

other by Michael Grant.⁴ Neither one has *Barrington's* dedicated focus on classical landforms and extensive feature names. Although both have gazetteer sections, their focus is on specific places, events, historical figures and time periods not on the topography and, indirectly, the connections made possible or hindered by topography. Because the *Barrington Atlas* does not include many maps targeted on specific figures or time periods, the novice classical scholar may be best served by using the *Barrington* side-by-side with one of the more common textbook atlases, and seasoned scholars will enjoy the security of the robust scholarship that underlies the entire volume.

Work on the atlas continues with communication via the Web. The Ancient World Mapping Center has been established at the University of North Carolina at Chapel Hill "to promote cartography and geographic information science as essential disciplines within the field of ancient studies." The website (<http://www.unc.edu/depts/awmc/>) includes a FAQ for the atlas and soon will make available a Web form for critiques and corrections to the atlas. There are also a number of links to classic world-related sites and maps derived from the *Barrington Atlas* which can be downloaded in PDF format. The *Barrington Atlas of the Greek and Roman World* will not become stale or dated as long as the Ancient World Mapping Center exists.

Although expensive, the *Barrington Atlas of the Greek and Roman World* should be considered an essential purchase for libraries supporting classical studies programs. Devoted classical scholars with room in their personal libraries for a large volume may also want to have this instant classic readily at hand. The additional purchase of print "Map-by-Map Directory" is not strictly necessary as the CD-ROM version is bundled with the

atlas but the print may facilitate more in depth study, especially where computing equipment is not easily accessible. The atlas will appeal to novice and senior scholars but also might find a fringe audience of novelists and poets who are looking for place names rooted in history but with an ambiance of timelessness.

Richard J.A. Talbert, "Mapping the Classical World: Major Atlases and Map Series 1872-1990," *Journal of Roman Archaeology* 5 (1992): 5-38.

Nicholas G.L. Hammond, ed. *Atlas of the Greek and Roman World in Antiquity*, Park Ridge, NJ: Noyes Press, 1981.

Richard J.A. Talbert, ed. *Atlas of Classical History*, New York: Macmillan, 1985.

Michael Grant. *Atlas of Classical History*, 5th ed. New York: Oxford University Press, 1994.

nacis news

CARTOGRAPHIC USERS ADVISORY COUNCIL (CUAC) 2000 MEETING AGENDA MAY 4 & 5, 2000 NOAA SILVER SPRING, MARYLAND

CUAC representatives in attendance:

Janet Collins, Western Washington University (WAML)
Donna Koepf, University of Kansas (GODORT)
Clara McLeod, Washington University (GIS)
Dan Seldin, Indiana University (NACIS)
Richard Spohn, University of Cincinnati (GIS)
Paul Stout, Ball State University (NACIS)
Christopher JJ Thiry, Colorado School of Mines (WAML)
Mark Thomas, Duke University (MAGERT)

Presenters:

Robin Haun-Mohamed (GPO)
Vi Moorhouse (Map cataloger at the GPO)
Fred Anderson and Howard Danley (NOAA)
John Hebert (Chief of LC G&M)
Jim Lusby (NIMA)
Robert Marx and Tim Trainor (Census)
Rea Mueller (USGS)
Betsy Banas (USFS)
Tom Patterson (NPS)

Government Printing Office (GPO)

Robin Haun-Mohamed of the Government Printing Office (GPO) told the Council that GPO will distribute 28.2 million items in Fiscal Year 2000. GPO distributed 382,000 maps in FY 1999. GPO is entering its fifth year of transition from paper to electronic items. The

amount of fiche, paper, and CD-ROMs is down. GPO is attempting to eliminate multiple-formatted products, but these are reviewed on a case-by-case basis. The DRGs are available on-line through Microsoft Terraserver. The topos are available on-line via TopoZone (www.topozone.com).

Robin reported that in March she had met with representatives of the Bureau of the Census. They discussed the responsibility for long-term access to Census electronic products. Currently, these products are using Acrobat or Hewlett Packard Graphics Language (HPGL).

The National Wetlands fiche and new web site were discussed. The revised and improved National Wetlands Maps that had been done for GPO a couple of years ago were formatted wrong by the vender, and thus not distributed. Council indicated that if they could be made available on the web, they would not need to be photographed again. Similar versions are available on the web at: <http://wetlands.fws.gov/>

Robin asked the Council a series of questions: 1) What is the impact on libraries when mapping is on-line? 2) How do we use online spatial/cartographic data? 3) Do we download things, save things, archive them, or do we go back to the original source material each time? 4) Do we handle electronic map needs in the library or do we send our users someplace else? 5) Do we use the airport charts, obstruction charts, approach charts, etc.? 6) What will be the impact if the USGS Open File Reports go online only?

Council members each, in turn, answered as many of these questions as applied to them.

Government Printing Office (GPO) Map Cataloging

Vi Moorehouse from the GPO Cataloging Unit made a few com-

ments to the Council. She said that there are over 200 map libraries, of which an estimated 40% are run by professional map people. GPO is concerned about the remaining 60%. Vi expressed a desire that the map library community would provide guidance to those who are uninitiated in map cataloging.

Vi told the Council that their map cataloging backlog is "almost nil." At this point, USGS topos are being cataloged using two different dating methods. One is in the edition statement. If the edition statement is not available, the date is added at the end of the title. The Forest Service-USGS maps are being listed under I 19:81 instead of A13.28. She also indicated that USGS is very receptive to requests to place something online, such as Open File Reports.

Vi discussed a problem with encoding of GPO's new BIBCO records. BIBCO requires that the encoding level in the fixed fields be left blank (like LC). The result is that records are being displayed in OCLC as LC originated, instead of GPO. Thus, it is not possible to identify GPO/BIBCO records in the OCLC title index listings.

National Ocean Service (NOS)

The National Ocean Service (NOS) was represented by Fred Anderson, the Deputy Director of the Office of Aeronautical Charting and Cartography, and Howard Danley, the Deputy Chief of the Navigational Services Division of the Office of Coast Survey.

Fred reported that Aeronautical Charting and Cartography (AC&C) will be moving to the Federal Aviation Administration on October 1, 2000. They will stay in their current facilities in Silver Spring, Maryland. AC&C prints and distributes NOAA and NIMA charts to the public. Aeronautical charts will remain in the Federal Depository Library Program. Libraries should contact AC&C's

Distribution Office in Riverdale, Maryland for catalogs and other promotional information to give to patrons. The FAA has not made a decision about AC&C printing and distributing Nautical Charts. Fred noted that the printing of aeronautical and nautical charts fit together well. There is a 28-day cycle for aeronautical charts and the nautical charts fill in the printing gaps. The distribution computer system has been fine-tuned and AC&C can start shipping aeronautical and nautical charts directly to the depository libraries, rather than going through GPO. The libraries should be getting these products faster--before the effective date of the charts. For future digital aeronautical charts, AC&C does not want to use copyright or user fees. They want to avoid a CRADA because that would create a monopoly and would be outside the Federal Depository Library Program.

Howard Danley reported that they don't know what will happen with printing and distribution of nautical charts when AC&C goes to the FAA. They have a Cooperative Research & Development Agreement (CRADA) for print on demand for nautical charts. Nautical charts have a life of 1-2 years. Commercial ships have to keep their charts corrected by hand from updates that are published in *Notices to Mariners*. Until 1969, the charts in the warehouse were hand corrected until shipped. Nautical charting agencies in the rest of the world still hand-correct the charts before shipping. Print-on-demand will allow more up-to-date charts to be distributed. A print-on-demand trial of forty charts of the New York Harbor area will be undertaken by a company called Vomela in St. Paul, Minnesota. There is a continual update of the digital files and the base information can be changed in two to three weeks. The print-on-demand copies would have an added value and cost more. They could be

produced in custom editions with special marginal information for commercial users or recreational users. They could be printed with or without Loran. NOS wants to test the viability of these higher cost charts.

Currently, raster digital nautical charts are produced under a CRADA with Maptech. The company has a web site, www.maptech.com which has views of the charts available online. The regular CD-ROMs cost about \$200 each. They have a Professional Series CD for \$500 each. These come with an e-mail update service. Updates are received by e-mail and the charts are updated when the CD is run. The updated charts can be saved to the hard disk or a floppy disk or only the updates are saved so that the updated charts are displayed on the screen when it is called up. NOS is working to have these Professional Series CD charts certified by the Coast Guard for the carriage requirements for use in navigation for ships of more than 1600 tons.

Vector nautical charts are being developed by NOS. By the end of the year, vector charts of the 40 largest United States ports should be available. Ships should be able to navigate using the vector charts with GPS. NOS has a demo of the area near Valdez, Alaska. Had these charts been available, the Exxon Valdez would have received six audio warnings before it ran aground. The NOS home page has images of the nautical charts at 100 dpi. These should be small enough so they cannot be used for navigation, but provide customers with an idea of coverage.

For now, NOS will continue with both print-on-demand and lithographic copies in parallel. When the price of the print-on-demand copies comes down, maybe the lithographic copies would be dropped. The print-on-demand copies would be copyrighted and

would not be in the Federal Depository Library Program.

Library of Congress Geography and Map Division (LC G&M)

John Hebert, the new Chief of the Geography and Map Division at the Library of Congress spoke to the Council before lunch. John worked in the Library's Hispanic Division before moving to Geography and Map. He announced several staffing changes. Betsy Mangan will be retiring in the Summer. Betsy has been with the Division for over 30 years. John hopes to hire an assistant chief and someone to take over the reins of the cataloging unit. Al Herman retired in the spring. The Division will be hiring a new Administrative Officer. Currently, the Division is in good shape as far as staffing—the push for materials in the American Memory Program has helped.

The Division continues to bring in a large number of materials through purchases, the State Department Program, and the copyright program. Recently, the Division received a gift including 6 of the 18 known maps by Lafayette's cartographer. The Division is starting to make arrangements to acquire maps from Cuba.

Last summer, LC implemented a new Integrated Library System (ILS)—Endeavor. It has been a trial at times. NIMA also installed Endeavor, so the two organizations are working out agreements to share data. While NIMA has never used the MARC format, they have cataloged each individual sheet of the various map series. Conversely, LC catalogs using MARC, but has not individually cataloged the sheets to its various series (numbering over 2,000,000 sheets). Once LC acquires the individual sheet information from NIMA, they will hire contract workers to bring the records up to LC standards.

The National Digital Library

Program is entering its 5th year. The Library is reviewing the Program and deciding whether it should remain in the departments (like G & M) or consolidate into one system-wide office. The Division has completed scanning their collection of panoramic maps of the US, and continues to add these types of maps as they acquire them. They have also completely scanned two atlases including one by Ortelius. New categories include railroad maps, Civil War maps, Revolutionary War maps, and maps of the Spanish and Portuguese world from before 1600. The maps in the various categories are being derived from the cartobibliographies compiled at LC. The Civil War scanning project was begun in November 1999. The Revolutionary War maps will start soon. Spanish maps will start in the Fall. The Division entered a contract in 1998 with Sanborn to scan their maps. The project has been halted due to a dispute over copyright. LC is allowing Sanborn access to 250,000 maps that are in the public domain, but Sanborn wants to add a copyright statement to the scanned images. LC feels that anything made before 1923 is in the public domain. Also, the Division is currently exploring a cooperative project with the State of Virginia Library and West Point to scan maps of the cartographers of the Confederacy. Other proposed scanning projects include the U.S. county atlases from the 1800's, land ownership maps, and maps of Eastern Europe from the late 1800's. Printed copies of the scanned maps are available through a company in Seattle — www.museumarchives.com. John believes that a print-out of a panoramic map will cost about \$40.

Gary Fitzpatrick has received funding to hire two people in FY 2001 and two more in FY 2002 to do GIS in the Division for Congress. Essentially, they will create GIS maps on demand for Congress-

sional members.

The Council inquired about the LC Summer Project. John was very interested in doing it. Despite concerns about the cost of housing, he indicated that LC would be unable to provide funding toward housing. However, he encouraged everyone to write letters to him requesting information and expressing interest in the Summer Program. He indicated the Philip Lee Philips Society might be able to help.

The Division has initiated weekly talks by staff members. The topics are chosen by the speakers and the talks are intended to build bridges of understanding within the Division, and to let others know what they are doing.

National Imagery and Mapping Agency (NIMA)

Jim Lusby addressed the Council for NIMA. He works in the National/Civil Agencies Customer Operation Branch. There are Customer Operations liaison officers and technicians stationed worldwide. NIMA products meet the needs of civil, national, and law enforcement customers. Their products helped support the USGS Environmental Crisis Support efforts such as Hurricane Mitch, and the Colombian earthquake. Working with the Secret Service, NIMA has supported security efforts during the Papal visit to St. Louis, the Energy Conference in Houston, and the World Bank Meeting in Washington.

The digital products that NIMA has available are on their web site: www.nima.mil/geospatial/products/DTED/dted.html

Through agreements with other countries, NIMA will soon be distributing available topographic maps at a scale of 1:50,000, 1:100,000, 1:250,000, and cities at various scales of the following countries: Vietnam, Cambodia, Laos, Somalia, Tanzania, Uganda,

Bolivia, Dominican Republic, Haiti, Belize, Honduras, Guatemala, El Salvador, Nicaragua, and Costa Rica. Once printed, depository libraries who have chosen to receive NIMA topographic maps will get a full set (or as many as are available) of each country.

In summary, Jim made three points. 1) There will be Digital Nautical Charts (DNCs) which are vector images. These are not yet finished. There is a replacement for the Digital Chart of the World, it is the Vector Map Level 0 which consists of four CD-ROMs. 2) There will be a vector map of the world at Level 1 detail but only of selective countries. 3) NIMA is moving toward providing foundation-feature data electronically. They want to provide the data and have others do the hardcopy mapping. The data will be continuously updated. There are no concrete plans to archive the data, but they are talking about it. NIMA hopes to phase out printed products by 2010.

Census Bureau

Robert Marx, Chief of the Census Bureau's Geography Division, and Tim Trainor, Chief of the Cartographic Operations Branch spoke to CUAC about developments at the Census Bureau. They gave the Council a TIGER bookmark that had lots of useful URLs for Geography Division web sites.

They began their talk with new developments for Census 2000. The term Block Numbering Areas (BNAs) will not be used any more; just Census Tracts and Census Block Groups, although not all of these have been developed with local authorities. Formerly, there was a required minimum population of 1000 in order to constitute a Census Designated Place (CDP), but now there will be no minimum population requirement. CDPs are closely settled and named, although unincorporated communities. The Census works with

local governments to decide which blocks make up a CDP. Block numbers will now be 4 digits with no suffix; this style of number will be available first with the P.L. 94-171 data release shortly before April 2001. Census blocks are the smallest area of land defined by line features on census maps. ZIP Code Tabulation Areas (ZCTAs) are approximately the same as USPS ZIP Code service areas and have been developed to address difficulties in mapping USPS ZIP Codes. ZIP Codes are assigned to routes or points, and technically aren't area features. ZCTAs will be done at the 3-digit level for large areas that don't have housing units (because ZIP Codes in these areas are as yet undefined by the US Postal Service).

In contrast to the predominately black and white paper products from 1990 and earlier, Census 2000 will have an emphasis on electronic map products, in color, with paper products available on demand. Electronic media will include the Internet, CD-ROM, and DVD-ROM. Plotter formats will include Adobe Acrobat Portable Document Format (PDF) and Hewlett Packard Graphic Language (HPGL). Examples of CDs being produced are the Congressional District Atlas, Census Mapper, and PL 94-171 Redistricting Data from the Census 2000 Dress Rehearsal. Digital format has advantages in the areas of more efficient storage, ease of selecting and choosing a map, and retaining the ability to print. Census's standard plotter is an HP DesignJet 1050C, which produces color or black and white output at 600 dots per inch and includes 80 megabytes of RAM and a 2 gigabyte hard disc. The Acrobat files will have thumbnails and geographic area names will be searchable.

Customers will still be able to order paper products from the Census Bureau. Cartographic products will be available a month

before the PL 94-171 data and should cost the same as in 1990 (\$5 a sheet for a printed map). Boundary files in Acrobat (PDF) will be downloadable to the public, but not the HPGL plotter format; the latter can be purchased on DVD.

Examples of paper products that will be available for purchase are large-format reference maps, such as Government Unit Block Maps, Census Tract Outline Maps, and State/County Outline Maps. After 2000, State/County Metro Areas, Urbanized Areas, and Congressional Districts maps will be available, as well as Public Use Microdata Sample Products (PUMS). Corner Point Files, based on map sheet coordinates, will be provided for large format maps only.

P.L. 94-171 paper products will be available by March 2001, HPGL files by April, and Acrobat files in May. The Governmental unit maps will be available on paper in May 2001, in HPGL in June, and in Acrobat in July. Other reference maps will follow later in 2001.

For those needing to manipulate electronic files, generalized boundary files will be available from the Census Bureau's Geography Division cartographic boundary file web site (<http://www.census.gov/geo/www/cob/>) in some standard GIS formats: ArcView shape files, ArcInfo export format files, and ASCII. The TIGER/Line-file discs will continue to be available as they have been for those who need to translate street and boundary files into GIS formats. Files will come with FGDC compliant metadata.

U.S. Geological Survey (USGS)

Rea Mueller spoke to the Council concerning USGS issues. The Survey serves a variety of disciplines including geologic, cartographic (i.e., National Mapping Division), hydrologic, and biologic. They are moving onto the web in all areas, including data, electronic publica-

tions, status graphics, GNIS, geography, and National Biological Infrastructure. Search and access tools include GLIS to identify and order materials, and Earth Explorer (from OHIOVIEW funding that contains Landsat and Corona).

Map lists will continue to be put online. These will show the version-date rather than the currentness-date. The version date is the latest date, and will be in the lower right-hand corner of the paper topographic map. New editions of the paper indexes will combine map indexes (the green books) and map lists (the information in the old brown books or white state map lists) onto one sheet. While the printed map lists will only show the version date, the online map lists give both version and currentness dates. Map reference codes will be added to the index sheet. Maine is the prototype for this series, with North Carolina in the works. The Mineral Resources Data System (MRDS) and the Minerals Availability System/Minerals Industry Location System (MAS/MILS) databases are available in electronic format on CD-ROM-DDS-52.

Terraserver offers maps on the web. The DRG's are available for all of the U.S. except Alaska. The DOQ's are still not complete for the entire U.S.

Rea told the Council about a new information program that may be accessed by calling 1-888-ASK-USGS. One of the option buttons on the toll-free number is "Talk to the USGS Library Information Desk." The new web site (<http://ask.usgs.gov>) will have information on water, hazards, and biology.

The thematic map series are changing. The "I," "HA," and "Circum-Pacific" map series will continue to be produced, and be sent under a single depository number. Other series are complete and the final numbers are: C-146, OM-227, OC-148, GP-1016, MR-96,

and GQ-1804. A few maps in each series are still in progress, and will be sent when completed. The MF series may be saved but only in electronic form.

Progress continues on the online version of the *National Atlas*, which may be viewed at www.nationalatlas.gov/. The project is progressing with the cooperation of eighteen federal agency partners. Some new maps include a shaded relief map, and an earthquake map. *The National Atlas* has an interactive browser and connects with the TerraServer which allows patrons to view aspects of a local area.

Several trends were noted in USGS map production and distribution. There will be more cooperative partnerships. USGS maps will likely continue not to fall under copyright. Future revision of the topographic maps will focus on top-selling quads and on maps produced in cooperation with other agencies.

U.S. Forest Service (USFS)

Betsy Banas from the US Forest Service, Washington, D.C. Office spoke to the Council about some new mapping activities. Mapping for the Forest Service historically was done from regional offices. But in 1975, the Forest Service began to consolidate mapping with the establishment of the Geometronics Service Center in Salt Lake City. As technology has evolved, the Center has become increasingly involved in geospatial activities: providing geospatial data, services and training in addition to traditional mapping. In 1999, Geometronics Service Center was renamed the Geospatial Service and Technology Center (GSTC), to better reflect its new mission.

The production of the "Single edition" series of maps continues. These are produced to the specifications of the USGS 1:24,000 scale topographic quadrangles

with Forest Service information as well. Several years ago, the Forest Service entered into an agreement with USGS to produce, in accordance with USGS standards, the quads covering the Forests. Consequently, the Forest Service is in the process of updating a large number of topo maps, and plans to keep their revision cycle on a tighter schedule than would otherwise be possible if USGS were responsible for their update. Five years is the ideal, but realistically it can be as much as 15 to 20 years. Quads in areas of frequent change are revised more frequently.

Until recently, the Forest Visitors' Maps have been available for purchase only from the individual forests themselves. But, the Service has entered into an agreement with USGS such that USGS will sell and distribute Forest Visitor Maps through their vendor network for participating Forests.

In October 1999, President Clinton called a halt to all construction of Roads in unroaded Forest areas. This (the Roadless Initiative) is a conservation effort to protect endangered species and promote biological diversity. An environmental impact statement will be done on 54 million acres. GIS has been an essential tool in this process. Numerous product-specific maps have been generated which display information from a variety of geospatial and tabular files. The data provides information regarding inventory of roadless areas, road status, fire risk, and forest health. These can be viewed at: www.roadless.fs.fed.us.

National Park Service (NPS)

Tom Patterson from the National Park Service Division of Publications at the Harpers Ferry Center spoke to the Council regarding mapping of the National Parks. Lands under Park Service stewardship cover most States and Territories, including Alaska, Hawaii,

American Samoa, Guam, the Virgin Islands, and Puerto Rico. The Harpers Ferry Center staff of four cartographers provide visitor-orientation mapping for the 379 parks in the system. The cartographic program at Harpers Ferry Center is unique among Federal agencies for its strong emphasis on graphic design.

The National Park Service web site receives approximately 850,000 hits per day. Within that site, the Harpers Ferry Center's web site is the 10th most popular web site in the NPS. There were 4.7 million hits on the Harpers Ferry site last year.

There are approximately 500 maps in the Division of Publications inventory, 99% of which are digitized. Of the digital inventory, 80% are on the web. The remaining 20% are still waiting to be printed before they are placed on the web. Vector map files are available in both Adobe Acrobat (PDF) format and Adobe Illustrator (AI) format. With the release of Adobe Illustrator 9.0, maps will be posted in PDF format only, since the PDF and AI formats will merge. Shaded relief images, which are used as placed art backgrounds within vector maps, are published on the web only in gray scale. Well over 100 shaded reliefs are loaded on the web page as 200 dpi JPEGs. There are no plans to scan historic park maps.

Tom presented new maps of Mt. Rainier; Crater Lake; Channel Islands (with digitally-generated bathymetry); Buck Island Reef in the Virgin Islands (he noted that it was a challenge to show the reef bottom with traditional cartographic methods, so they incorporated aerial photography); an oblique view of the Grand Canyon; California Trail; a guide to Fort Larned, KS (using 3D technology for the landscape details, including buildings and trees); and Fort Davis, Texas.

(letter from the editor continued)

in common? What can they talk about?

What they talk about, of course, is the advantage of each medium for conveying information. The map on paper is more portable, has a higher resolution and can be larger. No, the map on paper is less portable than map distribution through the web because there is a limit to how many maps you can carry with you, and maps on paper do not offer the advantages of interaction and animation. And so it goes.

So, does size matter? Size, of course, is just the latest argument against the use of computers for the display of maps. It used to be that computers could not be used to produce maps on paper because they could not draw lines well enough or could not produce shadings with the proper gradations. In essence, the computer could not produce an acceptable cartographic product. OK, so now it can. But, the computer monitor is still an unacceptable form of display because, well because, it's too small and we cannot convey broad geographic patterns in a small area. Besides, it doesn't have the fine resolution of maps on paper. And so it goes.

I have a sign on my office door that says: "If it's not on the web, it's not!". The statement tries to convey that even if something is real, if people can't see or experience it, in a very real sense, it doesn't exist. To millions of people, those maps of eastern Europe and Austria, although beautifully done, are not accessible and therefore not real. They don't exist. So, the argument is reduced to a choice of size or existence. Either we make big, "beautiful" maps that don't exist (to large numbers of people) or small maps that do. To be or not to be? I'll take existence.

Speaking of existence, this is my last issue as editor of *Cartographic*