

GEO 309 – Intro to GIS

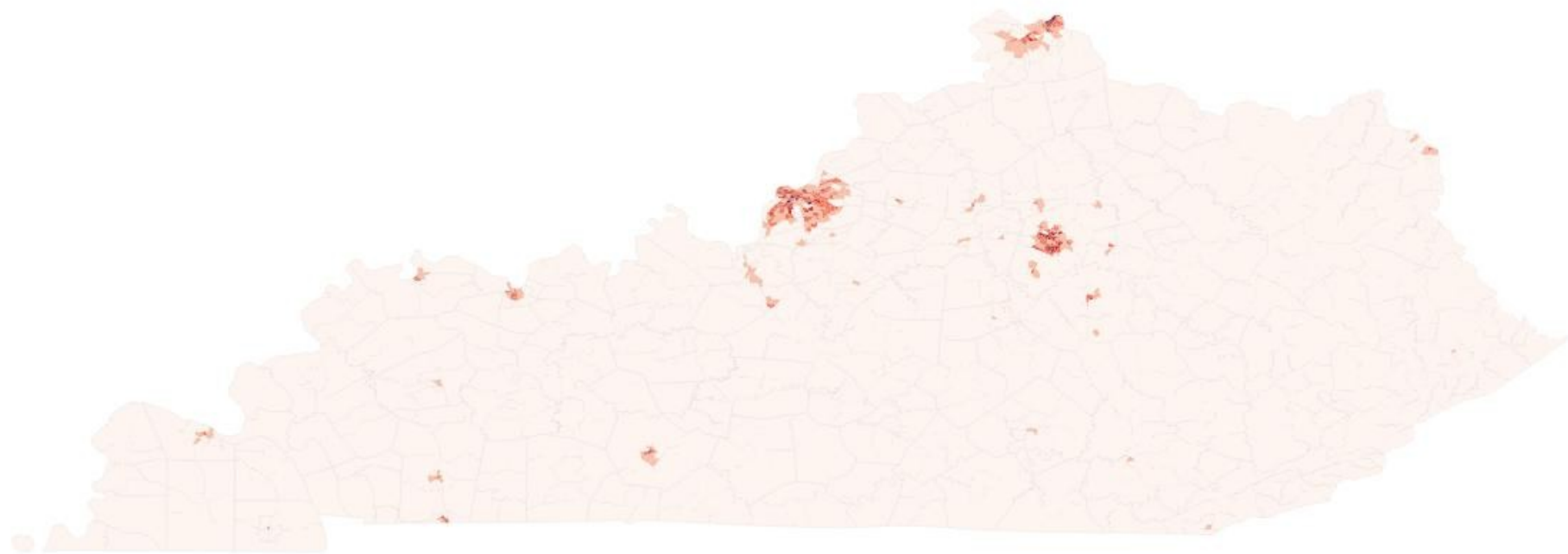
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Topics

- Map Analysis
 - Observation
 - Assessment
- Visual Display
- User Experience
- US Census Data

Map Analysis

- Observation
 - General description
 - Size and shape of map
 - Map elements
 - Unfamiliarity
 - Items out of place
 - Location
 - Text

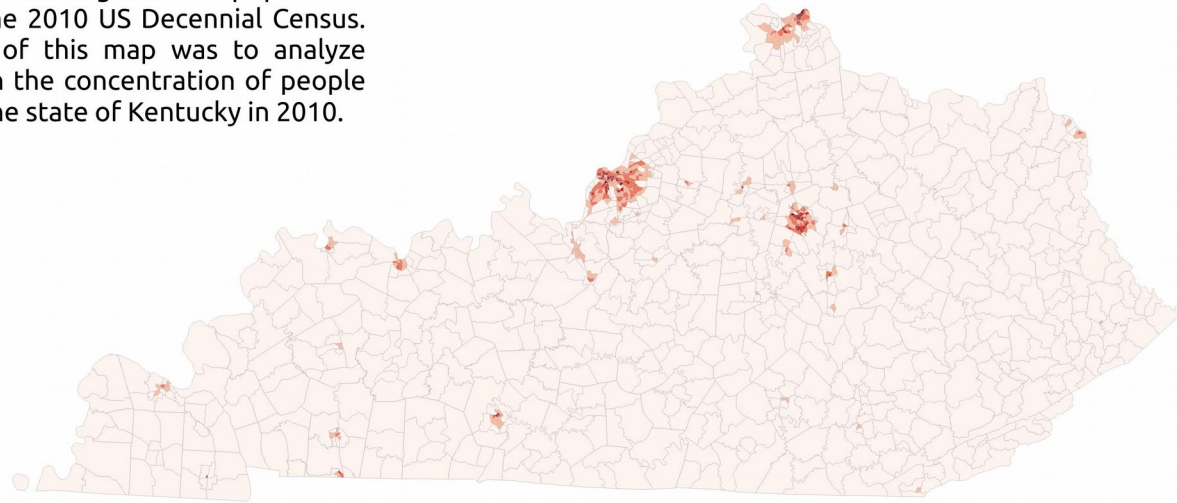


Map Analysis

- Observation
 - Specifics
 - Title and text
 - Correct projection
 - Data source(s)
 - Author(s)
 - Elements of map design
 - Theme
 - Direction indicator
 - Scale bar

Kentucky Population Density - 2010

This map shows population density at the census tract level using the total population count from the 2010 US Decennial Census. The purpose of this map was to analyze areas in which the concentration of people is highest in the state of Kentucky in 2010.



Author: Joe Blankenship
Data: US Census - 2010 SF1 100% (Decennial)
Projection: EPSG 2798



Population per Square Km

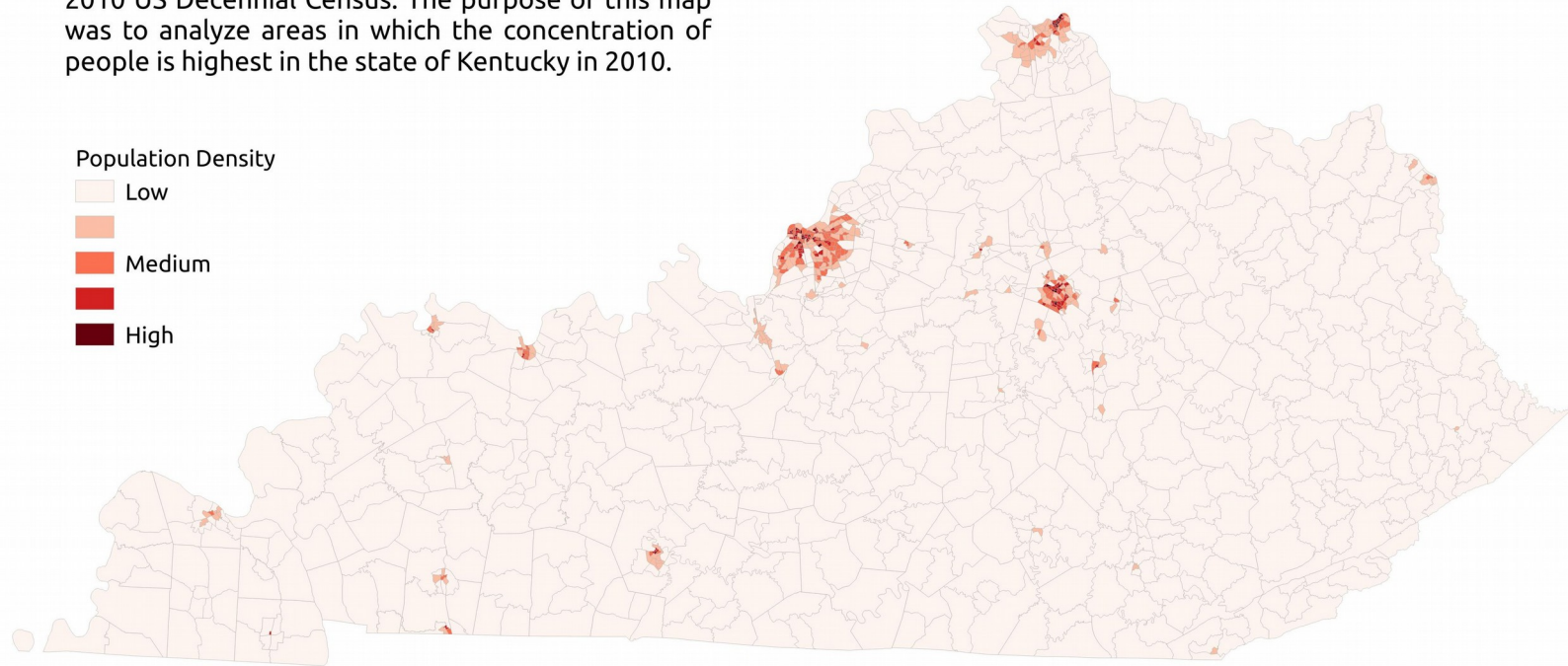


Map Analysis

- Assessment
 - Why was the map made?
 - Map audience?
 - How was it made?
 - How does it compare to similar maps?
 - What isn't being shown?

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Projection: EPSG 2798
Published: GEO 309 Demonstration

Visual Display

- Edward Tufte
 - The Visual Display of Quantitative Information
 - Key points
 - Less is more
 - Clarity, Precision, Efficiency
 - Graphics vs. Tables
 - True proportions
 - Pie charts?

User Experience

- UX – user experience
 - Emotion and attitude of person
 - Using a product, system, or service
 - UI – user interface
 - Space of interaction between person and the product, system, or service
 - Generally considered for web maps
 - But useful for general cartography too

User Experience

- User Focus and Attention
 - Points of emphasis
 - Visual Hierarchy and variable
 - Direct narrative path through map
 - Remove unnecessary elements

User Experience

- Optimization for user
 - Create maps with social/cultural understanding
 - Clear language
 - Title
 - Explanatory text
 - Sources/author
 - Explicit Intent of Map maker

User Experience

- Keep it simple
 - Minimize mental calculations
 - Situate the map's location
 - Accessibility
 - Simple and effective symbology
 - Overall map layout and style
 - Will depend on requirements and organization
 - Consistent patterns

User Experience

- User Dialogue
 - Feedback
 - Email
 - Social media
 - Website
 - Mail
 - Monitoring plan
 - Easier for web maps
 - Open source
 - Map portfolio
 - Open access tools/data

US Census Data

- What is a census?
 - A census is the process of obtaining information about every member of a population
- What is it used for?
 - governments can plan public services
 - private sector markets their products

US Census Data

- Decennial Census
 - Nationwide (every 10 years, April 1st)
 - Age, sex, race, housing units, family type, household type and relationship, vacancy status, and Hispanic origin
- American Community Survey (ACS)
 - Nationwide (every year since 2005)
 - To understand how communities are changing
 - Income, education, poverty, household size and composition, health insurance, disability, mortgages, housing costs, commute time to work, home value, veteran status



US Census Data

- American Community Survey (ACS)
 - **1-year estimates**
 - Data for areas with populations of 65,000+
 - Less reliable than 3-year or 5-year
 - **Most current data**
 - **Best Uses**
 - Currency is more important than precision
 - **Analyzing large populations**

US Census Data

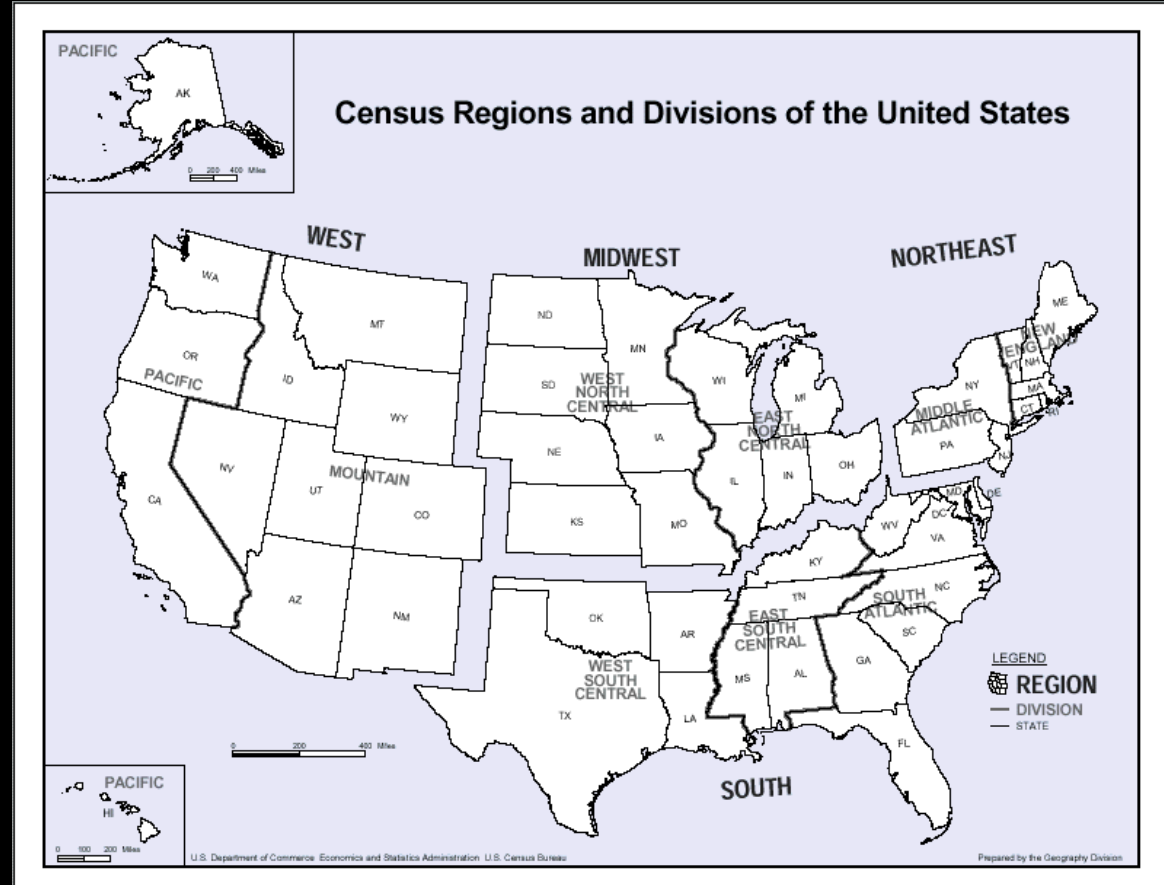
- American Community Survey (ACS)
 - **3-year estimates**
 - Data for areas with populations of 20,000+
 - More reliable than 1-year; less reliable than 5-year
 - Less current than 1-year estimates; more current than 5-year
 - **Best Uses**
 - More precise than 1-year, more current than 5-year
 - Analyzing smaller populations
 - Examining smaller geographies because 1-year estimates are not available

US Census Data

- American Community Survey (ACS)
 - **5-year estimates**
 - Data for all areas
 - **Most reliable**
 - Least current
 - **Best Uses**
 - Precision is more important than currency
 - **Analyzing very small populations**
 - Examining tracts and other smaller geographies because 1-year estimates are not available

US Census Data

- US Census
 - 4 Main Regions
 - West
 - Midwest
 - Northeast
 - South

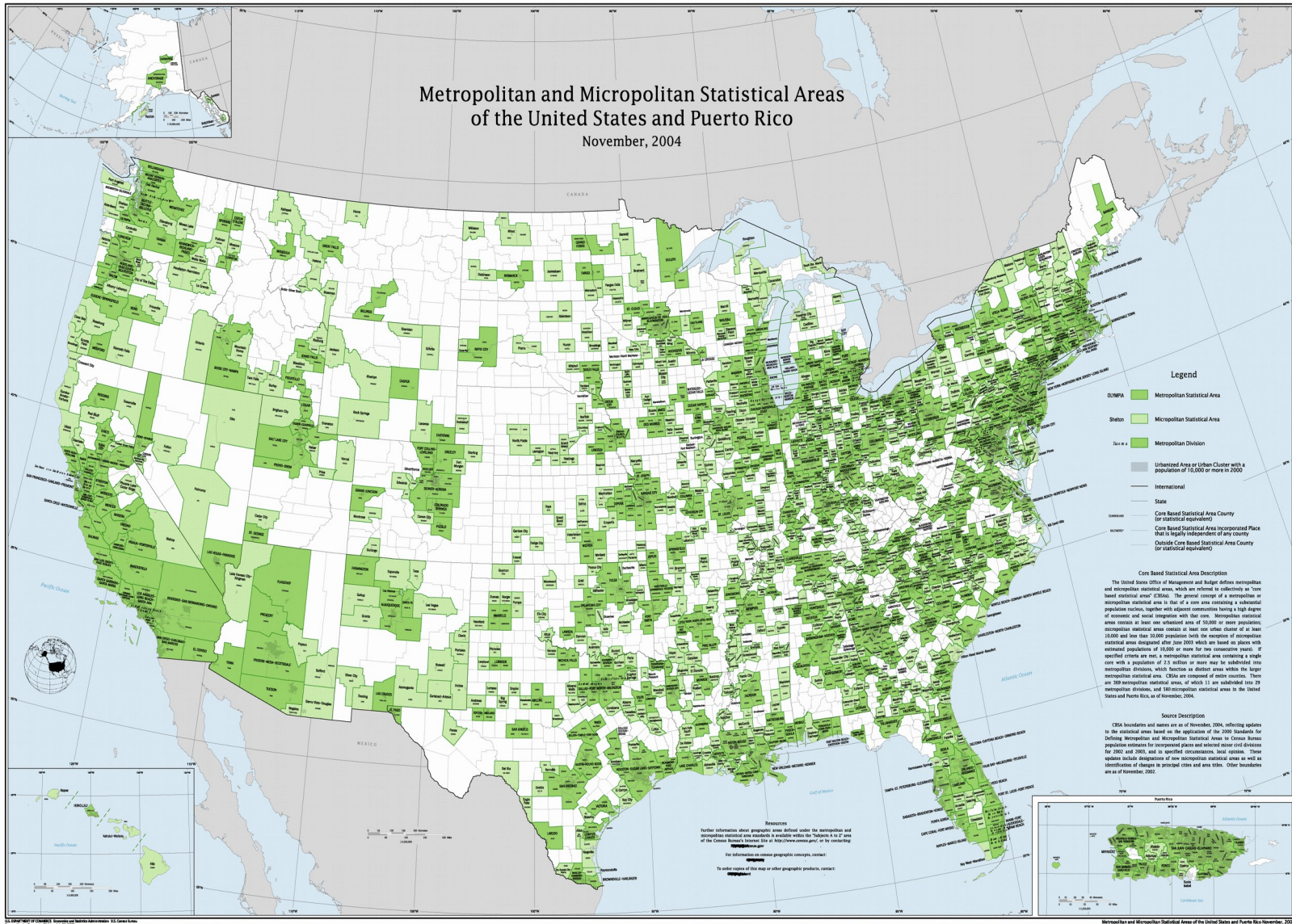


US Census Data

- Metropolitan Statistical Areas
 - Large population center
 - Adjacent communities with social/economic integration
- Micropolitan Statistical Areas
 - A single or group of non-metropolitan counties
 - Urban clusters of 10,000 to 49,999 people

Metropolitan and Micropolitan Statistical Areas of the United States and Puerto Rico

November, 2004



US Census Data

- Census Tracts
 - Small, relatively permanent subdivision of county
 - Between 2,500 and 8,000
 - Boundaries maintained for longitudinal analysis
 - Change size based on population changes
 - Split with increases
 - Combined with decreases

US Census Data

- Census Block Groups and Blocks
 - Block groups have between 600 and 3,000 people
 - Blocks
 - Smallest areal unit in US Census
 - Urban – usually city blocks
 - Rural – may include many square miles

Resources

- [Map Analysis](#)
- [Library of Congress – Maps](#)
- [Visual Display – Edward Tufte](#)
- [User Experience](#)
- [US Census TIGER](#)
- [American FactFinder](#)
- [Natural Earth Data](#)
- [Data.gov](#)