

Definitions of GIS : Definitions vary depending on the background of uses and purpose

■ **Toolbox-based definitions**

“a powerful set of tools for collecting, storing, retrieving at will, transforming and displaying spatial data from the real world” <Burrough 1986>

“a computer-based information system that enables capture, modeling, manipulation, retrieval, analysis and presentation of geographically referenced data” <Worboys 1999>

■ **Database definitions**

“a database system in which most of the data are spatially indexed, and upon which a set of procedures operated in order to answer queries about spatial entities in the database” <Smith *et al.* 1987>

“any manual or computer based set of procedures used to store and manipulate geo-graphically referenced data” <Aronoff 1989>

■ **Organization-based definitions**

“a decision support system involving the integration of spatially referenced data in problem solving environment” <Cowen 1998>

“GIS as providing a gateway to science and problem-solving” <Longley *et al.* 2002>

Geographical Information System

- **Geographical** – relates to a specific place on the Earth's surface or a specific place in relation to the Earth's surface.
- **Information** – is data to which some value or interpretation has been added. In GIS the information relates to *measurements, maps or images* of the Earth's surface.
- **Systems** – synthesis by computer of the information.

Examples of Synonymous terms for GIS

Geographic information system

U.S terminology

Geographical information system

European terminology

Geomatique

Canadian terminology

Geoscience

Spatial information system

Geo-Information

(DeMers, page 8.)

บทบาทและความสัมพันธ์ของ GIS ด้านต่าง ๆ

Disciplines : Computer sciences , Cartography , Photogrammetry, Surveying, Remote sensing, Geography, Statistic, Information sciences, Planning, etc.

Application: Map production, Management natural resource, Operation and maintenance of network and other facilities, etc.

Data : Digital map, Digital imaging of scanned maps and photos, Satellite data, Ground truth data, Tabular data, Video images, etc.

Users : Surveyors, Cartographers, Planners, etc.