

Introduction to GIS

What is GIS?

A **geographical information system** is a system designed to capture, store, manipulate, visualize and analyze geospatial data

Software and Tools



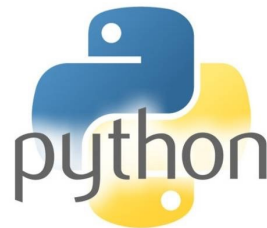
ArcGIS



GRASS GIS



QGIS

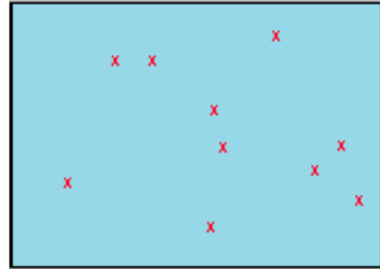


PostGIS



Geospatial Data

Vector



Points

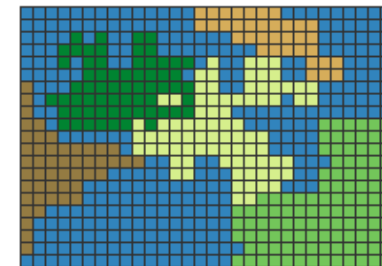
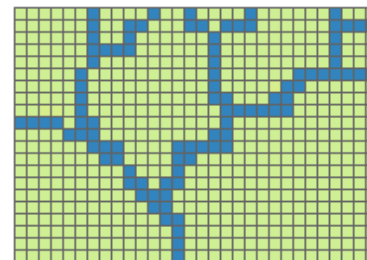
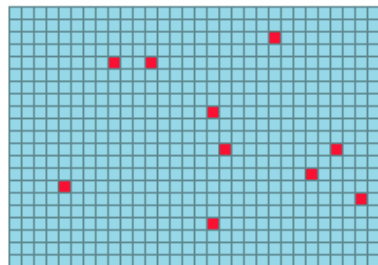


Lines



Polygons

Raster



Source: ESRI

Vector Formats

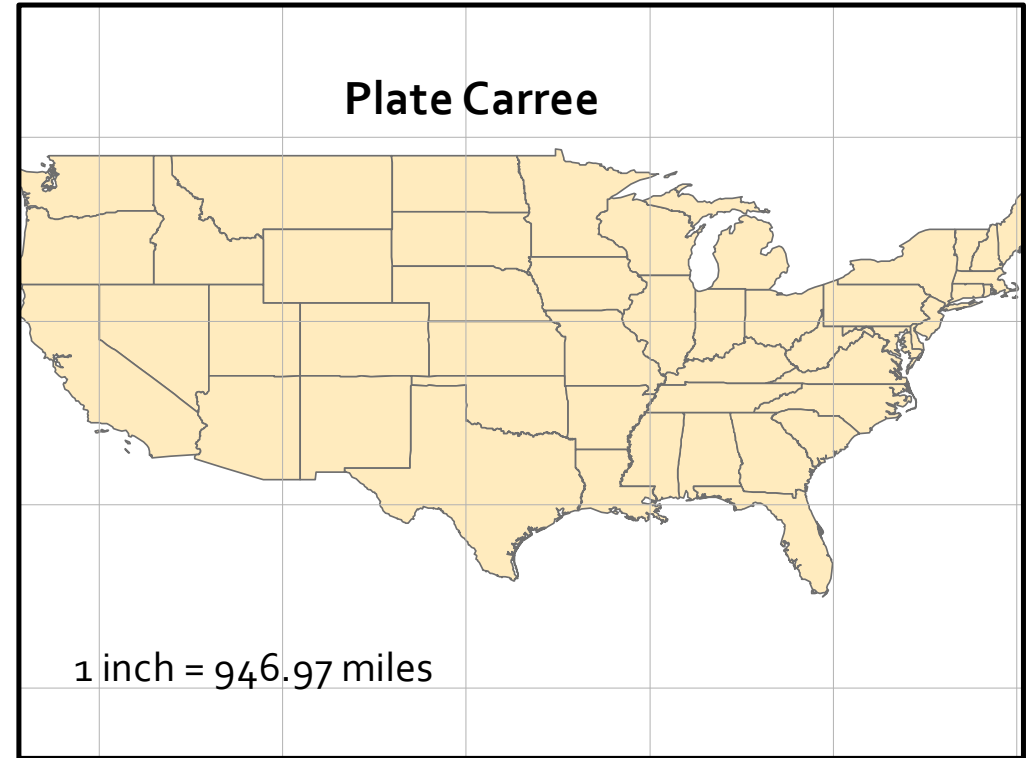
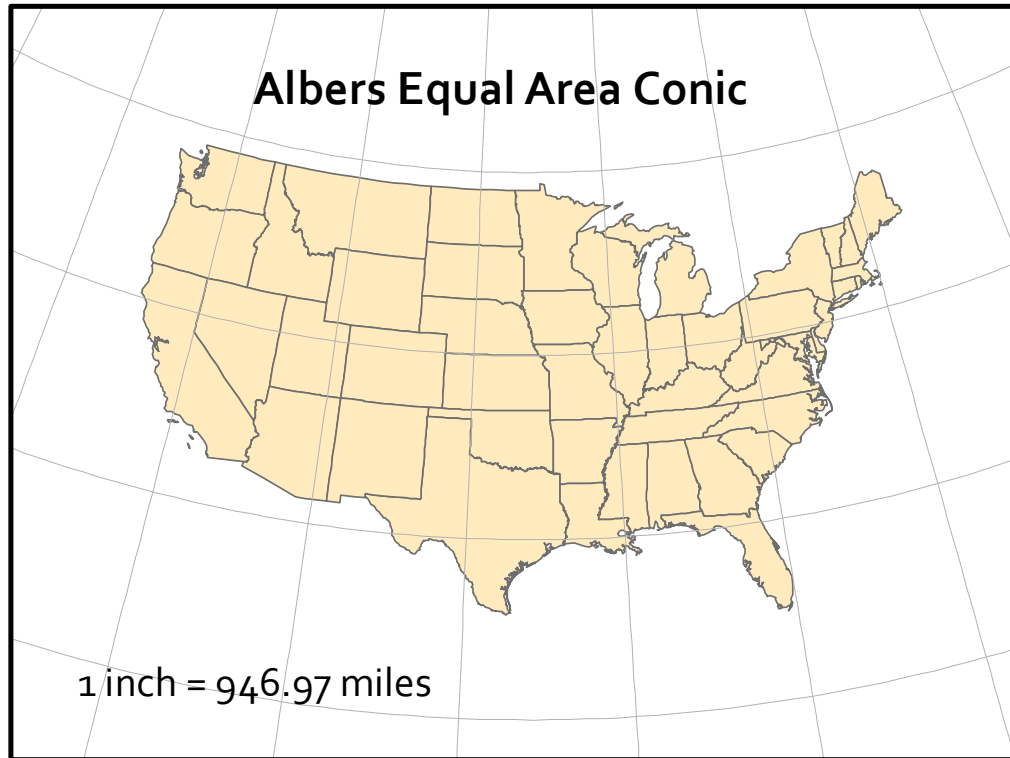
ESRI Shapefile:

- .shp: stores the feature geometry
- .shx: spatial index file
- .dbf: attribute table information



Other formats: GeoJSON, GeoPackage, KML, GML, etc.

Projections



Next Week...

- Choropleth Mapping
- Census Data and Joins
- Operations
- Point Data