Assignment 9 - Earthquakes

Due Nov 29 at 11:59pm **Points** 100 **Questions** 10 **Available** Nov 13 at 2:15pm - Nov 29 at 11:59pm **Time Limit** None

Attempt History

	Attempt	Time	Score
LATEST	Attempt 1	18,556 minutes	90 out of 100

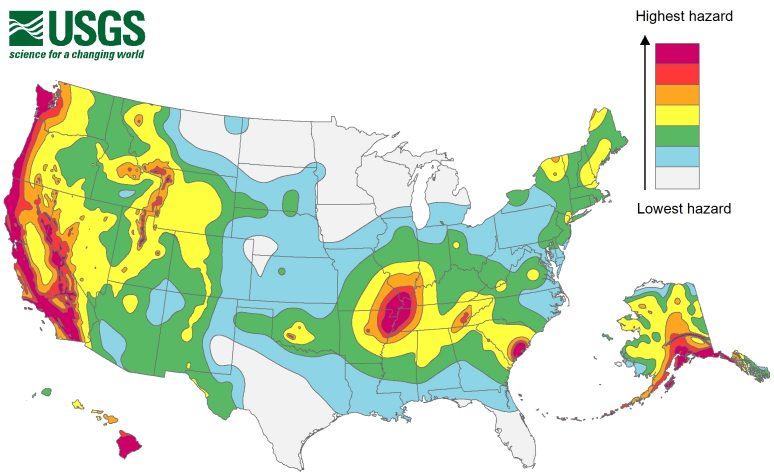
Correct answers are hidden.

Score for this quiz: **90** out of 100
Submitted Nov 27 at 12:24pm
This attempt took 18,556 minutes.

Question 1

10 / 10 pts

The map below shows the earthquake hazard for the U.S. Why does the western portion of the U.S. have such a high hazard?

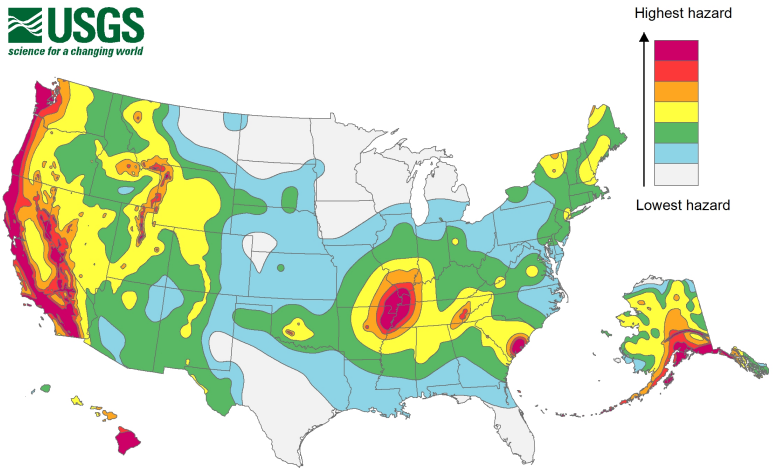


- The western portion of the U.S. has several mountain ranges.
- This region is rifting away from North America.
- **The west coast is a tectonically active area of the U.S.**
- It is near the coastline of the continent.

Question 2

10 / 10 pts

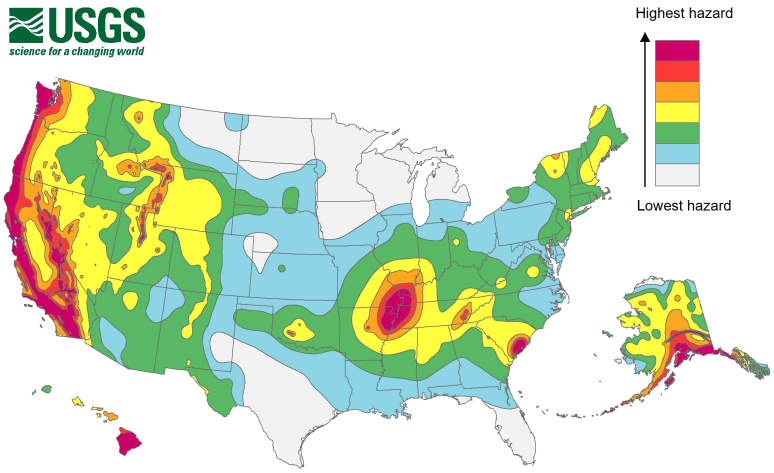
Which of the following states has the highest earthquake hazard?



- Colorado
- South Carolina
- Arizona
- Texas
- Florida

Question 3 10 / 10 pts

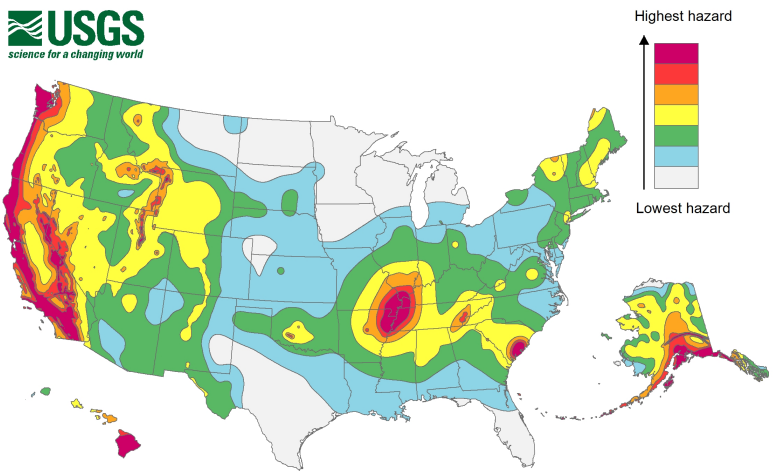
Which of the following states has the lowest earthquake hazard?



- California
- Alaska
- New Mexico
- New York
- Oklahoma

Question 4 10 / 10 pts

Why is there such a high earthquake hazard along the borders of Arkansas, Tennessee, Kentucky, Missouri, and Illinois?



- There is an old subduction zone hidden there.
- It is the location of a failed continental rift.
- Hydraulic fracturing from oil drilling is causing earthquakes.
- It is the site of an active tectonic plate boundary.

Question 5

10 / 10 pts

This USGS webpage (https://earthquake.usgs.gov/earthquakes/map/?extent=31.9102,-120.18494&extent=35.48304,-113.60413&range=month&magnitude=all&showPlateBoundaries=false&showUSFaults=true&settings=true) of the Los Angeles region in southern California shows you all earthquakes that have occurred in the last 30 days. Click the key button on the top right of the map to activate the map legend. Earthquakes are represented on the map by colored circles, and the size of the circle corresponds to the magnitude of the earthquake. You can click the layers button to toggle different layers. The faint red lines are faults.

True or false: Most earthquakes are occurring along faults.

- True
- False

Question 6

10 / 10 pts

Here is the same USGS webpage (https://earthquake.usgs.gov/earthquakes/map/?extent=31.06235,-120.24536&extent=36.28414,-113.5437&range=month&magnitude=all&showPlateBoundaries=false&showPopulationDensity=true&showUSFaults=true&settings=t as the previous question, but with population density shown.

True or false: Most earthquakes are occurring at locations with high population density.

- True
- False

Question 7

10 / 10 pts

This USGS webpage (https://earthquake.usgs.gov/earthquakes/eventpage/official20110311054624120_30/map?shakemap-code=official20110311054624120_30&shakemap-source=atlas&shakemap-intensity=false&shakemap-mmi-contours=true&shakemap-stations=true) shows the shakemap for the 2011 earthquake in Japan. What was the maximum shaking intensity felt by the population according to the colored contour lines?

- 7.0 to 7.5

- 8.0 to 8.5
- 8.5 to 9.0
- (7.5 to 8.0)
- >9.0

Incorrect

Question 8

0 / 10 pts

This USGS webpage (https://earthquake.usgs.gov/earthquakes/eventpage/us7000ipe4/map?shakemap-code=us7000ipe4&shakemap-source=us&shakemap-intensity=false&shakemap-mmi-contours=true&shakemap-stations=true) shows a recent 6.2 magnitude earthquake just off the coast of Chile. What was the maximum shaking intensity felt by people in Chile?

- 5.5 to 6.0
- >7.0
- 6.5 to 7.0
- (6.0 to 6.5)
- 5.0 to 5.5

Question 9

10 / 10 pts

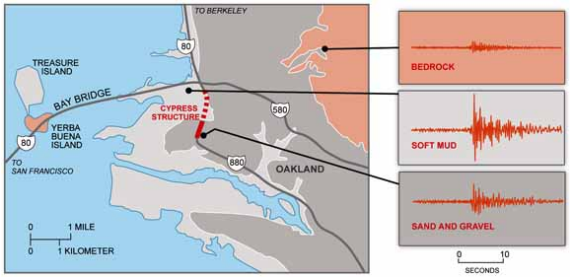
Using the same **USGS webpage (https://earthquake.usgs.gov/earthquakes/eventpage/official20110311054624120_30/map?shakemap-code=official20110311054624120_30&shakemap-source=atlas&shakemap-intensity=false&shakemap-mmi-contours=true&shakemap-stations=true)** of the 2011 Japan earthquake, turn on "historic seismicity" and "tectonic plates" in the layers on the upper right. The grayscale dots represent earthquakes between 1900 and 2015. The red lines are tectonic plate boundaries. The main subduction zone is to the east of the 2011 earthquake epicenter. Why are there so few earthquakes to the east of that subduction zone (toward the Pacific Ocean) as compared to the west (toward Japan)?

- The western side of the boundary is geologically weaker due to the cooler temperatures in the lithosphere.
- There is no volcanic activity to the east of the subduction zone.
- (Earthquakes primarily occur along the subducting portion of the plate, and the Pacific plate is subducting toward the west.)
- The Pacific Ocean is too deep for earthquakes to reach the surface.

Question 10

10 / 10 pts

This image shows three seismographs from a 1990's San Francisco Bay Area earthquake. Each seismograph represents seismic waves traveling through different materials, which can increase or decrease the amplitude (shaking motion) of seismic waves. Which material amplifies earthquake waves the most?



- igneous and metamorphic bedrock
- (soft, muddy sediment)
- sand and gravel sediment

Quiz Score: **90** out of 100