Types of Geospatial Information

Contents

Introduction

- There are many types of data that can be brought into GIS.
- The “type” introduced in this tutorial refers to the different data models that can usually be discovered from a geodata portal or other data portal sites. Or, the data models that GIS professionals usually use to collect and share information.
- It doesn’t refer to the topic, content, or the purpose of the information, the information source, or any other aspects.
- BTAA Geoportal Project Glossary of Terms https://sites.google.com/umn.edu/btaa-gdp/about/project-documents/glossary

Geospatial Information Types

- GIS data are usually stored in one of the following data models
- Vector

- Raster
- Tabular
- Geospatial information can be found from scanned maps
- GIS data can be hosted online using web services

Vector	Web Services
Raster	
Tabular	
Scanned Map	

Vector Data

Vector	Web Services
Raster	
Tabular	
Scanned Map	

- Vector data are comprised of vertices and lines (or arcs), represented explicitly in the form of XY coordinates.
- The 3 basic geometry types for vector data are:
- Points - XY coordinates
    - Example: cities, schools, incident locations
- Lines - connecting the points in a set order
    - Example: roads, streams
- Polygons - a set of points in a particular order and Close it (the 1st and last point are the same)
    - Example: a state, county, or census block
- Most GIS applications do not allow mixed geometry type In a single layer

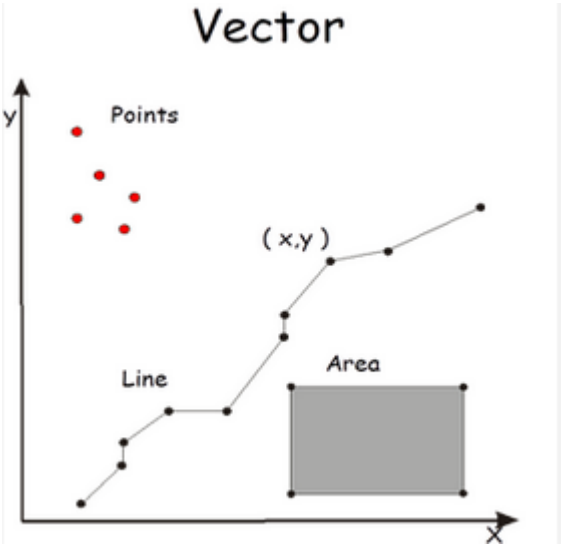

Figure 01. Vector Data Types *Used by permission of Paul Bolstad, GIS Fundamentals

- Each vector feature has attribute data that describe it.

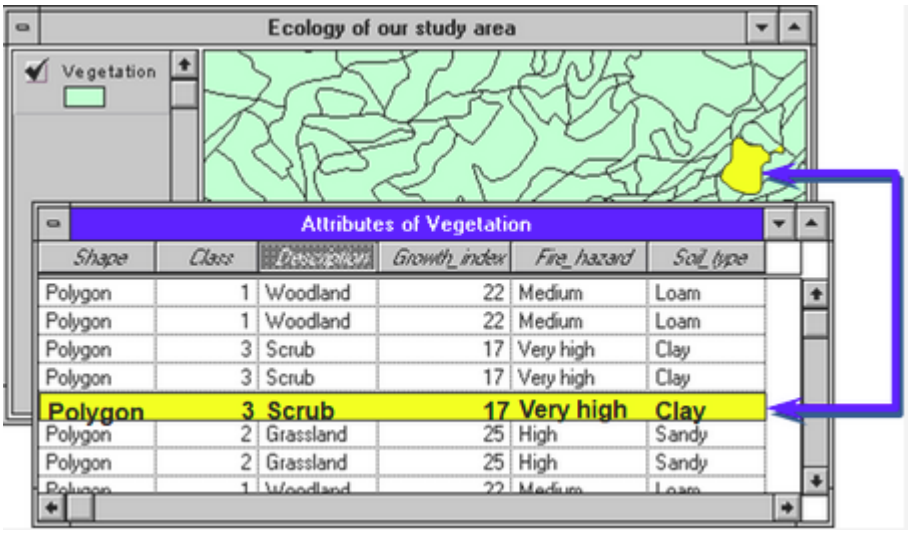

Figure 02. Attribute Data

- Vector data are usually saved as a shapefile or a feature class in a geodatabase (In Arc/Info (1980-1999), it can also be saved in coverage format).
- Vector symbology:

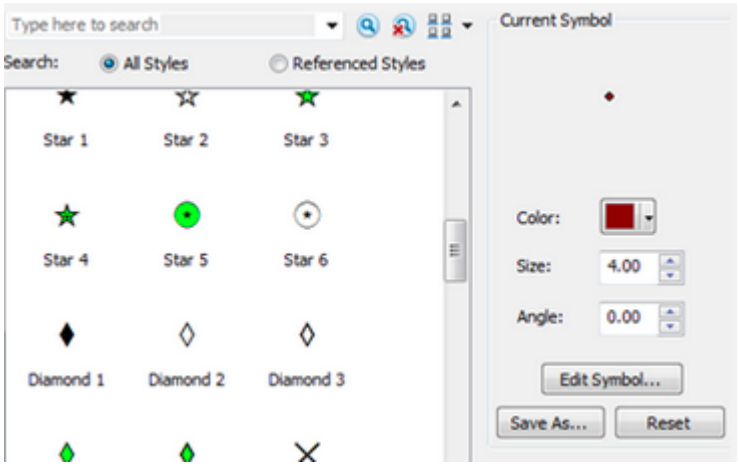

Figure 03. Single Symbol

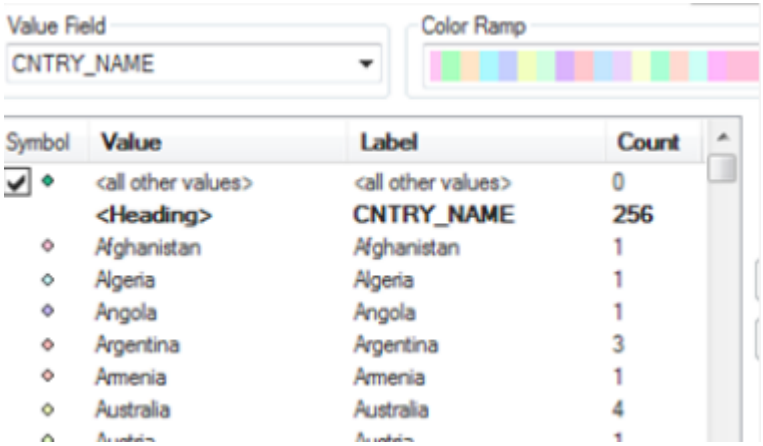

Figure 04. Categorical Symbol

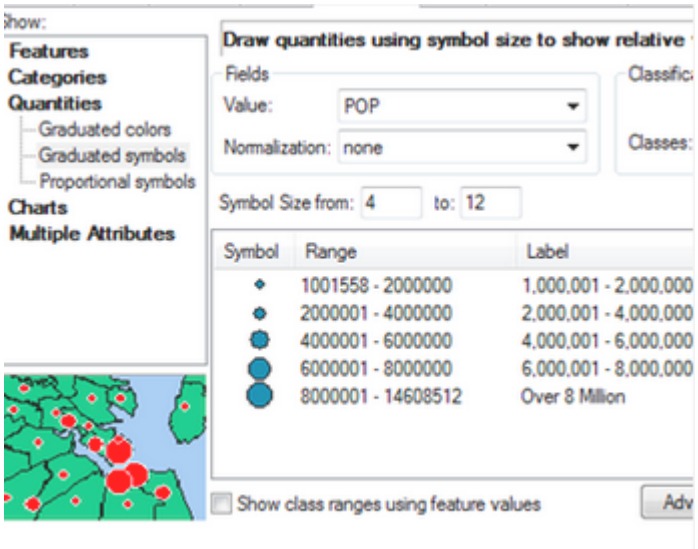

Figure 05. Quantitative Symbol

Raster Data

Vector vs. Raster

Tabular Data

Scanned Maps

Web Services - GIS

How to Find These Data in the BTAA Geoportal

Search by Resource Class

Related Resources

Exercise

Wrapping Up