

How do geological features and processes affect where and how we live?

Use with textbook pages 318-325.



Summarize

What have you and your family done to prepare for a natural disaster?

British Columbia's Landscape

Geological processes have shaped B.C.'s landscape and given rise to features such as mineral deposits, river deltas, and hot springs. These features have influenced settlement patterns over the long history of the province.

Region	Geological Features
Northern Interior	<ul style="list-style-type: none"> • glacial lakes • nutrient rich soils • jade deposits in ancient oceanic rock
Northeast Peace River Region	<ul style="list-style-type: none"> • rich soils from ancient glacial lake • natural gas, oil and coal deposits • fossils
Southern Interior	<ul style="list-style-type: none"> • steep-walled canyons • lakes • mineral resources
Rocky Mountains	<ul style="list-style-type: none"> • some of Canada's highest mountains • North America's longest mountain valley • hot springs
Coastal Regions	<ul style="list-style-type: none"> • mountains and islands • earthquakes • dormant volcanoes

Geohazards

Geohazards are destructive events that result from geological processes. The province is vulnerable to many types of geohazards due to factors such as its location near active tectonic plate boundaries, the amount of rain and snow that falls, and the effects of ancient glaciers.

When and where earthquakes and other geohazards occur cannot be predicted accurately. Individuals, families, and governments can take steps to be more prepared for any type of geohazard.

Being Prepared

Use with textbook pages 323-324.

1. Even though we are unable to predict when a particular geohazard such as an earthquake will occur, it is important to be prepared for such an event. List all of the items you think should be kept in an emergency preparedness kit.

Examples: blanket, sleeping bag, bottled water, candles and matches, clothing and shoes, first aid kit, flashlight and batteries, non-perishable foods, medication

2. Visit the City of Vancouver website and review what is recommended for an evacuation kit and a home emergency preparedness kit. Write down any items you did not include on your list in question #1.

Answers will vary.

3. Tofino and Vancouver are both located near the Cascadia subduction zone. People in both places need to be prepared for the high likelihood of an earthquake occurring. However, the people of Tofino need to be prepared for different geohazards than the people of Vancouver.

- a) Find the District of Tofino and the City of Vancouver on a map. If an earthquake occurred off the west coast of British Columbia, what type of resulting geohazard would Tofino residents need to be prepared for that Vancouver residents would not?

Tofino will need to be prepared for a tsunami

- b) Why would this particular geohazard be a risk for Tofino, but not Vancouver?

The coastline of Tofino is exposed directly to the Pacific Ocean while Vancouver is protected by Vancouver Island.

4. Governments have a responsibility to ensure residents are aware of the risks of geohazards in their region and how to prepare for them.

- a) What does your local government do to inform residents of geohazard risks and how to prepare for them? Vancouver provides a detailed

emergency preparedness website, emergency planning workshops, has emergency plans, training for first responders

- b) What does the provincial government do?

B.C. has a detailed website, which provides info about how to prepare for emergencies, learning resources for students, local emergency program and more.

Geohazards in British Columbia

Use with textbook pages 322-323.

British Columbia is vulnerable to different types of geohazards.

1. Briefly describe some of the geohazards to which British Columbia is vulnerable.

B.C. is at risk of tsunamis, earthquakes, avalanches, land/mud/rock slides, floods and forest fires.

2. a) What factors make British Columbia vulnerable to geohazards?

B.C. is vulnerable to geohazards due to its mountainous terrain, its long coastline, the substantial amounts of rain and snow that fall, being close to tectonic plate boundaries and large amount of sediments laid down by glaciers.

- b) Which of these factors might also make British Columbia an attractive place for people to live? Explain.

Examples: mountains, snow and the coastline are attractive to outdoors people and tourists, geological makeup attracts mining interests, sediments are good for farming.

3. British Columbia is Canada's most tectonically active province.

- a) Which tectonic plates contribute to British Columbia's geohazard risk?

Pacific plate, Explorer Plate, Juan de Fuca Plate, South Gorda Plate, North American Plate

- b) What type of tectonic plate boundaries exist near British Columbia?

Convergent (Juan de Fuca & North American Plates), divergent (Juan de Fuca & Pacific plates) and transverse (Pacific & North American plates near Haida Gwaii) plate boundaries.

- c) What geohazards do these tectonic plate interactions put British Columbia at risk of?

earthquakes, volcanoes, tsunamis, landslides

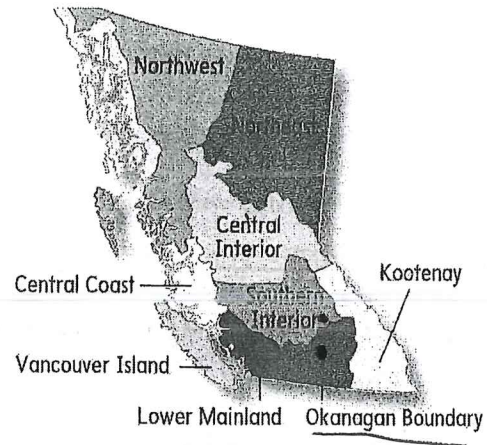
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The Geology of Your Region

Use with textbook pages 320–323.

1. Identify on the map the region where you live.



2. Think about the landforms and other geologic features of the place where you live.

- a) What geologic features makes your local area attractive to you?

mountains, canyons, lakes, rivers, coast line,
beaches, waterfalls ect.

- b) What geologic features make your local area attractive to tourists?

mountains, lakes, beaches

3. What geohazards could occur in your region?

Floods

4. Research the geological history of your local area.

- a) How has the geological history given rise to the geologic features you enjoy?

Answers will vary but may discuss plate
tectonic activity building mountains, past glacial
activity affecting the region ect.

- b) How has the geological history contributed to the risk of geohazards in your region?

Geological history can contribute to risks of earthquakes
volcanoes, floods, landslides, and tsunamis.