

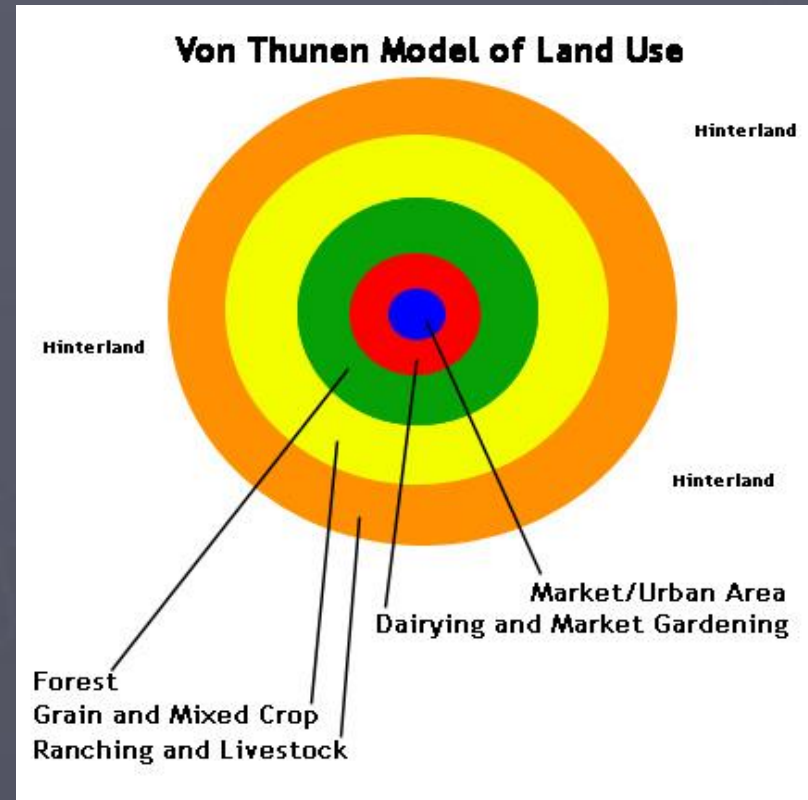
The Tools of the Geographer

Modern Tools in the Study of
Geography



Models

- Models are theories established by different geographers developed by geographers based on observations
 - Do not always work in all situations
 - Can be used to compare different areas



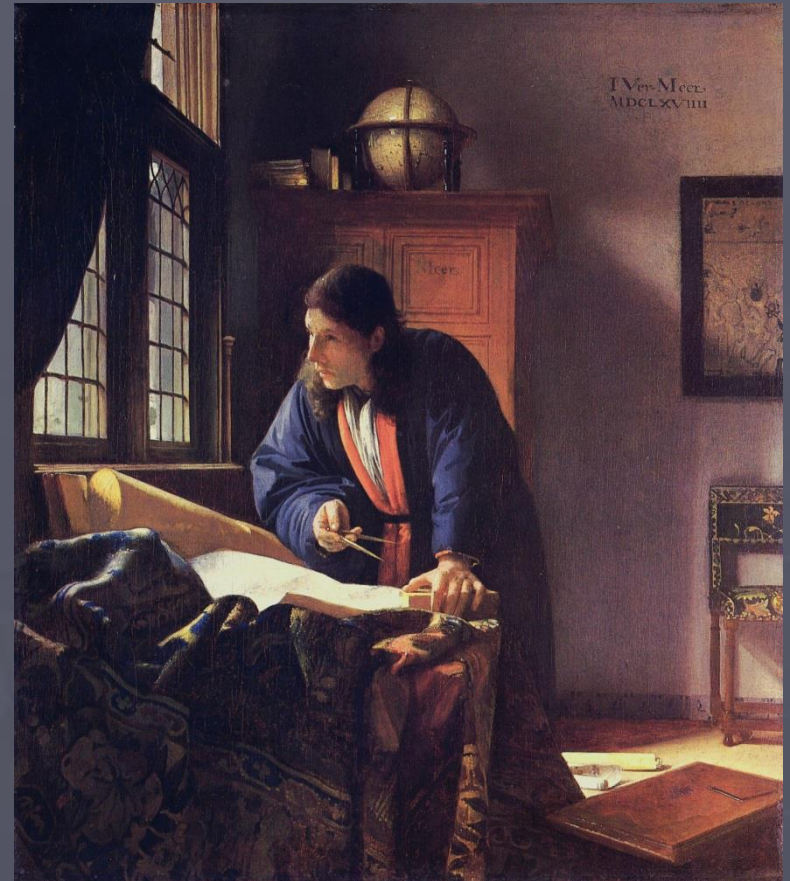
Patterns

- Geographers use different maps and models to look for **patterns**
 - Series of similarities or differences

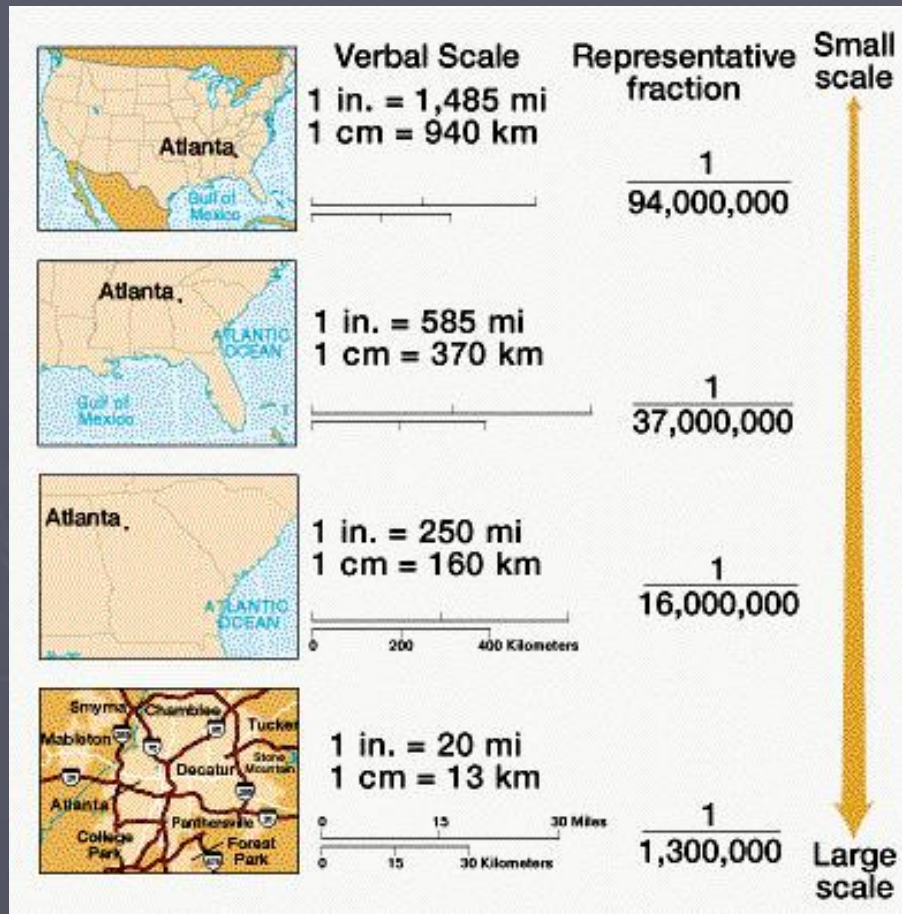


Cartography

- Cartography is The science of map-making
- Two reasons to use maps:
 - As a location reference guide
 - To find location of different places and objects
 - As a communications tool
 - To display and explain information

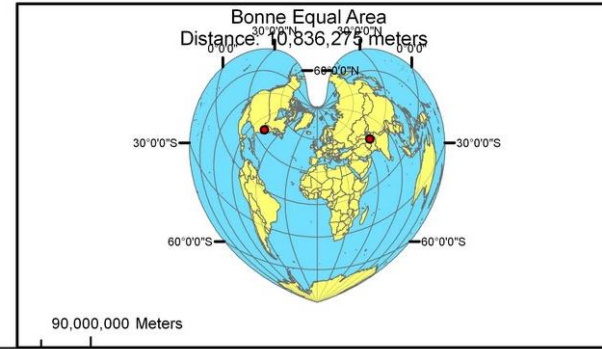
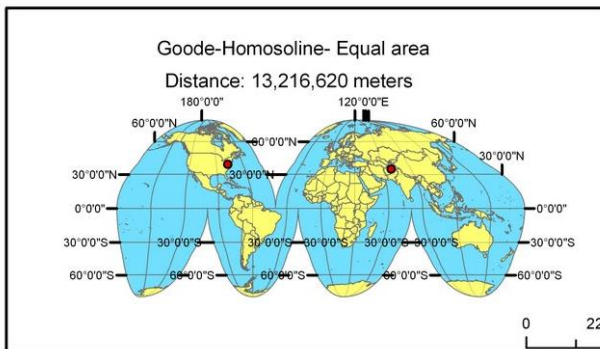
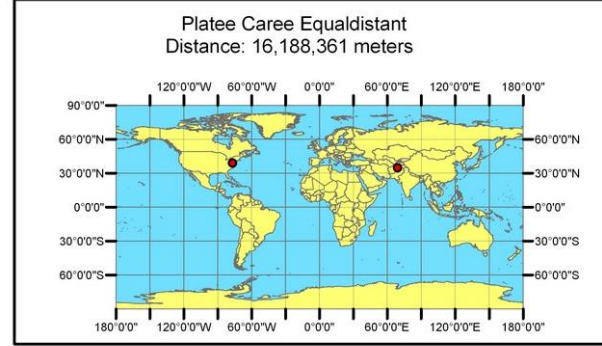
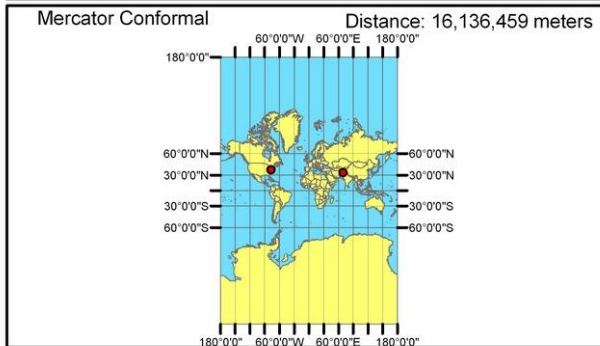
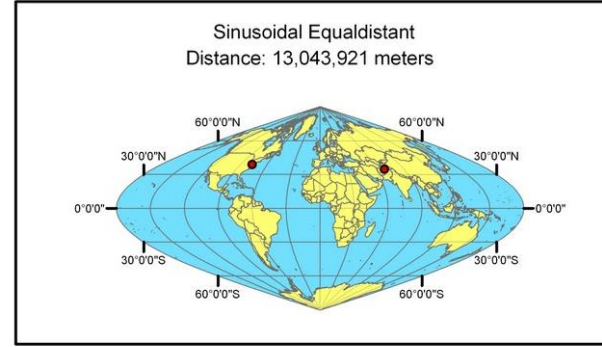
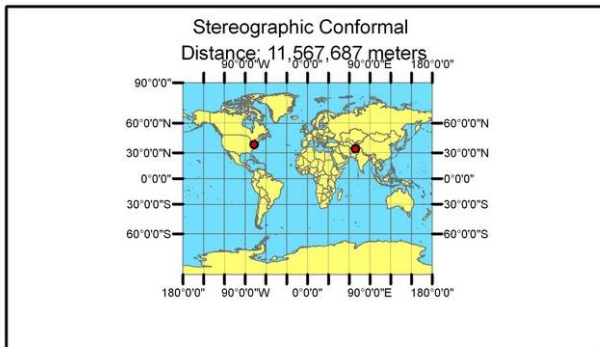


Principles of Cartography



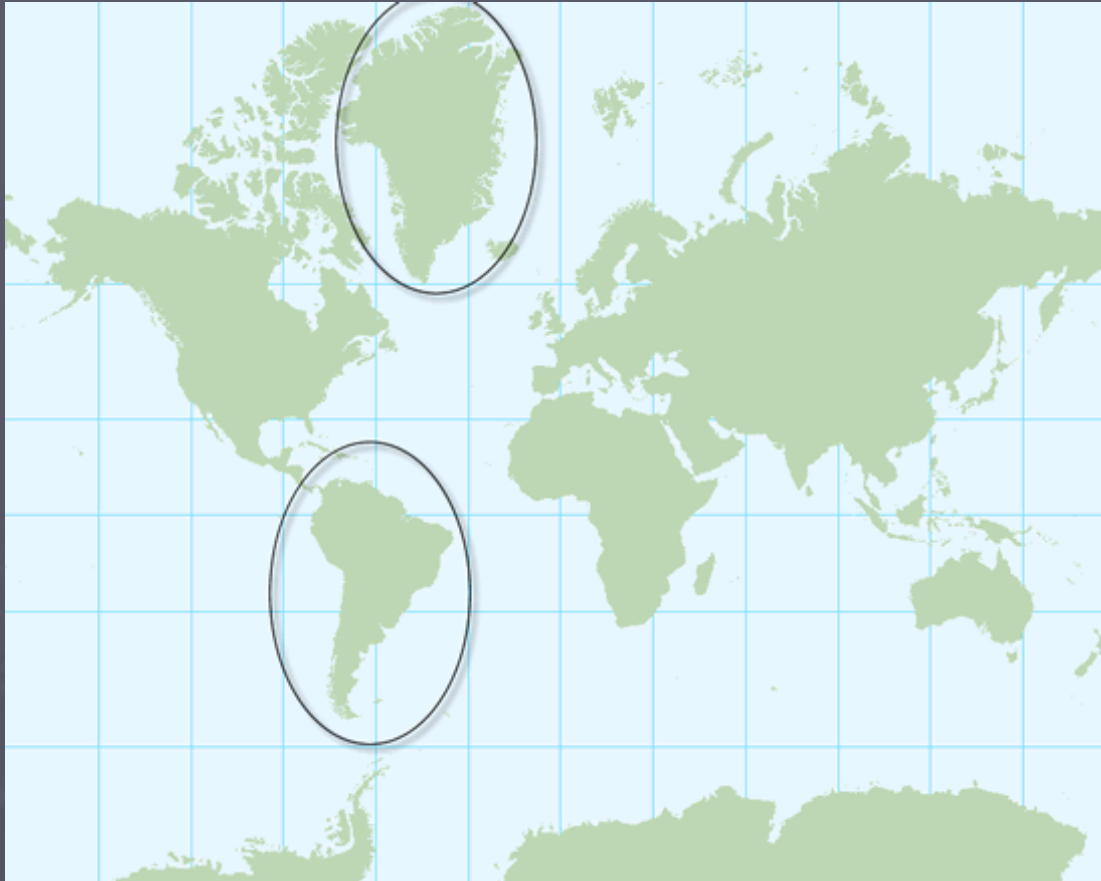
- Scale – Different levels of looking at the Earth
 - Ex. City, County, Region, Planet
- Projection – Different methods of displaying the spherical earth on flat maps
- Distortion – Changes in the size and shape of different land masses based on the projection

Types of Map Projections



0 22,500,000 45,000,000 90,000,000 Meters

Distortion Example



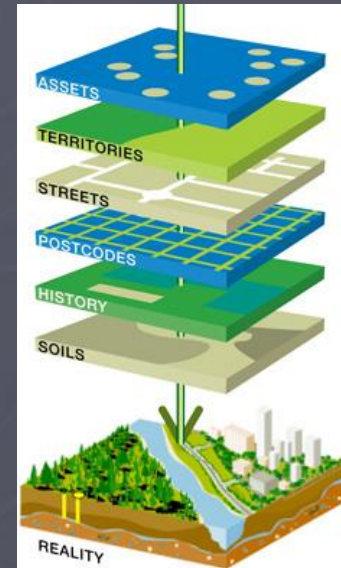
- Greenland's Area: 836,300 sq mi
- South America's Area: 6,888,000 sq mi

Modern Geographic Technologies

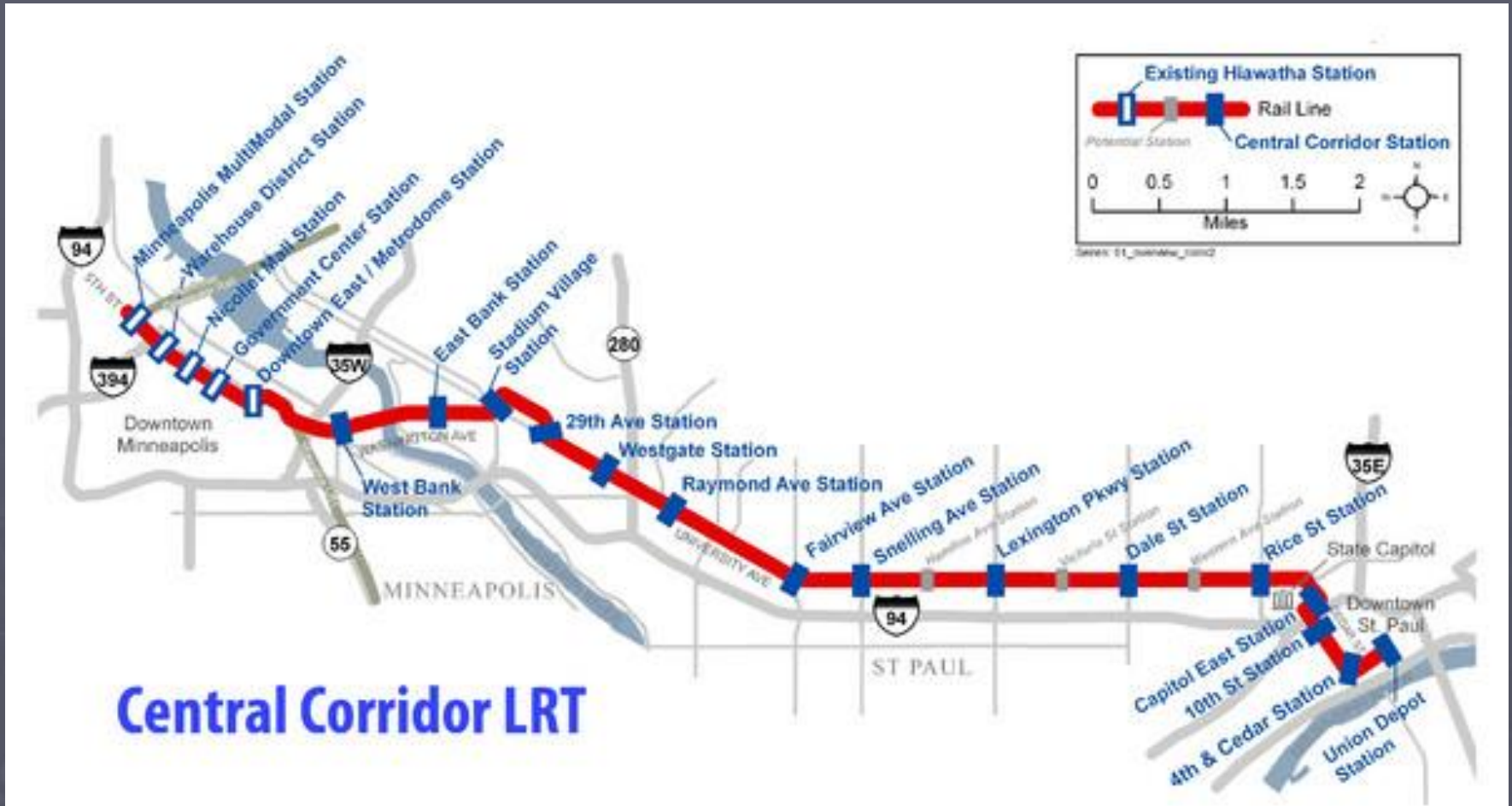
- GPS – Global Positioning System
 - Uses system of satellites to track specific Latitude and Longitude Coordinates



- GIS – Geographic Information Systems
 - Computer software used to capture, store, analyze, and display data



GIS Example



- The above map shows the relationship between street locations and the Green Line Light Rail in the Twin Cities