

Major components of GIS

Dr. Md. Akhtar Hossain
Professor
Department of Fisheries, University of Rajshahi

- A working GIS integrates five key components : hardware, software, data, people (user), and methods

1. Hardware:

- Hardware is the computer on which a GIS operates

2. Software:

- GIS software provides the functions and tools needed to store, analyze and display geographic information
- Key software components are :
 - tools for the input and manipulation of geographic information
 - a database management system(DBMS)
 - tools that support geographic query, analysis and visualization
 - a graphical user interface (GUI) for easy access to tools

3. Data:

- Possibly the most important component of GIS is the data.
- Geographic data and related tabular data can be collected in-house or purchased from a commercial data provider
- Different steps of data capture : aerial photography, remote sensing, GPS, digitizing, scanning

4. People (user):

- GIS technology is of limited value without the people who manage the system and develop plans for applying it to real world problems
- Users range from technical specialists who design and maintain the system to those who use it to help them perform their everyday work

5. Methods:

- A successful GIS operates according to a well designed plan and business rules, which are the models and operating practices unique to each organization