

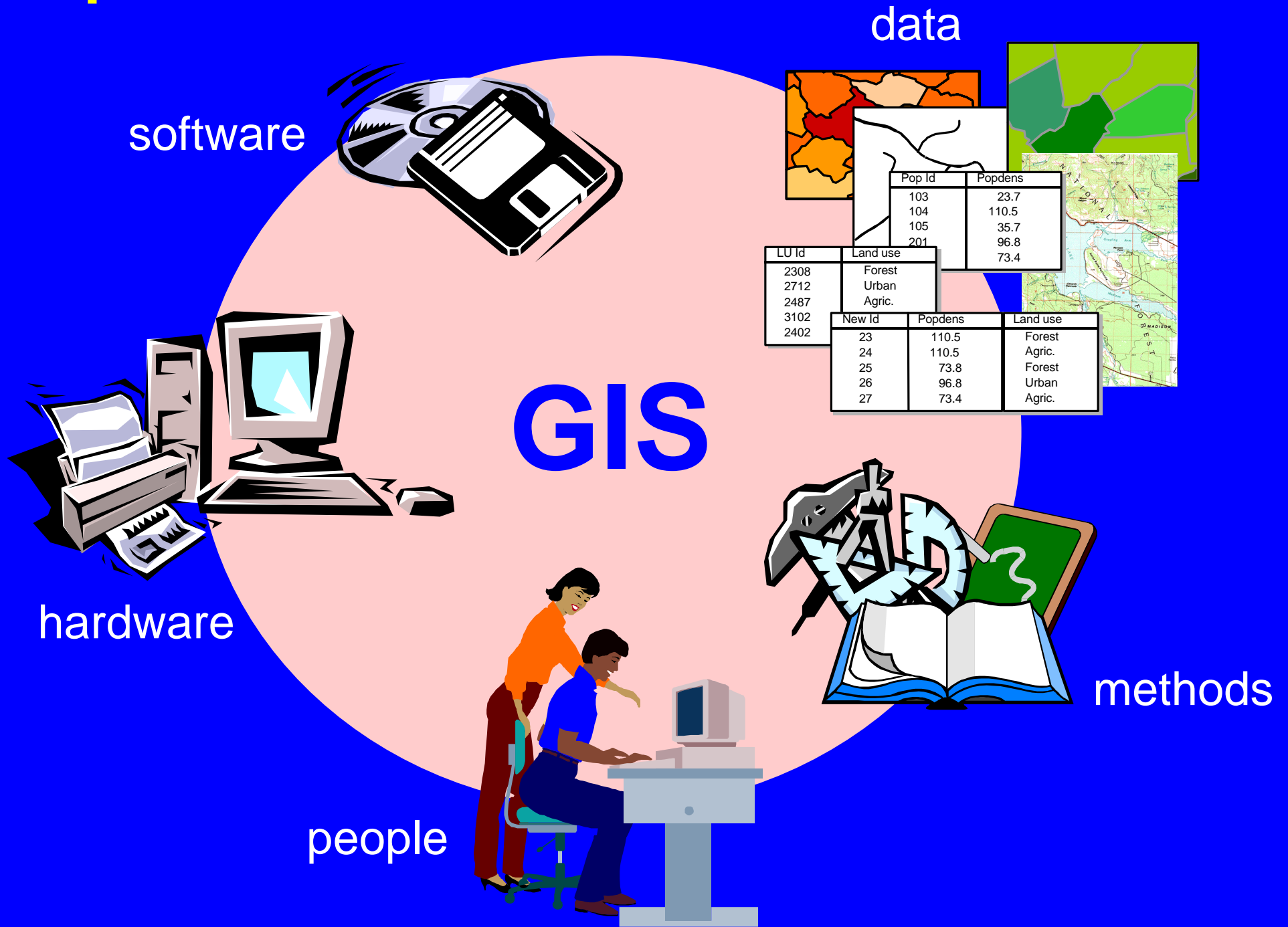
# **Geographic information systems for census data utilization**

**What is GIS?**

# What is GIS?

- a computer system that handles geographic data
- a class of software
- a database containing spatial information
- an application combining software, hardware, data, methods and people to solve problems

# Components of a GIS?



# What is GIS?

a system of hardware, software and procedures designed to support the **capture, management, manipulation, analysis, modeling** and **display** of spatially referenced data for solving complex planning, management and research problems

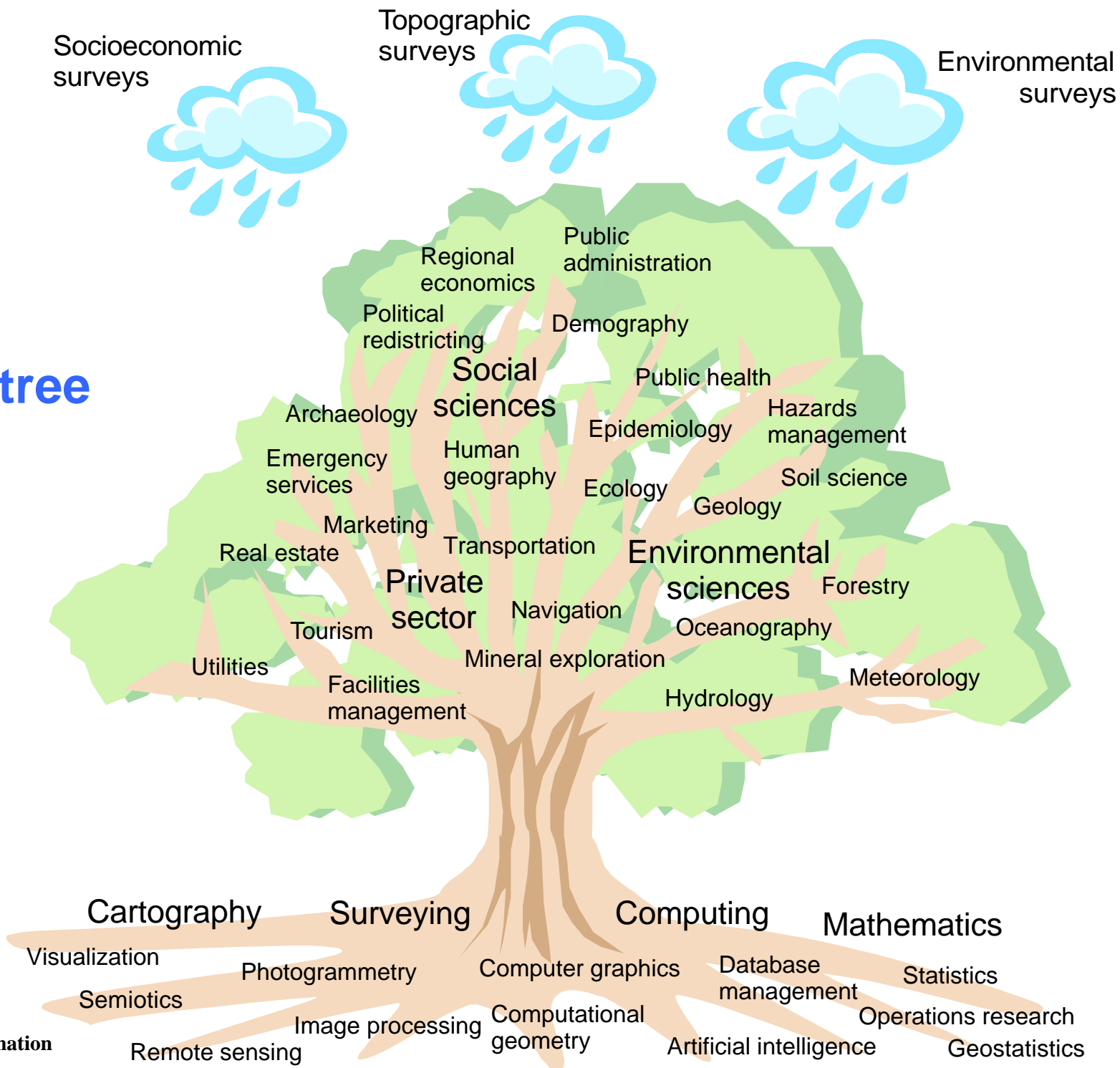
# Origins of GIS

- **Ian McHarg: “Design with Nature”**
  - manual integration of maps
- **spatial analysis pioneers in geography**
  - Hagerstrand’s innovation diffusion
  - Tobler’s computerized cartography
- **Canada Geographic Information System (CGIS)**
  - 1960s
- **Harvard School of Design**
  - software development -> ESRI, Erdas

# The GIS tree

- **The roots provide the technical foundations**
- **The branches represent the diverse applications of GIS**
- **The rain clouds yield the data that allows GIS applications to grow**

# The GIS tree



adapted from:  
C.B. Jones, Geographical information systems and computer graphics, Longman, Harlow, UK.

# **GIS applications and census data**

- **Virtually every GIS application may require small area census data**
- **The need to work with census data had a significant influence on the development of GIS techniques and software**