

Final Report
Integrating GIS into the Liberal Arts Curriculum – Replicating a Successful Program
A Project Funded by an Information Fluency Grant to Millsaps College and Rhodes
College from the Associated Colleges of the South
submitted by Debora Mann
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Summary

The purpose of this project was to introduce Millsaps College faculty and staff to the potential of Geographic Information Systems (GIS) as a teaching and research tool for the liberal arts using an approach developed by faculty at Rhodes College. Funded by an Information Fluency Grant, Rhodes faculty held a seminar in the fall of 2002 that promoted the use of spatial analysis across the campus and resulted in collaboration among faculty, students and staff. We have now extended this successful approach to Millsaps College.

On February 1, 2003, three Rhodes faculty members and their student assistant held a workshop at Millsaps College. The workshop was attended by eleven Millsaps faculty members from the Departments of Biology, Geology, Computer Science and the Else School of Management; three staff members; three students invited by faculty; and two student GIS assistants. On March 1, eight participants attended a follow-up meeting to report on their progress with GIS projects and to discuss strategies for developing and supporting the GIS program at Millsaps. Two students were paid as GIS assistants during the fall 2003 semester to assist participants as they continued to work on their projects.

There have been several important outcomes of this project. As a result of the workshop, the 17 participants have become familiar with the uses of GIS, and several have developed projects using GIS for teaching or research. Student assistant Kevin Best gained experience that enabled him to secure employment with the Mississippi Bureau of Geology. Perhaps the most important outcome is that Dr. Stan Galicki has been able to offer a new course on GIS this semester, the first general GIS course taught at Millsaps. This was a direct result of the grant, which not only generated interest in GIS but also provided funds to equip the Millsaps Wilson Library computer lab with software for GIS. The GIS class is taught in the Library lab, which is also available to the campus at large for work on GIS projects. The eight students enrolled in the course have explored a variety of applications of GIS and are collaborating on a field project. Our final expenditures have been for equipment and supplies for the course. The GIS course fills what was a significant gap in Millsaps' offerings in information technology. We expect it to provide valuable training for students as they enter graduate programs and the workforce. Moreover, we expect that it will generate a pool of knowledgeable students who can assist other students, faculty and staff with GIS projects at Millsaps.

Events sponsored

GIS Open House

On January 15, 2003, the Millsaps organizers held a GIS Open House from noon to 1PM in the faculty/staff dining room of the Millsaps campus cafeteria. The purpose of the Open House was to build interest in the upcoming GIS workshop by illustrating the ways in which GIS might be

used by faculty and staff at a liberal arts college. Dr. Jimmie Purser prepared a Powerpoint presentation explaining the nature of GIS. John Bienvenue, GIS student assistant at Rhodes, prepared a Powerpoint presentation highlighting the projects undertaken by the participants at the GIS workshop at Rhodes. Dr. Stan Galicki, a current GIS user, was on hand during the Open House to answer questions and to describe additional applications of GIS. The Open House was attended by about 15 members of the Millsaps faculty and staff.

GIS Workshop

In preparation for the workshop, the GIS software ArcView 8.2 was installed in the computer lab of the Millsaps Wilson Library by Barry Jackson, Jeanne Bodron-Hayes and Brandi Stockstill of Computer Services. On February 1, 2003, Dr. Carol Ekstrom, Dr. Steve Ceccoli, Dr. David Kesler and John Bienvenue led a GIS workshop at Millsaps. The workshop was attended by 11 faculty members, 3 staff members, 3 students invited by faculty participants, and the two student GIS assistants Kevin Best and Motoi Namihira. A list of the faculty and staff participants and their interest in learning GIS appears in Table 1.

Table 1. Faculty and Staff Participants in the GIS Workshop February 1, 2003

Participant	Interest in GIS
Dr. Sarah Armstrong, Biology	Mapping biological data from the Yucatan
Dr. Jim McKeown, Biology	Mapping entomological records from the Yucatan
Dr. Debora Mann, Biology	Mapping biological data
Dr. Dick Highfill, Biology	Tracking Millsaps alumni
Professor Robert Nevins, Biology	Tracking Millsaps medical alumni
Dr. Jamie Harris, Geology	Investigating earthquake hazards in Mississippi
Dr. Delbert Gann, Geology	Mapping the location of building stones of geological interest in Jackson
Dr. Stan Galicki, Geology	Hydrology applications
Dr. Dennis Dance, Computer Science	Data mining
Dr. Kevin Pauli, Else School of Management	Business applications of GIS
Dr. Ajay Aggarwal, Else School of Management	Tracking Millsaps alumni
Ms. Theresa Surber	Tracking Millsaps alumni
Ms. Johanna-Bettis Bruce	Tracking Millsaps alumni
Ms. Dora Robertson, secretary for the Science Division	Mapping flood hazards

The presenters began the workshop with an overview of GIS and its applications. Each faculty/staff participant was provided with a workbook and a CD-ROM prepared by the presenters and containing information on data available for use with GIS. The participants then divided into three interest groups for a hands-on session in the computer lab. Each presenter guided a group of participants through a sample GIS exercise that illustrated some of the most

commonly used features of the software. This was followed by a discussion over lunch about the ways in which GIS might be used for teaching and research at Millsaps. It was agreed that there is considerable interest among faculty and staff in using GIS and that a GIS course would be of great benefit to students in preparing them for graduate school and the workplace. It would also provide a pool of students proficient in GIS who could assist other students, faculty and staff in the use of GIS. The Rhodes faculty shared ideas and syllabi they use in teaching GIS in their courses.

Follow-up session

On March 1, eight participants in the original workshop gathered for a follow-up session to discuss their progress on their GIS projects. (Two of the participants in the February 1 workshop were in Georgetown, Texas attending the ACS-sponsored GIS symposium on “Putting the Digital South to Work.”) Three participants made Powerpoint presentations on their projects. Dr. Delbert Gann presented “A Geologic Tour of the Natural Building Stones of Jackson, Mississippi.” Dr. Jamie Harris presented “GIS-based Analysis of Earthquake Hazards in Mississippi.” Dr. Debora Mann presented “Mapping Ecological Survey Data from the Blue Ridge Mountains.” Others commented informally on their progress with projects. There followed a discussion on the future of GIS at Millsaps. It was agreed that GIS has great potential as a tool for teaching and research in the liberal arts and should be supported at Millsaps.

Workshop evaluation

During the follow-up session the participants filled out an evaluation of the workshop. The questions concerned their experiences at the workshop, their experiences during the one-month interval in which they worked on their projects, and their expectations for the future. A transcript of the evaluations was submitted in an earlier report.

Two general themes emerged from their comments: first, that a more extensive hands-on session during the workshop would have been beneficial, and second, that the one-month interval between the workshop and follow-up session did not allow enough time to develop their projects fully. Contributing to the latter problem was the fact that although software was available for installation on the office computers of the participants, many had older machines that required an upgrade of the operating system before the software could be installed. Three respondents indicated that the software had not been installed on their office machines in a timely manner. In response to the question “Do you feel that you will use GIS in your teaching/research as a result of your experience with this seminar?” 6 of the 8 respondents answered “yes”, one answered “probably” and one person did not answer the question.

Fall semester 2003

Motoi Namihira and Kevin Best were paid during the fall 2003 semester to assist participants with projects begun during the workshop and to offer general GIS assistance to faculty, staff and students campus-wide.

Spring semester 2004

Eight students (seven geology majors and one biology major) are enrolled in Millsaps’ first general GIS course, Geology 3401: Geographic Information Systems, taught by Dr. Stan Galicki.

Expenditures at Millsaps

ArcView 8.2 software for Millsaps Wilson Library computer lab	\$1041.00
Stipends for 14 faculty and staff workshop participants @\$100 each	1400.00
Stipends for 3 Computer Services staff for technical support @\$100 each	300.00
Salary for two student assistants @\$250 each for the spring 2003 semester	500.00
Refreshments for open house, workshop, and follow-up session	540.51
Salary for two student assistants @ \$250 each for the fall 2003 semester	500.00
GPS unit and maps CDs for GIS class	<u>379.85</u>
Total	\$4661.36