



Photograph courtesy of the U.S. Geological Survey

What is GIS?

Geographic information system (GIS) technology can be used for scientific investigations, resource management, and development planning. A GIS computer system is capable of capturing, storing, analyzing, and displaying geographically referenced information; that is, data identified according to location. Practitioners also define a GIS as including the procedures, operating personnel, and spatial data that go into the system.

How does GIS Technology work?

The power of a GIS comes from the ability to relate different information in a spatial context and to reach a conclusion about this relationship.



Photograph courtesy of the U.S. Geological Survey

If the data to be used are not already in a form the computer can recognize, various techniques can capture the information. Maps can be digitized by hand-tracing with a computer mouse on the screen or on a digitizing tablet to collect the coordinates of features. Electronic scanners can also convert maps to digits or coordinates from Global Positioning System (GPS) receivers can also be uploaded into a GIS.

GIS used to target priority land

Using a model – which identifies land with the highest potential to deliver sediment to Rathbun Lake – Tyler Jacobsen, GIS specialist at Rathbun Regional Water Association, designed a mapping system to locate acres in the watershed most in need of Best Management Practices (BMPs).

The implementation of BMPs – which will reduce the sediment and contaminants that enter the lake – include construction of terraces, planting grass waterways, and sediment control basins.