

cartography bulletin board

GEOGRAPHIC INFORMATION SYSTEMS, IMAGE PROCESSING, AND MICROCOMPUTER LABORATORIES

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The Geographic Information Systems (GIS) & Image Processing Laboratory is a support facility of the Department of Geography & Planning at Appalachian State University. The Lab's functions are: 1) to provide GIS and image processing training to students through coursework and internships, 2) to support research, and 3) to provide services, often in fulfillment of the land planning and management needs of North Carolina's local, regional, and state agencies.

The GIS and Image Processing Lab houses a Sun SPARC station IPX with two remote terminals, five 486 PC computers and three Pentium computers, three large format digitizing tablets, two 8-pen plotters, a color scanner, and a color deskjet printer. Plans are to purchase a Sun SPARC station 20 within the year. The main software used include ARC/INFO and ArcView for GIS, ERDAS for Image Processing, and Mosaic for access to data on the World Wide Web. Aldus Freehand is utilized to produce the camera-ready maps for a syndicated newspaper column, *Geography in the News*. The Research Lab library contains a wide variety of hardware and software manuals and research journals, plus numerous digital map and satellite image data sets on 4 and 8 mm data cartridge and CD-ROM. These digital data include the USGS's DLG's (Digital Line Graphs), the US Census

Bureau TIGER Line Files and other Census Bureau statistical data, a variety of full scene Landsat and SPOT digital imagery, plus a growing collection of image subscenes covering North Carolina. Much of the imagery was purchased through grant projects. The satellite image collection will continue to grow now that many summer and winter scenes from Landsat TM are available on the Internet at downloading cost.

The Microcomputer Lab is used primarily for teaching basic computer skills and production cartography, although the Department's full-color Geographic Perspectives map series is produced in this lab as well. The lab contains eleven networked 486 PC's, two A3-size digitizing tablets, two HP Deskjet printers, two Epson printers, one networked HP Laserjet 4 Plus printer, and a Macintosh section with three MAC's, a monochrome scanner, and Epson printer. Software used in the lab include CorelDRAW, AtlasDRAW / AtlasGRAPHICS, and Microsoft Office Programs (Word, Excel, Power Point and Access), and SimCity. Students also learn networking principles on Windows and how to access and download digital cartographic data from the Internet via Kermit.

The Department's research includes nine service projects for counties and development regions. Each project has involved the analysis and classification of either Landsat MSS or TM, or SPOT data using ERDAS, and merging those with ARC/INFO (GIS) vector data for further analysis and mapping. The projects accomplished to date involve land use analysis, water resource inventory, watershed management, industrial siting, new highway siting, and zoning/land use mapping. The Greenhouse Gas Inventory of North Carolina for 1990 is the major product currently underway within the department. The

project is funded through a grant from the North Carolina Energy Division and the EPA. Greenhouse Gas (GHG) emissions are being calculated and mapped by county, with projections through to the year 2010. Calculations are being carried out in Excel, while mapping is being done on ARC/INFO and CorelDRAW. The bulk of the project is now complete and provides much of the data needed for the Department's next major research venture, a NASA funded three-university grant entitled Global Climate Change in Local Places. Appalachian's component within this project will provide more detailed analysis of GHG emissions and mitigation strategies for a smaller, twenty-county Blue Ridge/Piedmont region within the state of North Carolina. The analytical work will make extensive use of the Department's digital image processing, GIS, and mapping capabilities. □

THE CARTOGRAPHIC SECTION AT THE UNIVERSITY OF WESTERN ONTARIO

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The Cartographic Section is currently marking 26th year of service to the Geography Department at The University of Western Ontario. Through the vision of F.W. Graves and the support of the Geography Department, the Section evolved from a facility housed in a cordoned-off area at the back of a cartographic lab, to a professional cartographic facility. In 1972 it moved to its current premises—a 830 square foot office with an adjacent 8' x 22' darkroom. Today, the Cartographic Section is home to two cartographers: