

Making Maps Using QGIS

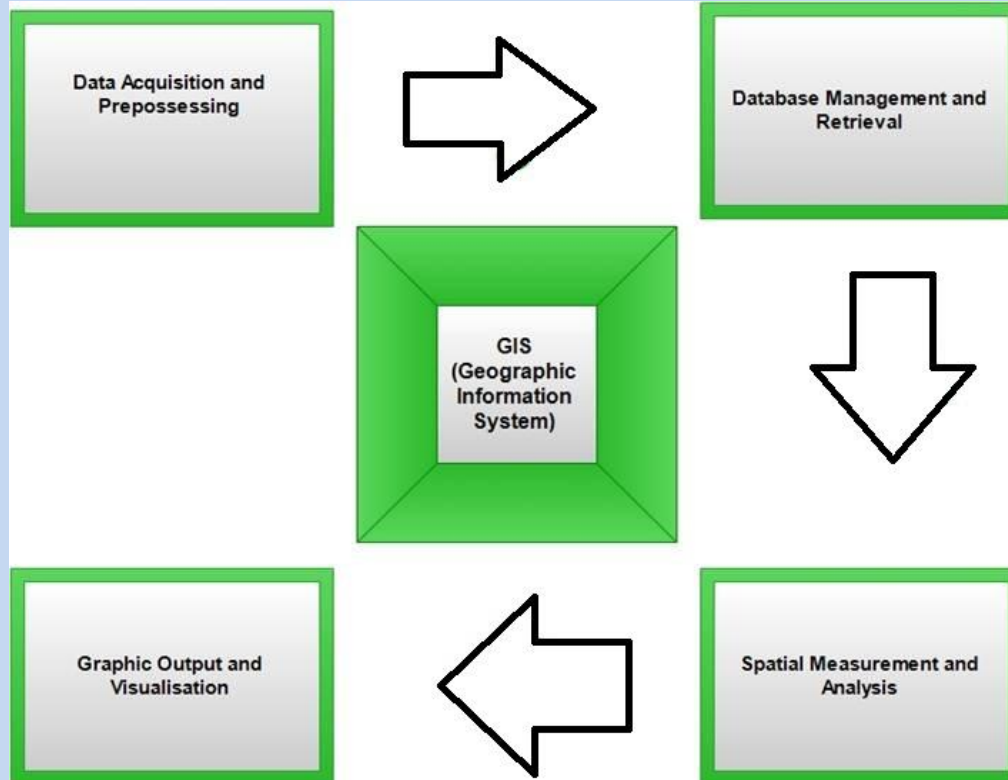
Presented by

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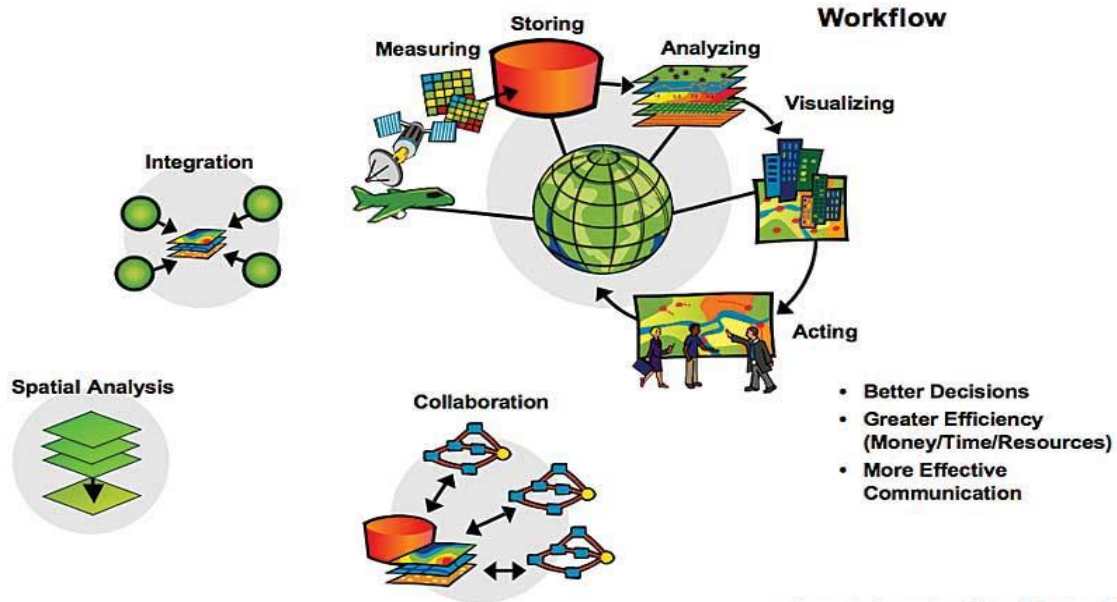
CIET, NCERT

Concept and Approaches of GIS



GIS Applies the Geographic Approach

Providing Tools, Methods, and Workflows That Support Collaboration and Action



Improving the Way We Do Things

Source: ESRI

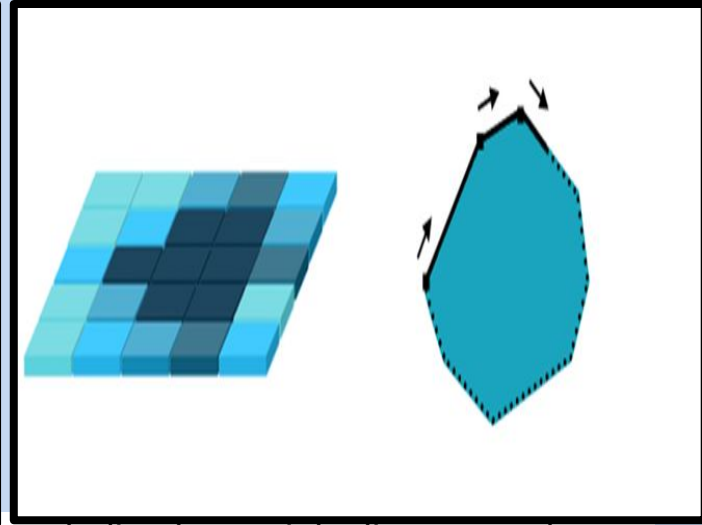
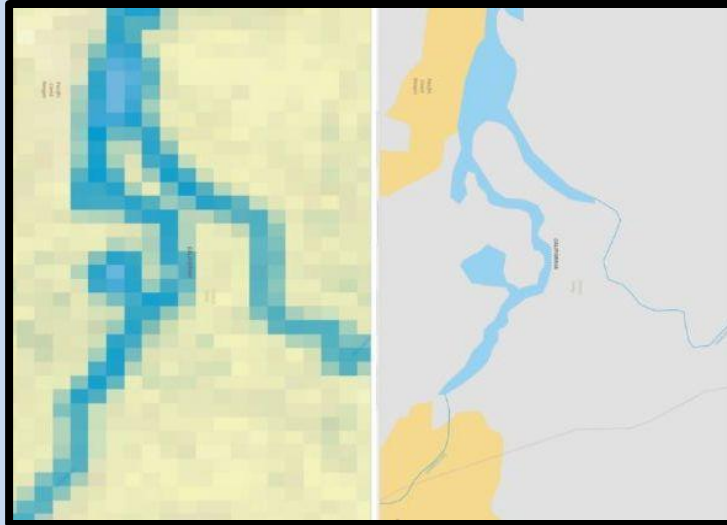
Related Basic Terms and Concepts

- ❖ Digitizing: Conversion of existing maps from paper to digital form
- ❖ Georeferencing: Georeferencing is the process of assigning locations to geographical objects within a geographic frame of reference (Projection)
- ❖ Map Layer: A map layer is a slice or stratum containing groups of point, line, or area (polygon) features representing a particular class or type of real-world entities
- ❖ Projection: A method by which the curved surface of the earth is portrayed on a flat surface..... WGS84 and UTM

Related Basic Terms and Concepts

- ❖ Shapefile (or .shp.): This is the most common file-type for spatial data. This is a vector data storage format for storing the location, shape, and attributes of geographic features.
- ❖ Digital Elevation Models (DEMs): Representation of the bare ground topographic. It creates topographic maps of overland terrain and bathymetric maps using raster data.
- ❖ Vegetation Cover: NDVI (Data: Landsat 8-9; Resourcesat-2 LISS- III)

Data Type in GIS: Raster and Vector



- ❑ Vector data represents geographic data symbolized as points, lines, or polygons
- ❑ Raster data represents geographic data as a matrix (equally sized cells arranged in rows and columns) of *Cells* or *Pixels* that each contains an attribute value

QGIS

- ❖ About QGIS (Quantum GIS): It is a free and open-source cross-platform GIS application that supports viewing, editing, printing, and analysis of geospatial data
- ❖ What does QGIS support: Shapefiles, Personal geodatabases, dxf, MapInfo, PostGIS, and Web services (plug in)
- ❖ QGIS available for: Mac OS, Linux, Unix, and Microsoft Windows
- ❖ QGIS Usage: Analyze and edit spatial information, composing and exporting graphical maps

Topics to Cover

- Creating and Modifying a Vector Data Layer
- Adding Existing Layer (vector dataset)
- Symbology for different features (single/categorised) and Labeling
- Downloading of Raster Data: Satellite Images from Bhuvan Data Archive
- Adding Different Raster Data layers
- Analysis and Visualisation of Physical Geographical Features in Raster data

Thank You
For Your Attention