meilleur essai. Selon les règles du concours, l'heureux(se) élu(e) aura publié un article d'au moins trois pages au sein d'une édition du Bulletin de nouvelles de l'ACACC, émise à la suite du dernier congrès. Le comité recherche principalement des articles, dont les carto-bibliographies, qui alimentent et soutiennent le développement de la discipline. Les articles seront jugés selon les critères d'originalité du thème choisit et du niveau de recherche.

Date d'échéance du concours: 1er mars 1994.

Veuillez faire parvenir vos suggestions de candidats à Alberta Wood, Présidente, Comité des prix et mérites, ACACC, Bibliothèque Elizabeth II, Université Memorial, St John's, Terre-Neuve A1B 3Y1

## THE MAP LIBRARY IN TRANSITION

A Joint Conference Sponsored by the Congress of Cartographic Information Specialists Associations and the Geography and Map Division of the Library of Congress October 18 & 19, 1993

*Report from contributions by Edward H. Dahl [ED], Kathryn Womble [KW], Marsha Selmer [MS], Cathy Moulder [CMo], Trudy Bodak [TB], Carol Marley [CMa], and Alice Hudson [AH] compiled by Alberta Auringer Wood.*

The organizations participating in the Congress of Cartographic Information Specialists Associations are the American Congress on Surveying and Mapping, the Association of Canadian Map Libraries and Archives, the Committee of Southeast Map Librarians of the Association of American Geographers, the Geography and Map Division of the Special Libraries Association, the International Society of Curators of Early Maps, the Map and Geography Round Table of the American Library Association, the Map Online Users' Group, the North American Cartographic Information Society, the Northeast Map Organization, and the Western Association of Map Libraries.

The meeting opened with long lines at a registration desk as over 100 attendees picked up their badges and final program. Fortunately, there were several people helping with this operation, and it was completed in time to start the meeting only a little bit off schedule.

Ralph Ehrenberg, Chief of the Geography and Map Division introduced Dr. Deanna Marcum, Director, Public Services, Collections Management 1 [Special Collections], Library of Congress, who welcomed the participants to the CCISA conference and thanked both the organizers and sponsors.

Dr. Marcum mentioned the vigorous support of the Librarian of Congress, Dr. James Billington, for the concept of an "electronic library" which helps bring about "a library without walls." A major initiative to this end was the Library of Congress (LC) American memory project, launched in 1989. This is an ongoing project which places library materials in electronic form on optical disk. Dr. Marcum also described the LC's demonstration laboratory in which people can look at various technologies which have possible relevance to libraries. She also noted that the Geography and Map Division had in the past year created a GIS specialist position, now occupied by Gary Fitzpatrick.

Gary Fitzpatrick (co-chair of the organizing committee) followed with a few announcements and outlined the events to take place during the next two days.

Then Dr. Christopher Baruth, American Geographical Society Collection, University of Wisconsin, Milwaukee (co-chair of the organizing committee), who gave an overview of the conference goals and program. Chris noted that this conference was an outgrowth of a meeting that was held five years ago in Chicago of representatives from the sponsoring organizations. At this meeting two of the expressed goals were to encourage greater communication which was accomplished by the institution of MAPS-L by Johnnie Sutherland of the University of Georgia and to hold an international meeting which is occurring over these two days. What Baruth called "the digital revolution in cartography" challenges map librarianship. Information areas in libraries which are not well understood and have high space requirements are vulnerable. Digital cartography requires more advanced equipment, with higher associated costs and training. The aim of the conference was to provide map librarians with information on this revolution and to work towards an accord on needs and service delivery. [ED, CMo]

The first session entitled "Where Map Libraries are Today and Where They Are Headed" was moderated by Dr. Baruth with Colleen Beard of Brock University as the first speaker. A main challenge for map librarians is to create a reputation as experts about digital spatial data. After investigating options for her own library, she sees the functions of the map library as acquiring and providing digital data, electronic atlases, and custom maps or maps on demand, and providing some means for geographic information system (GIS) analysis. Map librarians must decide the types of data to collect for their users and the methods of access they will use, and they must gain the skills and knowledge to work with different digital formats, the offloading of data files and some level of geographic data analysis using GIS.

Deborah Lords, University of Utah, asked whether there is a future for map librarians. She is concerned that library education is not keeping up with new technologies available, such as Gopher and Archie. She believes that the American Library Association should be setting standards for library education. Ms. Lords pointed out her concern about the "envelope of disenfranchisement" – those who do not have access to any of the new technologies. If librarians do not decide how to handle the challenges posed by new technologies, someone else will, and they will probably charge fees to their users. Librarians must actively move forward. "Stagnation is death."

Thornton P. (Patrick) McGlamery from the University of Connecticut spoke about map libraries as places. He asked the question, "Will anyone come to the map library anymore?" He encourages map librarians to begin thinking in terms of spatial data rather than maps. We can view maps as artifacts (form) or as carriers of spatial data (function). Mr. McGlamery found some useful ways of thinking about the transition from paper to electronic data in Michael Buckland's book *Redesigning Library Services*. System networking means the map library is not just in the basement anymore. A local area network (LAN) becomes a file server on another network. An analogy Mr. McGlamery uses in describing two computer hard drives in his collection is that they are like map cases. They store a lot of maps, they cost about the same as a map case and they're square like a map case!

People will come to the map library more for training than for data. Libraries will continue their role of providing cataloging and location devices for data and continue to provide reference service. Sophisticated data users will demand easy ways to get the data they need. Less sophisticated users will need training. How well we describe the data and point to it has been a traditional role for the librarian and will continue to be in the future.

Gary North of the U.S. Geological Survey spoke next. Data is coming to map libraries on CD-ROM and this trend will continue. The Government Printing Office (GPO) must decide how to reproduce and distribute large quantities of this data to the library community. Data producers should work on ways to improve file structures for data and some government/private industry creative research and development agreements have begun in order to do this. New electronic metadata systems are emerging. Map librarians should think about plotting their collections graphically in addition to traditional descriptive cataloging. Standards must be set as more joint data production projects go forward. Map librarians must anticipate and plan for changes such as not receiving paper maps anymore, for changes at the GPO, and for people accessing information from their homes. Changes in the electronic information world have just begun. Librarians must define their role and not let it be defined for them by engineers and scientists.

Johnnie Sutherland at the University of Georgia envisions his map library installing a LAN hardwired to the campus mainframe with 4 workstations, CD-ROM drivers, 2 gigabytes of hard disk space and laser printers. As map librarians, we will use set ups like this to access hundreds of different sites for data. Mr. Sutherland will be a spatial data specialist, who will train users on GIS software and how to download

data. He predicts that other specialists will continue to need help finding the data they need. He will employ a scanner system to make his large paper collection more useful for those working with digital data. Each library must determine and implement what level of service it can afford.

Linda Zellmer, University of Wyoming, is planning a new library and has developed a list of questions she is using to move forward in utilizing digital data in the map and earth science library. The choice of a library GIS should be based on the library's goals. A full GIS system would provide the information and technology needed to use and analyze all types of spatial data. A partial system would provide access to spatial data in all forms without analysis capabilities. Some criteria for selecting a library GIS are that it be user friendly, capable of being modified easily to accommodate new data sets, have a reasonable cost and be able to perform library-related functions. Research opportunities in this area include testing various systems against the criteria developed to select them, developing user friendly interfaces so that patrons can use the system with little assistance from library personnel and developing library-related applications. [KW]

After a short break, Diana Rivera of Michigan State University chaired the session on "Reports on Initiatives". This was begun by Alberta Wood who reported on the "GIS in Libraries Survey" that had been organized by the Congress of Cartographic Information Specialist Associations (CCISA) and co-funded by the Association of Canadian Map Libraries and Archives and the North American Cartographic Information Society. The survey was undertaken to see how well libraries were handling GIS and digital data and to provide a benchmark for future studies. Most respondents were from American academic libraries, and of the total responding, only 46 percent held digital data. The most frequently cited reason for the absence of digital data was the lack of funds. For additional information on this survey see the archives of Maps-L and the reports published in the journals of map librarianship.

Four initiatives currently underway at the Library of Congress, Geography and Map Division, were discussed by Ralph Ehrenberg, Division Chief. They are: 1) Establish a GIS reference capability through the creation of a GIS specialist position and the acquisition of GIS software and supporting hardware. This will allow the Division to create maps on demand for the U.S. Congress. 2) Use GIS technology to create graphic indexes for the over two million sheets in the Division's map series collection that lack sheet level control, and integrate the graphic and bibliographic control of the collections. 3) Assist in establishing and distributing standards for digital data and metadata by participating in the work of the federal interagency working group charged to deal with these data. 4) Establish a Center for GIS and move the Division from a paper to an electronic environment in its service to users beyond its Congressional constituency.

CCISA coordinator, Christopher Baruth, noted the associations and representatives currently participating in the CCISA. As a non-organization, and therefore, not funded, the CCISA must depend on its constituent groups for future direction. Recent initiatives included the GIS in Libraries Survey and the planning for this conference.

Larry Carver discussed the goals of the "ARL Geographic Literacy Project," a joint initiative of the Association of Research Libraries (ARL) and the Environmental Systems Research Institute (ESRI), which is designed to educate and equip libraries in the provision of spatially referenced data in all formats. Sixty-seven American libraries were accepted in the first two phases of the program; negotiations for the third phase in Canada are underway. Participating libraries must own the hardware needed to support data sets from companies such as ESRI, GDT, WESSEX, DEC, and National Decision Systems. [MS]

After the lunch break, Dr. Deanna Marcum chaired the Keynote Speakers session. The first speaker was David Beddoe, Regional Manager, Washington Office, ESRI, Inc., who spoke on

"Georeferencing and Mapping of Non-cartographic Information". Beddoe's topic was the implications of using GIS on data which formerly would not have been considered cartographic. Converging technologies, the combination of network computing and GIS, open new vistas and extend what information can be considered geographic. He emphasized that GIS is very multimedia now – data can be conventional maps, images or georeferenced data sets. Beddoe estimated that the U.S. federal government has approximately 12,000 databases. Forces influencing further GIS development are: privacy, free public access, cost recovery, copyright and commercial use. Marketing is an exciting growth area for GIS, as businesses use the technology to make better decisions and track user needs. Beddoe predicted that the map will become the index and GIS the front end to locating and using all spatial data. GIS users will geographically assemble data from all sources. His vision is that GIS belongs in every library, and eventually preschoolers will be accessing geographical information.

His talk was followed by "Paper Maps in an Electronic World" by Barbara Fine, President, The Map Store, Inc., Washington, DC. Fine spoke as the representative of international map vendors and addressed the future of the paper map. Basically, she felt the paper product will disappear by the beginning of the 21st century. Computer games have now replaced commercial maps as learning tools. Quality and resolution are not yet the same but will be soon. In the past five years, every commercial producer of road maps has gone for the ease, speed and economy of electronically generated versions. Ten years ago, the "clear type" line of products was dominant for business and reference use; today most lines have been discontinued and made obsolete by the microcomputer. Fine concluded that the commercial map business is in decline, and that many vendors are becoming antiquarian map dealers instead.

The third keynote address was on "Geographic Information in the Research Library of the 21st Century" by Larry Carver, Map and Imagery Laboratory, University of California, Santa Barbara. Carver called upon experiences in forming corporate partnerships to develop the Map and Imagery Laboratory, in order to formulate his vision of the role of GIS in the research library of the future. GIS hold the "seeds for the electronic library of the future". He predicted that within 10 years the speed of development in GIS will be vastly faster than in other technologies, and the present bottlenecks on the "national electronic information highway" to dense and huge datasets will be removed. Also in 10 years, data compression and exchange will be vastly improved by fibre optic distribution cables. Libraries must redefine their services to accommodate these developments. There will be no hours of service, as information will always be available. The information specialist will require new kinds of expertise, and teams will be necessary to provide an interface for users of digital data. Internet is at present very ad hoc; libraries can provide better defined access and standards. Permanent access is needed but not necessarily ownership, and libraries should take responsibility for unique data rather than duplicating holdings. Libraries fit into the "big business" of information delivery in terms of consistency and standards, and responsibility for information heritage. Research libraries must consider cost recovery as a method of providing service to non-primary clients. Adaptability is not prevalent in this community, but vision is essential now for survival. Carver advocates that we help each other, pool resources, and identify special collections for preservation and cost sharing. In the future it will not matter where data resides, and we must work with systems designers to develop flexible systems locally while also taking advantage of distant resources. Map librarians must create a technical support group to evaluate, test, produce and teach, but from the information and library perspective rather than from that of the vendor.

The last keynote was by Dr. Ron Abler, Executive Director, Association of American Geographers, who spoke on the"Essential Skills for GIS Competency in the Year 2000". Abler talked

about GIS curriculum necessary to prepare students for entry into a $15 million rapid growth industry. His research indicates that emphasis should be on geography and general attributes. Most current curricula offer a single GIS course, one per year, with no prerequisites, emphasis on software training and digitizing. As recently as 5 years ago, there were no journals and no courses. Abler expects gradual abandonment of the teaching of specific software, with curricula focus changing to manipulation, analysis, decision making and other managerial emphases. There will be more education, less training, more emphasis on analytical uses, map design, forecasting skills and ethical issues. Abler described this as GI "Science" rather than "Systems". He noted that training in network navigation will be essential for GIS in 10 years. [CMo]

On Tuesday morning, October 19th, the first session was chaired by Ralph Ehrenberg on "The Federal Geographic Data Committee and the Federal Depository Program: Prospects for the Map Library of the Future." The first speaker was Michael Domaratz, Executive Secretary, Federal Geographic Data Committee (FGDC), USGS, who opened this session by giving a review and status report of the activities of FGDC, such as establishing a national spatial data infrastructure. A copy of the FGDC newsletter issue 2, Summer 1993, was distributed at the conference, and it includes an outline of these activities. FGDC newsletters are available by email request to gdc@usgs.gov.

He was followed by Elizabeth Mangan, Head, Data Preparation and Files Maintenance Unit, Geography and Map Division, Library of Congress, who is on the FGDC Standards Working Group for developing the metadata standards. She described the work of the committee, such as the distribution to various librarians of the contents standards from which they received two feet thick worth of pages of comments. She felt that the description should be independent of the form or media. She noted that there were at least ten issues unresolved. The FGDC newsletter issue 2, Summer 1993 also provides more information about the Spatial Metadata Standard.

The next speaker, Sheila McGarr, Chief, Depository Program, Government Printing Office, addressed the GPO's role in the future with respect to map deposits and the difficult choices that have to be made in times of downsizing and economic constraints. There are 53 full deposit libraries in the U.S. and hundreds of partial depositories. All must make the deposit collection publicly available and provide user assistance; the program is based on the principle that the public has a right to information which the government has collected. McGarr indicated that GPO is a distributor rather than a publisher, and has no influence over format. At present, 60% of the information they distribute is microfiche and 1% is digital. CD ROM is becoming the medium of choice for spatial data. The system configuration being recommended for USGS data is: 486 PC, 4mb RAM, GIS software, plotter. Libraries may only be able to select the "Digital Ortho Photo Quad" for their state. Reinventing Support Services #2 recommends that GPO be an executive agency. GSA would then handle printing and the Superintendent of Documents would go to the Library of Congress. With this situation, it was difficult to tell what GPO's role would be.

Larry Carbaugh, Chief of Special Information Products, Data User Services Division, Bureau of the Census, followed up on Sheila's theme about the kinds of decisions and choices that must be made and future requirements for census data products. He emphasized that they need input from users. He pointed out that they had produced 10,000 block level maps in 1980 and none in 1990 as they developed digital files. All maps are now electronic and plotted on demand. There are now over 150 commercial softwares available to access TIGER files. Carbaugh speculated that libraries will have to charge the user for map production and data analysis. A 486 is not fast enough; there is 100mb of data for Los Angeles county alone. The Bureau of Census will produce block face

statistics in CD ROM format rather than microfiche.

Lastly, Millington Lockwood, Deputy Director, Joint NOAA/USGS, Office for Mapping Research, outlined the work being done at NOAA, and he addressed some concerns about digital data distribution. He commented that four or five agencies produce maps showing the land/water boundary with the oceans, and that the shoreline is "rarely coincident" on USGS and NOS charts. They are trying to coordinate with USGS to eliminate this problem. He predicted that in less than ten years there will be no paper nautical charts! The Joint Office goal is a multipurpose GIS which supports many other applications, e.g. data visualization. Lockwood recommended Surfer software from Golden as useful for entry-level GIS, and commented that issues of data documentation were becoming more important than the data itself. CD ROM is the best distribution option at present, but the eventual goal is on-line real time update. Paper indexes to hydrographic charts are also gone, to be replaced by a prototype electronic bulletin board. Libraries should prepare to print on demand, as end users will still request paper copy. In principle, NOAA will maintain everything they produce, but how archival material will be treated in digital format is still unknown. [TB,AH,CMo]

After lunch there was a two hour block set aside for "Demonstrations of U.S. Federal Geographic Information Systems Applications". In one of the wrap-up sessions of the conference it was said that, "GIS is too important a topic to be left in the hands of the GIS industry." No more will it be, to judge by the informative GIS demonstrations for the map information community. Participating agencies included the Bureau of the Census, Department of Defense, Environmental Protection Agency and the Soil Conservation Service. We saw the capabilities of various systems including Grass, Intergraph, Arc Info and a related product, ArcView 1.

The most compelling demonstration was undoubtedly that of EPA, in the cause of environmental equity and/or justice. A population and characterization tool has been developed for the use of various EPA agencies. The application sifts through EPA data sets and census information, to estimate and characterize populations in circular areas around locations such as hazardous waste sites, toxic release facilities and monitoring sites. Information can be viewed using Arc View or other tools, such as E Map. We looked at a minority neighbourhood (over 85% Afro-American)) in Baltimore, Maryland, and what we saw was not healthy. In addition to environmental hazards, there was only one hospital in the area, and very few schools. We were able to find the congressional district lines and identify the congressman. We learned a lot about this neighbourhood in a short amount of time. It is clear that GIS technology is an incredibly powerful tool for assessing environmental quality.

The U.S. Army Corps of Engineers, in conjunction with its Construction Research Laboratory and the Cold Regions Research and Engineering Laboratory (CRREL), demonstrated a decision support system prototype for flood prediction and assessment. We looked at recent data from the Mississippi watershed. Another prototype application was a global commons decision support system for sensitive area route impacts. This particular study evaluated the environmental risks associated with different standard shipping routes, to transport a cargo of chemical weapons placed in West Germany during the Cold War. Proposed destination, a "safe" incinerator site on an island in the Pacific.

Resources Automated Management System (RAMS) currently maintains in its GIS approximately fifty data layers for the Patuxent River Naval Air Station in Maryland and the Chesapeake Bay region. It supports users with responsibilities for environmental protection, natural and cultural resources preservation, security, emergency response, disaster preparedness, range and aviation safety, and facilities management. Edward Air Force Base demonstrated a siting system for the base, which also includes environmental layers.

We finished off with the Mill Creek Project, Walla Walla District, Washington, the first water resources project in the U.S. Army Corps of Engineers to fully use a GIS. A complete information system has been constructed for Mill Creek, which can be used at different scales and in different combinations for synthesis, analysis, display and preservation by all agencies within the district. Data has been used, for example, by the Hydrology Branch, Real Estate Division, as well as by members of the public like the Camp Fire Girls.

If these demonstrations are typical of what is going on out in the "real" world, then GIS is going public, and quickly at that. The map information community is facing a real challenge in disseminating this information. I hope that we are in the right place at the right time to make a significant contribution in getting GIS technology to the people, and that things will not be left in the hands of the GIS industry! [CMa]

To conclude the business portion of the conference, Edward Dahl, National Archives of Canada, chaired the "Reports from Discussion Groups and Open Microphone". The first to report was Joan McKean of Education Affairs Division of NOAA who had chaired the group on "Toward Defining Training and Education Strategies for Map Librarians". There were 16 attendees. The areas of concern were: a) access, b) role of librarians, and c) budget considerations. Some of the highlights were: Librarians are the information brokers and advocates for the public interest. Librarians need to illuminate and make careers more relevant; do homework, learn the jargon and concepts, develop a knowledge base, read the literature, take a course. Offer to coordinate a GIS group on campus or in your community schools. Track library schools and get them to update the curriculum. The group summation was that "GIS is too important to society to leave it to the GIS industry".

Melissa Lamont of the University of Connecticut was the discussion leader for "Communicating with Library Directors about GIS, Remote Sensing and the Map Library". Diana Rivera, Michigan State University, reported for the group. There were 19 attendees. She reported five concerns: 1) lack of attention and funding for map collections, 2) downsizing of staff and space problems, 3) explaining GIS to Directors, 4) opposition to GIS in Library, and 5) defining level of library services. Solutions suggested included networking among ourselves, within the library and with academic departments on campus, and with state and local user groups; directors need to know wide use and applications and how they benefit the library. Improve visibility by using products already in house, such as Streetatlas USA or PCGlobe, in reports, presentations and displays. Report statistics on use of GIS, time may be important as reference questions are more complicated and time consuming. Communicate with the director the level of service you need. Present the library as middle ground between academic needs and information producers, a neutral resource to share; learn politics and cultivate GIS advocates. Communicate with the director regarding level of service to ensure support; specify and be able to explain why equipment is requested/needed, equipment requests should support a specific service. Get outside persons to communicate the value of your collection to your director; impress visiting dignitaries; bring in neutral parties to assess the collection's strengths, worth, direction; use experiences of comparable and respected institutions.

Grace Welch of the University of Ottawa reported on "Toward Defining the Technical Requirements for a Map Library in the Year 2000" at which 12 were in attendance. This group arrived at no definitive answer. Technical changes come so fast that there is a constant need for new equipment which may be out of date in two years. Some libraries in this group did not have any equipment at all, while some were in the ARL GIS Literacy Project, and some were navigating the Internet. The group expected to see a lot fewer paper maps by the year 2001, and map libraries will require electronic equipment which will vary in quantity depending upon the funds available. One conclusion was that access is required to the Internet, or its successor, such as a data network

using broadcast technology which requires large storage devices. One workstation is still one person access and can tie up the entire collections; multiple workstations and LANs are required. The CD-ROM is an interim and will disappear. The key to all our futures is metadata and making data easy to find. Improved Gopher systems are needed, as well as output devices, such as color printers and plotters. We will need a user foolproof interface. A basic workstation needs to be defined.

The last discussion group on "Inventories and Services: Looking at the Map Library of the Future" was reported by the discussion leader, Jim Minton, University of Tennessee. This was felt to include collection development and management and could only look ahead a maximum of five years. There should be a well defined mission statement to put in front of your administration which would include the digital aspect. Post your selection policies on the local Gopher. Develop ties with departments, regional and provincial/state agencies. Scan historical collections or provide special access tools for them. Develop policies on access and amount of time that can be spent using equipment. Paper map acquisition will not be a primary concern. The services of reference, teaching, interlibrary loans, on-demand mapping will take more time and more terminals. If there is only one terminal, the whole collection is tied up by one user. Develop training handouts, manuals, and computer tutorials. Use Internet for the transfer of data via ILL. Determine who are your users (primary, secondary and tertiary) and allocate your time carefully.

Following this presentation, Ed moderated a question and answer session. Jim Minton commented on terminology, advocating "cartographic information center" versus "map library". Will there be map libraries in the future? User friendly interfaces make for a lot of choices. New functions as a result of new technology, what is a librarian? Johnnie Sutherland noted that there is an intensive use of time and map files to know what is out there. How much time should be spent training people to use the equipment or should you do it for them? Colleen Beard felt that the main function should be to acquire and provide access to information. Can we develop recommendations or specifications for workstations? Reference was made to an "Administrative Notes" which recommended a 486, 8-16 meg RAM, 100-200 meg hd. The library of the future: archival collections, search center, service center for those who need products. A mission statement is required which gives the concept of operations and is being forced by government agencies and map stores. Do we categorize users by the amount of time spent on them? Someone noted that ⅓ of users are outside agencies, such as environmental consulting firms, who are money making, and we should be charging them. It was mentioned that for data outside the U.S. there are heavy licensing fees; such costs will require fees. Some problems with reliable data were noted. As a model for the future, it was noted that for a library that is a patent depository, when the library administration advertised this fact, they were overrun by users. People come to the library as a neutral locale, but it will have to recover costs. Models are needed for charges for time, services. Charging for services means limiting services to the groups that can pay. If you find yourself spending 10 hours per week working for some company, you will develop a fee for service very fast. There was discussion of tools or analysis; teaching how to use or finding the data. It was felt that all special format libraries will face this soon. What are cartographic specialists to do? Redefine the profession? Create a new profession, philosophy and policies. Pat McGlamery noted that map collections are typically small units of much larger organizations, and we compete very poorly. For these issues we need the sanction of some national organizations to provide funds to study issues. For the first time, at this conference we had a variety of folk discussing in collegial fashion. We have been too splintered in individual professional organizations. Problems have been given form for the first time here. Someone noted that librarians would become vendors and creators.

The discussions were interrupted for a short while by a fire alarm requiring leaving the building from our sixth floor location (a sprinkler head broke in the parking garage). At the end of the discussions, Chris Baruth thanked the other members of the steering committee (Gary Fitzpatrick, Patrick McGlamery, Johnnie Sutherland, and Alberta Wood), and noted that the level of discussion all along has brought out the best in all of us. The steering committee met over lunch, and we hope to see a publication or proceedings come out of this meeting, in addition to this report. There was discussion regarding another conference with the suggestions of having one in 2, 3 or 4 years time and perhaps on another theme. [AH,CMo]

The conference ended with a reception in the Montpelier Room sponsored by the Geography and Map Division of the Library of Congress. It had been an interesting and invigorating meeting.

**COMITE DES PRIX ET MERITES**

Le comité des prix et mérites invite les membres de l'ACACC à soumettre la candidature du membre qui, à leur avis, est admissible au Prix d'excellence. Selon les règles du concours, l'heureux(se) élu(e) sera toute personne dont le nom a été retenu en vertu de sa participation considérable au développement de la profession qu'est celle du cartothécaire. Sa contribution peut se quantifier de différentes façons: activités particulières ou générales, participation soutenue au sein de l'Association en tant que membre du comité d'administration, président ou membre d'autres comités. Bien que ce concours s'adresse surtout et avant tout aux adhérents de l'Association, les non-membres dont le dossier s'apparente à celui des membres réguliers de l'ACACC auront droit à une nomination analogue.

Date d'échéance du concours: 1er mars 1994.

Veuillez faire parvenir vos suggestions de candidats à Alberta Wood, Présidente, Comité des prix et mérites, ACACC, Bibliothèque Elizabeth II, Université Memorial, St-John's, Terre-Neuve A1B 3Y1

## ANNUAL BUSINESS MEETING

July 28, 1993, St. John's, Newfoundland

1. The 27th Annual Business Meeting of the Association of Canadian Map Libraries and Archives was held at Memorial University of Newfoundland, on July 28, 1993. The meeting was called to order at 1:45 p.m.

2. It was moved that a quorum had been reached and the meeting could proceed. (Lou Sebert) Seconded. **Carried**.

3. **MINUTES OF THE ANNUAL BUSINESS MEETING, JUNE 5, 1992** were approved with the following change: item 8 f), first sentence should read: "The Board recommends that the notion to establish the Continuing Education Committee be dropped since its objectives can be achieved by other means".

4. No business arising from the Minutes.

5. It was moved to accept the agenda as circulated. (Allan Youster). Seconded. **Carried.**

It was requested that the ARL GIS Literacy Project be discussed under Other Business, item 11.

### 6. PRESIDENT'S REPORT

The Board of Directors met three times during the year. Richard reported that in April the Board polled the full- time members of the association to determine whether ACMLA should retain its membership in IFLA. The members voted to withdraw from IFLA and this decision has been communicated to CLA and IFLA.

The travel funding policy has been revised to include advance funding for conference travel; and the IFLA travel section will be deleted. Copies of the revised policy can be obtained from Richard.

The ACMLA revised objectives were printed in **Bulletin** #85; comments were invited from the membership. Several suggestions were received; members emphasized the importance of our advocacy role. The Board decided to strike a task force to continue work on the objectives. Richard and Colleen have agreed to sit on the task force and anyone else interested can speak with a Board member.

Conference 1994 will take place at the University of Guelph, Ontario, June 7-11.

### 7. TREASURER'S REPORT

Pat reported that a 1993 financial statement to date is not available.

He presented the 1992 financial statement. Lou Sebert suggested that the financial statement should include assets and liabilities, and in order to do this it is necessary to complete an inventory of publications at the end of each fiscal year to determine how many publications have been sold. The membership felt this should be given urgent attention and be made a standard procedure. There was concern that an annual inventory of the facsimile maps would be very time consuming. Richard suggested that perhaps a compromise could be reached to avoid an annual inventory. Lou agreed to talk to the Board about a compromise. It was moved that in principle someone be hired to take a count of the facsimile maps at the end of each fiscal year. (Allan Youster). Seconded. **Carried**.

It was moved to approve Lou Sebert as auditor for 1994. (Joan Winearls). **Carried**. (1 abstention).

Cheryl's efforts were acknowledged for the recent and substantial increase in facsimile map sales.

**8. 1st VICE PRESIDENT'S REPORT**

a) Cathy reported that Ed Dahl has submitted his resignation as Chair of the Archives Committee. The membership requested that clarification be made as to the role of the Archivist before a replacement is sought, and that this be addressed at the next Board meeting.

b) Awards Committee – Alberta Auringer Wood agreed to remain as Chair. The report of the committee is included in the conference package.

c) CCBCCM – The report of this committee is in the conference package.

d) Conference 1992 – Cathy reported that the conference in Calgary made a profit of $1201.

Conference 1993 – Cathy thanked Alberta and her committee for the conference in St. John's.

Conference 1994 – Flora Francis is Chair of the 1994 Conference Committee. Her planning committee consists of Colleen Beard, Richard Pinnell and Cathy Moulder. Flora invited suggestions for conference sessions. One suggestion was to have an information sharing session on library instruction. A report outlining some of the proposed sessions is included in the conference package.

Conference 1995 – Tim Ross, chair of the committee, reported that the conference will be joint with the Western Association of Map Libraries, May 9-13 at the University of British Columbia. Some sessions being planned are environmental mapping, and change in the work place. He also mentioned that the two business meetings will be open to all conference participants and scheduled at different times so people can attend both. Poh Chan, Janet Collins, and Francis Woodward are also on the committee.

e) Copyright committee – Carol reported that the committee organized the workshop at this year's conference. She also reminded us of the committee's report of last year which includes a bibliography and which also states the committee's stand on the copyright issue. The committee will not have access to confidential information on copyright from the government. It was moved the association approve that the Copyright Committee be authorized to participate with the Copyright Consultant Committee and that travel funds be made available to attend the meetings in Ottawa. (Carol Marley). Seconded. **Carried**.

f) Map Users Advisory Committee – There was discussion about establishing terms of reference for MUAC and how it should be structured. It was suggested that the committee concentrate on federal issues and invite representatives from the agencies to participate in the 1994 conference program. It was also suggested to establish a permanent chair who can solicit volunteers for the committee who are willing to liaison with specific agencies as a means of keeping the membership informed. Grace agreed to chair this committee.

g) Membership Committee – Cathy reported that the total membership to date is 246: 75 full, 30 associate and 141 institutional members. Full membership has increased from last year, associate and institutional has declined.

h) Nominations Committee report will be discussed as agenda item 13.

**9. 2ND VICE PRESIDENT'S REPORT**

a) Robert reported that the term for the **Bulletin** Editor will end in December. Robert thanked Don Lemon for his hard work and solicited the membership for a new editor.

b) Publications Committee – Robert thanked Tim for his work in compiling the Directory of Canadian Map Collections. Robert raised the possibility of a full union list of fire insurance plans for Canada. Francis Woodward expressed her interest in working on the list and also mentioned that a union list for British Columbia will be completed by the end of the year. At the moment work is being done to expand the OCUL union list to include the holdings of CAVA, 15 smaller county

archives, and the Ontario Archives. The membership feels that the Ontario list should be completed first.

c) Facsimile Committee – Cheryl reported that a brochure of facsimile maps was compiled and are available from her. Tim Ross mentioned that the brochure was well received by western American colleagues. Robert thanked Cheryl for the successful map sales. Cheryl welcomes new sponsors. Currently she has 2 sponsors for maps and is seeking 3 more to complete the series.

d) Publications Officer – Robert referred to the publications 1993 sales sheet. He informed the membership that mail charges for sending publication orders will no longer be absorbed by the National Archives.

## 10. CCISA REPORT

Alberta Auringer Wood discussed the open letter, entitled Letter to Library Administrators and Others which was included with her CCISA Report in the conference package. This letter was drafted in response to the reorganization of the University of Arizona's Map Collection. It was moved that ACMLA endorse and approve the sending of this letter to library administrators and others. (Alberta Auringer Wood). Seconded. The membership expressed concern about the letter going to their administrators because of the wording and the lack of content regarding the archival community. It was suggested that emphasis should be made on the provision of cartographic materials. It was also suggested to revise the letter to produce a manifesto for further reference. **Motion Defeated**. (4 abstentions).

Alberta will inform Chris Baruth of our decision. Alberta indicated that there may be an opportunity to discuss the issue at the CCISA conference in Washington. She also encouraged as many members as possible to attend this conference, The Map Library in Transition.

## 11. OTHER BUSINESS – GIS LITERACY PROJECT

Carol Marley asked if there was a possibility this project could be included in Canadian map libraries. Alberta mentioned that ESRI was very interested in including Canadian libraries. It was suggested that a letter be written to Jack Dangermond of ESRI stating our interest in the program and that the letter should be from ARL Universities and not from the association. The project does include ARCVIEW software and many data sets. However, involvement in the program requires a large commitment for the purchase of equipment. John Black from the University of Guelph is the incoming President of ARL. Flora agreed to talk to John Black and suggest that he inform other library administrators of the project.

## 12. PROPOSED BUDGET

Pat requested the following changes/additions to the proposed budget liabilities: addition of line item for Auditor – $800; Liaison Committee funds increased to $3000 (previously approved by the Board); Occasional Paper line item deleted since it was previously paid out; '94 Conference seed money increased to $500; amount for Returned cheques be changed from $200 to $100; and the line item for Shipping Editors computer should read "Shipping Editors laser printer".

It was moved that we estimate, correctly, funding for the Copyright Committee; that the budget for 1993-94 be amended to include a line item for $200 for the committee's activities and that the committee approach the Board for additional funds if required. (Joan Winearls). Seconded. **Carried**.

It was moved to approve the 1993-94 budget as amended. (Velma Parker). Seconded. **Carried**.

## 13. PRESENTATION OF THE 1993/94 BOARD OF DIRECTORS

All Officers were acclaimed:

| | |
|---|---|
| President | Cathy Moulder |
| Past President | Richard Pinnell |
| 1st Vice-President | Robert Grandmaitre |
| 2ndVice-President | Alberta Auringer Wood |
| Treasurer | Patrick McIntyre |
| Secretary | Shirley Harmer |

Richard presented Cheryl with a book gift certificate as a token of our appreciation for her eight years of service on the Board of Directors.

Cathy thanked Richard for being President.

## 14. ADJOURNMENT

There being no further business, it was moved to adjourn the 27th Annual Business Meeting at 4:05 pm. (Velma Parker). Seconded. **Carried.**

### ACMLA HONOURS AWARD

The Awards Committee invites nominations for the ACMLA Honours Award. According to the guidelines for the award, the nominee should be a person who has made an outstanding contribution in the field of map librarianship. The contribution may either be for a specific activity or for general services and contributions such as continued membership in the Association with active participation either as an executive officer, committee chairperson, or committee member. Normally membership in ACMLA is a prerequisite, however that does not preclude considering outstanding non-members.

### ACMLA PAPER AWARD

The Awards Committee invites nominations for the ACMLA PAPER AWARD. To be nominated for the Paper Award, which carries a $200.00 monetary prize, a feature article by one or more authors consisting of at least three pages in length must have appeared in an issue of the *ACMLA Bulletin* published after the last annual conference. We are looking for articles that make a solid contribution to map librarianship, including cartobibliographies. Originality, uniqueness of subject matter and depth of research will be taken into condideration.

Nominations close on March 1, 1994

Please send your nominations to: Alberta Wood, Chairperson, Awards Committee, ACMLA, Queen Elizabeth II Library, Memorial University, St. John's, Newfoundland A1B 3Y1

## NEW BOOKS AND ATLASES

Colleen Beard

***The Art of Cartography: a book of postcards from the Huntington Library***. Petaluma, CA: Pomegranate Artbooks, 1991. ISBN 0-787654-944-X

***Atlas des peuples d'Orient: Moyen-Orient, Caucase, Asie Centrale***. Jean Sellier and Andre Sellier. Paris: Editions la Decouverte, 1993. 200 p. 295 FF. ISBN 2-7071-2222-X

***Atlas geopolitique du Moyen- Orient et du monde Arabe: le croissant des crises***. Philippe Lemarchand. Paris: Editions Complexe, 1993. 284 p. 300 FF. ISBN 2-87027-479-3

***Atlas of American Higher Education***. James W. Fonseca. New York: New York University Press, 1993. 257 p. ISBN 0814726100

***Atlas of North American Exploration: from the Norse voyages to the race to the pole***. William H. Goetzmann and Glyndwr Williams. Prentice-Hall General Reference. 224 p. $40. ISBN 0-13-297128-3

***Atlas of the Holocaust***. 1st Canadian edition. Martin Gilbert. Toronto: Lester Publishing, 1993. $24.95. ISBN 1-89555-537-X

***Atlas Planet Zemnoi Gruppa i ix sputnikov***. (Atlas of the Earth Group Planets and their Satellites). Available in Russian or English. Available through: Prof. K.B. Shingareva, Moscow Institute for Engineers of Geodesy and Cartography, 103064 Russia, Moscow, Gorokhovsky Per 4 .

***Bartholomew Handy Road Atlas Scotland***. Edinburgh: Bartholomew, 1993. ISBN 0-7028-2239-6

***Civilizations: a culture atlas***. Arthur Haberman. Agincourt, ON: Gage Educational Publishing, 1993. $28.00. ISBN 0-7715-8179-3

***Collins Concise Atlas of the World***. 3rd ed. London: Collins, 1993. ISBN 0-00-448022-8

***Concise Atlas of the World***. NY: Oxford University Press, 1993. 176 p. US $30. ISBN 0-195210247

***Contouring: a guide to the analysis and display of spatial data*** (with programs on diskette). 1st ed. David F. Watson. Oxford: Pergamon Press Ltd., 1992. 321 p. #59.00 or US $105. ISBN 0-08-040286-0

***Der grosse Autoatlas Bundesrepublik*** Deutschland 1994:mit neuen Postleitzahlen. Hamburg: Falk, 1993. 112 p. ISBN 3-88445-345-9

***Early Printed Maps of Canada 1540-1703***. Kenneth A. Kershaw. Ancaster, ON: Kershaw Old Maps and Prints, 1993. 320 p. $140. ISBN 0-9697184-0-3

***European Railway Atlas***. M.G. Ball. Shepperton, Surrey: Ian Allan Ltd., 1993. Vol: Spain, Portugal, Italy, Greece. ISBN 0-7110-2087-6.

***Gettysburg, a Battlefield Atlas***. Craig L. Symonds. Baltimore: Nautical & Aviation Pub. Co. of America, 1992.

***Guide to the Bruce Trail*** . 18th ed. Hamilton, ON: Bruce Trail Association, 1992. $15.95. ISBN 0-9695775-1-6

***Handbook of the Linguistic Atlas of the Middle and South Atlantic States***. William A. Kretzschmar (editor). Chicago: Chicago University Press, 1994. 454 p. US $45.00 hardcover. US $22.50 paper. ISBN 0226452824

***Historical Atlas of County Durham***. Durham, England: Durham County Local History Society, 1992. ISBN 0-902958-14-3

***History in the Ordnance Map: an introduction for Irish readers*** 2nd ed. J.H. Andrews. Kerry,

Newtown: David Archer, 1993. 63 p. #7.90. ISBN 0-9517579-2-X

***History of Cartography. A bibliography, 1981-1992.*** Eric W. Wolf (editor). Washington, D.C.: Washington Map Society in association with Fiat Lux, 1993 .

***A List of Ordnance Survey District Special and Tourist Maps 1861-1939.*** Nigel N. James. Oxford: Bodleian Library Map Room, 1993. 26 p. Available on request: Map Room, Bodleian Library, Broad Street, Oxford, OX1 3BG

***Mapmakers of the Sixteenth Century and Their Maps.*** Robert W. Karrow. Chicago:Speculum Orbis Press, 1993.

***National Gazetteer of the United States - Florida.*** Professional Paper 1200. Denver, CO: USGS, 1992. $34 US

***NBC News Rand McNally World Atlas & Review.*** 1993 ed. Chicago: Rand McNally, 1993. 192 p. Can. $14.95 softcover. ISBN 0-528-83543-2

***New International Atlas.*** Anniversary edition. Chicago: Rand McNally, 1993. 320 p. US $125. ISBN 0528835483

***The Official Baseball Atlas.*** 1993 ed. Chicago: Rand McNally, 1993. 177 p. $15.95 Can.. ISBN 0-528-81146-0

***Ordnance Survey Maps: a concise guide for historians.*** Richard Oliver. [Charles Close Society], 1993. 192 p. #12.95. Available through: The Charles Close Society, Flat 9, 33 Cotswold Way, Worcester Park, Surrey, KT4 8LN.

***Ordnance Survey Super Scale Atlas of Great Britian 1: 136,898.*** Southampton: Ordnance Survey, 1993. ISBN 0-0600-57966-2; ISBN 0-319-00349-3 (OS)

***People and Places: a 1991 Census Atlas of England.*** R. Forrest and D. Gordon. Bristol: School for Advanced Urban Studies / Statistical Monitoring Unit, 1993. ISBN 1-873575-53-X

***Philip's Concise World Atlas.*** London: George Philip Ltd., 1993. ISBN 0-540-05744-4

***Place Name Lists - Atlantic Provinces.*** (93-307).Ottawa: Statistics Canada, 1991. $45.

***Place Name Lists - Quebec and Ontario*** (93-308). Ottawa: Statistics Canada, 1991. $45.

***Place Name Lists - Western Provinces and Territories*** (93-309). Ottawa: Statistics Canada, 1991. $45.

***Rand McNally World Atlas of Nations.*** 1993 rev. ed. Chicago: Rand McNally, 1993. 192 p. Can. $49.95 softcover. US $39.95. ISBN 0-528-83618-8

***Reader's Digest Atlas of the British Isles.*** London: Reader's Digest Association Ltd., 1993. ISBN 0-276-41756-9

***United States in Old Maps and Prints.*** Eduard Van Ermen. Chicago: Rand McNally, 1993. (Previously distributed by Atomium Books, Wilmington, 1990). 144 p. US $50. ISBN 1561820156

***World Directory of Map Collections.*** 3rd ed. Lorraine Dubreuil (editor). Muchen: K.G. Saur, 1993. IFLA Publications #63. 310 p. ISBN 3-598-21791-9

***Zemljopisni Atlas Republike Hrvatske.*** Zagreb: Graficki Zavod Hrvatske, 1992. ISBN 86-03-00776-4

**MacDonald, Bruce. VANCOUVER: A VISUAL HISTORY. Vancouver: Talon Books, 1992. 96 p. $45.00 CAN. ISBN 0-88922-311-4**

The atlas, a project of the Vancouver Historical Society, is a result of Bruce MacDonald's "fascination with how things are changing and how things that were taken for granted have disappeared completely." The idea for such an atlas had its beginnings in 1984.

The atlas is divided into three sections. The maps in the first two sections are on a scale of 1:50,000. The first section, called Reference maps, consists of three maps: the physical geography of Vancouver, its neighbourhoods, its streets. This serves to give the reader some bearing on the historical and social maps that follow.

The heart of the book lies in the second section, The History of Vancouver. Here there are fourteen detailed maps covering each decade from the 1850s to 1980s. Eight colours are consistently used to show land use. The text to the left of each map summarizes significant changes or occurrences in that particular decade, while the Map Notes provide information of more general interest.

The next two pages following each map contain four photographs of Vancouver's skyline, a prominent building, a new or important industrial facility, and a new trend in transportation pertaining to that decade. There are eight other photographs, accompanied by brief biographical information, of prominent personalities. The text, graphs and charts depict the social, economic and political life at the time. This rigid pattern is followed to facilitate comparison between different decades.

The last section is called Social Maps. Each part has four maps, 1891, 1941, 1961 and 1981, on a scale of 1:150,000. The "Politics" set shows civic elections from 1886-1991, provincial representation and federal elections from 1872-1992. The graphs and maps for the "Gender", "Ethnic Heritage", and "Religion" sets are based on data from the 1881-1986 censuses. The last map (1:50,000) is entitled, "Consumer Culture", with data up to 1991. The atlas includes an extensive bibliography. The 160 photographs were reproduced mainly from the city archives. The maps were produced using a combination of optical scanning technology and image editing software.

In compiling this atlas MacDonald had as consultants, geographers and historians at the three universities in British Columbia. It is a well researched, colourful and attractive atlas that should have a place in any Canadiana collection. It is a useful addition to any library that has an interest in the history and growth of British Columbia.

The atlas was nominated for the Roderick-Haig Brown Prize for its contribution to the understanding of British Columbia, and the Bill Duthie Booksellers' Choice.

Poh Chan
Map Librarian
Simon Fraser University Library

**McCalla, Robert J. and cartographers Dawn Allen and Peggy McCalla. THE MARITIME PROVINCES ATLAS. Revised ed. Halifax: Maritext, 1991. 96 p. $29.95 CAN. ISBN 1-921921-05-5**

The one problem with the Maritime Provinces Atlas is, as one university student said, "that's a high school atlas". And unfortunately, that is how this atlas is packaged. But do not be fooled. Billed as "the most comprehensive compilation of maps, graphs and tables about the geography of the Maritimes ever produced", the Maritime Provinces Atlas lives up to expectation.

This revised edition of the Maritimes Provinces Atlas includes the results of the 1988 federal election, and updated material on household income and rail and water transportation. (Although further rail routes have been eliminated

since the atlas was published). Short on text, the atlas has a comprehensive table of contents, gazetteer index and glossary. The atlas is divided into four sections based on traditional geographic subdisciplines: physical geography; natural resources and related activities; human geography; and economic geography. A short introductory section places the Maritimes in international and national context.

The maps are accurate, colourful and easy to interpret. Scales vary appropriately depending on topic, with both ratio and metric bar scales includes for every maps, no matter how minor. A very useful feature is found in the plates that include topographic sections (NTS) and/or aerial photographs to further define a region or activity. The occasional scenic or industrial photograph is a nice added touch that more atlases should include.

The only criticism this reviewer has with the atlas is that some plates are so packed with information, (both the Tourism and International Trade Plates contain maps, charts and diagrams with many arrows), that they appear confusing and a little overwhelming. However, upon careful examination, every one of these maps, charts and diagrams provides unique and valuable information. The Maritime Provinces Atlas is recommended highly for all libraries

Meg Ryan
Librarian
Mount Saint Vincent University

**ONTARIO'S CITIES AND TOWNS MAP GUIDE/ATLAS ROUTIER. Oshawa: Peter Heiler Ltd. (Mapart), 1992. 737 p. $69.95 CAN**

The "world's biggest street guide" is the publisher's claim. Be that as it may, Ontario's Cities and Towns is an impressive compilation mapping 476 communities.

It is a soft-cover volume in a manageable size (18 cm. x 23 cm.). The presentation is attractive in the bright yet pleasant colours which are typical of Mapart products. Since both sides of the covers contain relevant information, durability of the covers is important. The paper cover on the copy in our library is showing signs of wear. The later Mapart product *Golden Horseshoe Plus* has a laminated cover which may stand up better.

The volume is easy to use, both for people familiar with Ontario and also for those who are not. It appears that thought has gone into the organization of the atlas to make it "user friendly". An overview of the province, south and north, is pictured on the covers as well as on the initial Norther and Southern Ontario index maps. These index maps relate to sections of the Ontario road map which follow. If you are looking for a particular place name, you can go to the "Ontario Road Map Settlement Index" at the conclusion of this section. Although there is a "how to use the index" section prefacing the place names in this index, giving the exact page reference would have made it more apparent which maps were being referenced for those who do not stop to read the fine print.

The street maps, which comprise the rest of the volume, are organized by region. This is readily apparent from the table of contents in English and French, which is the first page. Since the street maps are organized by region, a key map defining the regional boundaries would have been helpful. "Golden Horseshoe" as the region is probably not meaningful to people from out of province. To get to the desired regional section, it is possible to go to the "Cities and Towns Master Index" at the back of the volume but this index is not as extensive as it might be.

Each regional section has a table of contents listing the municipalities and communities mapped as well as a street index to those communities. The street indexes also cover places which are adjacent to, but not in Ontario. As an added feature, points of interest/information listings give tourist sites, parks, shopping centres, public buildings and institutions. The regional table of contents designates the scale of the maps so is important

since this information does not appear on the maps.

Since many maps cover a double page, some overlap is provided so information is not lost in the gutter. The maps are readable and most are attractive. From a design perspective, I found the Ottawa city maps cluttered compared to others in the atlas due to the size of the typeface and placement of street names. The legend for the street maps is easy to reference as it is on the inside of the front cover. The symbol which resembles a shopping cart does not appear on the legend and there are some typographic errors in the indexes. A curiosity on the city map of Kingston is the inclusion of named motels but the omission of a major hospital. Very few of the maps have north arrows.

As large communities require a number of pages for their coverage, a key map is essential to give an overview. There is such a key map for Ottawa indicating major streets. However, the Toronto key map is part of the South Central key map so is not at a scale which helps one differentiate an area of interest. A key map for Metropolitan Toronto is needed.

This is a good compendium which is useful for libraries and for personal use. A major asset is the inclusion of many smaller communities. The criticisms are minor and could be corrected in a later edition, which hopefully will be forthcoming.

Shirley Anne Harmer
Map and Air Photo Library
Queen's University

**Boustani, Rafic and Phillipe Farguese. ATLAS DU MONDE ARABE:GÉOPOLITIQUE ET SOCIÉTÉ. Paris: Bordas, 1990. 144 p. ISBN 2-04-018443-0; ATLAS OF THE ARAB WORLD/trans. Darla Rudy. New York: Facts on File, 1991. $50 US. ISBN 0-8160-2346-8.**

Unlike the many atlases published in recent years on the Middle East, in this atlas one finds that geographic coverage is based on ethnicity and political affiliation rather than proximity. The authors take the Arab world to mean the twenty-two members of the Arab League. Thus two non-Arab countries only occasionally considered part of the Middle East are included, namely, Somalia and Djibouti, which joined the Arab League in 1974 and 1977 respectively. Their inclusion adds precious cartographic information and interpretation where little existed previously. Two countries important to the Middle East, Turkey and Iran, receive minimal treatment, whereas a borderless Palestine figures prominently, Israel being mentioned as required. Unfortunately, the authors have neglected to include a physical or general reference map of the Arab world to provide a better geographical setting to the wealth of other information they present.

The thematic coverage contained with the twelve sections of this atlas omits no major area of interest in the realm of the social sciences. The first section tackles the question of frontiers within the Arab world, and, taken together with the four historical maps provided with the preface and forward, gives an historical and regional synopsis. The second section describes minority groups, whereas the third, fourth, and fifth sections deal with demography, society, and culture. Sections six and seven examine the contrasts of urbanisation and agriculture. Section eight supplies an overview of the petroleum industry, and section nine looks at regional integration, both within the Arab community and with the outside world. Section ten considers the state and democracy, including an important look at the arms race just prior to the outbreak of war in Kuwait. Section eleven focuses on Palestine, and puts it into context of the Middle East and the Arab world. Section twelve concludes the atlas with a "data bank" containing one page statistical summaries of each of the Arab League's members corresponding to the first eleven sections.

This atlas is based on solid research. Its sources include numerous academic journals and monographs, as well as primary material found in

the publications of several governments and those of agencies such as the Arab League, OPEC, and the many branches of the United Nations. There are two principal authors. Rafic Boustani is a geographer and land development consultant; Phillipe Farguese is a much published demographer and social scientist who teaches at the Institut d'Etudes Politiques de Paris and at the Ecole des Hautes Etudes en Sciences Sociales.

Much of the great appeal of this atlas is due to the cartographic team, which included Myriam Armand of the Institut Géographique National, Hervé Le Bras of the Institut National d'Etudes Démographiques, who produced the three-dimensional cartography software, and the computer-assisted cartography of the Pre-Press group De Schutter. There are well over two hundred maps and cartograms, most of which are four-colour productions. The reader finds a number of reproductions, including one of the famous Sykes-Picot map of 1916, from which the modern frontiers are derived, and several satellite images showing the phenomenal urban growth of such cities as Cairo and Riyadh. The maps and cartograms encompass virtually every technique in small scale thematic mapping. There are prism maps, graduated-circle maps, pie-chart maps, flow-line maps, as well as numerous other choropleth maps whose symbology is striking and clear. Particular attention has been given to the respect of proportionality and the effective use of colour.

In short, this small folio atlas furnishes a comprehensive examination of the Arab people circa 1990. It displays a judicious mix of text and graphics, both of which are clear, effective, and properly cited to authoritative sources. Its academic standards, its low cost, and its availability in either French or English make it a particularly attractive purchase for any public, academic, or even private library.

Jeffrey Bruce Robin
Map Library
University of Ottawa

**Ross, Tim. DIRECTORY OF CANADIAN MAP COLLECTIONS. 6th ed. Ottawa: Association of Canadian Map Libraries and Archives, 1992. 180 p. $18.00 CAN.**

Available from ACMLA, c/o Cartographic and Audio-Visual Archives Division, National Archives of Canada, Room 1016, 344 Wellington St., Ottawa, Ontario K1A 0N3.

This directory represents the most authoritative record of Canadian map collections. First published in 1969, this directory has incurred many changes and this edition is no exception. It not only completely updates the fifth edition but also includes additional information: the ever-increasing information on electronic mail addresses and FAX numbers; description of storage equipment; indication of wheelchair accessibility; and details on interlibrary loan procedures.

Carried over from previous editions is the information on the responsible person; telephone number; size of staff; collection holdings; area and subject specializations; depositories; hours of service; classification systems; computer systems; and publications.

The compilation process involved six months, from October 1991 through March 1992. Unfortunately, similar to editions in other countries, it reflects the closing of some collections. As a result, the sixth edition contains 112 institutions which is ten fewer than those described in the previous edition.

Each institution's entry is presented in the working language of that institution and bilingual entries indicate an official bilingual policy. Each entry is also assigned a unique number which is the index number rather than page numbers. These entries are then followed by four appendices: sample questionnaire; list of deposit agreements; index of map collections; and index of map librarians.

I would suggest a few minor improvements for future editions. Additional use of boldface type,

beyond the page headers, would allow for more efficient eye reference for key elements. It is disappointing that only responsible persons/directors names were indexed when the addition of other important professionals would be useful. Inquiring minds want to know where Ed Dahl really is. With the increasing importance of electronic information it may be advisable to list such equipment under its own heading in the future.

The above are obviously very minor points. This volume will not only prove valuable to those in Canada but also for anyone interested in the location of Canadian cartographic materials. Therefore, this directory is recommended for, and belongs in, all research library map collections.

David A. Cobb
Harvard University

**Korsos, A.N. BIRTHPLACE DISTRIBUTION OF CANADIAN N.H.L. HOCKEY PLAYERS 1st ed. Scale approx. 1:8,000,000. Edmonton: West Edmonton Reprographics Inc., 1992. $10 CAN.**

Available from West Edmonton Reprographics Inc., 10552 110 St., Edmonton, Alberta T5H 3C5.

Well, I'll tell you one tink right now....if Don Cherry had a favourite map, this would be it. No Swedes or Russians on this map, no siree....and the producers of this map weren't afraid to go into all the corners, unlike the players of the National Atlas of Canada.

But seriously, Andy E. Korsos and West Edmonton Reprographics have released a very interesting map. The format of this map is similar to that of the National Atlas of Canada series. Canada occupies centre stage with a large title and information block in the upper right hand corner. The scale is close as well.

At first glance, the map seems a little dull, in three basic colours, white, blue and brown, with the distribution denoted by graduated red dots on a plain base map...pretty simple stuff.

But when the map is on display, before you know it people are mulling over it, looking up their hockey heros, from the present and the past, and doing what canadians love to do-talking hockey.

For a map library, this would be an excellent addition. It is a wonderful map to pull out during a visit from the local school, definitely more interesting than a topographic or run-of-the-mill thematic map. This map would be a fine display in the sports department of any radio/television station or newspaper. Priced at $10.00, it is not a bad deal.

There are a few problems that should be mentioned. The most obvious is the three set maps used to show the more congested areas of information. It is not clear how these insets relate to the main map of Canada as a whole. The proofreader may have to spend some time in the "penalty box". Without checking too closely, these infractions have been noted: Kitchener is misspelt, as is Thetford Mines and the town of Dennis, located on this map in the Niagara Region, is not to be found in the current Ontario Gazetteer. Perhaps Dennis ceased to exist some time ago, but the user cannot tell.

All in all, these are minor issues that can be addressed in the second edition, and I hope there will be one, maybe for the year 2000. This map only covers those who played in the N.H.L. between the years 1917 and 1990.

Allan Youster
Map Coordinator
McGill University

## CANADIAN HYDROGRAPHIC SERVICE

Charts Released Report from 01-June-1993 to 31-August-1993

Order of Information: Chart; Release date; Title; Edition date

L/C 1234; 12-Jul-1993; Cap de la Tete au Chien à/to Cap aux Oies; 18-Jun-1993

L/C 1235; 19-Aug-1993; Pointe au Boisvert à/to Cap de la Tete au Chien

1411; 11-Aug-1993; Canal de Beauharnois - Lac Saint-Louis au/to Lac Saint-Francois; 13-Aug-1993

1416; 29-Jun-1993; Iroquois Lock to/à Prescott; 30-Apr-1993

1438; 12-Jul-1993; Grindstone Island to/à Carleton Island; 18-Jun-1993

1552-1; 7-Jun-1993; Portage-du-Fort to/à Chute du Grand Calumet including/y compris le Chenal du Rocher Fendu; 28-May-1993

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1552-3; 7-Jun-1993; Lac Coulonge to/à Ile Fraser including/y compris le Chenal de la Culbute; 28-May-1993

1552-C; 7-Jun-1993; Ottawa River/Riviere de Outaouais - Portage-du-Fort to/à Ile Fraser; 28-May-1993

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2259; 12-Jul-1993; John Island to Blind River; 2-Jul-1993

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3475; 28-Jul-1993; Plans - Stuart Channel; 2-Jul-1993

3534; 28-Jun-1993; Plans - Howe Sound; 7-May-1993

3746; Petrel Channel and approaches/et les approches; 2-Jul-1993

3795; 28-Jul-1993; Langley Passage - Estevan Group; 9-Jul-1993

3962; 28-Jul-1993; Mathieson Channel - Northern Portion/Partie nord; 18-Jun-1993

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/C 4116; 17-Jun-1993; Approaches to/Approches Saint John; 9-Apr-1993

278; 12-Jul-1993; Great Bras D'Or and/et St. atricks Channel; 18-Jun-1993

384; 20-Aug-1993; Pearl Island to Cape La Have; 3-Aug-1993

396; 29-Jul-1993; Annapolis Basin; 30-Jul-1993

429; 14-Jul-1993; Harve Saint-Pierre et les pproches/and approaches; 4-Jun-1993

430; 28-Jun-1993; Plans - Ile d'Anticosti; -May-1993

C 4730; Nain to Domino Point; 23-Jul-1993

C 4847; Conception Bay; 2-Jul-1993

C 4906; 15-Jun-1993; West Point a/to Baie de acadie; 11-Jun-1993

11; 28-Jul-1993; Entree a/Entrance to iramichi River; 7-May-1993

12; 12-Aug-1993; Miramichi; 4-Jun-1993

221; 30-Jun-1993; Plans - Baie des haleurs/Chaleur Bay - Cote nord/North Shore; -Apr-1993

01; 28-Jun-1993; Fort McMurray to Fort Smith; -Jun-1993

7126; 26-Aug-1993; Culbertson Island to Frobisher's Farthest; 13-Aug-1993

7134; 12-Jul-1993; Robinson Bay and approaches/et les approches; 23-Jul-1993

7136; 12-Jul-1993; Cape Mercy and approaches/et les approches; 23-Jul-1993

7195; 12-Jul-1993; Kangok Fiord and approaches/et les approches; 23-Jul-1993

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19426-A; 11-Aug-1993; NRM Bathymetry; 1-Jan-1993

19428-A; 12-Aug-1993; NRM Bathymetry; 1-Jan-1993

19430-A; 17-Jun-1993; NRM Bathymetry; 1-Jan-1993

19434-A; 11-Aug-1993; NRM Bathymetry; 1-Jan-1993

19444-A; 12-Aug-1993; NRM Bathymetry; 1-Jan-1993

19446-A; 11-Aug-1993; NRM Bathymetry; 1-Jan-1993

19448-A; 28-Jul-1993; NRM Bathymetry; 1-Jan-1993

**Review Guidelines**

The format of the review should consist of the bibliographic citation, the text of the review and the name and institutional affilation (or geographic location) of the the reviewer.

Reviews should be typed, double-spaced, with ample margins for copy editing.

Please begin the text of the review one-third way down the first page to allow room for the bibliographic entry, which will be sent to you with your review copy.

Whenever possible, reviews should be submitted in electronic format on either a 3.5 or 5.25 (double density) disk IBM format. The file should be in Word Perfect 5.0 or ASCII format with file name clearly identified. Please send two print-outs, double spaced. Please do not format your text e.g. bold, underline, indent. Please do not send your review via electronic mail. Typewritten contributions are also acceptable and should be double spaced.

The text should describe the book, atlas, map or software, in sufficient detail so that the reader can realize scope and pertinent features, but emphasis should be placed on evaluative comments. Keep in mind that many ACMLA Bulletin readers are responsible for map collections and may be using the review as a selection aid. Therefore review items should be judged principally according to their utility for such collections, and in particular, their value for research in geography or cartography. An indication of other readers or institutions to whom the item might appeal is also appropriate.

The length of the review is not fixed but should be dictated by the importance of the item being reviewed. The average length of reviews is 500 words.

Please observe the deadline for the review. If it is impossible to meet it, please notify the Review Editor in advance. If you are unable to complete the review, the item being reviewed must be returned to the Review Editor. The Review Editor will try to notify reviewers within a week of receipt of the review. Once published in the ACMLA Bulletin, two copies of the review will be sent to the publisher. The reviewer will receive a copy of the issue in which his/her review is published in appreciation of his/her contribution.

Editorial Policies Opinions expressed in reviews are those of the author and do not reflect the official sanction of ACMLA. The Review Editor retains the right to make alterations in reviews submitted. Minor alterations will be made without further communication. If the Review Editor feels that more extensive revisions are in order, of that changes would result in altering the review's content, such revisions will be made only with the knowledge and agreement of the reviewer. Reviews will be published in whichever of Canada's official languages they are submitted, English or French.

Thank you for observing these guidelines. We welcome your recommendations of material to be reviewed in the Bulletin, or your suggestions of other qualified reviewers.

Carol Marley, Review Editor, ACMLA Bulletin, Hitschfeld Environmental Earth Sciences Library, McGill University, 805 Sherbrooke Street West, Montreal, QC H3A 2K6. (514)398-7453 Fax: (514)398-7437 Bitnet: CXCY@MUSICA.McGill.CA