

The Tools of the Geographer

Maps and Modern Technologies



Patterns

- Geographers look for patterns.
- When they find similarities or differences between places, they ask why.

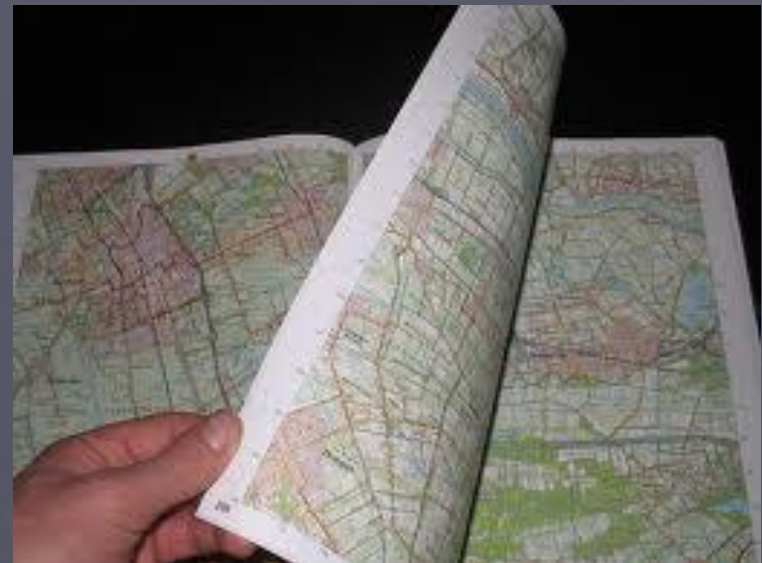


Geographic Concepts and Models



Cartography

- Definition: The science of map-making
- Two reasons to use maps:
 - As a reference tool (to keep us from getting lost)
 - As a communications tool (to explain where something is distributed)

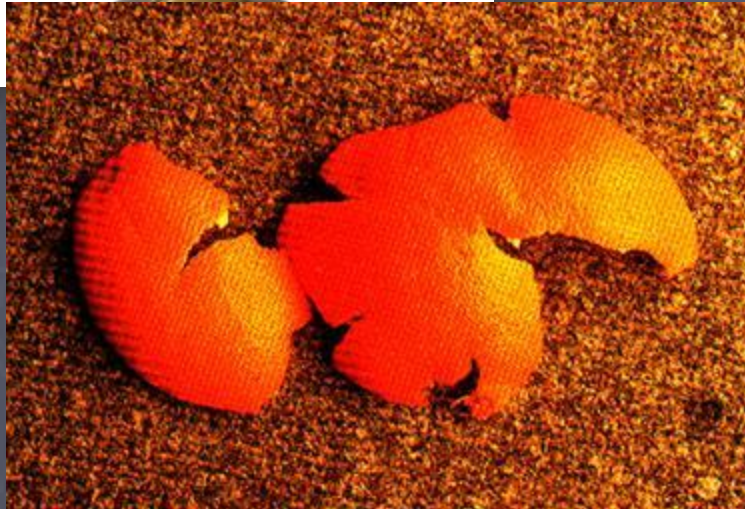


Map Scales

- Measured in three ways:
 - Ratio (ex. 1 inch=25,000 inches)
 - Written Scale (ex. 1 inch=50 miles)
 - Graphic Scale (ex. bar line – see picture on left)

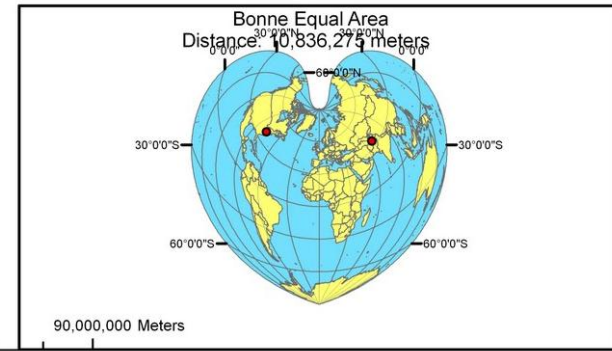
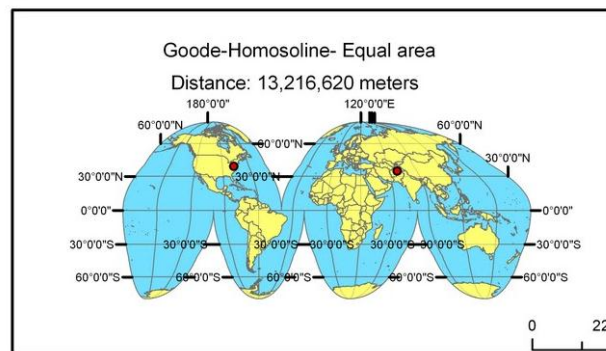
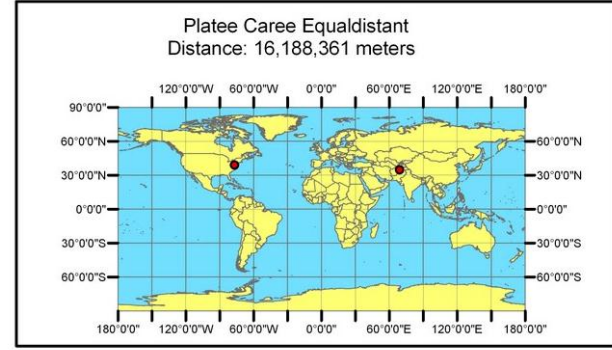
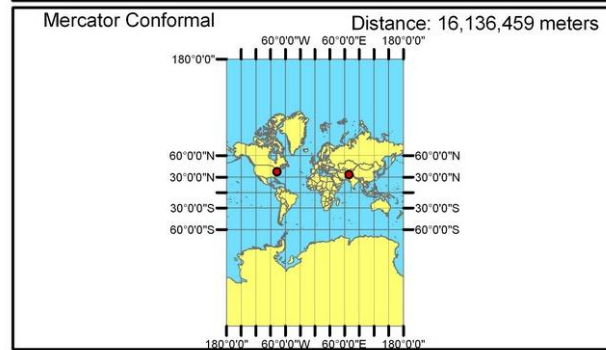
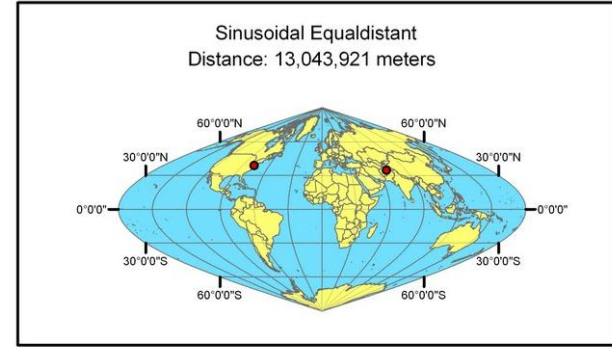
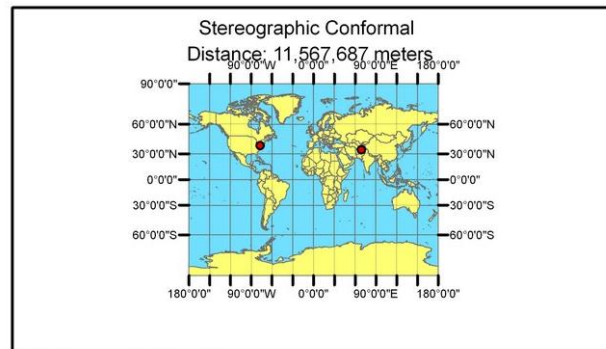


Projections

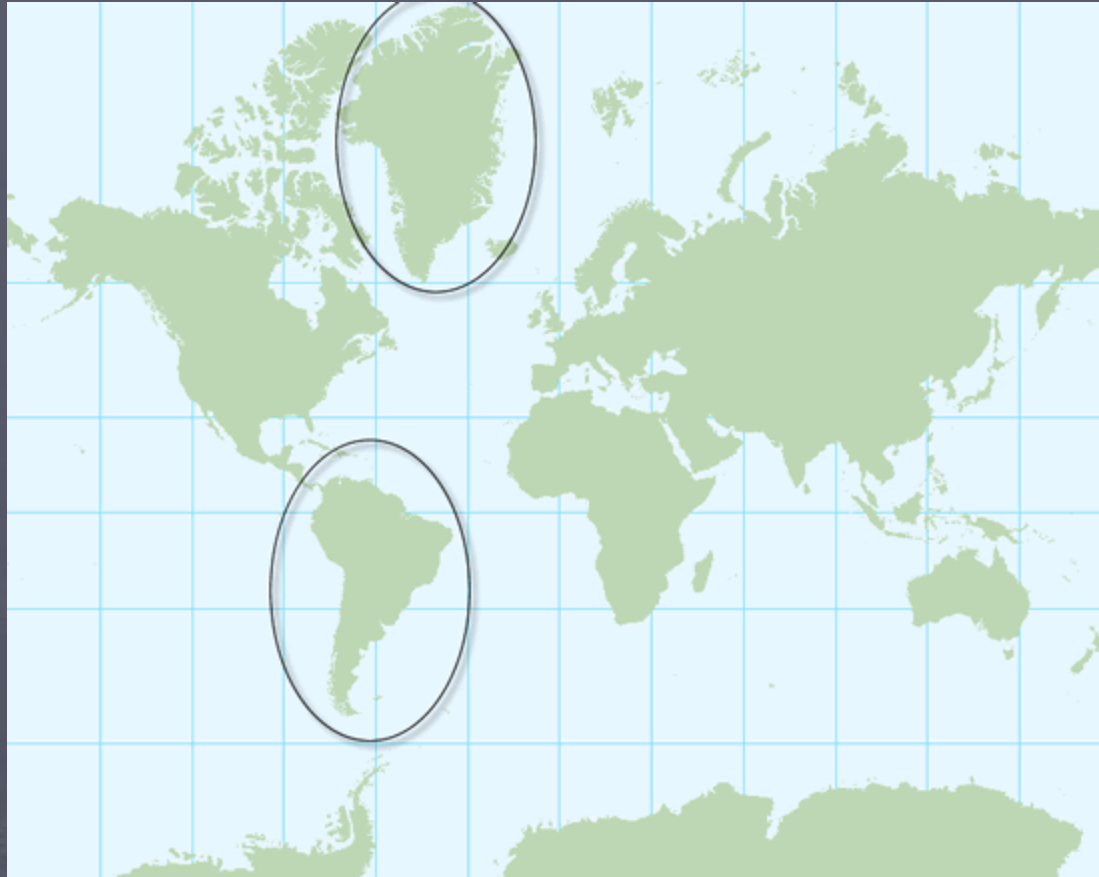


- Projection – Transferring locations on Earth's surface to a flat map
- Can be difficult, as most maps are distorted
 - (sphere vs. flat paper)

Types of Map Distortions



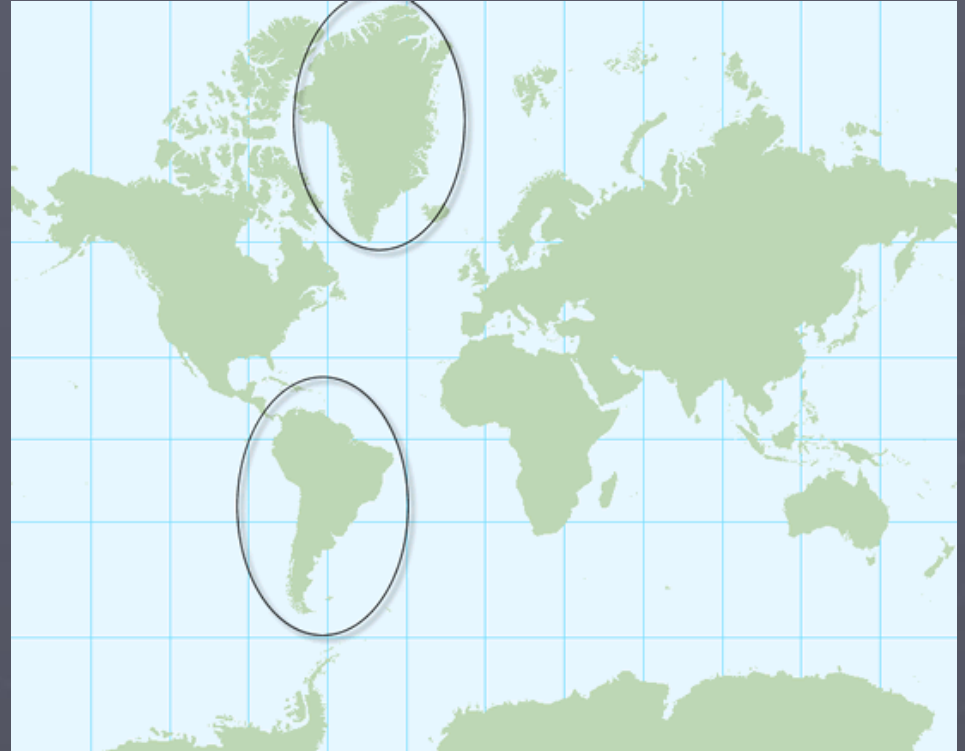
Distortion Example



Which looks bigger based on this map?

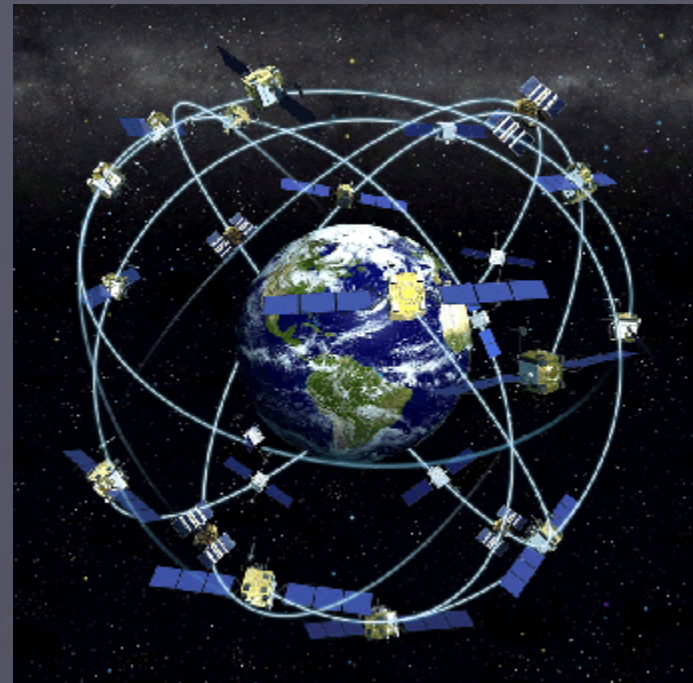
Distortion Example

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



Satellite-Based Maps

- GPS – Global Positioning System
 - Determines the precise position of areas on Earth



GIS

- GIS – Geographic Information System)
 - Computer system that can capture, store, analyze, and display geographic data
 - Can show relationships between different kinds of information



