SPACE ACCESS Conference Workshop Report:

The Minorities in Agriculture, Natural Resources and Related Sciences (MANRRS)
22nd Annual Career Fair & Training Conference
March 29-31, Birmingham, Alabama.

Workshop Title:
"Geographic Information Systems (GIS), Global Positioning Systems (GPS), and Remote Sensing Applications in Support of Community and Urban Forestry"

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Minorities in Agriculture, Natural Resources, and Related Sciences (MANRRS) www.manrrs.org is a national society that "welcomes membership of people of all racial and ethnic group participation in agricultural and related sciences careers." I have been involved with MANRRS for about ten years. The organization has flourished since its beginnings in 1986. In fact, I attended graduate school with several of the founding members. I have led GIS/GPS workshops at several MANRRS national meetings, most recently at the 21st Annual Career Fair & Training Conference held at St. Louis, Missouri, in April of 2006.
The organization primarily consists of academicians and students with many alumni among the "professional membership." Its approximately 60 chapters are all based on college campuses, many of which are Historically Black Colleges and Universities (HBCUs). For more on the history and mission of MANRRS visit - http://preview.manrrs.org/about_us.aspx

The MANRRS 22nd Annual Career Fair & Training Conference was held March 29-31, 2007 at Birmingham, Alabama. According to the organization's web page…

> "MANRRS provides ongoing networking and professional development activities for its members. The best opportunity for networking, however, occurs at the ANNUAL CAREER FAIR AND TRAINING CONFERENCE. Each spring, the MANRRS conference brings hundreds of people together to discuss issues of interest and concern regarding diversity in agriculture and related areas. In addition to workshop sessions and keynote addresses by prominent individuals, the conference conducts a career fair where employers from agricultural and natural resources industries and government meet with students and young professionals to discuss internship and full-time employment opportunities."

Interestingly, within the discipline of agriculture are numerous social science sub-specialty areas. Many of those attending had academic, research, and professional backgrounds in rural sociology, urban studies, agricultural economics, and so forth. Thus, interest in geospatial technology applications was high. My workshop session was full with about 40 undergraduate and graduate students, and some faculty advisees in attendance.

Workshop:
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The primary objective of the workshop was to expose MANRRS faculty and students to the technology. From my experience, most of them have had little to no experience with geospatial technology. A second goal was to encourage faculty to incorporate GIS into their teaching. I encouraged those with backgrounds in social science related to agriculture to consider attending one of the summer 2007 SPACE/CSISS workshops.

The 90-minute session was organized as follows:

I began by sharing urban forestry-based projects led by undergraduate research assistants at Tennessee State University's Geographic Information Sciences Laboratory (http://www.gislabtsu.freehomepage.com/gislab.htm). Two of the projects, "Applications of GIS and Related Technologies in the Analysis of Human/Wildlife Interactions in an Urban Forest" and "Synthesizing Community Forestry and Public Health: A Black History/Urban Forestry Walking Trail" were funded by the Community Forestry Research Fellowships program (http://www.cnr.berkeley.edu/community_forestry/). The third project, "GIS and GPS in the Development of the TSU Global Learning and Observations to Benefit the Environment (GLOBE) Land Cover Protocol Training Site," was supported by TSU's Dr. Samuel Massie Chair of Excellence Program.

Next, I led the approximately 40 attendees in an outdoor tree inventory exercise exposing participants to the functionality of GPS receivers. Numerous trees representing a diversity of species were located immediately outside of the conference center. After receiving a “crash course” in the operability of hand-held GPS receivers, the students were divided into groups and assigned the task of collecting attribute data and latitude/longitude coordinates for selected trees (Figure 1). Each tree was also photographed.

The group returned indoors and then set about the task of transferring the attribute and location data collected in the field into spatial format. Because we were not in a PC lab setting, each group reported its data to me, which I then typed into an Excel spreadsheet which was displayed on a screen for all to see. The spreadsheet holding the tree inventory results was saved as a dBASE file (Figure 2) and then imported into ArcGIS (Figure 3). The points were layered onto a digital ortho quarter quadrangle (DOQQ) covering the area near the conference center (Figure 4).

The workshop ended with a lively question and answer session. Many of the participants shared that they had never worked directly with GIS or GPS technology. I also provided the group with a number of online tutorials they could explore in the future. Each attendee who requested was provided a copy of the presentation.

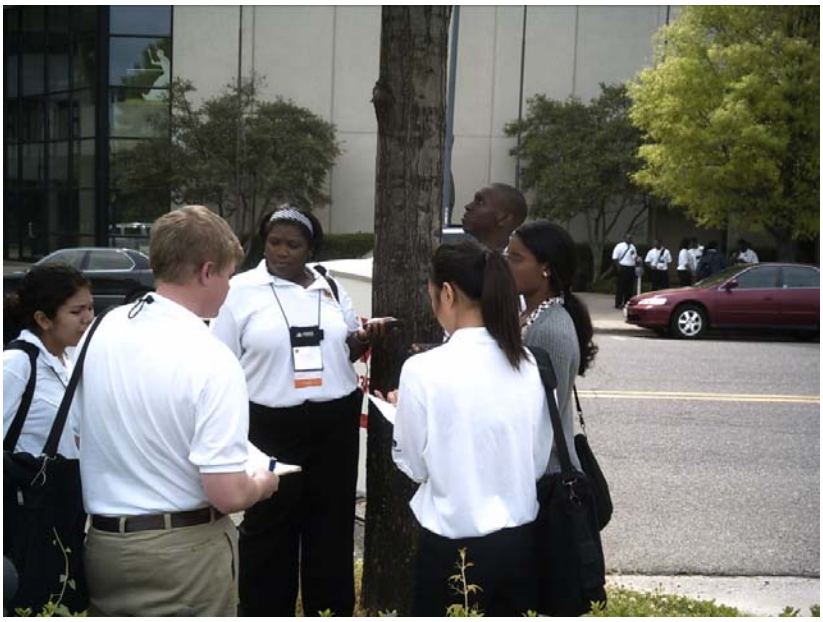

Figure 1. MANRRS participants engage in a mock urban tree survey using hand-held GPS receivers.

Urban Tree Survey Exercise

- **Urban Tree Survey Exercise Data Spreadsheet – Saved in dBASE (*.dbf) Format**

Microsoft Excel - urbantreedatasheetjob.dbf

	A	B	C	D	E	F	G	H
1	TREE_NUMBE	TREE_SPECI	LOCATION	HEIGHT	CIRCUMFERE	LATITUDE	LONGITUDE	PHOTO_NUMB
2	3b	Oak	S gate of	25	10	33.52596	-86.80991	4
3	4e	Bradford Pear	middle of	18	40	33.52687	-86.80937	11
4	1c	Oak	N of lot	100	64	33.52717	-86.80948	10
5	2d	S Red Oak	N of BJCC	44	35	33.52690	-86.81102	13
6	5c	Maple	W of lot	25	60	33.52687	-86.81028	12
7	6c	Post Oak	Sal Army	40	54	33.52724	-86.81085	15

Figure 2. Urban tree survey attribute table developed by MANRRS conference attendees.

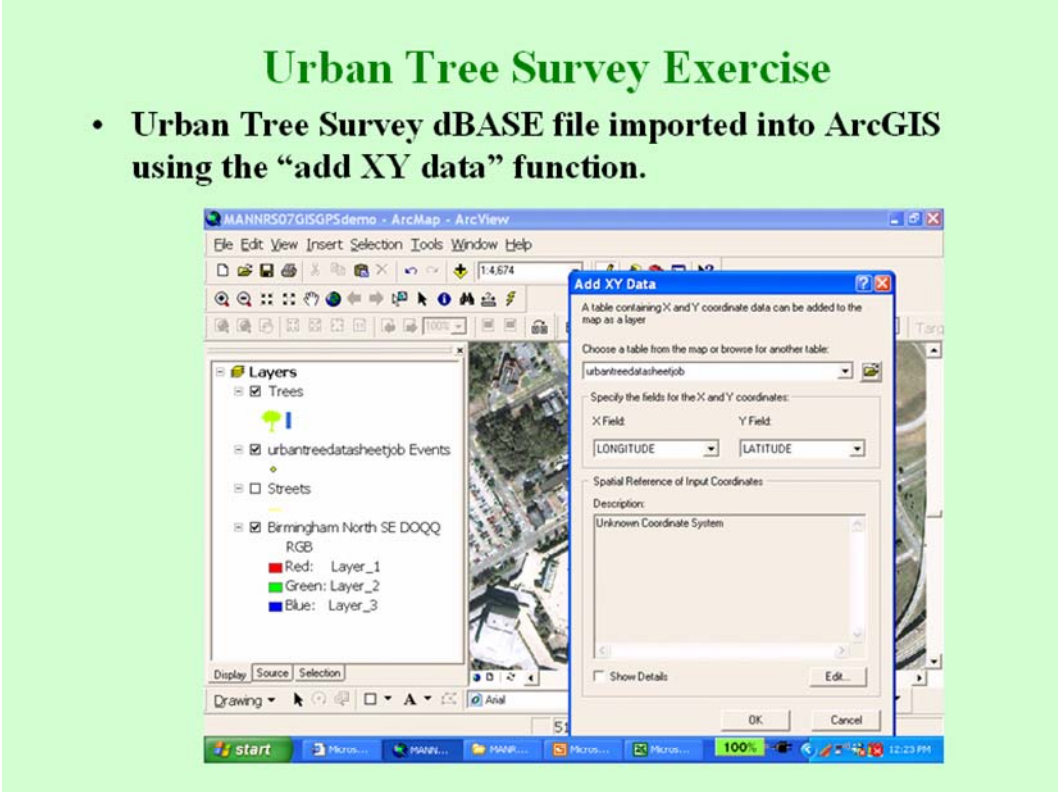

Figure 3. Urban tree survey attribute table dBASE file imported into ArcGIS using the "Add XY Data" function.

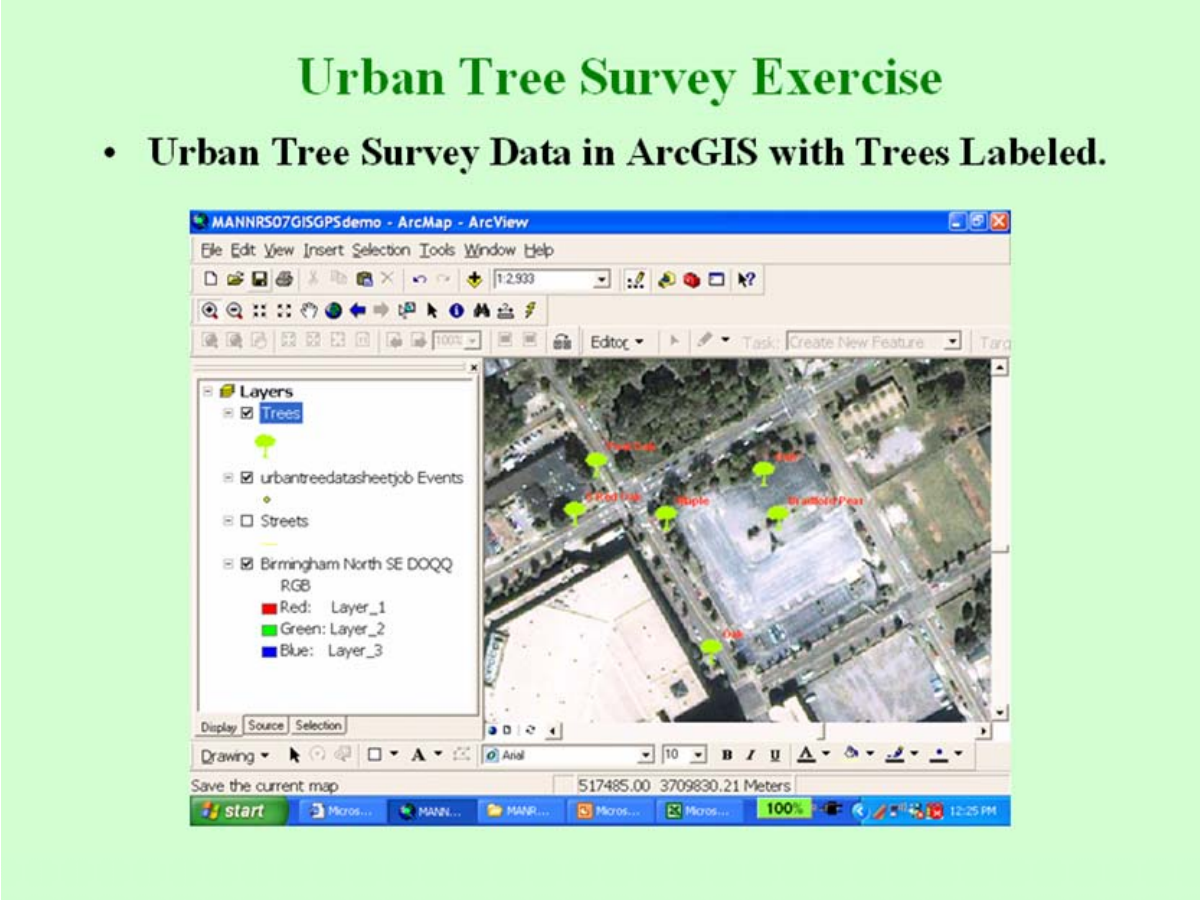

Figure 4. Final map of tree survey with point symbols representing urban trees in close proximity to the convention center.

Figure 5. Dr. Padgett and several workshop participants at the conclusion of the session.