

White Paper Series: GIS 101

Geographic Information

It is the information about places on the Earth's surface, which gives the knowledge about *where* something is and what is at a given location. For example: information about the locations of *all* buildings in a city, information about *individual* trees in a forest, climate of a large region, population density of an entire country

Geographic information system (GIS)

GIS is a computer-based system that allows the user to question and manipulate various layers of maps and data. The system is designed to answer questions and explore relationships. The data represents real-world entities (trees to woodlots to forests to world scale) including both spatial (true to scale maps) and quantitative attributes of these entities (data).

- a system for input, storage, manipulation, and output of geographic information
- a class of software
- a practical instance of a GIS combines software with hardware, data, a user, etc., to solve a problem, support a decision, help to plan

GIS stands for "*geographic information system*" and is a special kind of "information system" used to manipulate, summarize, query, edit, visualize - generally, to work with information stored in computer databases. The technology uses special information about *what is where* on the Earth's surface.

Special functions that work on geographic information

Simple functions:

- display on the screen
- edit, change, transform
- measure distances, areas
- Click an object and get information
- combine maps of the same area together

Sophisticated functions

- keep inventories of what is where
- manage properties, facilities
- judge the suitability of areas for different purposes
- help users make decisions about places, to plan
- make predictions about the future