The World On Your Computer - Geographic Information Systems

Expanding Your Horizons Workshop
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What is GIS?

- Geographic Information Systems
- Computers
- Internet
- Maps
- Databases
- Analysis
- People!
What is GIS Software?

- Stores information in geographical formats
- Provides methods to display and analyze data
- Allows computer programming to customize software
Examples of Data in a GIS

- **Schools**
  - Location points
  - Name
  - Type (middle, high)
  - Student numbers
  - Building polygons
  - Classrooms
  - School District served

- **Parks**
  - Location polygons
  - Name
  - Playground Equipment
  - Dogs allowed (y/n)
  - Soccer fields (y/n)
  - Lake polygons
  - Sidewalk lines
More examples of GIS data

- Roads
  - Lines or polygons
  - Name
  - Interstate or Neighborhood (Arterial)
  - Number of lanes
  - Address ranges
  - Speed limits

- What else can you think of?
What can you DO with GIS?

- Make maps
- Find places: schools, addresses, restaurants
- View in 3D: cities, parks, water pollution, natural disasters…
- Create models to ask questions and make predictions
What’s the difference between GPS and GIS?

GPS – uses satellites and hand-held computers to collect data (points, lines, and polygons)

GIS – uses computer and software to display, map, and analyze GPS and other data
Who uses GIS?

- City Planners
- Engineers
- Biologists
- Architects
- Meteorologists
- Police

Who else can you think of?
What do you study for a GIS career?

- Geography
- Cartography
- Database
- Computers & programming
- Subject area of interest:
  - Biology, archaeology, geology, planning…
GIS Exercises

- Display geographical data
- Find places on the globe
- Turn layers on and off
- View data in 3D
- Plot and measure routes
- Think about spatial relationships
Questions

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