



Farming & the rural landscape

from the Esri GeoInquiries™ collection for Human Geography

Audience – Human geography

Time required – 15 minutes

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*]

more ►



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.



TEXT REFERENCES

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
- *Human Geography: People, Place, and Culture* by Wiley Press – Chapter 11
- *An Introduction to Human Geography* by Pearson – Chapter 10