GTECH 201 – Geographic Methods

• Map Quiz
• What is Geography?
• Administravilia
  – Course web site
  – Accounts, printing, email (Hunter only)
  – Send me an email with: name, geo courses taken, major/minor, Fr/So/Jr/Sr

• Types of Maps Lecture
What Young People Know About Geography - 1988
Mental Maps

- As a child, your mental maps were probably based on direct experience......
- self-centered view
- Family Circus cartoon......
I CAN ONLY SHOW YOU THE WAY TO MY HOUSE IF YOU DRIVE ME BACK TO SCHOOL FIRST.

THERE'S MY HOUSE!
Mental Maps

• Inefficient
• Hunter neighborhood maps
• Most mental maps are more detailed than this.
• You acquire information through:
  – TV
  – Photographs
  – Books and magazines
  – The Internet
  – Other secondary sources
Mental Maps

• geocentric view
• visualize how to get from one place to another “as the crow flies” -----
• geometrical reference framework allows you to describe and determine:
  – Locations
  – Distances
  – Directions
  – Other geographic relationships
Mental Maps

• This visualization of space is based on Euclidian geometry.

• It’s the geometry that says that:
  – parallel lines never cross,
  – that the shortest distance is a straight line,
  – That space is three-dimensional and so on.

• It’s hard for most people to transform their mental map in a geometrically accurate manner.
Cartographic Maps

• A cartographic map is a graphic representation of the environment.

• Cartographic maps come in many forms. Some are 3D such as:
  – Globes
  – Physical landscape models
  – Braille maps
Cartographic Maps

• Cartographic maps have been:
  – Carved
  – Painted
  – Drawn on a variety of media for thousands of years.

• What gives a graphic representation if the environment its “mapness?”
Cartographic Maps

- Maps are vertical or oblique views of the environment
- Maps are created at a reduced scale
- Maps are made on a map projection surface
- Maps are generalized representations of the environment
- Maps are symbolized representations of the environment
What Makes Maps Popular?

- Maps are convenient to use
- Maps simplify our surroundings
- Maps are credible
- Maps have strong visual impact
Maps

• Map Simplicity as a Liability
• You should question the credibility of maps
• Some map features are
  – distortions;
  – others are errors;
  – still others have been omitted by oversight or design.
  – Maps are like statistics --- people can use them to show whatever they want.
Functions of Maps

• reference maps
• Show figure I.3, page xviii, topo/ortho/aerial photo
Topographic Maps

- Topographic maps show natural features:
  - Mountains
  - Valleys
  - Plains
  - Lakes
  - Rivers
  - Vegetation
Topographic Maps

• Cultural features such as:
  – Roads
  – Boundaries
  – Transmission lines
  – Buildings

• Contour lines
Topographic Maps

- Topo maps used in:
  - Engineering
  - Energy exploration
  - Environmental management
  - Public works design
  - Commercial and residential planning
  - Outdoor activities such as:
    - Hiking
    - Camping
    - Fishing
Thematic Maps

• **Reference maps** show many types of features but emphasize no particular one over the others

• **Thematic maps** show a single type of feature that is the theme of the map.

• Show Oregon climate map
Oregon Population
- 2000-

Each colored dot represents 500 people living either in the vicinity of towns with less than 500 people, or in rural residences in the general vicinity of the dot.
Oregon Population Density
-2000-

Persons per Square Mile

- 0.8 - 9.9
- 10.0 - 19.9
- 20.0 - 49.9
- 50.0 - 99.9
- 100.0 - 200.0
- 600
- 1,500
Oregon Maps

• Note how each theme is superimposed on a background of county outlines
Navigation Maps

• Designed to assist in land, water and air navigation
• Often called charts
• Show topographic map segment
Nautical Charts

• Show Figure I.6B, page xxii
• The map of the San Juan Islands in Washington State is an example of a map created specifically for water navigation.
Aeronautical Charts

• Are maps designed for air navigation
• Show Figure I.6C, page xxii
• This map is part of an aeronautical chart covering the state of Washington
• Aeronautical charts show the:
  – Heights of towers and other obstructions
  – Contours
  – Special ground elevation symbols that help navigators quickly determine the minimum safe in-flight altitude
Persuasive Maps

• Maps have always played a role in decision making
• Propaganda maps
Types of propaganda

• Disproportionate symbols as a means of persuasion
• Show Figure 1.7, page xxiii, Israel Map
Propaganda Maps

- Misleading number of features
- Show map Figure 1.9, RR Map
DULUTH, SOUTH SHORE & ATLANTIC RY.
MINERAL RANGE RAILROAD
AND CONNECTIONS
RR Maps

• “This won’t do,” said the General Passenger Agent, in annoyed tones, to the mapmaker. “I want Chicago moved down here half an inch, so as to come on our direct route to New York. Then take Buffalo and put it a little farther from the lake.
“You’ve got Detroit and New York on different latitudes and the impression that that is correct won’t help our road.”

“And man, take those two lines that compete with us and make ‘em twice as crooked at theat. Why, you’ve got one of ‘em almost straight”

“Yank Boston over a little to the west and put New York a little to the west, so as to show passengers that our Buffalo division is the shortest route to Boston.”

“When you’ve done all these things I’ve said, you may print 10,000 copies – but say, how long have you been in the railroad business, anyway.”

Map Simplification

• Map simplification can also be used for persuasion purposes
• Show Figure I.9, page xxv, West Bank
Advertising Maps

• Show Figure I.10, page xxv, Bend, OR

• This map was made to promote Bend, Oregon, as the center of Oregon in terms of travel distance
Bend is Central to Oregon
Map Use

• Map use is the process of obtaining useful information from one or more maps to help you understand the environment and improve your mental map.

• Show Figure I.11, page xxvi: White male and female 1980-1990 cancer mortality rates in the US by Health Service Area.