

MODE OF GIS (HOW GIS WORKS)

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1. Geographic reference
2. Geographic models
3. Six essential approaches of tasks

Geographic reference

- Geographic information contains either an explicit geographic reference, such as a latitude and a longitude or national grid coordinate or an implicit reference such as an address, postal code, road name etc.
- A process called geocoding is used to create explicit geographic reference from implicit references

Geographic models

- GIS works with two fundamentally different types of geographic models- vector and raster
- Hybrid model (integration of vector and raster model) is also used to work with GIS

Approaches

1. Input of GIS data

- Entrance of georeference data into the system
- Before using, the georeference data must be converted into a suitable digital format

2. Manipulation

- The spatial data needs to be manipulated (weeding out unnecessary data) in some way to make them compatible with the system

3. Management

- A DBMS (software) is used to store, organize and manage data when data volume becomes large
- Relational design of DBMS is very much common among others (data stored as a collection of tables and linked through using common field)

4. Query

- To ask simple question like
- How far is it between two places?
- Where is land zoned for industrial use?

5. Analysis

- Analytical question: Where are all the ponds suitable for tilapia culture?
- Proximity analysis: How many ponds lie within 100 meter of the THQ?
- Overlay analysis: integration of different data layers (soil, slope, vegetable, land ownership etc.)

6. Visualization/output

- The end product of GIS operation shown/visualized as a map or graph with table, report, 3-dimensional views, photographic images and other output such as multimedia