

VISUALIZATION OF SPATIAL DATA

Fall 2005: TuTh 10:00 - 11:50 PM

GEOG 397 (Sec 001)

CRN 14751

Instructor: Joe Poracsky Teaching Assistant: Steph Gaspers

Course approved for major distribution: 4 credits research skills.

Text / Materials:

1. McGrew, J. Chapman, Jr. and Charles B. Monroe. *An Introduction to Statistical Problem Solving in Geography*, 2nd ed. McGraw-Hill. ca. \$105 (also used in the follow-on course, *Geog 497/597, Spatial Quantitative Analysis*).
2. Short Reading Packet of articles; ca. \$25.

Summary of Course Content: This is a first course in numerical data handling and descriptive spatial statistics. It departs from the traditional equation-based approach of learning statistics and instead relies heavily on graphics / visualization. The goal is to provide students with a firm grounding in the fundamentals of statistics and the basics of visualization as both an exploratory device and a presentation tool.

This course is strongly-recommended as a prerequisite to *Geog 497/597, Spatial Quantitative Analysis*. The use of graphic modes for visualizing data is explored as a fundamental tool in geography and other spatial disciplines, and examples will be based principally on spatial data and spatial applications.

Among the statistical topics examined are scales of measurement, data transformations, index numbers, central tendency measures, dispersion measures, probability, and sampling. Graphic types to be considered include histograms, bar charts, scatter plots, box-whisker plots, line graphs, pie graphs, time series, flow charts, and org charts.

Special emphasis will be placed on elements of graphic design and intelligent design choices in representing numeric data. Software to be utilized will include Excel, STATA 9, Idrisi Kilimanjaro and Surfer 8.

There are no prerequisites for this course in terms of specific course work, but students are assumed to have:

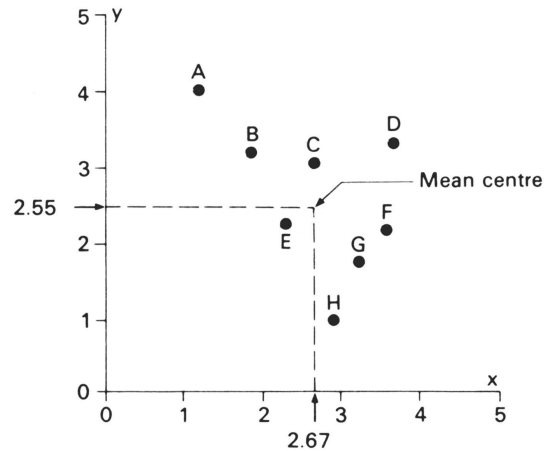
- a. an interest in spatial processes and patterns;
- b. an interest in graphic representation and the use of graphics to communicate ideas;
- c. a desire to establish a solid foundation in descriptive statistics;
- d. a basic knowledge of mathematics, through high school algebra;
- e. experience with computers running under the Windows operating system.

Reading: A total of about 300 pages from the text.

Requirements: Timely completion of assigned readings and exercises; midterm and final exams.

Grading (approximate percentages):

Exercises (about 10) = 50%
Midterm Exam = 25%
Final Exam = 25%



THE EFFECT OF INCREASING SAMPLE SIZE (n) ON THE SAMPLE ESTIMATE

