



The Dust Bowl

from the Esri GeoInquiries™ collection for U.S. History

Target audience – U.S. History learners

Time required – 15 minutes

Activity	Explore the Dust Bowl region using population change, agriculture, and precipitation data.
C3 Standards	<p>C3: D2.His.1.9-12. Evaluate how historical events and developments were shaped by unique circumstances of time and place as well as broader historical contexts.</p> <p>C3: D2.His.14.9-12. Analyze multiple and complex causes and effects of events in the past.</p> <p>C3: D2.His.15.9-12. Distinguish between long-term causes and triggering events in developing a historical argument.</p>
Learning Outcomes	<ul style="list-style-type: none">• Students will analyze the effect of climate on population.• Students will analyze the change in California’s population relative to the change in the Dust Bowl states’ population during the 1920s and 1930s.

Map URL: <http://esriurl.com/historyGeoInquiry10>

Ask

Where was the population in 1930?

- Click the link above to launch the map.
- The map currently displays population by county for several of the Plains states, as well as the state of California. For this activity, you will explore only those seven states.
- ? Where were the largest numbers of people living in the Plains states in 1930? *[The larger concentrations of people were generally in the eastern part of Nebraska, Kansas, Oklahoma, and Texas, and also along the front range of Colorado.]*

Acquire

What were the attitudes of the day regarding farming?

- In 1909, the USDA Bureau of Soils published in its “Soils of the United States” bulletin that “the soil . . . is the one resource that cannot be exhausted; that cannot be used up.” This idea was a popular belief in the early years of the 20th century.
- With the Details button underlined, click the button Show Contents of Map (Content).
- Uncheck the box to the left of the layer name, Population 1930.
- Turn on the layer, % Of Counties In Farms 1930.
- ? Where were the counties with the highest percentage of land in farming? *[Much of Kansas, Nebraska, parts of Oklahoma and Texas]*

Explore

What were some of the other factors that contributed to the Dust Bowl?

- Turn off the % Of Counties In Farms 1930 layer.
- Turn on the Precipitation Graphs layer.
- Click the raincloud symbol in Kansas until it is highlighted blue, and then click the graph to enlarge it.
- ? What was the trend for precipitation in the 12-year period between 1930 and 1941? *[11 of the 12 years on the graph had lower than average precipitation.]*
- Click the raincloud symbol in Oklahoma and Nebraska.
- ? What was the trend for precipitation for those two states in the 12-year period between 1930 and 1941? *[Oklahoma had the same precipitation trend as Kansas (11 of 12 years below the average), and Nebraska had below-average precipitation for nine of 12 years.]*

more 

Analyze

What were the results of the environmental and human factors between 1930 and 1940?

- There were tremendous dust storms because of large-scale farming and the long drought conditions in the Great Plains states. These dust storms traveled as far as Chicago and New York, even making it out onto ships in the Atlantic Ocean.
- Turn off the layer, Precipitation Graphs.
- Turn on the layer, Dust Source.
- Click in the middle of the gray shape, and click the image to enlarge it. (If the image does not show in the pop-up, click the arrow in the top-right corner of the pop-up until the image displays.)
- ? Referring to the map layers you have studied so far, do you think people stayed or left their farms as a result of the dust storms? *[Answers will vary but probably would include people left their farms.]*

Act

What happened to the population of the Plains states as a result of the dust storm?

- Turn on the layer, % Growth In Number Of Farms From 1930–1940. Click a county in the dust area.
- In the pop-up window, scroll down and hover over each column of the graph that is at the bottom of each pop-up window for this layer.
- ? For the county you chose, did the population increase or decrease from 1930 to 1940? *[Most likely, the population decreased, but it depends on the counties that you chose.]*
- Click two more counties in the dust area. See if the population increased or decreased.
- Do the same for three counties in California.
- ? Did the population increase or decrease in those California counties? *[Many of the counties in California should have increased, especially in the Central Valley—the main growing region of California.]*
- Turn on the layer, % Population Change 1930 To 1940.
- Turn on the layer, USA Major Cities.
- ? As illustrated in the map and graphs, what were the farmers' options when their land became unproductive and was destroyed by dust? *[They most likely moved west to California or another area where there was farming or then moved to cities to look for work.]*

GRAPH

- Click a county.
- In the pop-up, scroll down.
- Hover over any column to see a year and total.

RUBBER BAND ZOOM

- On your keyboard, press and hold down Shift.
- Click and drag a box around an area to zoom to it.
- Release the mouse button and Shift.

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...

- Using the table sort, choose the largest three counties in Oklahoma and Kansas, and compare their growth to the largest three counties in California.
- Did people leave farming and move to larger cities, or did they move to California to continue farming?

TEXT REFERENCES

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

- *American History: A Survey by Brinkley – Chapter 25*
- *The Americans by McDougal Littell – Chapter 22*
- *America: Pathways to the Present by Prentice Hall – Chapter 22*