

## 1.2 Earthquakes and Volcanoes

TECHTREK

myNConnect.com For a map of plates and photos of volcanoes and earthquakes



Maps and Graphs



Digital Library

**Main Idea** Earthquakes and volcanoes affect daily life and economic activities in the region.

Central America and many Caribbean islands were underwater millions of years ago. The formation of the mountains and islands in this region shows how physical geography can change over time.

### Tectonic Plate Movements

This region sits on the Caribbean Plate. For tens of millions of years, this **tectonic plate**—a part of Earth's crust—moved against other plates, causing land to rise and mountains and volcanoes to form. Some of the islands in the Caribbean are really just the tips of ancient volcanoes created by tectonic plate movement.

The location of the islands on these plates is significant. Today, plates slowly continue to move, crashing into or sliding over or under each other. This movement causes earthquake, or **seismic**, activity and volcanic eruptions. An eruption in Montserrat in 1996 caused two-thirds of the population to flee their homes.

### Impact of Earthquakes

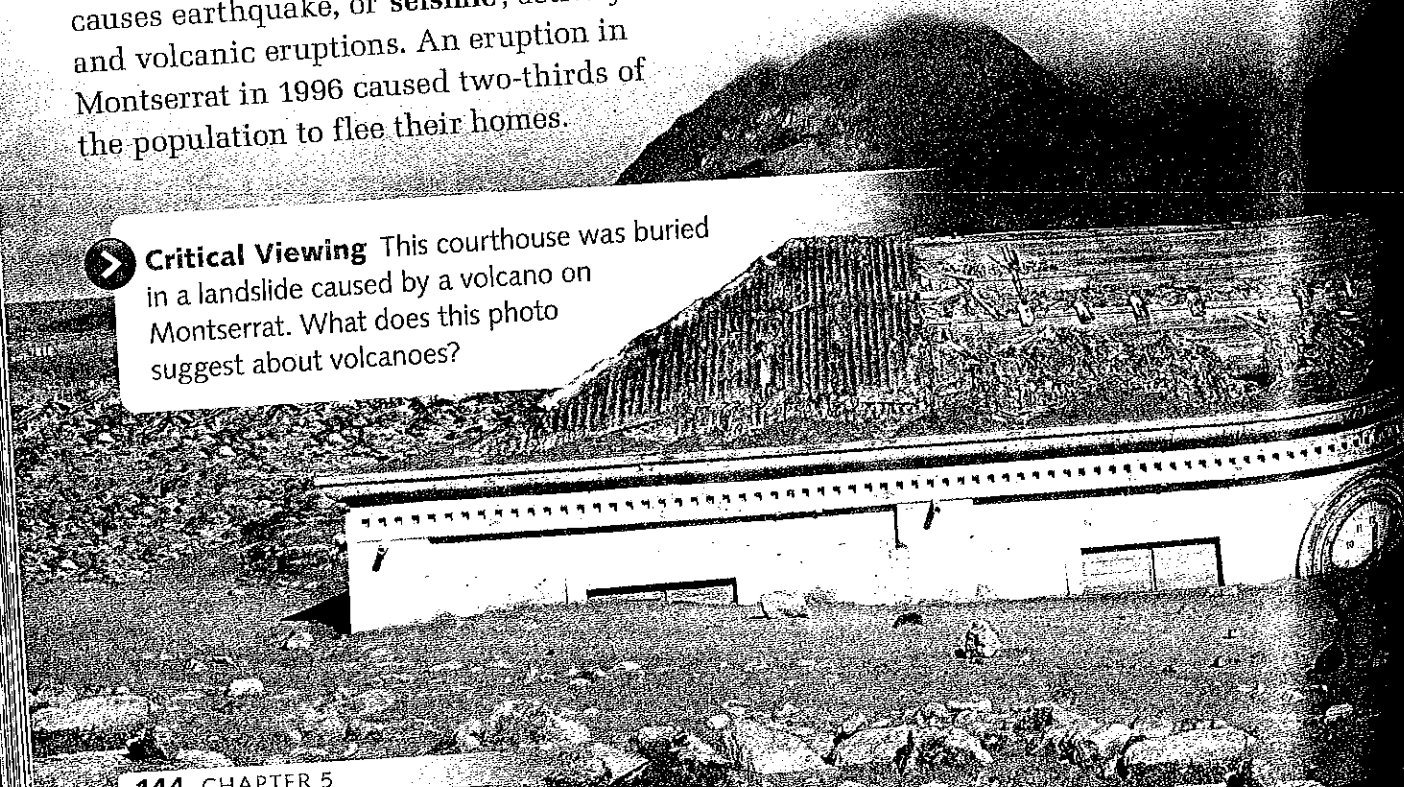
In 2010, Haiti experienced its most destructive earthquake in more than 200 years, measuring 7.0 on the moment magnitude scale. The earthquake caused extensive damage to many of Haiti's cities, including its capital, Port-au-Prince. More than 200,000 people were killed and roughly a million were left homeless.

The earthquake also destroyed critical systems, the extremely important services and supplies that a community needs. Many Haitians were left without water, gas, electricity, transportation, or medical care. Donations poured in from around the world in an international effort to help Haiti recover and rebuild.

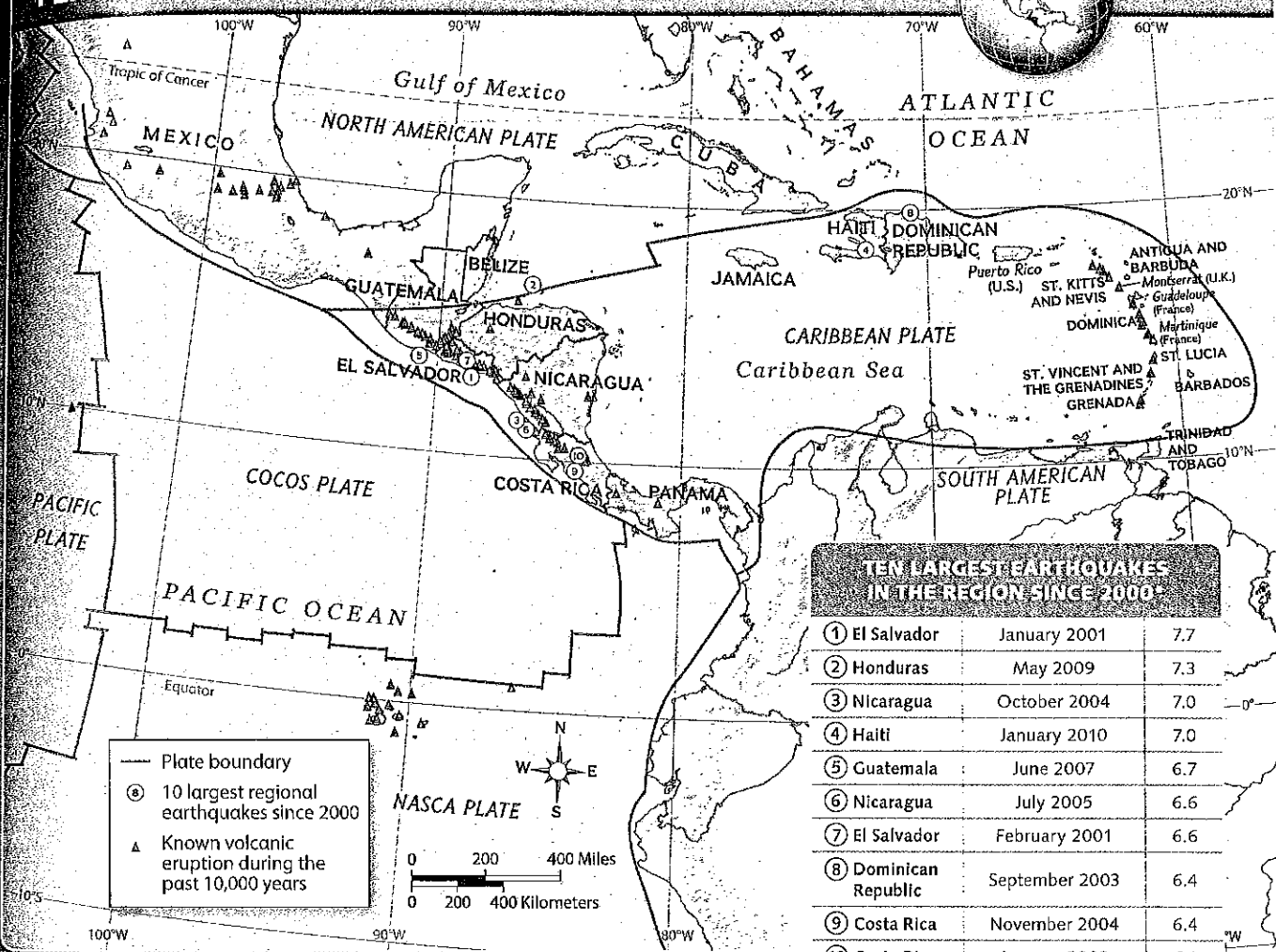
### Before You Move On

**Summarize** What causes earthquakes and volcanoes in this region, and what are some of the effects?

**Critical Viewing** This courthouse was buried in a landslide caused by a volcano on Montserrat. What does this photo suggest about volcanoes?



# PLATE AND VOLCANOES



### TEN LARGEST EARTHQUAKES IN THE REGION SINCE 2000\*

①	El Salvador	January 2001	7.7
②	Honduras	May 2009	7.3
③	Nicaragua	October 2004	7.0
④	Haiti	January 2010	7.0
⑤	Guatemala	June 2007	6.7
⑥	Nicaragua	July 2005	6.6
⑦	El Salvador	February 2001	6.6
⑧	Dominican Republic	September 2003	6.4
⑨	Costa Rica	November 2004	6.4
⑩	Costa Rica	January 2009	6.1

Source: U.S. Geological Survey <http://www.usgs.gov/>  
 \*based on moment magnitude scale

## ONGOING ASSESSMENT

### MAP LAB

- Interpret Maps** What is significant about Central America's location near where the Caribbean Plate and the Cocos Plate meet?
- Location** According to the map, where do the most and the fewest volcanic eruptions happen in Central America? Explain.
- Make Inferences** Trace the boundary of the Caribbean Plate. Why are the land masses clustered around the edges of the plate?

