> ## cartography bulletin board

Cartography Labs at NACIS XIII

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A wide variety of projects and techniques were displayed by university cartography labs at the recent annual NACIS meeting in Washington D.C. As an observer and participant in these poster sessions for the last several years, I have seen computer-assisted cartography (Macintosh and DOS platforms and large format and small format projects) become the norm rather than the exception. What is also of interest are the wide variety of clients that use cartography laboratory services, ranging from university faculty and state agencies to the private sector.

Although this once a year opportunity is very useful for those who are able to attend our meetings, the need exists for ongoing communication between cartography labs. I propose two ways in which to accomplish this. The first is the creation of an Internet listing for cartography labs in order to create an inexpensive vehicle that will encourage communication on a regular basis. If you are a cartography lab manager, academic cartographer, or other interested party and have access to Internet, please forward your Internet address to Jim Anderson at janderso@garnet.cc. fsu.edu along with a brief description of the type of work you do and the hardware and software you are currently using. If you do not have access to Internet please send me the information by mail and you will be included in future communications. A listing will be compiled and sent to those who respond.

The second way to increase communication and the exchange of ideas amongst cartographic laboratories is through this column in *Cartographic Perspectives*. In future issues of *Cartographic Perspectives* I would like to include features on university cartography labs that highlight their activities, discuss their organizational structure, and list the hardware and software that they are using. To begin this dialog I offer a description of the cartography laboratory at Florida State University.

Cartography at Florida State University. The cartography lab at Florida State University was established 20 years ago as part of the Florida Resources and Environmental Analysis Center (FREAC). Although independent from the Geography Department, close ties are maintained through the employment of students and the teaching of courses. The lab employs two full-time cartographers and several student assistants. Additionally, we offer the opportunity for students to take Directed Individual Studies in computer and production cartography.

The lab is equipped with standard, traditional cartographic equipment including a process camera, contact frames, platemaker, Kargl Reflecting Projector, light tables, and darkroom facilities. Computer resources include two Macintosh IIci computers, a Centris 650, a Quadra 950, a Quadra 840AV, two 386 DOS Computers, and one 486 DOS Computer as well as laser printers. The machines are connected via Internet, which provides access to an HP pen plotter and HP color inkjet plotter.

The principal software available in the lab includes Aldus Freehand, Adobe Illustrator, Corel Draw, Azimuth, Adobe Streamline, Pagemaker, Aldus Persuasion, Superpaint, Adobe Photoshop, Authorware Professional, Macromind Director, and Sound Edit Pro. Access is also available to Intergraph software, ARCINFO, and GEOVISION through FREAC's GIS facility.

The objective of FREAC is to assist state and local government agencies in the areas of cartography, computer mapping, database development, geographic information systems applications, and public lands records. An equally important objective is to train university students in these areas through direct involvement in projects, providing real-world experiences. The laboratory also provides services to public agencies and university departments including: preparation of maps and graphs for publication, and typesetting and layout for books and brochures. During the past twenty years the lab has produced two four-color state atlases, a state water atlas, and several specialty atlases in addition to numerous other cartographic products.

At present, the lab is working on the development of a multimedia CD-ROM product based on the *Atlas of Florida* and new versions of the *Florida County Atlas* and the *Water Resources Atlas of Florida*. The revisions of the county atlas and the water atlas have created production dilemmas since the maps in both books were originally created by traditional manual techniques. Some maps from the old atlases can be reproduced with no changes, in other cases minor changes are needed, and in a few instances maps need to be completely redone. With a great deal of experimentation, we have been able to create correction negatives from an imagesetter using Aldus Freehand that register perfectly with our manually produced negatives from the original county atlas. We are still working to

resolve screen percentage discrepancies between photographic screens and computer generated screens, however, this appears to be a viable solution for the time being. We are also able to scan the text from the previous atlases using character recognition software, and edit and format it using desktop publishing software, however, some manual compositing will be required to combine the computer generated and manually generated negatives for printing.

Although the lab produces most maps today using computers, the task of converting all of the previously produced maps to a computer format is cost prohibitive and in many instances we still find it useful and necessary to employ the "old" manual production techniques (although it is difficult to find people who possess these manual skills). Another trend we see taking place is that as computer mapping software becomes more readily available at a reasonable cost, the demand for cartography lab services has declined from many sectors. Unfortunately, the software does not make a "cartographer" and the quality of maps being produced is certain to suffer when the cartography lab is bypassed.

To ensure our viability we are expanding our interests into two relatively new areas. The first is multimedia. In cooperation with IBM, Apple, and the State Department of Education, CD-ROMs are being developed for distribution to the schools in Florida. The initial effort is an adaptation of the *Atlas of Florida*, which will not only display many of the maps and photos from the atlas, but will contain additional photographs, video, and audio. Future projects utilizing CD-ROM technology are being discussed with state agencies and university faculty members. We are also working with

the Florida Geographic Alliance in developing curriculum materials, with the Earth Science Information Center as a state affiliate to disseminate cartographic information throughout the state of Florida, and in the development of GIS applications. We also actively participate with state agencies in researching and developing specific strategies, methodologies, and implementation plans for improving public access and usability of digital spatial data sets and maps.

In conclusion, the cartography lab at Florida State University has remained a viable operation for over twenty years. This has required a willingness to change to new technology and explore ways to reach non-traditional clients by reaching beyond the university and state government. ❑

map library bulletin board

ESIC: A Key to Earth Science Data

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The Earth Science Information Centers (ESICs), operated by the U. S. Geological Survey (USGS), National Mapping Division (NMD), are "primary sources of public information on the cartographic activities of the Division as well as the earth science products of the Survey's Geologic and Water Resources Divisions." The Map Library Bulletin Board for this issue is devoted to a brief history of ESIC and an overview of the specialized cartographic and

geographic reference tools available to members of the ESIC network.

History

For many years, the USGS maintained several Public Inquiries Offices (PIOs), a network of earth-science information offices whose primary responsibility was to provide information about the USGS and its products. In addition, they provided a link to information held by State and other federal agencies. The PIOs were located at the USGS' National and Western Regional Centers and in the downtown areas of major cities, where they were convenient for walk-in customers. The PIOs also answered mail and telephone inquiries.

In 1974 the USGS established the National Cartographic Information Center (NCIC) as a national service to make information on cartographic, geographic, and remotely sensed data of the United States more accessible to both the general public and to federal, state, and local agencies. The NCIC's goal was to provide centralized access to all types of cartographic data generated by the federal government, state and local agencies and some private producers. The initial NCIC offices were located at the Survey's national headquarters and at its regional mapping centers. As the NCIC expanded its data collection at the state level, it established, beginning in 1976, a formal network of state affiliated offices to provide local access to information. State affiliates were responsible for acquiring and disseminating cartographic data within their states and for coordinating this activity with their respective Mapping Center NCIC office. Initially, the NCIC network was limited to one affiliate per state with most being a state governmental agency. By 1989, the USGS