

### cartography bulletin board

We are fortunate in this issue of *CP* to have three individual submissions for the *cartography bulletin board*. The first is a summary of cartographic activities that took place at the 1994 Association of American Geographers Meeting in San Francisco in April. The second piece is a description of the activities of the Cartographic Research Laboratory at the University of Alabama. This is part of our ongoing series designed to feature university cartography laboratories and discuss their functions, equipment, and structure. The last item reports the results of a survey conducted on university cartography laboratories. Information from this survey was presented at the 1993 NACIS Annual Meeting and is a useful summary of cartographic laboratory activities and changes.

#### Cartography at the 1994 Association of American Geographers Meeting

by Jim Anderson, Director  
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At the recently concluded annual meeting of the Association of American Geographers held in San Francisco, cartographers were well represented with twenty sessions, many of which were sponsored by the Cartography Specialty Group. Four workshops were also conducted: Mapping on the Macintosh Computer, An Introduction to GPS and Its Integration with GIS, Map Design and Production with COREL DRAW, and Mapping and Image Analysis Using Microcom-

puters. NACIS members were well represented as participants. Of special interest to university cartography lab directors were sessions on multimedia, electronic atlases, teaching cartography, and lab and equipment grants. Other sessions dealt with cognitive cartography, TIGER, and state atlas funding.

Multimedia applications for cartography are emerging as major research interests as well as providing a source of funding for cartography labs. Multimedia, with the ability to link animation, video, sound, graphics, text, and photographs interactively, provides the cartographer with unique opportunities, but also many challenges. Two sessions dealing with multimedia cartography were held. One dealt with the development of electronic atlases. Examples of completed and ongoing projects were presented which gave an indication of the flexibility and design options that are available to the cartographer when developing a multimedia project. The other session titled "Multimedia Cartography" presented papers on four multimedia projects which have maps as one of their primary components. Considerations in animating maps were discussed and illustrated. Also, the issues of scanning methods and resolution, storage and image compression, cross platform development, database design, and delivery systems were presented. In the next issue of *Cartographic Perspectives*, multimedia activities at several cartography labs will be highlighted as well as reviews of several multimedia authoring software packages.

An interesting session on teaching cartography presented the viewpoints of several cartography instructors and included course outlines for their introductory cartography courses. Current

teaching methodologies ranged from conventional pen and ink to total use of computers for cartography exercises. A discussion on the usefulness of teaching manual techniques evolved from the presentations. While no consensus was reached on this issue, there was general agreement that the teaching of map design and data representation techniques needed to remain an integral part of the curriculum. Two sessions dealt with the issue of equipping laboratories with computer equipment. Several speakers discussed their successful applications to the National Science Foundation's Instrumentation and Laboratory Improvement Program (ILI). The second session dealt with proposal writing for the ILI program. Next year's AAG meeting will be held in Chicago. I would encourage NACIS members to participate and work with the Cartography Specialty Group in organizing sessions or submitting papers. □

#### The Cartographic Research Laboratory at the University of Alabama

by Craig Remington, Director  
Cartographic Research Laboratory  
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The Cartographic Research Laboratory at the University of Alabama is part of the Geography Department and plays an integral role in the Department's teaching and research missions. Our Lab currently employs three student assistants who work under my supervision. Most of our projects, and therefore income, come from outside the Department. Our services are provided to the Department without charge.

Like many labs in a similar setting, we have been going through a major technological transition and now have four 486 computers. Our principal software includes Aldus Freehand, Aldus PageMaker, Aldus Persuasion, Microsoft PowerPoint, Microsoft Excel, Microsoft Word, Photofinish, Harvard Graphics, Atlas\*GIS, ArcInfo, and Intergraph MicroStation PC. Of course, what we do with these resources is more important than simply having them available.

About this time last year we were finally ready to try a large automated project. My student help had only limited experience with computer cartography, but they were eager to learn. I looked for a project which would help them learn the software and at the same time provide something of value to the State. We decided to create a Statistical Atlas of Alabama.

Much of the information contained in the Atlas was obtained by reading Census CD-ROMs and extracting selected data into dBASE. The data we were interested in was copied to Excel and linked to Atlas\*GIS to create choropleth maps. We were able to produce both tabular and graphic output. Additional elements of the Atlas were produced using Harvard Graphics, FreeHand, Quatro Pro, and Word. We ended up with 269 pages of everything you ever wanted to know about Alabama along with four students ready to conquer the world of computer cartography. To date, we have sold over 1,000 copies. A modest number certainly, but enough to warrant similar projects in the future.

We achieved considerable savings in our output costs by investing in a LaserMaster WinJet 1200 print controller. When installed in our HP 4M laser printer, we get 1200 dpi output

which looks really remarkable. While not suitable for every application, this output meets the needs of the majority of our clientele, and we skip the costs associated with service bureaus. We have just acquired software which will allow us to translate Tiger line files to polygons for use in Atlas\*GIS. This will enable us to create new atlas projects focused on tract level data and as a result we are developing the Statistical Atlas of Birmingham.

Although this type of project does not sit on the cutting edge of cartography, there are several reasons why it is important to us. First, everything we do makes available a resource which was previously not available. I have received many letters from those who have our Alabama Atlas are asking for additional products. Second, it puts our Lab and Department in the spotlight on a statewide basis and I have received funding for a number of projects which were spin-offs of the Atlas. Finally, it can be done at a low cost.

This is just a single example of how we have tried broaden the services we offer as we take advantage of ever changing technology. In addition, our Lab has expanded its output capabilities through the purchase of a Polaroid CI 5000 Digital Palette. This image processing system allows us to produce color slides of screen images in a matter of minutes. It is not inexpensive, but it has saved the day for several of our most procrastinating customers. I'm happy to say the Department and the University have supported our efforts, allowing us continued growth. □

## University Cartography Labs: A Decade of Transition

by Claudia James  
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In 1988 Doyon & Gibson (1990) conducted a survey of cartography labs in the United States and Canada to discover the management practices, services, and operations performed by these labs. In response to a question about production techniques, only 20 percent of cartography lab products were being done on computers in 1988 (Doyon and Gibson 1990). In the past 5 years we have seen automated production at the University of Akron Cartography Laboratory increase from approximately 25 percent of our work to 80 percent. Along with this change in technology we also experienced a significant drop in the number of jobs we did for other departments on campus. The usual graphs and charts that had formed a distinct part of our typical work load in the past were becoming almost nonexistent. Even special on-campus advertising on our part brought little added work (except for occasional darkroom work). Good community ties and reasonable rates seemed to encourage off-campus projects but not consistently enough to assure financial solvency. Departmental work remained relatively unchanged, however, it did not bring in outside funds and tended to drain the lab budget.

Along with changes in who we were producing work for we also were experiencing technical changes. New technology brought with it the pressure to obtain larger, faster machines, newer software, and higher quality peripherals to input and output products. Maintenance costs were higher, training for student