

cartography bulletin board

THE CARTOGRAPHY LABORATORY AT ARIZONA STATE UNIVERSITY

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Arizona State University's Cartography Laboratory will enter its 11th year of operation this Fall. Housed in a Geography Department with a large, active faculty, the primary focus of the Cartography Laboratory is to provide departmental support. Funding for salaries, equipment, and materials comes from the Geography Department and services are provided to Department faculty at no charge.

In a typical year, the lab produces 120-130 maps and other graphics for publication. Most of these are published in scholarly journals. In addition, the Lab supports departmental faculty by producing presentation materials (slides, overheads, and posters) and black-and-white enlargements from 35-mm film. Occasionally, special projects are carried out for the Arizona Geographic Alliance and for clients outside the ASU Geography Department.

The Lab employs one full-time cartographer who also instructs a course in cartographic design and assists with the introductory cartography course. Occasionally, student interns take on special projects for the lab, for which they earn academic credit.

ASU's lab is like many University cartography labs in that in the last few years it has seen a transition from photomechanical to computer-based production techniques. Almost all new projects are computer based. The

Lab still maintains its photographic equipment and it remains a valuable resource for map compilation and occasional special needs. The photographic equipment consists of a horizontal copy camera, contact frame, arclight platemaker, and tray and PMT processing capability.

The Lab's computer hardware consists of a 486/66Mhz PC and an Apple Laserwriter IIf printer. An upgrade to an HP 600 x 600 dpi printer is planned for the coming year. A nearby University computer facility provides access to several other key pieces of equipment: a scanner, color printers (Xerox 4700 and Xerox 5775 Cyclone), and Matrix slide film shooter. Computer production centers on the use of Aldus (Macromedia) FreeHand as the Lab's basic production software. Maps and graphics may be brought into FreeHand via the scanner, or via analytical software (MapInfo or ArcView 2 for maps, DeltaGraph Professional or Excel for graphs). MicroCAM and Geocart provide sources for geodata on a regional and smaller scale. Finally, Hijaak helps convert images from one graphic file format to another.

Three projects undertaken within the last year exemplify the type of work done by the Lab and the Lab's production approach:

1. Eleven choropleth maps that illustrate the geographic aspects of the abortion debate in America. These maps were produced as color slides for presentation and in black-and-white for printed publication. The data were provided in Lotus files that were brought into ArcView 2. ArcView was used to plot the choropleth maps. The final design was carried out with Aldus FreeHand. The files were sent to the Matrix slide film shooter to create the color slides. The

final black-and-white versions will be sent to an imagesetter.

2. A 33" x 24" two-color map of Lemon Creek Glacier, Alaska. This highly detailed topographic map of the glacier had been created several years ago by a now-inaccessible computer program. The map had been mechanically scribed onto standard scribecoat. The researcher wanted the map redesigned for publication and wished to use color in order to distinguish the glacier from streams, lakes, and the surrounding rock and snow. The new map was constructed by adding separations (scribecoats, peelcoats, and a type negative) to the existing scribecoat.

3. An outline map series for the Arizona Geographic Alliance of twenty four black-and-white maps designed as reproducible masters for classroom use. This project was initiated at the request of teachers involved in the Alliance. It included world, continent, and regional maps. Geocart was used to generate the basemaps in appropriate projections. These files were then brought into FreeHand for the addition of screens and text. The final black-and-white versions will be sent to an imagesetter.

In addition to changes in how production is carried out, a significant change in Lab operation has been in the expertise and expectations of its clients—the department faculty. Faculty are now much more likely to bring in a digital file of their data instead of a sketched map or graph. They more frequently request "working" graphics that they can then refine and bring back to the Lab for final production. Many of them use their own graphing

packages to visualize their data and then come to the lab for "publishable" versions of the graphs. A few faculty are beginning to do the same for maps by using GIS products for visualization. At the same time, their desires for presentation materials are becoming more sophisticated and there is an increase in requests for multicolor slides and overheads. Given these changes in the Lab's "customers," it will be increasingly important for the Lab to be able to work with data and graphics files from many different sources. It is anticipated that the Lab will increasingly serve as a resource center for faculty who would like to use computer software as a visualization tool and who also appreciate receiving advice on how to go about using it. Finally, the Lab should continue to have a steady, and even growing, number of requests for high quality final graphics; though the specific forms of these graphics will change as the technology develops. □

CARTOGRAPHIC LABORATORIES AT THE UNIVERSITY OF GEORGIA

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The Cartographic Services Laboratory and the Institute of Community and Area Development (ICAD) are the major cartographic production facilities at the University of Georgia. Cartographic Services is the campus cartography lab. It is located in the Geography-Geology building but it is not administratively part of either of those departments.

The Cartographic Services Laboratory is one of several research services facilities providing support services for faculty and students. Another major campus graphics lab, the Instructional Resources Center provides services primarily related to classroom instruction, however, it is seldom called upon to produce maps. The Cartographic Service Laboratory is partially self-supporting, with its revenue coming mainly from clients on campus. The Lab also does work for state agencies and, on rare occasions, for non-governmental clients who can make a case that there is no other place to obtain the services they want. The Lab employs seven full-time staff and does not provide instruction nor does it employ student workers.

Mapping is only one of the services provided by the Lab. The production of charts, graphs, slides, and photographs make up the majority of the work done by the Lab. Clients mainly come from the science departments (due, in part, to the Lab's physical location) and prints of autoradiograms and protein gels are a common product. Color and high-contrast slides are created from hardcopy originals or from digital images. Like other labs, Cartographic Services has made the transition from manual to digital production of graphics. The graphs, charts, and maps are produced using Macintosh software that includes FreeHand, Photoshop, and Delta Graph.

Map production is generally limited to small-format black and white laser printer output for publication in books and journals. A service bureau in Atlanta is used to provide film negatives when necessary. The Lab had previously engaged in manually drafting large-format, two and four color map projects. Now color maps are output only as slides. Clients wishing to obtain color maps other

than slides are given assistance in finding a service bureau but they must deal with the service bureau directly.

The Institute of Community and Area Development is a service unit of the University of Georgia. ICAD is not actually a cartography lab at all, however it does publish *The Atlas of Georgia* and *The Interactive Atlas of Georgia*. As a service unit, it extends the University's expertise to the rest of the state and it is organized differently from academic departments on campus. ICAD employs approximately 30 faculty members, many of whom have joint appointments in other departments such as Environmental Design, Political Science, Psychology, Education, and Geography. ICAD's clients include communities in the state and organizations within Georgia and in the Southeast region. Clients receive services in the areas of community and economic development, natural resources management, growth management, land use planning, recreation planning, and regional planning.

Cartography at ICAD developed from ICAD/Geography professor Howard Schretter's idea that the state of Georgia needed an atlas. At the same time, the University began planning for its 1985 bicentennial and the Geography Department hired a cartography professor interested in atlas production. Space was provided by the Geography Department and ICAD organized funding to create *The Atlas of Georgia*.

The Atlas of Georgia was produced entirely in-house using manual photomechanical processes. The production staff included a combination of part-time student workers and full-time employees that were hired for the project. The marketing and sales were handled by ICAD staff.

The Atlas of Georgia was published in 1986 and its success