

USA demographics

from the Esri GeoInquiries™ collection for Human Geography

Audience – Human geography

Time required – 15 minutes

Activity

Explore U.S. census data to investigate the spatial differences in the United States' population.

APHG Benchmarks

APHG: II.A1. Geographical analysis of population (density, distribute and scale) APHG: II.A3. Geographical analysis of population (composition: age, sex, income,

education and ethnicity)

APHG:II.A4. Geographical analysis of population (patterns of fertility, mortality and

health)

Learning Outcomes

• Students will be able to identify U.S. population data and certain spatial patterns.

Map URL: http://esriurl.com/humanGeoInquiry4

? Ask

How does population density vary?

- → Click the link above to launch the map.
- **?** Which part of the United states is the most heavily populated? Zoom into the most heavily populated areas. *[the east, specifically, the northeast]*
- → With the Details button underlined, click the button, Show Contents of Map (Content).
- → Check the box to the left of the layer, Population density (2020, county).
- → Slowly zoom in on New York City or another urban area.
- ? What pattern do you observe? [Smaller areas show more spatial variation]

Acquire

Why does population density vary?

- → Check the box to the left of the layer, USA Topo Maps.
- → Make the Population density (2020, county) layer 40 percent transparent (see the Transparency ToolTip).
- → Zoom and pan the map.
- **?** How does physical geography affect population density? [Higher population density along the coasts and rivers; lower population density in mountains and deserts.]

Explore

How does income vary across the United States?

- → Turn on the two layers, Median household income (2020, county) and USA Major Cities.
- → Turn off all other layers.
- → Click the button, Show Map Legend (Legend).
- **?** How are median household income and cities related? [Median household incomes tend to the higher adjacent to urban areas]



How does age differ across the United States?

- → Click the button, Show Contents (Content).
- → Turn on the layer, Median age (2020, state). Turn off other layers. Choose the bookmark, State.
- ? Which state has the highest median age? [Maine]
- ? What could account for the high median age there? [out-migration of the young]
- ? Which states show young populations? [Idaho, Utah, Texas, California, and Alaska]
- → Turn on the layer, Median age (2020, county). Turn off other layers. Click Bookmarks. Select County.
- ? How did the pattern change? [More states have more blue areas showing higher median ages]
- → Turn on the layer, Median Age-UT & FL Tracts. Zoom to Florida.
- ? Are all residents of Florida elderly? [No]
- ? What could account for the many elderly in Florida? [In-migration of retirees]



How does scale influence the interpretation of data?

- Utah has the lowest median age in the United States.
- → Click the button, Bookmarks. Select Utah tracts.
- ? At this scale, which bordering state shows the sharpest contrast? [Colorado]
- **?** What is surprising about Idaho? [Idaho is a low median age state, but many higher median age areas are evident at the county level.]
- → Click the button, Bookmarks. Select Oklahoma City.
- ? What age patterns do you observe? [Young people are concentrated in the city center.]

BOOKMARKS

- Click the button, Bookmarks.
- Click bookmark of interest to zoom to a map location and scale.

TRANSPARENCY

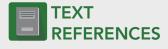
- To view two layers simultaneously, make one "seethrough."
- In the Contents pane, click the three dots beneath the layer name.
- Select Transparency, and adjust it to 50 percent.

Next Steps

DID YOU KNOW? ArcGIS Online is a mapping platform freely available to public, private, and home schools. A school subscription provides additional security, privacy, and content features. Learn more about ArcGIS Online and how to get a school subscription at http://www.esri.com/schools.

THEN TRY THIS...

- Create an online story map using demographic data to highlight certain demographic trends in the United States or a particular region.
- Load state-specific demographic data to your organizational account home page.



This GIS map has been cross-referenced to material in sections of chapters from these texts.

- Human Geography: A Short Introduction by Oxford University Press Chapter 3
- The Cultural Landscape by Pearson Chapters 5, 6
- Human Geography: People Place and Culture by Wiley Press Chapters 5, 6



