"Geographic Information Systems (GIS), Global Positioning Systems (GPS), and Spatial Analysis Tools in Support of Service Learning Course Content"

Audience: Introductory level - no prior knowledge of GIS or GPS is necessary

In many metropolitan areas rapid population growth and urban sprawl have presented numerous challenges to neighborhoods and local governments. Meanwhile, inner-city communities suffer from neglect and infrastructure decay as commercial and residential development initiatives increasingly move to the suburbs.
Many inner-city residents have begun to notice that their quality of life may be negatively affected unless pro-active steps are taken to stem the tide. This workshop is designed to enhance course content for students involved in service learning initiatives. Participants will be exposed to two sample scenarios: 1 - using GIS and GPS to support non-profit organizations, grassroots groups, and/or volunteers to document and map neighborhood problems, and 2 - GIS and GPS applications to assess and improve community public transit accessibility.

The first scenario will involve the conversion of hardcopy handwritten community audit reports collected by volunteers into digital GPS data dictionary format. The data dictionary will be uploaded onto hand-held GPS receivers and then tested in the field during a brief outdoor exercise. The second scenario will include a demonstration of how inexpensive GPS units may be used in community efforts to improve public transit. Workshop participants will be instructed in how to produce and interpret GIS maps displaying problem sites such as dilapidated buildings and poor quality public transit facilities. They will also be instructed in how to produce "hot link" maps using photographs taken in the field. A group discussion will focus upon how the GIS maps and supporting spatial analysis tools can enhance residents' efforts to locate, monitor, and ultimately fix problem areas. Attendees will also discuss how their course content might be enhanced with similar methods to provide interdisciplinary "real world" experiences for students.

Materials: GPS Units, laptop computer, digital camera, literature, workbooks, etc will be provided by the instructor.

AGENDA

Introductions
Introduction to Global Positioning Systems and Basic Principles of Cartography
Discussion - Service Learning Experiences in Social Science Courses
Break
Divide into groups. Each group will prepare its GPS units for a mock neighborhood audit. Some groups will have low-cost GPS units, one group will work with a more expensive unit.
Mock neighborhood audit. Groups will walk outside to collect positions, record attribute information, and take photographs of "sites of potential neighborhood problem sites and/or physical barriers to public transit accessibility."
Break
Instructor Demonstration. How to import data and photos into a Geographic Information System.
Instructor Demonstration. How to layout maps for most effective use in spatial analysis.
Attendees share ideas for implementing GIS, GPS, and spatial analysis tools to enhance their own curriculums.
Wrap-up, evaluation, and adjournment