security system—and the controversial solutions of "deaccessioning" or selling off a few rare books in order to save others and "breaking books" or gutting them to sell individual maps and illustrations.

Since the book is not aimed solely at the specialist, some knowledge of how maps have been and are made is useful. Harvey details how copper plate maps were made from the 16th through 19th centuries and visits a modern map making firm, the American Map Company, to learn how modern maps are made, and how the transition from manual to computer means is impacting the field.

Cartographic crime, ranging from plagiarism to map theft, is not new. Maps have strategic value in exploration and war, and theft of maps from competitors and enemies has a long history. In Chapter 7, "A Brief History of Cartographic Crime," Harvey chronicles such thefts by Columbus, Magellan, and other early explorers intent on finding a fast route to treasure. Plagiarism of maps also has a long history, and as readers of *Cartographic Perspectives* know, modern mapping companies put copyright markers on their maps to protect themselves from copyright violation. Harvey also summarizes the activities of seven thieves of rare books and maps and the security problems of libraries in this chapter.

The unhappiest chapter, "The Invisible Crime Spree," brings home the tragedy of map theft. Here Harvey details how the University of Washington Special Collections Division acquired Ogilby's 1671 *America* and made it the "poster book" for preservation fund raising. The restorer explains what was involved in restoring and rebinding the book. After five years of effort on the part of librarian and restorer, *America* was made available to library patrons in June of 1995; on October 4, 1995, Bland, the first person to request the book, removed four maps and damaged additional pages when he slashed out the maps. Only three of the maps have been found. Bland's comment on this kind of damage was that the maps could be glued back in.

Harvey is not always complimentary to map dealers, collectors, and librarians and this will rankle some readers. Although he interviewed several dealers, and devotes an entire chapter to Graham Arader, he believes dealers and collectors too often are lax in their search for a map's provenance. Harvey admires librarians, who are usually portrayed favorably, but they are criticized for an "it-can't-happen-in-*my*-library" attitude. This denial is so great that after Bland's capture, some librarians refused to even check if they were missing maps!

The Island of Lost Maps is the office of FBI Special Agent Gray Hill who was responsible for returning the maps to their rightful owners. At the time the book was written, approximately seventy maps remained on the island.

Ultimately, in his search for the inner Bland, Harvey admits failure. Bland refused to meet with him and in their one phone conversation, Bland threatened Harvey with prosecution for stalking if he ever attempted to contact him again. Bland remains a mystery and even in the one photo of Bland in the book, his face cannot be seen. However, in the search for Bland, Harvey learned a great deal about the world of cartographic collecting and dealing and imparts his knowledge to the reader in an entertaining manner. One complaint is that the epilogue is not needed. The story ends nicely with what should be the final chapter "Mr. Bland, I Presume," and in his attempt to give himself closure, Harvey weakens the ending.

Miles Harvey is a frequent contributor to *Outside* magazine, not an academic, a cartographer, or a collector, but he did his research well in his four-year search for Bland. The book is based on standard histories of cartography, as well as interviews with a wide range of specialists: dealers, collectors, librarians, cartographers, historians of cartography, police and the FBI agent responsible for returning the maps. The book is meticulously footnoted and indexed with 40 pages of notes and an 11-page index. Each chapter begins with an illustration that helps set the theme of the chapter. These black and white illustrations are with few exceptions details of maps mentioned in the chapters. Because the page format of the book is small, only 5.5" x 7.25", detail portions are more effective than reductions of entire maps. One of the few illustrations that is not map-related is the aforementioned photograph of Gilbert Bland.

One caveat for anyone trying to find *The Island of Lost Maps* is that you may have a search also. Bookstores seem unsure where to shelve the book. Although the cover indicates "current affairs/travel" it is hardly a travel book. Because of the subtitle: "A True Story of Cartographic Crime," one bookstore displayed it in the true crime section. Because it deals with maps, another store shelved it with earth science. However, it is worth the quest and is, overall, a fascinating story.

nacis news

NACIS FALL BOARD MEETING
Doubletree Downtown Portland
Portland, OR
October 5, 2001

Attending: Jim Anderson, Lou Cross III, Will Fontanez, Adele Haft, Megan Kealy, Gordon

Kennedy, Jeff McMichael, James Meacham, Thomas Patterson, Susan Peschel, Joseph Poracsky, Donna Schenstrom, Jeannine Schonta, Trudy Suchan, Alex Tait, Chris Baruth arrived late.

President Meacham called the meeting to order at 3:40 p.m.

Agenda of Meeting:

1. New Board Members: Introductions
2. Executive Director Transition: Meacham
3. Call for Nominations: Crampton
4. Future NACIS Meeting Sites, 2003 & 2004: Meacham
5. *Cartographic Perspectives* Report; CP Website: Jim Anderson
6. Spring Board Meeting: Meacham
7. NACIS 2002 Meeting Status: Kennedy/Krygier
8. NACIS Website Report: Crampton
9. NACIS-CaGIS: Crampton
10. Other Business

1. New Board Members: Introductions

2. Executive Director Transition: Meacham

How to fill out executive director position to transfer some responsibility to Florida (Lou and Jim Anderson).

Question asked: What does the executive director do?
Chris Baruth: The position evolved over the years. Ron did hotel negotiation; Chris brought the organization's database functions into line–updated accounting and databases to do meeting, membership renewal, *CP* mailing labels, conference registrations, and pay bills. A post office box is maintained in Milwaukee.
Susan P.: The home office in Milwaukee became a repository of organization's knowledge about running the meeting.

Chris does his own programming; he did it to automated tasks. Organization needs to find software to run database
Gordon: non-profit organization software to run organization costs about $400. Organization needs to buy software.

Relational databases are needed to do year-to-year info.
Lou: Reports are needed throughout the year.
Chris: I will produce a list of software function needed for new software. Chris is willing to cleanup his software so others can use his program for the short-term
Jim: Need letter of resignation from Chris, and to appoint Lou.
Chris: Term is 5 years, served two five-year terms, should have be up last year.
Jim: Should the term be from business lunch? The need to transition banking functions to new director.
Lou: Because of the contract with hotel, signing off bill and payments, should term go to a date after meeting?
Susan P.: Hotel in Columbus still needs some attention. Dec. 1st suggested as a date to start new term for Lou.

Motion to end Chris' term October 4, 2001; new director will assume office from that date.

Susan: business office will remain in Milwaukee, incorporated as an organization in Wisconsin.
Alex: organization needs to have a permanent address and a registered agent. Chris will continue to be registered agent for organization. The motion passed by all.

Move to thank Chris for his years of service. Motion passed

Chris will announce hospitality suite.

3. Call for Nominations: Crampton

Jeremy Crampton asked for nominations for next year's elections. There was a discussion for which offices needed nominations: Vice President, four board openings, wanted six nominations. Several members' terms will be up in '02 and can be on the board again. Named as nominations: Steven Holloway, Fritz Kesler, Susan Peschel, and Peter Keller.

It was remarked that student members from UGA were not at this meeting

4. Future NACIS Meeting Sites, 2003 & 2004

Jim Meacham made the following remarks: For 2003 we are running late; usually has a site contracted. Possible sites: Orlando will be checked; Baltimore is too expensive at $150/night; Susan Peschel will provide new numbers (based on the last two meeting) for meeting; need about 160 rooms. Alex is not willing to head local arrangements. Annapolis hotel rates are $159/night. Alex will check on rates to Annapolis--airfare will be cheaper than some other cities. The following cities are being considered: Chapel Hill, NC - Jeremy could help here, Greenboro, NC--Pat Gillmartin could help--Elisabeth Nelson, Bolder, CO discussed–would not work out. Aspen, CO was also discussed; Orlando, FL seems best bet for 2003 for a variety of reasons, St. Louis discussed, but no local arrangements. Discussion about local arrangements at either Savannah or Charleston--don't need to tie meeting to a city with a member. Someone needs to travel to these cities to check facilities. 233 members attending Portland meeting.

Duluth, MN was dropped from consideration. Portland, Maine was discussed as a possible future site. Updated list of requirements will be sent to all board members.

Site will need to be selected before spring '02 meeting, most likely this fall.

Dates for next meeting should be first half of October. Travel is a problem in September for US Federal employees because of year-end budgets.

Trudy wants to get future site research time-line tightened to next few weeks.

5. *Cartographic Perspectives* Report; CP Website: Jim Anderson
Jim made some remarks on how to get out issues, 3 issues out within 3 months.

Jeremy/Scott will discuss guest editors. There is a need for more manuscripts from members.

Jeremy asked members who presented paper at meeting to submit it as a manuscript; speaker for tonight banquet to submit something.

Special cartography issue: b&w issue with color cover with color graphics on web.

Color issue plus b&w issues going long are causing cost to soar: 64 pages for binding. Practical cartography issue will be this length.

Manuscripts needed for *CP*.
Susan: presenters should do meeting issue.
Jeremy: members don't need to publish.
Lou: announce at banquet to submit manscripts to *CP*.
Trudy: shorter manuscripts are a good thing.

6. Spring Board Meeting: Meacham
A discussion followed about where to have 2002 Spring Board meeting. Chicago has been used in the past, was close to staff in Milwaukee. Atlanta was suggested as new location for meeting. A motion was made to have the meeting in Atlanta, motion passed.

Discussion on date of meeting; a motion on the date of meeting delayed till members can check their schedules for possible dates.

Time for meeting: 9 am Saturday until 5 pm.

7. NACIS 2002 Meeting Status: Kennedy/Krygier
Alex: Practical Cartography Day (PCD) II preconfence planned, will have same setup.

A discussion about PCD should be labeled as pre-conference–this will be kept.

A discussion about number of participant: should it be kept at 40 or 100.

It will be done at 2002; will have to deal with more attendees than 1st thought. Will probably have 80-100 members.
John: Hotel quote will have to be increased from 120 to a more realistic number. A discussion followed about exactly what number of room-nights to get a quote for.

Discussion about space/room configuration of PCD in 2002: 100 to 165 persons

Discussion about lab configuration for workshops: PC or Mac

John K should be a guest at the spring board meeting.

Discussion about getting more local help: ESRI office suggested. Also, student assistants need to be more computer-aware. How many assistants are needed?

8. NACIS Website Report: Crampton
Item: website report:
Jeremy Cramton submitted the following website report:

	10/00	4/11/01	10/01	% Change 10/00–10/01
Disk Space Used	n/a	5%	7%	
Monthly Data Transfer Used	n/a	206 mb	44 mb	
Space Available (100 mb limit)	n/a	95.5 mb	93 mb	
Total Successful Requests (last 7 days)	7,257		10,098	+39.2
Popular directories				
/cp/	20,486		43,359	255
/root/	13,135		18,819	
/Williamsburg/Portland	3,083		6,164	
/contest2000/			1,979	
Requests for pages/day (last 7 days)	197		315	+59.9
Number of distinct files requested	218		234	+7.3
Total Accesses of Homepage from counter			10,645	

There was a discussion about e-mail list or a listserv for NACIS. Chris can personalize e-mail to members.

9. NACIS-CaGIS
Paul Young from CaGIS submitted the following:
Resolution: The members and Board of Directors of the Cartography and Geographic Information Society express their sincere thanks to the North American Cartographic Information Society for allowing us to hold ouor Fall 2001 meeting during the NACIS XXI meeting in Portland, Oregon on October 5th. We look forward to further collaboration between our two organization.

Paul said this is the first step to furthering ties and working together with various members attending the meetings.

10. Other Business
No other business

Motion to adjourn: 5:39 pm

Submitted by:
Jeff McMichael
Secretary, NACIS

2001 Ristow Prize Winners Announced

Each year the Washington Map Society offers the Ristow Prize for cartographic history and map librarianship in honor of Walter W. Ristow, one of the nation's premier map librarians and cartographic authors. Dr. Ristow was for many years head of the Geography and Map Division at the Library of Congress and was founding president of the Society.

The first place winner for 2001 is Dimitris K. Loupis who is a graduate student at the National University at Athens (Greece). His prize winning paper is entitled *Piri Reis's Book on Navigation (Kitab-I Bahriye as a Geography Handbook: Ottoman Efforts to produce an Atlas during the Reign of Sultan Mehmed IV (1648-1687)*. Mr. Loupis's winning entry will be published in the next issue of *The Portolan*. He received a cash award of $500 and membership in the Washington Map Society for the coming year.

Two Honorable Mentions for the excellence of their papers were awarded. Michael Kimaid, a student in the Department of History at Bowling Green State University, submitted a paper *From That Last Point, The Line is Less Exact, The Problem of Cartography Prior to The Louisiana Purchase*. Tine Ningal, student at PNG University of Technology in Papua New Guinea, submitted a paper *A Case Study of Transition from Mental Map to Web Based Mapping in Papua New Guinea for Cartographic Education*. The two students with Honorable Mention will receive membership in the Washington Map Society for the coming year.

New GEOID Model Provides Accurate Elevations
Natural Resources Canada

A new GEOID model and software with the capacity to provide accurate elevations across Canada was released by Natural Resources Canada at the GeoSask2001 conference in Regina.

The Canadian Gravimetric Geoid model (CGG2000) and Canadian Height Transformation Package (GPS-H Package), the latest advance in the Canadian Spatial Reference System (CSRS) allows direct conversion of NAD83 (CSRS) GPS ellipsoidal heights, to the more useful orthometric elevations (heights above mean sea level), referenced to Canada's standard vertical datum, CGVD28. Users will now have the capability, depending on the procedures used, to obtain decimeter-level elevations or better throughout the country.

This capability will result in economic and environmental benefits. Vertical data is used for such applications as water and watershed management, flood-plain mapping and marine safety. It is also used in GPS-based precision farming, for example to control unwanted run-off and stream contamination, and for forestry applications, such as modeling the spread of wild fires. In order to integrate and share this data, it must be based on standardized measurements and referenced to a national infrastructure.

The model and software package are the result of a five-year collaboration with international, federal and provincial agencies, and academic institutions. The CGG2000 model replaces the previously adopted GSD95 model.

Through advances in the CSRS and products such as these, NRCan provides a framework for the greatest possible accuracy for all spatial positioning and makes this framework as accessible as possible to GPS users in Canada. The CSRS system is a fundamental building block for GeoConnections, a federal-provincial partnership for sharing and integrating geospatial data on the Internet.

Avenza ships MAPublisher 5.0 for Illustrator.
Powerful mapmaking software supports Illustrator 10 and Mac OS X

Mississauga, ON, June 17, 2002 - Avenza Systems Inc. announces the release of MAPublisher 5.0 for Adobe Illustrator, mapmaking software to produce quality maps from GIS data. Significant new functionality includes support for Adobe Illustrator 10, Apple Mac OS X and import of MicroStation Design (DGN) files.

"The new features in MAPublisher 5.0 are impressive time savers," said Steve Spindler, owner of BikeMap.com. "Keeping all my workflow in OS X alone made it a worthwhile purchase," he added.

New features in MAPublisher 5.0 for Illustrator

- Adobe Illustrator 10 compatible
- Mac OS X compatible
- MicroStation DGN file import
- Douglas-Peucker Line Simplification
- Plot points in decimal degrees or DMS onto any projected plane
- Convert between DMS and decimal degrees
- Create GeoTiffs and other geo-referenced raster images
- Store map projections in already projected files after import
- 'Sticky' selection menus remember last menu selection
- Automatic Scale bar creation
- Automatic Grid generation in page units
- Simplify Arcs
- Bezier curve creation from GIS data segments
- Bezier curve support during scale transformation, projecting, area and length calculations
- Area drawing tools in map units
- Copy and paste map data between layers
- Automatic grain calculation on data import
- Updated e00 import, now imports all components (anno, pnt, arc, poly)
- Create grids in differing page units
- DGN data automatically attributed level # during import
- Project data to different output map units

More about MAPublisher 5.0 for Illustrator

MAPublisher 5.0 for Illustrator is powerful map production software for creating cartographic-quality maps from GIS data. Developed as a suite of plug-ins for Adobe Illustrator, MAPublisher leverages the superior graphics capabilities of this graphics design software. Avenza also offers MAPublisher for FreeHand – a suite of Xtras for Macromedia Freehand that add mapmaking functionality. MAPublisher 5.0 for Illustrator is available as an upgrade for US$349. New licenses are US$849. Prices include 1 year of maintenance. Full details are available at www.avenza.com.

More about Avenza Systems Inc.

Avenza Systems Inc. is an award winning, privately held corporation that provides cartographers and GIS professionals with powerful software tools for making better maps. In addition to software offerings for Mac and Windows users, the Company offers value-added data sets, product training and consulting services. Visit www.avenza.com for more details.

For further information
Tel: 905-567-2811
Email: info@avenza.com
Web: www.avenza.com

Avenza Announces 2002 MAPublisher Map Competition Winners

Mississauga, ON - July 25, 2002 – Avenza is pleased to announce the winners of the 2002 MAPublisher Map Competition - a competition that showcases the quality and diversity of maps that can be produced with MAPublisher.

"The quality of this year's submissions was terrific," said Ted Florence, president of Avenza Systems Inc. "We congratulate the winners and thank all entrants for their excellent display of cartographic skill using MAPublisher," he added.

Summary of category winners

2002 Best Map Overall - Jana Seta Map Publishers Ltd., for 'Road Atlas of Latvia'.
2002 Best Academic Map Collection - Chris Jessee, IATH University of Virginia for 'Great Bay, Boston'.
2002 Best Academic Map Individual (Tie) - Michael Christensen, Brigham Young University for 'Colorado River Basin'.
2002 Best Academic Map Individual (Tie)- Greg Wolowich, Tim Wykes, Sir Sandford Fleming College for 'Movement of Goods & Services from Canada into Ontario'.
2002 Best General Purpose Map - Tim Parker, Department of Primary Industries, Water & Environment for 'Tasman National Park'.
2002 Best Geologic Map - USGS for 'Geologic Map of the Yucca Mountain Region, Nye County, NV'.
2002 Best Multimedia Map - Jeroen van den Worm, ITC for 'The 1812 Campaign of Napoleon'.
2002 Best Special Purpose Map (Tie) - Rudy Zangari, City of Toronto, for 'Toronto Parks and Trails'.
2002 Best Special Purpose Map (Tie) - Greg Tanaka, Barclay Mapworks Inc. for 'San Mateo & Vicinity'.

2002 Best Thematic Map - Martin Gamache, Boston Redevelopment Authority for 'Fostering Transit Oriented Development in Boston'.

2002 Best Topographic Map - Patrick Dunlavey, Pat Dunlavey Cartographics for 'South Taconic Range'.

2002 Best Transportation Map - Jana Seta Map Publishers Ltd. for 'Road Atlas of Latvia'.

Details of each map, the associated images and notable entries can be found on the company's website at http://www.avenza.com/MPcomp/2002.

The National Map: Topographic Maps for the 21st Century

The U.S. Geological Survey (USGS) is committed to meeting the Nation's needs for current base geographic data and maps. Our vision is that, by working with partners, we will provide the Nation with access to current, accurate, and nationally consistent digital data and topographic maps derived from those data. This synthesis of information, products, and capabilities, ***The National Map***, will be a seamless, continuously maintained set of geographic base information that will serve as a foundation for integrating, sharing, and using other data easily and consistently.

The Nation Needs *The National Map*

Governments depend on a common set of base information that describes the Earth's surface and locates features. They use this information as a tool for economic and community development, land and natural resource management, and health and safety services. Federal functions ranging from emergency management and defense to environmental protection rely on this information. Private industry, nongovernmental organizations, and individual citizens also use the same geographic data. Geographic information underpins an increasingly large part of the Nation's economy.

USGS Role

The most widely known form of geographic base information for the United States is the USGS primary series topographic map. The USGS has produced more than 55,000 unique map sheets and approximately 220,000 digital orthorectified aerial images to cover the Nation. These maps and images are a national treasure, but the average primary series topographic map is 23 years old. Frequent changes on the landscape mean that many of these maps are no longer accurate and complete. The USGS is committed to organizing and leading cooperative activities to ensure that current geographic base information is readily available and useful.

A New Vision

The National Map will provide data about the United States and its territories that others can extend, enhance, and reference as they concentrate on maintaining other data that are unique to their needs. ***The National Map*** will promote cost effectiveness by minimizing the need to find, develop, integrate, and maintain geographic base data each time they are needed.

- Under USGS leadership, ***The National Map*** will provide data and operational capabilities that include the following:

- High-resolution digital orthorectified imagery that will provide some of the feature information content now symbolized on topographic maps.

- High-resolution surface elevation data, including bathymetry, to derive contours for primary series topographic maps and to support production of accurate orthorectified imagery.

- Vector feature data for hydrography, transportation (roads, railways, and waterways), structures, government unit boundaries, and publicly owned lands boundaries.

- Geographic names for physical and cultural features to support the U.S. Board on Geographic Names and other names, such as those for highways and streets.

- Land cover data that classify the land surface into categories such as open water and high-density residential.

Changes affecting ***The National Map*** will be captured in near real time, rather than through cyclical inspection and revision. Currentness will be measured in days and months.

Data will be seamless and consistently classified, enabling users to extract information for irregular geographic areas, such as counties or drainage basins, and to spatially analyze the information. Data resolution and completeness will vary depending on geographic area and need. For example, ***The National Map*** will contain higher resolution elevation data in areas of subtle relief variation, such as river flood plains, to support hydrographic modeling.

Positional accuracy will be sufficient to vertically and logically align features from different data themes. Thus, river course will correspond to land surface slope, and boundaries will align with corresponding features, such as roads or rivers. ***The National Map*** will contain data for many areas that surpass the standards that have been applicable to primary series

topographic maps.

All content of ***The National Map*** will be documented by metadata that comply with Federal Geographic Data Committee standards.

Building, Maintenance, and Operations

The initial version of ***The National Map*** will be based primarily on existing available data. As the initial version is improved, emphasis will shift to maintaining data currentness through continuous updating. Potential data sources include State and local governments, private industry, and locally trained and certified volunteers.

Access and Use

The National Map will be accessible through the Internet all day, every day. The data will be in the public domain. Data procured from commercial sources will include unlimited distribution and use rights.

Users will be able to combine data from ***The National Map*** with geographic information available from other organizations, such as cadastral information from the Bureau of Land Management and socioeconomic data from the Bureau of the Census. ***The National Map*** will be a foundation to which all organizations can reference their information, such as land use data, school district boundaries, or wildlife population counts.

The USGS will continue the tradition of the primary series topographic map by providing a standard set of paper topographic maps and digital data products derived from ***The National Map***. Customers will be able to create their own maps by defining a geographic area of interest, selecting unique combinations of data, and printing their maps at home or at kiosks that will be available locally at libraries, recreational suppliers, bookstores, and so on.

Strategies

The USGS will be the (1) guarantor of national data completeness, consistency, and accuracy; (2) organizer of component activities; (3) catalyst and collaborator for partnerships and business relationships; (4) integrator and certifier of data from all sources; (5) data producer and owner when no other source exists; and (6) leader in the development and implementation of national geospatial data standards. A Federal advisory committee will make recommendations on requirements, business processes, technology implementation, and skills development that support ***The National Map*** objectives.

The USGS will proactively seek partnerships and business arrangements with government agencies, the private sector, and other organizations to develop and operate ***The National Map***. USGS staff will be located across the Nation to work directly with staff of other USGS disciplines, partner organizations, private industry, and universities.

Taking advantage of the ongoing convergence of broadband wireless communication, mass data storage, and geolocation capabilities in personal digital devices, the USGS will encourage the participation of organizations and private citizens to serve as a volunteer force for change detection, data compilation and validation.

Vision and Commitment

The National Map is a new perspective on geographic base information. By sharing its vision, the USGS affirms its dedication to refocusing and reinvigorating its efforts to meet the Nation's needs for this critical information. The USGS will consolidate and redefine its component mapping activities and seek creative partnerships to ensure that current, complete, consistent, and accurate information is available and useful to the Nation. It will take sustained commitment to achieve the full goals of ***The National Map*** vision. In the near future, the USGS and its partners will concentrate on improving data and map content and currentness for high priority areas, with emphasis on building long-term partnerships, and on improving data access and dissemination capabilities.

(Taken from USGS Fact Sheet 018-02, February 2002)

INSTRUCTIONS TO AUTHORS

Cartographic Perspectives (*CP*) publishes original articles exemplar of creative and rigorous research in cartography and geographic visualization. Papers accepted for publication must meet the highest standards of scholarship, address important research problems and issues, and appeal to a diverse audience.

The preferred format for submitted manuscripts is a digital MicrosoftWORD document. They can be sent as an email attachment to Scott M. Freundschuh, Editor, at sfreunds@d.umn.edu, or on diskette/zip disk to Scott M. Freundschuh, Editor, *Cartographic Perspectives*, Department of Geography, University of Minnesota, Duluth, Minnesota 55812. If submission of a digital manuscript is not possible, authors can send five analog copies of their manuscript to the editor at the above address. Each manuscript is reviewed by the editor, one or more members of the editorial board, and at least one external reviewer. Items submitted for consideration will not be returned.

Manuscripts should be double-spaced, on one side of the paper, in a 12-point font with proportional spacing and 1-1.5" margins. All parts (abstract, notes, references,

tables, and list of figure captions) must be double-spaced and in the same font size. Authors will be required to sign a statement that the manuscript has not been submitted for publication elsewhere and will not be submitted elsewhere until the *CP* editor has reached a decision. Any submitted manuscript must not duplicate substantial portions of previously published material.

Title page. The title serves as the author's invitation to a diverse audience. It should be chosen wisely. The title page should include the full names of the authors and their academic or other professional affiliation.

Abstract. An abstract of 250 words or less should summarize the purpose, methods, and major findings of the paper. Key words should be listed at the end of the abstract.

References. References should be cited parenthetically in the text in this order: author's last name, year of publication, and page number when appropriate. Use the Chicago Manual of Style published by the University of Chicago Press for the correct style for various sources.

Books: Author(s) (last name, first initial, middle initial where appropriate). Year. Book title in Italics. City of publication: publisher name.

Doe, J. 2001. *Citing a book*. Duluth, MN: Northstar Publications.

Articles in Periodicals: Author(s) (last name, first initial, middle initial where appropriate). Year. Title of article. Title of periodical in Italics, volume (number): page numbers.

Doe, J., and Doe, J. 2001. Citing an article in a periodical. *Cartographic Perspectives*, 30:120-129.

Articles in edited volumes: Author(s) (last name, first initial, middle initial where appropriate). Year. Title of article. In (title of edited volume), ed. (editor[s] first initial, middle initial where appropriate, last name), pages. City of publication: publisher's name.

Doe, J.; Doe, J.; and Doe, J. 2001. Citing an article in an edited volume. In *101Ways to Cite and Article*, ed. J. Doe, pp. 120-129. Duluth, MN: Northstar Publications.

The list of references should begin (double-spaced) on a separate sheet immediately after the text and Notes. Entitle the section "References" and list all references alphabetically by the author's last name then chronologically. Provide full, unabbreviated titles of books and periodicals.

Notes. Substantive notes amplify arguments in the text. They should be addressed to a single point in the manuscript. Notes should be numbered sequentially in the text and will appear under the heading "Notes" at the end of the text. They should be typed double-spaced in the same font size as the text (12 point).

Units of Measure. Cartographic Perspectives uses the International System of Units (metric). Other units should be noted in parentheses.

Equations: Equations should be numbered sequentially and parenthetically on the right-hand edge of the text. If special type styles are required, instructions should be provided in the margin adjoining the first case of usage. Authors should carefully distinguish between capital and lower-case letters, Latin and Greek characters, and letters and numerals.

Tables. Tables should be discussed in the text and denoted by call-outs therein, but the meaning of a table should be clear without reading the text. All tables should be typed, double-spaced on separate sheets in the same font size as the text and numbered sequentially with Arabic numerals. Each table should have a descriptive title as well as informational column headings. Titles should accent the relationships or patterns presented in the table.

Illustrations. Maps, graphs, and photos should convey ideas efficiently and tastefully. Graphics should be legible, clean, and clearly referenced by call-outs in the text. Sound principles of design should be employed in the construction of graphic materials, and the results should be visually interesting and attractive. Illustrations should be designed to fit the page and column format of *CP* (insert page size here, and column width here). A fine neatline defining the graphic field is recommended as a visual boundary separating text and graphic. Type should be set using Helvetica where possible, and sizes below 6 point should be avoided.

It is assumed that graphics will be computer generated, and final output will be produced on an image setter as a right-reading, emulsion-down negative. Digital submissions are encouraged. Laser printer copies are acceptable with initial submission of the manuscript for review. Where figures will be photomechanically produced, authors should contact the CP associate editor for guidelines. The CP editor and associate editor will review graphics.

Permissions. If a manuscript incorporates previously published material of substantial extent, the author is obliged to obtain written permission from the holder of the copyright and to bear all costs for the right to use copyrighted materials.

Electronic Submissions. Authors of accepted articles will be asked to submit a digital copy of the final revision in any common software format. CorelWordPerfect or MicrosoftWORD are the preferred word processing formats, and Adobe Illustrator or PhotoShop are the preferred graphic formats.