This week, we will focus on data visualization and map design in GIS. Map design ensures that geographical information is presented effectively and clearly. In this course, we will cover map elements and symbols, thematic maps, map design and composition, use of color and visual hierarchy.

1. Map Elements and Symbols

Map elements and symbols are components that increase the readability and understandability of maps. Map elements form the basic elements of a map, while symbols provide visual representation of geographic data.

Map Elements

Title: Indicates the subject and purpose of the map.

North Arrow: Helps orient the map.

Scale: Shows the real world equivalents of the distances on the map.

Legend (Explanation Box): Explains the meanings of the symbols used on the map.

Source and Copyright: Contains the source and copyright information of the map.

symbols

Dot Symbols: Represent a specific location or feature.

Line Symbols: Represent linear features such as roads and rivers.

Area (Polygon) Symbols: Represent closed areas such as lakes, parks, countries.

Color and Patterns: Used to indicate different features of symbols.

2. Thematic Maps: Point, Line and Area Themed Maps

Thematic maps are maps that visualize a particular topic or theme. Thematic maps can be classified in different ways by data type:

Dot Themed Maps

Dot Density Maps: Dots are used to show the density of events within a given area.

Proportional Symbols Maps: Point symbols are scaled according to the size of the data they represent.

Line Themed Maps

Flow Maps: Lines are used to show movements such as transportation and migration.

Road Maps: Lines are used to show transportation networks.

Area (Polygon) Themed Maps

Choropleth Maps: Show different regions with different colors or patterns based on the value of a particular variable.

Isohips Maps: Equally spaced lines are used to show constantly changing data such as altitude and temperature.

3. Map Design and Composition

Map design is important for presenting geographical information effectively and understandably. A good map design should be balanced in terms of visual aesthetics and information transfer.

Map Composition

Balance: Balanced and harmonious placement of map elements.

Hierarchy: Making important information more prominent, leaving less important information in the background.

Clarity: The map should be easy to read and understand.

Focus: Emphasizing the main subject of the map.

Map Design Principles

Harmony: Ensuring harmony and integrity in the overall design of the map.

Contrast: Making the difference between different elements clear.

Attractiveness: The map should be interesting and eye-catching.

Simplicity: Purifying the map from unnecessary details.

4. Use of Color and Visual Hierarchy

The use of color and visual hierarchy are important elements of map design. Colors enable data to be presented in a more understandable and attractive way. Visual hierarchy refers to presenting information in order of priority.

Use of Color

Color Theory: Harmony and contrast of colors with each other.

Color Selection: Choosing colors appropriate to the purpose and theme of the map.

Color Scale: Using color scales according to the values ​​of the data.

Color Blindness: Selecting appropriate colors for users with color blindness.

Visual Hierarchy

Highlighting Important Information: Highlighting important information with larger, darker or more vibrant colors.

Background and Foreground: Less important information is in the background and important information is in the foreground.

Size and Shape of Symbols: Presenting information hierarchically using symbols of different sizes and shapes.