

What is GIS?

GIS is an acronym for Geographic Information Systems. These technological systems measure data (spatial and non-spatial) based on geographic areas, stores and organizes the data into sets and finally analyzes it in order to make an illustration of the data. The maps that are generated can be used to make better decisions and have greater efficiency when planning, managing and designing these geographic areas.

GIS links location data with information such as human activity, weather and natural resources. This data is collected by many different agencies including commercial businesses and the government. The information is then made into layers and displayed on a map so that we can better understand processes and relationships between different aspects of our world. It also allows us to generate new maps as the information in the data changes over time.

The Environmental Systems Research Institute (ESRI) develops GIS software. STDBonline uses ESRI's Business Analyst Online and applies GIS to examine different datasets such as demographics, business data and consumer spending to defined study areas. It also provides visual displays of the information in thematic maps and map layering.

GIS Terms:

Demographics – statistical information about human population such as age, income, and race.

Study Area – the geographical area to be analyzed. Types include:

- **Site** – an address or a point on the map defined by latitude/longitude coordinates. The area around it can be defined by rings, donuts or drive times.
- **Hand Drawn Shape (Polygon)** – a closed shape defined by a group of coordinates on the map.
- **Standard Geography** – a predefined geographical shape such as a city, zip code or census tract.

Aerial Photo – a photograph of the earth's surface taken from above by satellite or plane.

Hybrid Map – a map that combines an aerial photo and a street map.

Topographic Map – a map with vertical and horizontal lines showing position of features, and shows relief in the form of contour lines and shading.

Map Layers – a single dataset overlaid on a map. For example, a traffic map has multiple layers including a street layer and traffic count layer.

Thematic Map – displays distribution and shows spatial patterns by color coded classes of variable per unit of area.