



# An Eye on Central America

from the Esri GeoInquiries™ collection for World Geography

Target audience – World geography learners

Time required – 15 minutes

## Activity

Explore the physical geography and people of Central America.

## Social studies standards

**C3:D2.Geo.5.6-8.** Analyze the combinations of cultural and environmental characteristics that make places both similar to and different from other places.

**C3:D2.Geo.2.6-8.** Use maps, satellite images, photographs, and other representations to explain relationships between the locations of places and regions and the changes in their environmental characteristics.

## Learning Outcomes

- Follow the development and impact of a major hurricane.
- Integrate satellite imagery of a hurricane with a plot of the hurricane's path.

Map URL: <http://esriurl.com/worldGeoInquiry13>

## ? Ask

### Central America comprises what geographic landform?

- Click the link above to launch the map.
- With the Details button underlined, click the button, Show Contents..
- There are several definitions of which countries compose Central America. This inquiry considers the seven countries south of Mexico.
- An isthmus is a narrow strip of land with sea on either side, forming a link between two larger areas of land.
- ? Why are Central American countries an isthmus? [*They connect the large land mass of Mexico (north) and South America (south), the Caribbean Sea (east), and the Pacific Ocean (west).*]

## ! Acquire

### What are the physical characteristics of Central America?

- Click the button, Bookmarks. Select Central America. (*See the ToolTip on the next page for details.*)
- ? Which countries make up Central America? [*Panama, Costa Rica, Nicaragua, Honduras, El Salvador, Guatemala, and Belize*]
- Check the box left of the layer name, Holocene Volcanoes.
- ? What is the elevation or terrain in these countries? [*All countries have mountains varying from lower to higher elevations, and six of the seven (excluding Belize) also have volcanoes in varying numbers depending on the country.*]
- Turn off the World Oceans layer. Turn on the Rivers layer.
- Select to the bookmark, Rivers.
- Drag the map to view all the Central American countries.
- ? What patterns do the rivers form on the land? [*Rivers are plentiful and appear to start in the higher elevations and run west toward the Pacific Ocean or east toward the Caribbean Sea.*]

## Explore

### What is the pattern of yearly precipitation across Central American countries?

- Turn off the layers, Rivers.
- Select the bookmark, Central America.
- Turn on the Precipitation layer and click the Show Legend button.
- ? Describe the precipitation patterns compared to the mountains. *[Less rainfall occurs in the higher elevations, with most rain falling in coastal areas. The Caribbean coastal area where rain falls is larger than the Pacific coastal area.]*
- In the United States, Nevada ranks as the driest state, with an average annual precipitation of 9.5 inches, and Hawaii is the wettest, at 70.3 inches.
- ? How does the rainfall in Central America compare to the driest and wettest U.S. states? *[The areas with the least amount of rain receive over four times the amount of the driest state of Nevada, and areas with the most rainfall in Central America receive over three and half times as much rain as Hawaii, the wettest state.]*

## Analyze

### Where are the populous areas of Central America?

- Turn off the Precipitation and Volcanoes layers, and then turn on the Population Density layer and view its legend.
- ? What do the settlement patterns illustrate? *[Though urban areas are in coastal plains, the higher-density extreme urban areas are in the higher and drier mountainous areas.]*

## Act

### What effect might a hurricane have on Central America?

- Turn on the Hurricane Mitch and Hurricane Mitch Satellite layers. Click the icon and read.
- ? Hypothesize the effects of the hurricane. *[In four days, Honduras received almost as much rain as Hawaii does annually. The amount of rain in a few days would cause severe flooding and loss of life.]*

### ZOOM TO A BOOKMARK

- Click Bookmarks.
- Click a bookmark name to zoom to a map location and scale.

### IDENTIFY A MAP FEATURE

- Click a feature on the map, and a pop-up window will open with information.
- Links and images in the pop-up are often clickable.
- An arrow icon in the upper right of the window indicates that multiple features have been selected.
- Click the button to scroll through the features.

## 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...

- Having students choose one of the seven countries, use the Data Enrichment tool to compute the 2018 population.
- Click the new country data and compare the previous population to the 2018 population.

## TEXT REFERENCES

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

- *World Cultures and Geography* by McDougal Littell
- *My World Geography* by Pearson