REPORT ON SPATIAL ANALYSIS WORKSHOP

CSISS SPACE Instructional Awardee: Petra A. Zimmermann, Assistant Professor of Geography, Ball State University, Muncie, IN

Date: February 23, 2006
Time: 12:30 – 4:30 PM
Place: Department of Geography, Ball State University, Muncie, IN 47306

Number of Attendees: 12 (not including last-minute cancellations)
Disciplines/Units Represented: Anthropology, Criminal Justice, English (Linguistics), Geography, Center for Media Design

Purpose of Workshop

This workshop was designed to introduce spatial analysis, especially spatial data analysis, and GIS to social scientists with little or no background in spatial analysis. It focused on selected topics and gave participants a "flavor" of using space.

Structure of Workshop

The workshop featured a series of lectures on spatially related topics, as well as four hands-on GIS exercises and several GIS demonstrations. A guest speaker also delivered a presentation detailing ongoing GIS projects.

The workshop lectures were presented as PowerPoint presentations, which focused on the basics, plus supplementary notes. The demonstrations and exercises used ArcGIS 9.1; they used social science themes.

The workshop also addressed the CSISS workshops and participants were told of the opportunities available.

The outline of the workshop is found at the end of this report.

Feedback from Workshop Participants (who completed a post-workshop survey)

Participants who completed the survey reported having less than average experience with spatial analysis, spatial statistics, and GIS. Nearly all stated that the workshop increased their understanding of spatial analysis (7/8 answered "agree" or "strongly agree") and spatial statistics (3/4 answered "agree" or "strongly agree"). All participants indicated that the workshop increased their understanding of GIS.

All participants were interested in attending future workshops. Additionally, all participants stated that they would be likely to incorporated GIS into teaching and/or research. Seven out of eight stated that they would be likely to

incorporate Spatial Analysis and Data Visualization in future teaching and/or research.

I have also been approached by the Center for Media Design about the possibility of conducting a similar (but shorter) workshop for Center researchers.

Expenditures

Undergraduate student workers
-helped create exercises, set up data files, worked on survey, created graphics, ran miscellaneous errands

Lecture handout
-Comb-bound printed book given to all participants; book contains PowerPoint slides of all workshop lectures

Miscellaneous workshop supplies
-pens for participants
-blank CDs for participants to copy digital versions of lectures
-notepads for participants

Guest speaker
-Sharon Kandris of the Polis Center at Indiana University-Purdue University at Indianapolis
-speaker discussed GIS projects at the Polis Center
-projects span a variety of subjects and disciplines

Lunch for guest speaker

Honorarium for guest speaker

Travel for guest speaker

Refreshments
-bagels and cream cheese, soft drinks and water, chips and pretzels, cereal bars
-participants were in workshop for entire afternoon

SPATIAL ANALYSIS WORKSHOP OUTLINE

WELCOME AND REFRESHMENTS

Introduction of self and workshop participants

INTRODUCTION

What is Spatial Analysis (PowerPoint lecture)

BRIEF INTRODUCTION TO ARCGIS (Demo)

-parts of ArcGIS
-capabilities of ArcGIS
-sample maps

GUEST SPEAKER—SHARON KANDRIS (Polis Center at IUPUI)

LOCATION AND PATTERNS

Point Pattern Analysis (PowerPoint lecture)

-Average Nearest Neighbor (GIS Exercise)

MAUP and Scale Issues (PowerPoint Lecture)

Spatial Autocorrelation and Clustering/Patterns (PowerPoint Lecture)

-Global Moran's I (GIS Exercise)
-LISA (GIS Demo)

DISTANCE

Distance (PowerPoint lecture)

-***Type of Distance (GIS exercise)***

SPATIAL MODELS

Distance Decay and Gravity Models (PowerPoint lecture)

VISUALIZING SPATIAL DATA

- *Visualization and Classification (PowerPoint Lecture)*
  - *-Different Classifications (GIS Exercise/Demo)*

CONCLUSION

- *CSISS workshops*
- *Thank you to participants and speaker*
- *Survey*