Map Projections and Types of Maps
Map Projections

• Cartographers have to deal with the problem of making maps of a spherical earth onto a flat surface
  – Leads to *distortions*
    • Shape can be distorted
    • Distance between two points can increase or decrease
    • Relative size may be altered, areas can appear much larger than they really are
    • Direction can be distorted
Robinson Projection
Robinson Projection

• More accurately shows the area near the poles
• Used to show proportions of land to water
• Distorts cardinal directions and distance
Mercator Projection

- Used primarily for navigation since it is easiest to plot direction
- Increased distortion the further away from the equator
- Makes the North look much larger
Gall-Peters Projection
Gall-Peters Projection

- Focuses more on land area accuracy
- Released in 1974, based off a 1800 design
- More accurately shows southern hemisphere as larger than Northern Hemisphere
- Areas near the poles are stretched horizontally
Fuller Projection
Sinusoidal projection
Types of Maps - Isoline
Types of Maps - Thematic
Types of Maps - Thematic

Two examples of proportional symbols in thematic mapping

- Africans as a percentage of all cases
  - 50
  - 30
  - 10
  - 1

Countries such as:
- United Kingdom
- Belgium
- Switzerland
- France
- Portugal
- Spain
- Italy
- Germany
- Former Czechoslovakia
- Former Yugoslavia
- Greece
- Scandinavia
- Baltic States

Types of Maps

- Dot

- Loss of 100 Persons
- Gain of 100 Persons
Types of Maps - Choropleth

Daily calorie supply, as percentage of requirements 1996

- Greater than 135
- 126 to 134
- 115 to 125
- 90 to 114
- 80 to 89
- Less than 79
- No data