

Geographical Information System - GIS

GIS uses spatio-temporal (space-time) location as the key index, as relational database containing text or numbers relate many different tables using common key index variables. Even, unrelated information is related by using location and/or extent in space-time.

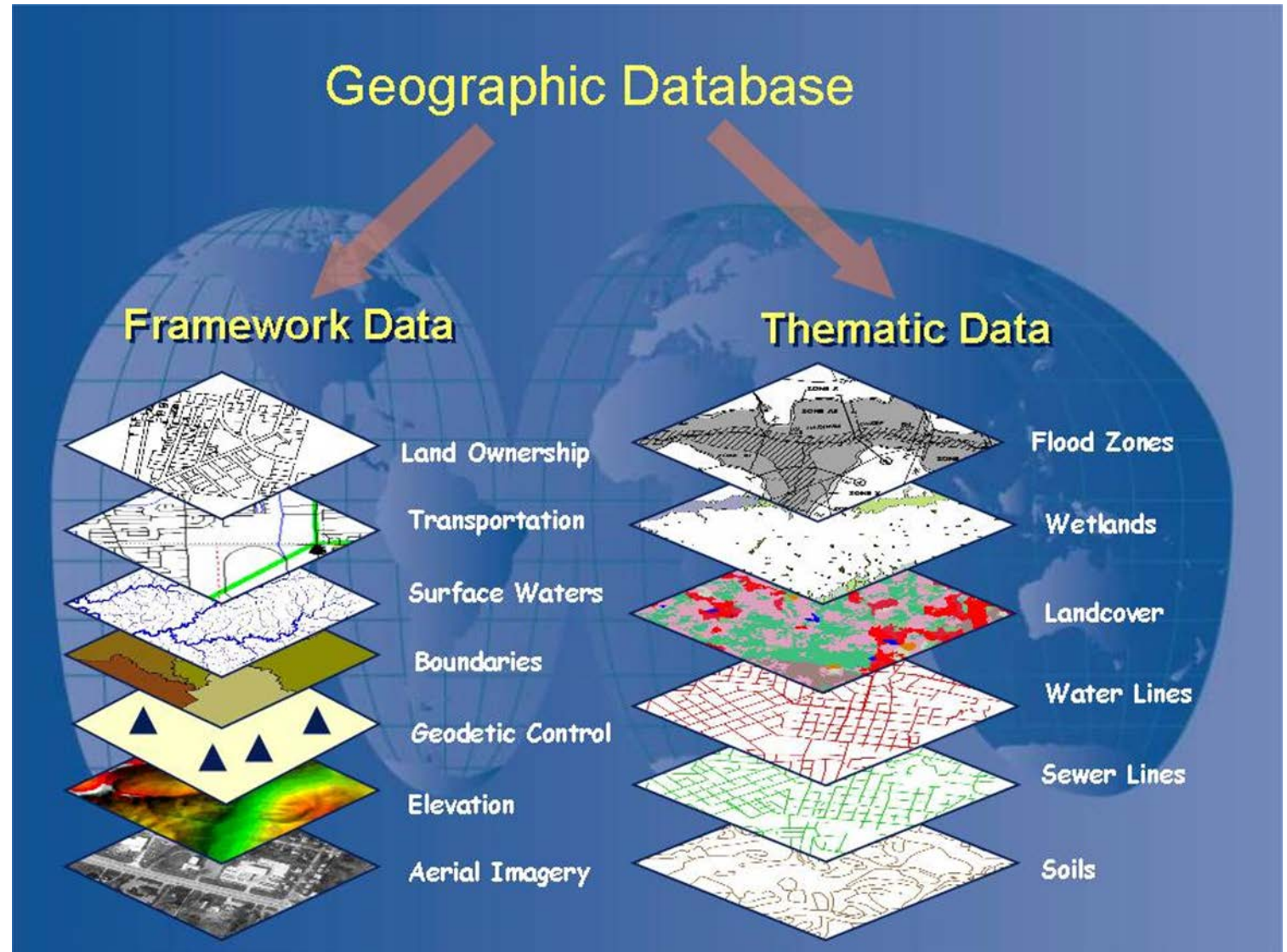
Locations in Earth space–time is recorded as dates/times of occurrence, and x, y, and z coordinates representing, longitude, latitude, and elevation, respectively.

Earth-based spatial–temporal location and extent references should, ideally, be relatable to one another and ultimately to a real physical location or extent in space–time.

Geographical information system (GIS) is a system designed to capture, store, manipulate, analyze, manage, and present all types of spatial or geographical data.

Functions of GIS

1. Input
2. Manipulation of data
3. Management
4. Query and analysis,
5. Visualization



Monitoring Wells

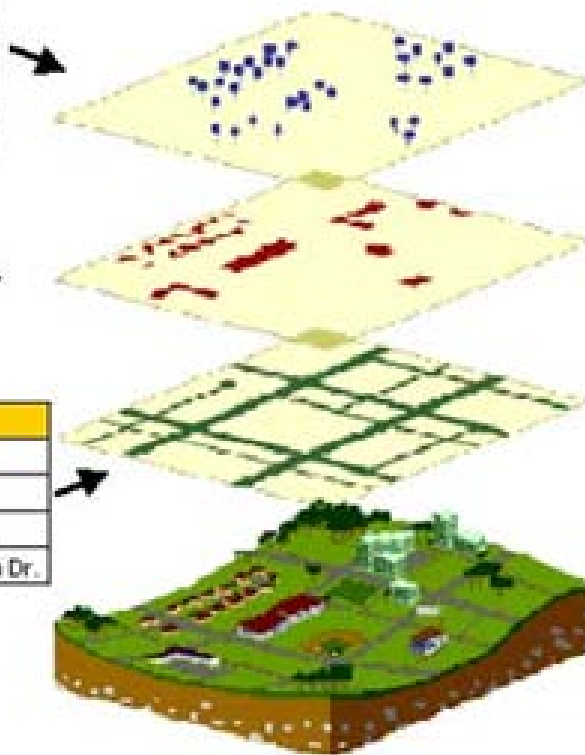
Well ID	Date Sampled	Concentration
C-6A	5/8/94	300
C-8A	5/8/94	20
C-13A	5/8/94	120
C-17A	5/8/94	560

Industries

Facility	Address
Acme	3029 Convington Dr.
Fox	742 West Lake St.
TPC	90 Aspen Dr.

Population

Family Name	Occupants	Address
Blake	6	79 Circuit St.
Hernandez	2	148 Plain St.
Joy	4	18 Webster St.
Smith	5	4321 Tecumseh Dr.



Data source

Street data



Buildings data



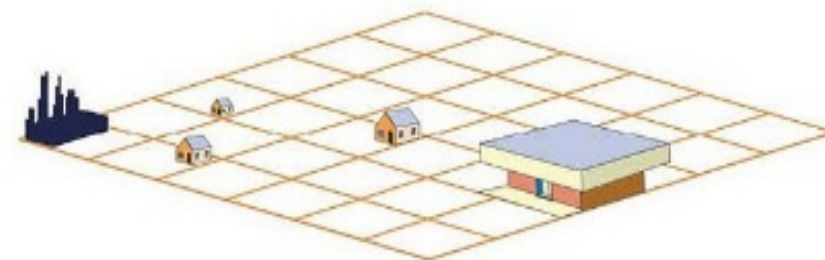
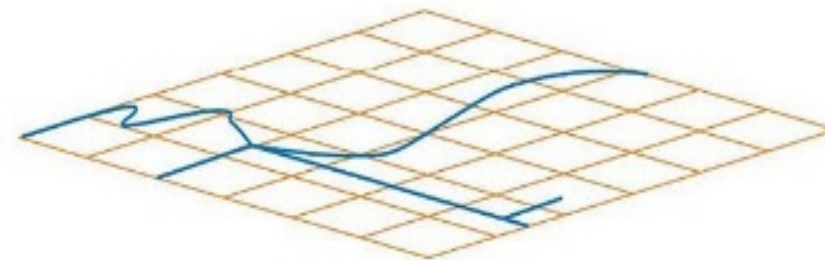
Vegetation data



Integrated data



Data layers



Source: GAO

- Desktop GIS is a mapping software that needs to be installed onto and runs on a personal computer.
- WebGIS, are online GIS applications which in most cases are excellent data visualisation tools.
- Geobrowser (Google Earth) is an internet browser that allows the combination of spatially referenced geographic data from many different sources.