Principles of Cartography

Cartography is the art and science of making maps.
Goals of Cartography

• Communicate geographical information graphically.

• The look of a map depends on the needs of the audience and the point that you aim to convey.
Map Design

- Harmony
- Composition
- Clarity
Map Design

• Harmony
  
  Relationships between map elements
  
  – Color
  
  – Texture
  
  – Size and shape
Harmony: Color Choices

HSV
• Hue
• Saturation
  – aka ‘vividness’
• Value
  – aka Light/Dark
Harmony: Color Choices

HSV

• Hue

• Saturation
  – aka ‘vividness’

• Value
  – aka Light/Dark
Harmony: Color Choices

HSV

• Hue

• Saturation
  – aka ‘vividness’

• Value
  – aka Light/Dark

ArcMap Symbology Tab:
Harmony: Color for emphasis

Constant lightness & saturation

“Asian” is darker
“Two or more races” is more saturated
Map Design

• Harmony

• Composition
  – Reducing complexity
  – Excluding irrelevant components
  – Arrangement and organization
Composition: Arrangement
Composition: Complexity
Composition:
Reduce distractions

• Do not decorate your results
Map Design

• Harmony
• Composition
• Clarity
  – Ease of recognition
  – Scale and area
  – Font
Clarity: Ease of recognition
Clarity: Map with standard colors
Clarity: Ease of recognition

- Scrub 1
- Grassland
- Scattered Trees 1
- Sand
- Water Intermittent
- Reservoir
- Wetlands
- Swamp
- Mangrove
- Glacier
- Snowfield/Ice
- 10% Simple hatch
Clarity: Font Choices

• Serif (e.g., Times New Roman)
  – The quick brown fox jumped over the lazy dogs

• Sans-serif (e.g., Arial, Calibri)
  – The quick brown fox jumped over the lazy dogs

• Display (e.g., Impact, Forte)
  – The quick brown fox jumped over the lazy dogs