

GIS SIMPLIFIED

Online QGIS Training for NIMC Personnel

Thursday, June 4, 2020

10:00AM – 1:30PM

By

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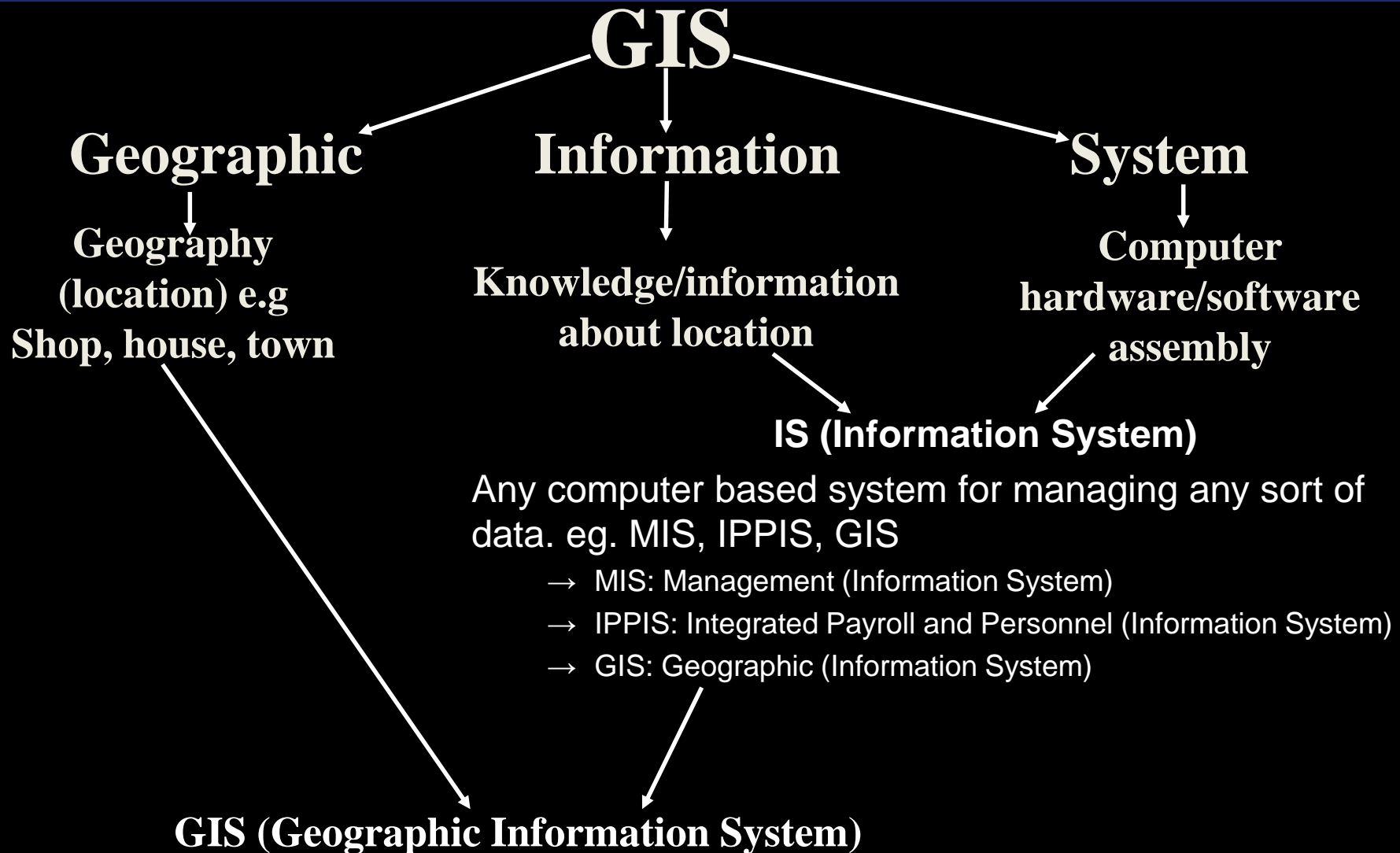
PRESENTATION OBJECTIVES

- ❖ Explain the meaning of GIS
- ❖ Breakdown the basic concept of GIS
- ❖ Increase participants awareness on GIS
- ❖ Arouse participants interest on GIS

PRESENTATION OUTLINE

- **What is GIS**
- **What is a Map**
- **Defining Location**
- **Components of GIS**
- **Functions of GIS**
- **Uses of GIS**

What is GIS?



A specific information system design to deal with information associated with location relative to the Earth (ISO/TC 211, 2016)

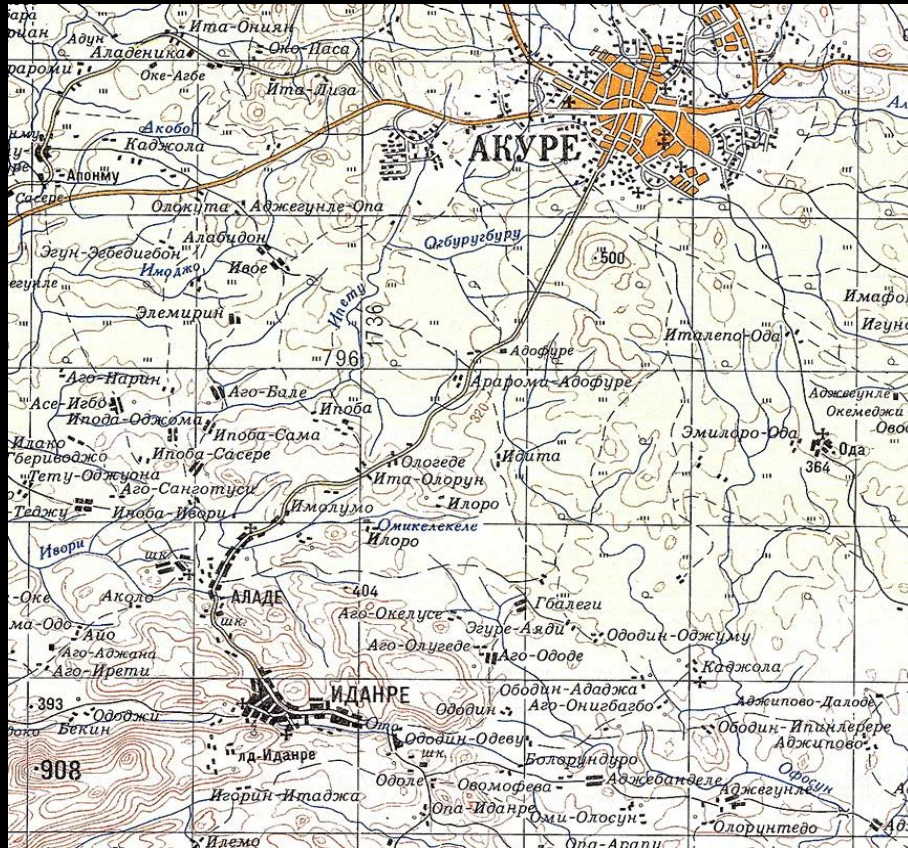
What is GIS? cont....

- It is a powerful set of tools for collecting, storing, retrieving at will, transforming, and displaying geographic data from the real world for a particular set of purposes (Burrough, 1986).
- it is a computerized tool for performing operations on geographic data with a view to reveal what is otherwise invisible in geographic information (Longley *et al*, 2005) .
- It is a computer-based system that provides capabilities such as **data capture and preparation; data management, including storage and maintenance; data manipulation and analysis; data presentation** to handle geographic data (Aronoff, 1989)
- ❖ However, before the advent of GIS, **maps** are the basic tools for managing geographic information and are still:
 - Important sources of data for GIS
 - Means for presenting GIS result

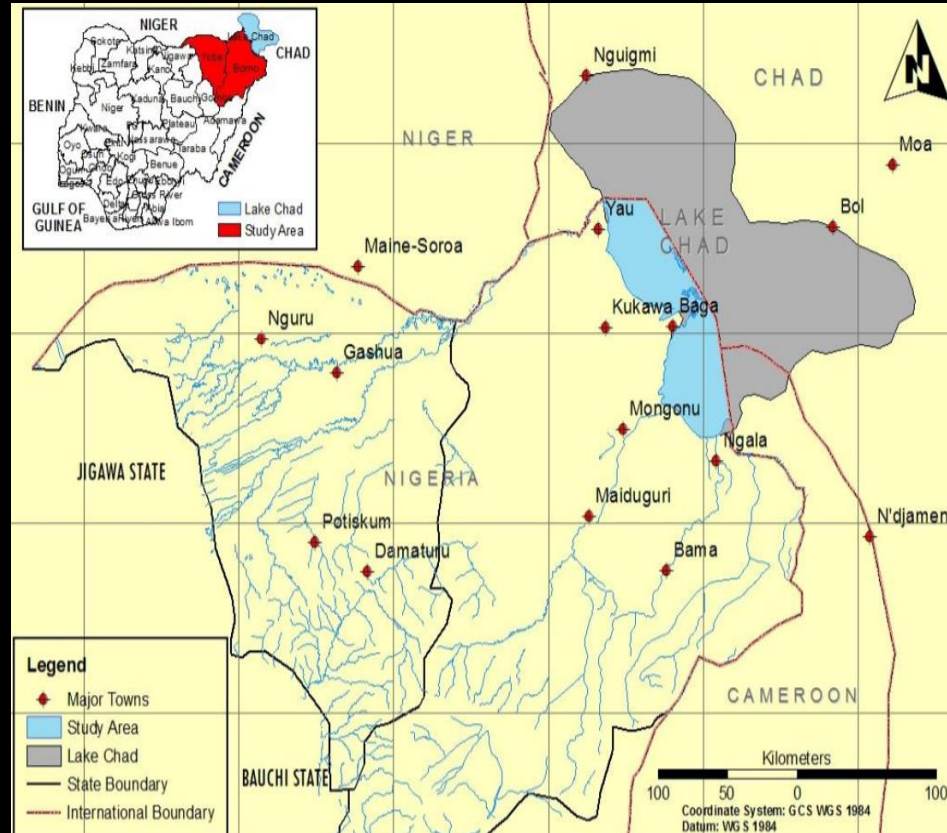
What then is a map?

Map -a representation **to scale** on a 2D surface of features on the surface of the Earth (ICA).

Topographic map



Thematic map

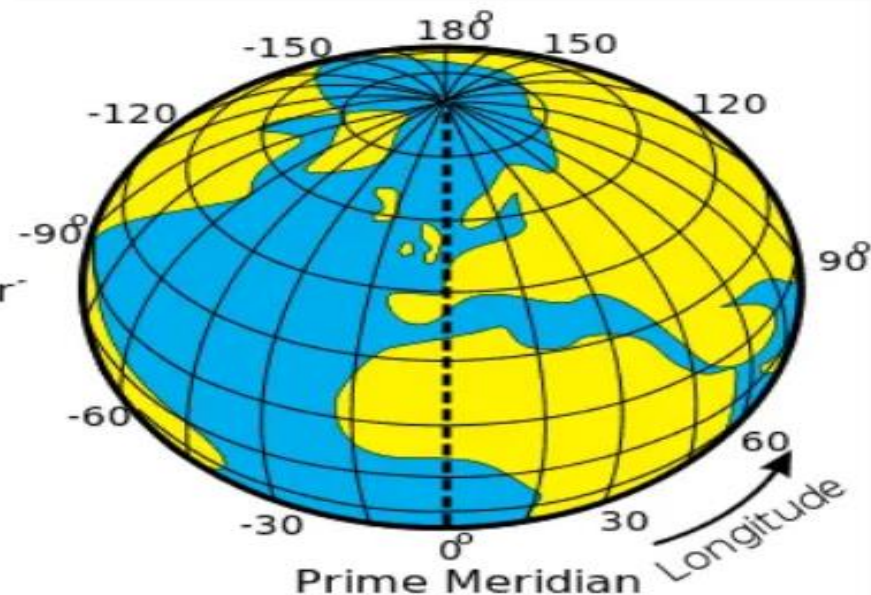
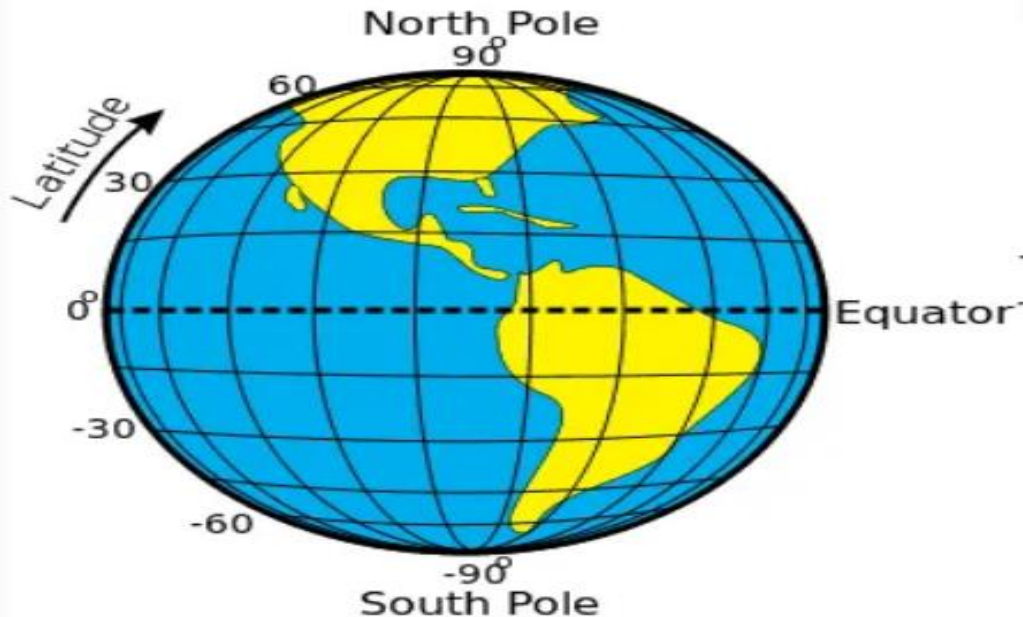


❖ Note: **location** is what makes data or information geographic that can be managed with GIS or map.

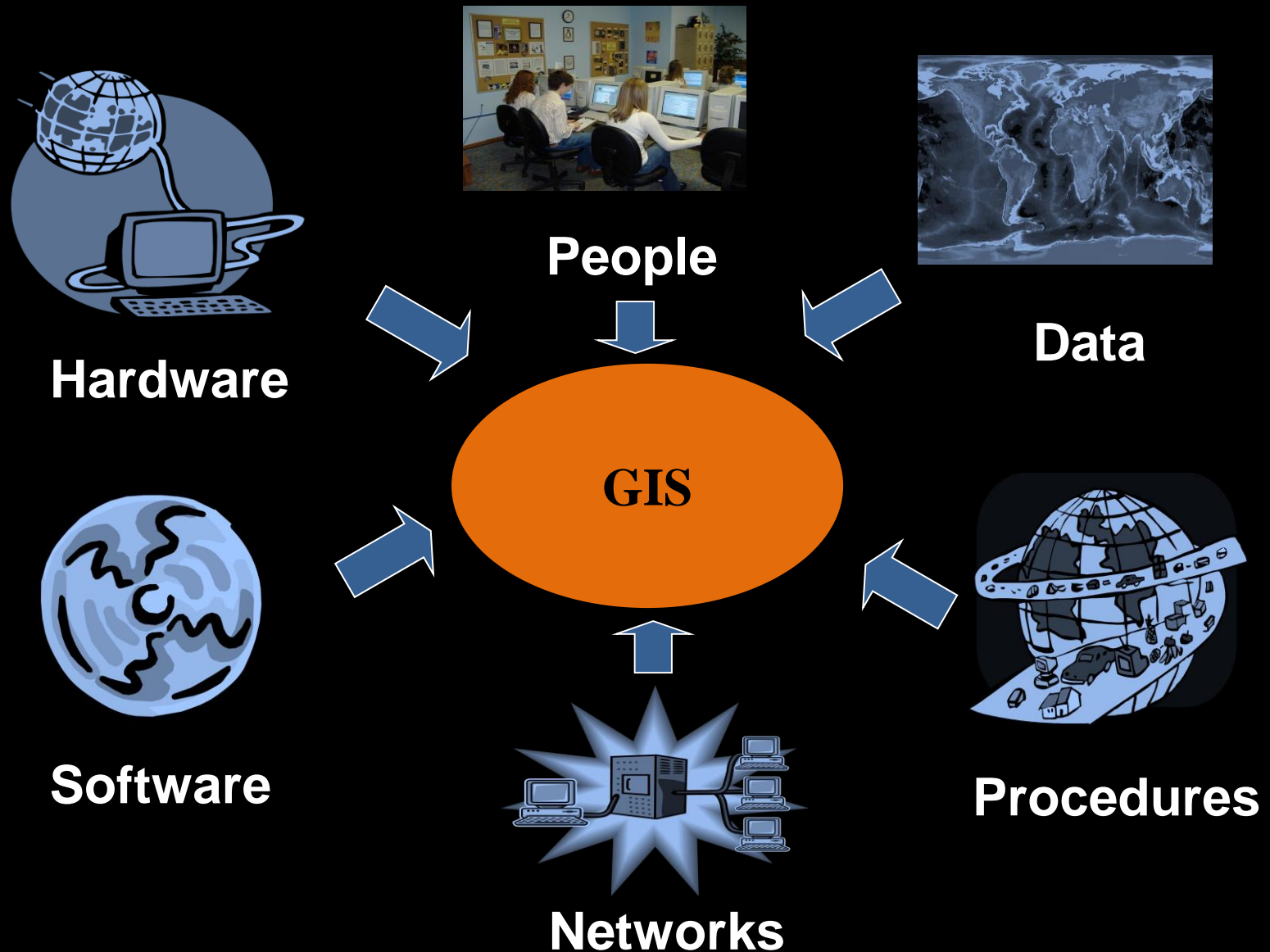
Defining Location

Location -identifiable geographic place (ISO/TC 211, 2016).

- location can be describe in one of two ways: **absolute** and **relative** location.
- Relative location: describing location with respect to other locations. e.g. in front of, 100meters north-east of etc.
- Absolute location: location based on a fixed point on earth. The framework for defining absolute location is intersection of **latitude** and **longitude** (abstract network of imaginary lines on the globe framework). e.g. $38^{\circ} 53' 35''$ N, $77^{\circ} 00' 32''$ E



Components of GIS



Functions of GIS

- ❖ Capturing data
- ❖ Storing data
- ❖ Querying data/information
- ❖ Analysing data
- ❖ Displaying information
- ❖ Sharing data

Uses of GIS

What can I do with GIS?

- ❖ **Mapping:** scale modeling of the earth surface for inventory, analysis and communication
- ❖ **Measurement:** extracting distances, directions and areas
- ❖ **Monitoring:** accessing information spatially and temporally
- ❖ **Modelling:** assembling the data housed in the hardware in an organized and analytical manner in the software for ‘knowledge’ extraction
- ❖ **Management:** the creation, deletion, storage, organization, updating and archiving of data

**THANK YOU
FOR
LISTENING**