Farming & the rural landscape
from the Esri GeoInquiries™ collection for Human Geography

Activity
Explore the different types of land use found in rural landscapes.

APHG Benchmarks
APHG: I.B2. Students will analyze landscapes to understand human-environment relationships.
APHG: 5.A1. Students will investigate the connections between agricultural practices and the alteration of the natural environment.

Learning Outcomes
• Students will identify differences in the distribution of arable land on a global scale.
• Students will use imagery to analyze differences in rural land use and the alteration of the natural environment.

Map URL: http://esriurl.com/humanGeoInquiry10

Ask
Where are the world’s agricultural lands located?
→ Click the map URL above to start the map.
? What does arable mean? [able to be farmed]
→ Click on a country to reveal its pop-up.
? Using the World Agricultural Lands legend, which countries have over 60% arable land? [Kazakhstan, Mongolia, India, Ukraine, Saudi Arabia]
? Which country’s data are surprising? [Saudi Arabia]
? How does Saudi Arabia increase its agricultural land? [irrigating desert areas]
? Which large countries have under 15% arable land? [Russia, Canada, Libya, Egypt etc.]
? Why do Russia and Canada have low percentages? [Climate is not suitable for agriculture.]

Acquire
Where are agricultural lands in the United States?
? What is the percent of agricultural land in the United States? [44.32]
? How has that percentage changed over time? [declined]
→ With the Details button underlined, click the button, Show Contents of Map (Content).
→ Check the box to the left of layer name, USA Land Cover (2011). Click the layer’s name to see the legend.
→ Uncheck the layer, World Agricultural Lands.
? Which colors indicate farming? [brown, cultivated crops; yellow hay/pasture]
→ Click the button, Bookmarks. Select United States.
? Where are large areas of farms located? [Midwest and California]

Explore
How do rural landscapes within the United States differ?
→ Click the button, Basemap. Select Imagery.
→ Turn off the layer, USA Land Cover (2011).
→ Click the button, Bookmarks. Select Kansas.
? What patterns do you observe? [square crop areas; circular irrigation]
→ Toggle between the land cover and image layers.
? Does the landcover map confirm agricultural land use? [yes]
? What new crop category appears? [herbaceous]
→ Click the button, Bookmarks. Select Louisiana.
? What do you observe? [crop lands in long rectangular shapes]
? What other landcover category is in this area? [woody wetlands]
Analyze

How does land use differ between rural and urban areas?

- The Great Dismal Swamp National Wildlife Refuge protects 112,000 acres of forested wetlands.
- Click the button, Bookmarks. Select Dismal Swamp 1.
- What do you observe? [a lake in the middle; large green area surrounded by patches of farms]
- Click the button, Bookmarks. Select Dismal Swamp 2.
- Zoom and pan the map.
- What do you see? [farmland almost within the park, ditches, highway, strip of houses]
- Click the button, Bookmarks. Select Chesapeake.
- What do you observe? [urban settlement bordering rural areas]

Act

How has human action affected rural areas?

- How has irrigation affected rural areas? [more land cultivated, pressure on water resources]
- What are some possible negative effects of the expansion of agriculture? [soil depletion, deforestation, desertification, loss of wetlands]
- How are cities changing rural areas? [reduced farmland due to spread of housing developments, expanding of transportation networks]

IDENTIFYING DATA

- Zoom in or out until the map displays the data at the correct scale.
- Click a region to view a pop-up with additional info.
- Some pop-ups will have a small triangle in the upper right corner to indicate multiple items were clicked. Click the arrow to cycle through the items.

BOOKMARKS

- Click the button, Bookmarks.
- Choose a bookmark name to zoom to a specified map location and scale.

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 a Story Map Journal to illustrate how rural and urban landscapes vary throughout the world.
- Conduct a Hot Spot Analysis to identify clusters of rural and urban land throughout the United States.

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

- The Human Mosaic by W.H. Freeman & Co. – Chapter 8
- An Introduction to Human Geography by Pearson – Chapter 10
- Human Geography: People, Place, and Culture by Wiley Press – Chapter 11