



Geography 12

Resource Exam B

Exam Booklet

PART A: MULTIPLE CHOICE

Value: 53 marks

Suggested Time 65

INSTRUCTIONS: For each question, select the **best** answer.

1. Which of the following is a non-renewable resource?
 - A. solar
 - B. biomass
 - C. petroleum
 - D. geothermal

2. What is the main purpose of planting shelter belts?
 - A. to replenish nutrients in the soil
 - B. to minimize the effects of salinization
 - C. to reduce soil loss due to wind erosion
 - D. to prevent erosion resulting from run-off

Use the following photograph to answer question 3.



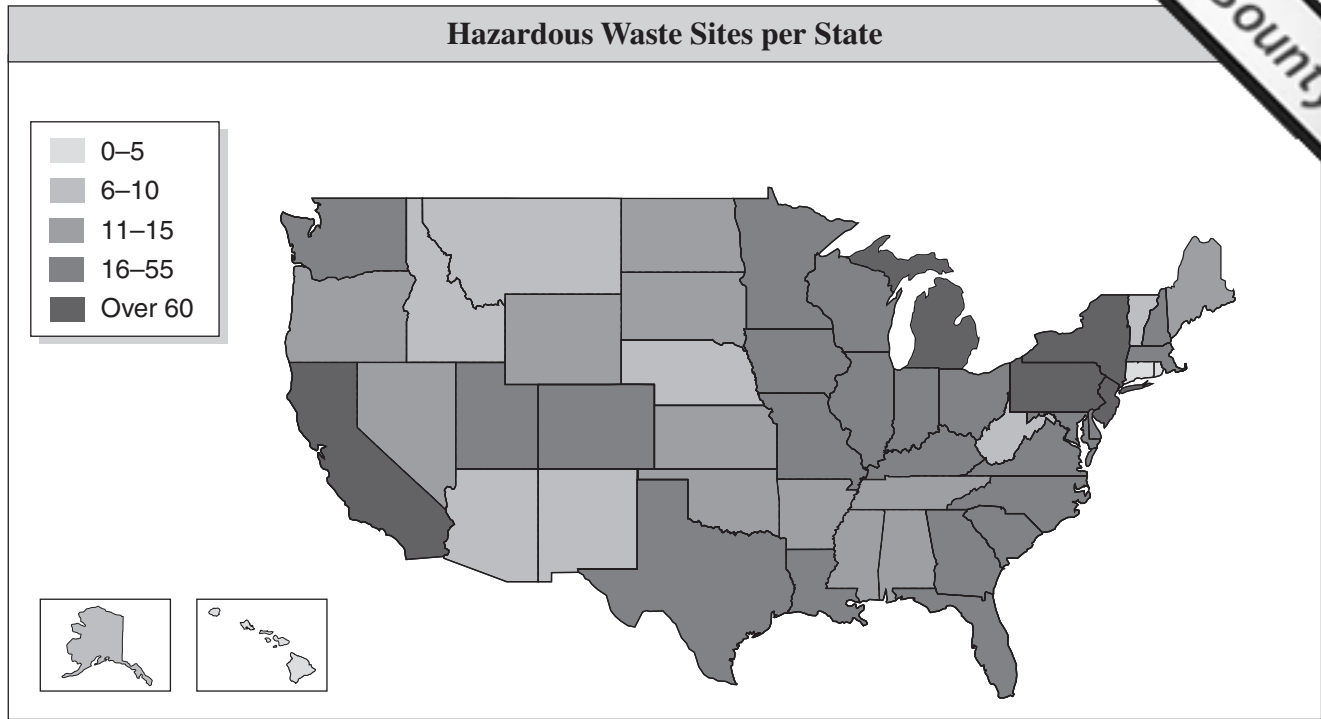
3. What resource ethic does the activity in the photograph illustrate?

- A. economic
- B. preservation
- C. conservation
- D. sustainability

4. Which sphere is associated with fossil fuel extraction?

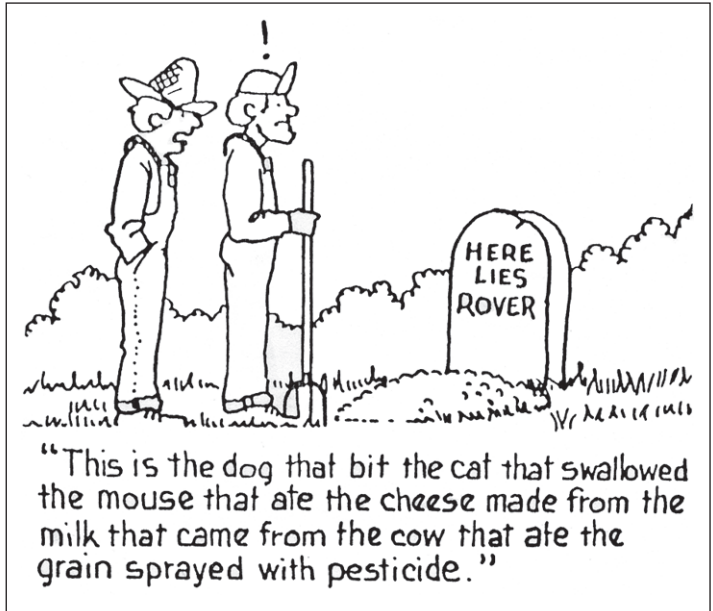
- A. lithosphere
- B. stratosphere
- C. centrosphere
- D. thermosphere

Use the following map to answer question 5.



5. Which geographic themes are illustrated on the map?
- A. place and movement
 - B. relative location and sustainability
 - C. region and human-physical interaction
 - D. spatial distribution and absolute location

Use the following cartoon to answer question 6.



Source: Environment and Pollution

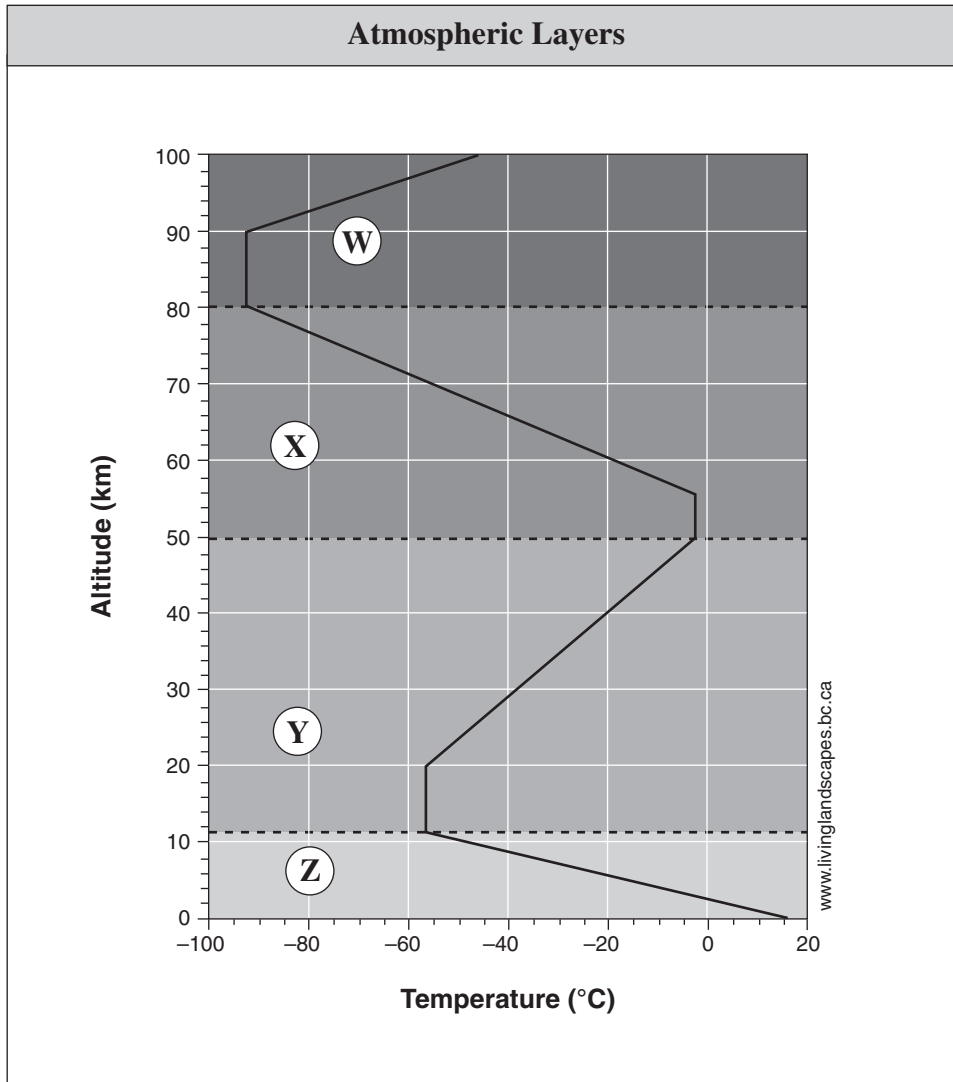
6. Identify the process described in the cartoon.

- A. infiltration
- B. transpiration
- C. eutrophication
- D. biomagnification

7. The daily monitoring and forecasting of atmospheric conditions is the primary responsibility of a

- A. glaciologist.
- B. climatologist.
- C. volcanologist.
- D. meteorologist.

Use the following graph to answer question 8.

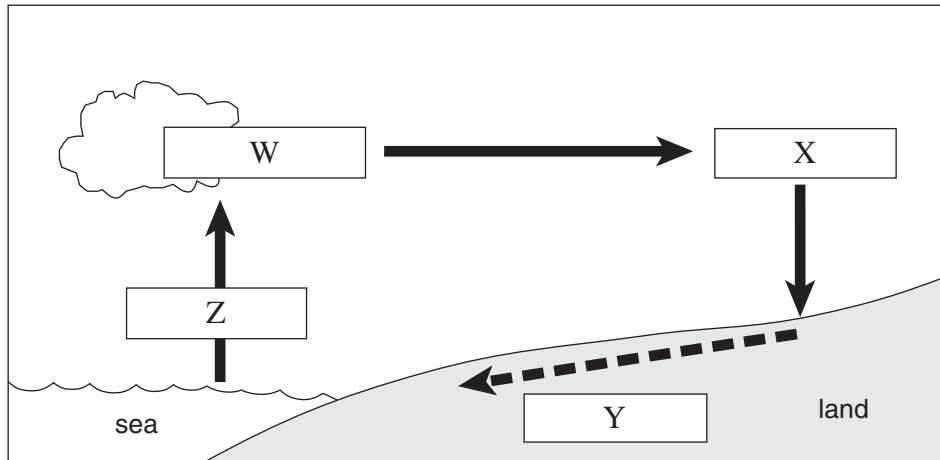


8. In which layer is the most atmospheric ozone found?

- A. W
- B. X
- C. Y
- D. Z

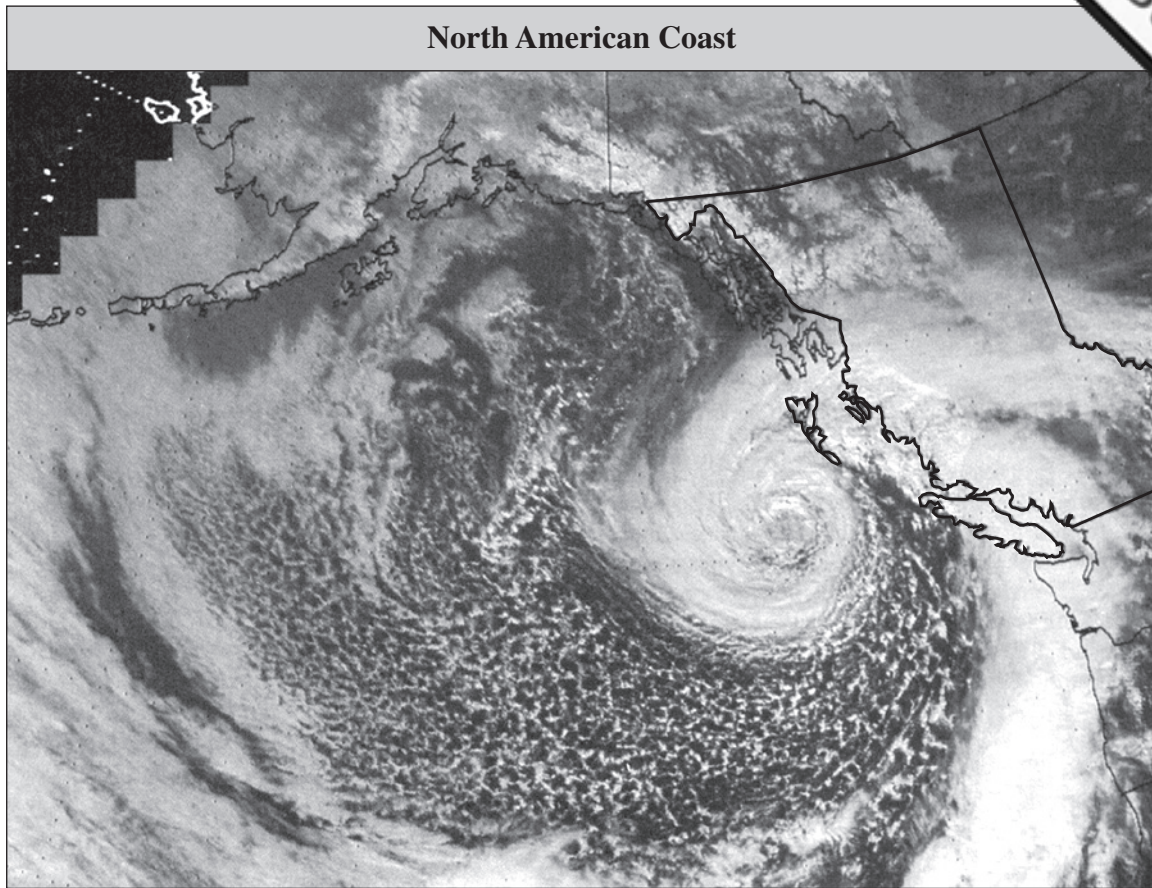
9. The amount of solar radiation that is reflected into the atmosphere is known as
- A. aspect.
 - B. albedo.
 - C. insolation.
 - D. conduction.

Use the following diagram to answer question 10.



10. At which location in the diagram would condensation occur?
- A. W
 - B. X
 - C. Y
 - D. Z

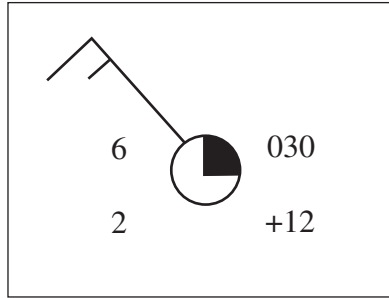
Use the following satellite image to answer question 11.



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11. Which global wind is responsible for moving the weather system towards British Columbia?
- A. Doldrums
 - B. Westerlies
 - C. Polar Easterlies
 - D. Northeast Trades

Use the following weather station to answer questions 12 to 15.



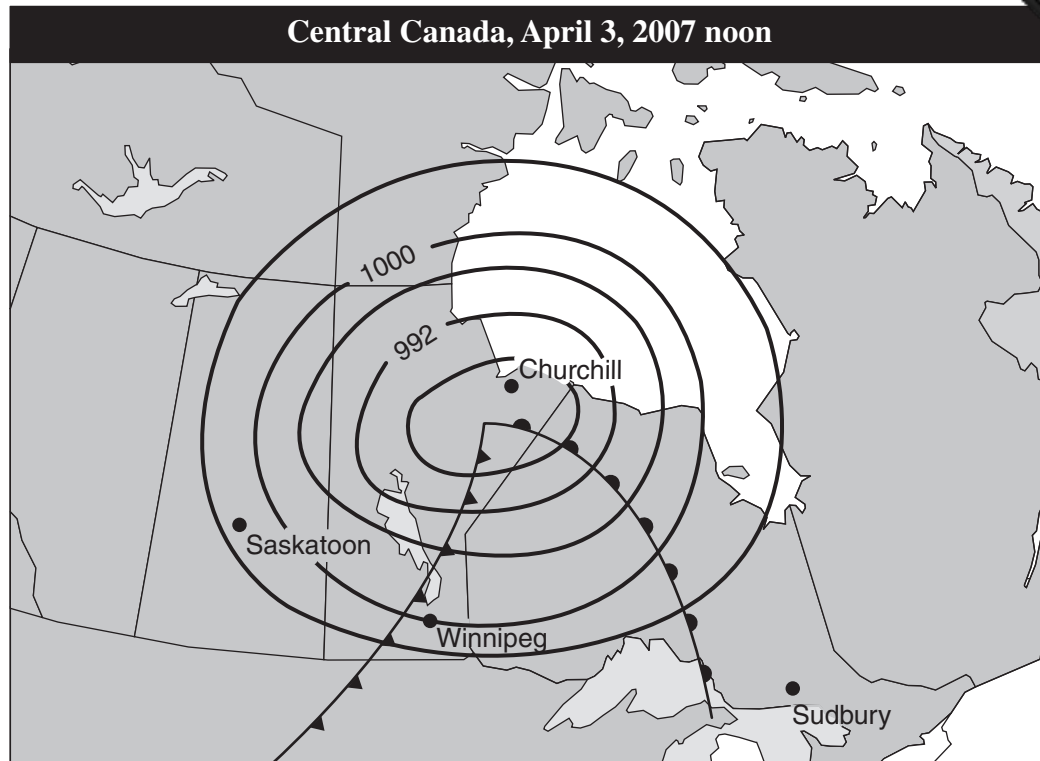
12. The wind at the weather station is blowing from the

- A. northeast.
- B. southeast.
- C. northwest.
- D. southwest.

13. What is the temperature at the weather station?

- A. 2°C
- B. 6°C
- C. 12°C
- D. 30°C

Use the following weather map to answer questions 14 and 15.



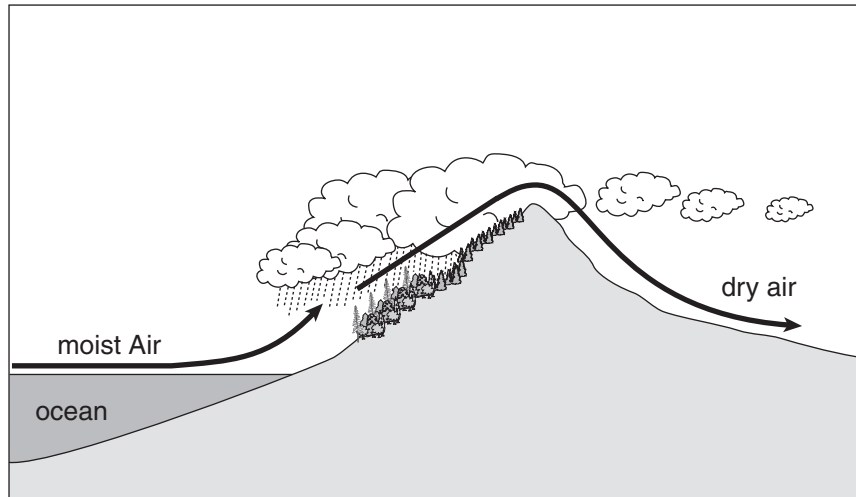
14. Which city is experiencing the lowest air pressure?

- A. Sudbury
- B. Churchill
- C. Winnipeg
- D. Saskatoon

15. The weather station (on page 8) represents the conditions at which city?

- A. Sudbury
- B. Churchill
- C. Winnipeg
- D. Saskatoon

Use the following diagram to answer question 16.



16. What type of rainfall is illustrated above?

- A. frontal
- B. cyclonic
- C. orographic
- D. convectional

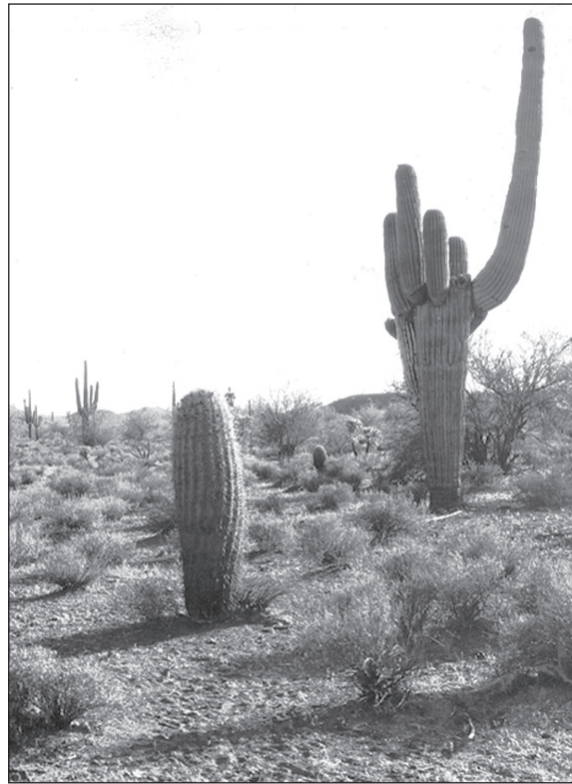
Use the following photograph to answer question 17.



17. Which two air masses are responsible for the formation of the phenomenon shown in the photograph?

- A. maritime polar and continental polar
- B. maritime polar and maritime tropical
- C. maritime tropical and continental polar
- D. continental tropical and maritime tropical

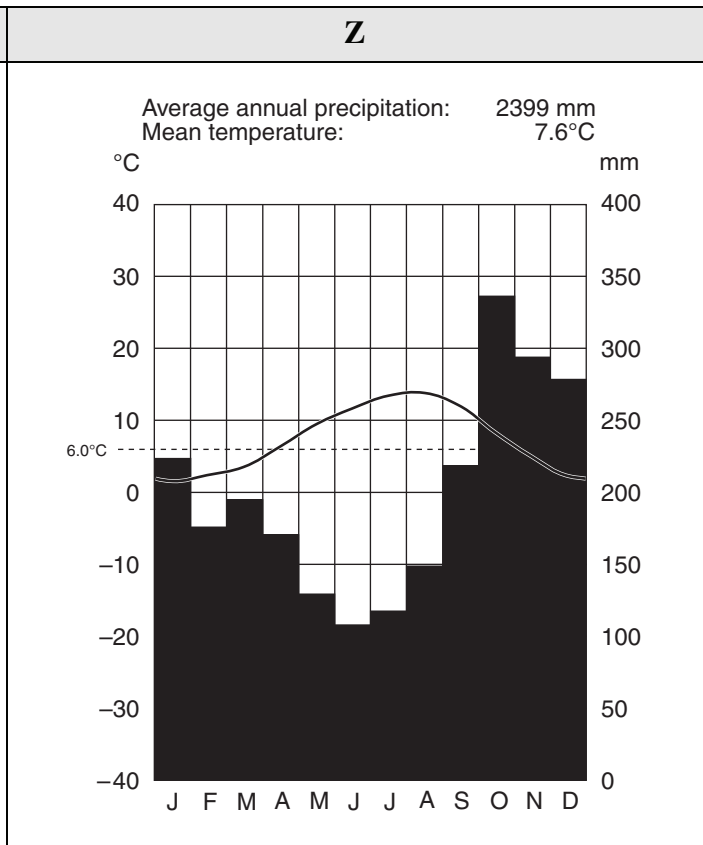
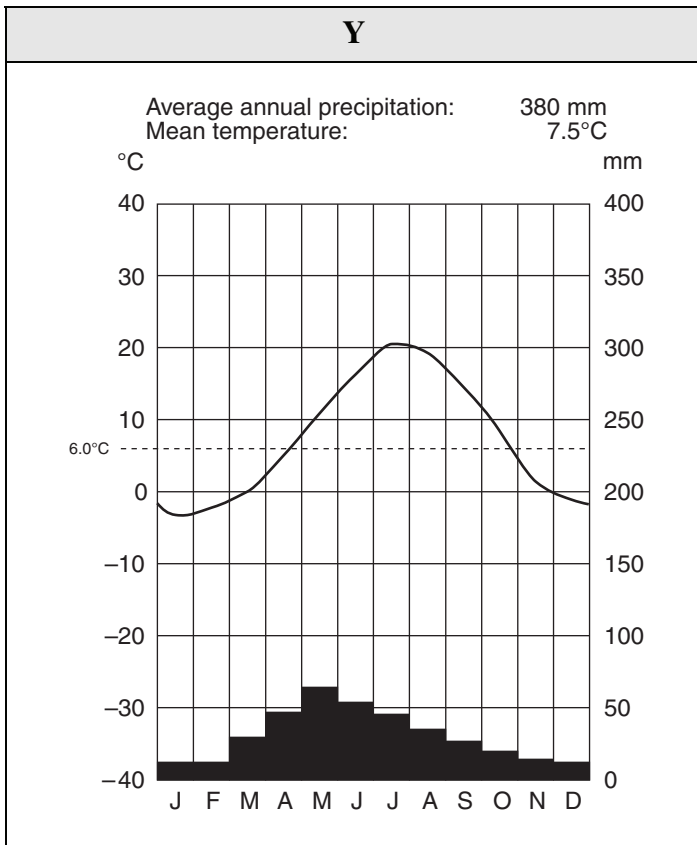
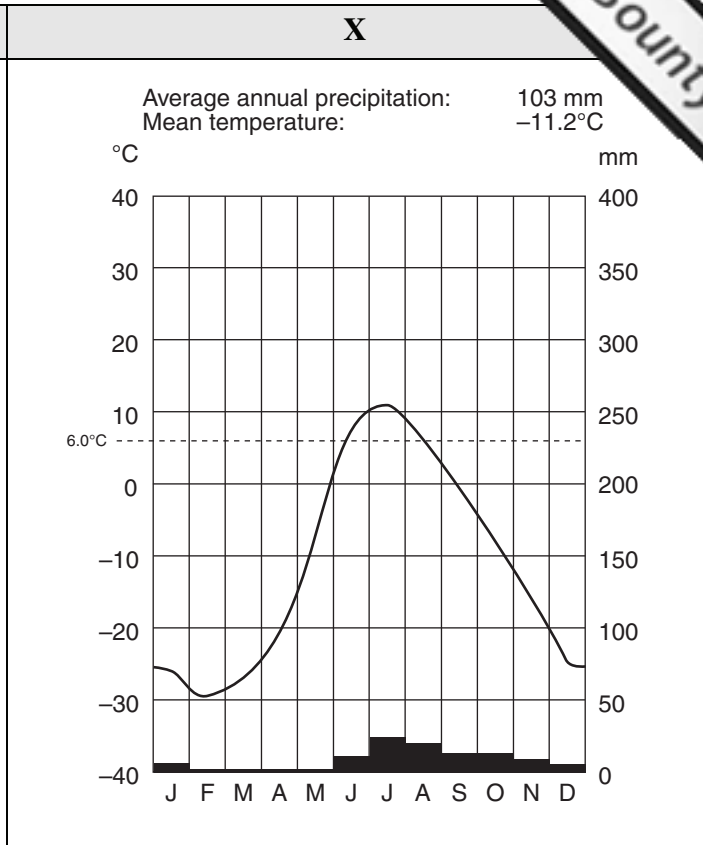
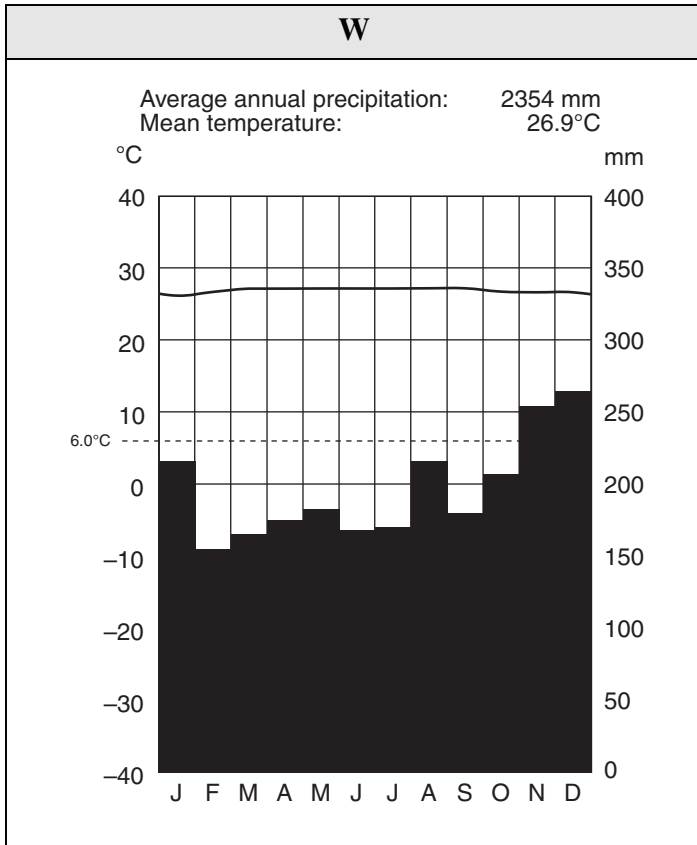
Use the following photograph to answer questions 18 and 19.



© W.T. Lee, US Geological Survey

18. Identify the major adaptation of the natural vegetation shown in the photograph.
- A. stunted to avoid strong winds
 - B. deciduous to conserve nutrients
 - C. thick, waxy skin to limit transpiration
 - D. widely scattered, reducing competition for sunlight
19. All of the following climate controls are responsible for the biome in the photograph **except**
- A. latitude.
 - B. elevation.
 - C. rainshadow effect.
 - D. cold ocean currents.

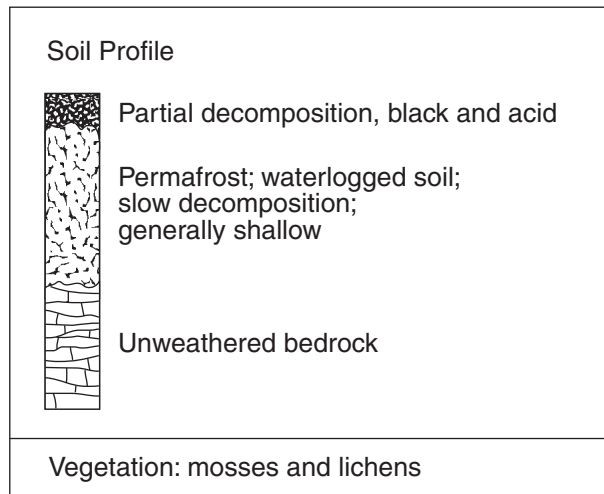
Use the following climate graphs to answer questions 20 to 22.



20. Which climate graph represents a West Coast Marine climate?

- A. W
- B. X
- C. Y
- D. Z

Use the following biome data and the climate graphs to answer question 21.



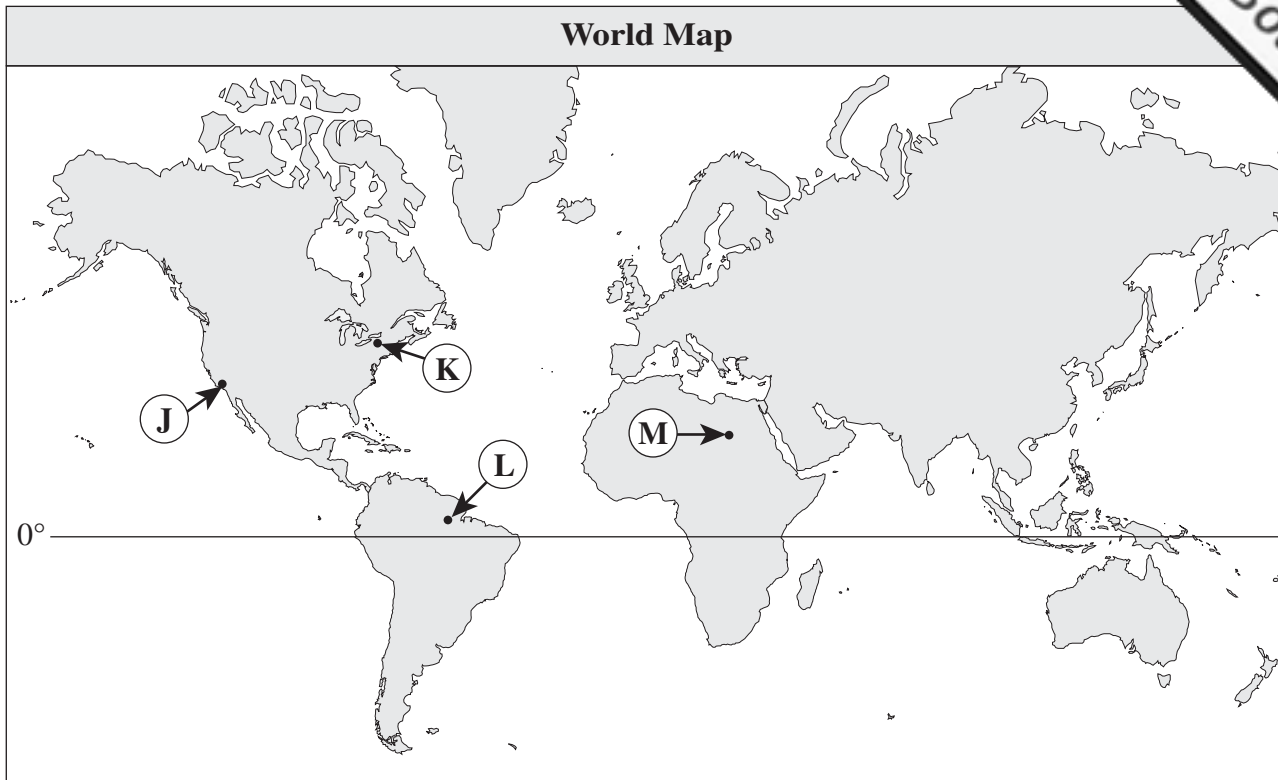
21. The biome data is represented by which climate graph?

- A. W
- B. X
- C. Y
- D. Z

22. Which climate graph represents a region associated with chernozem soils and cereal crops?

- A. W
- B. X
- C. Y
- D. Z

Use the following map to answer questions 23 and 24.



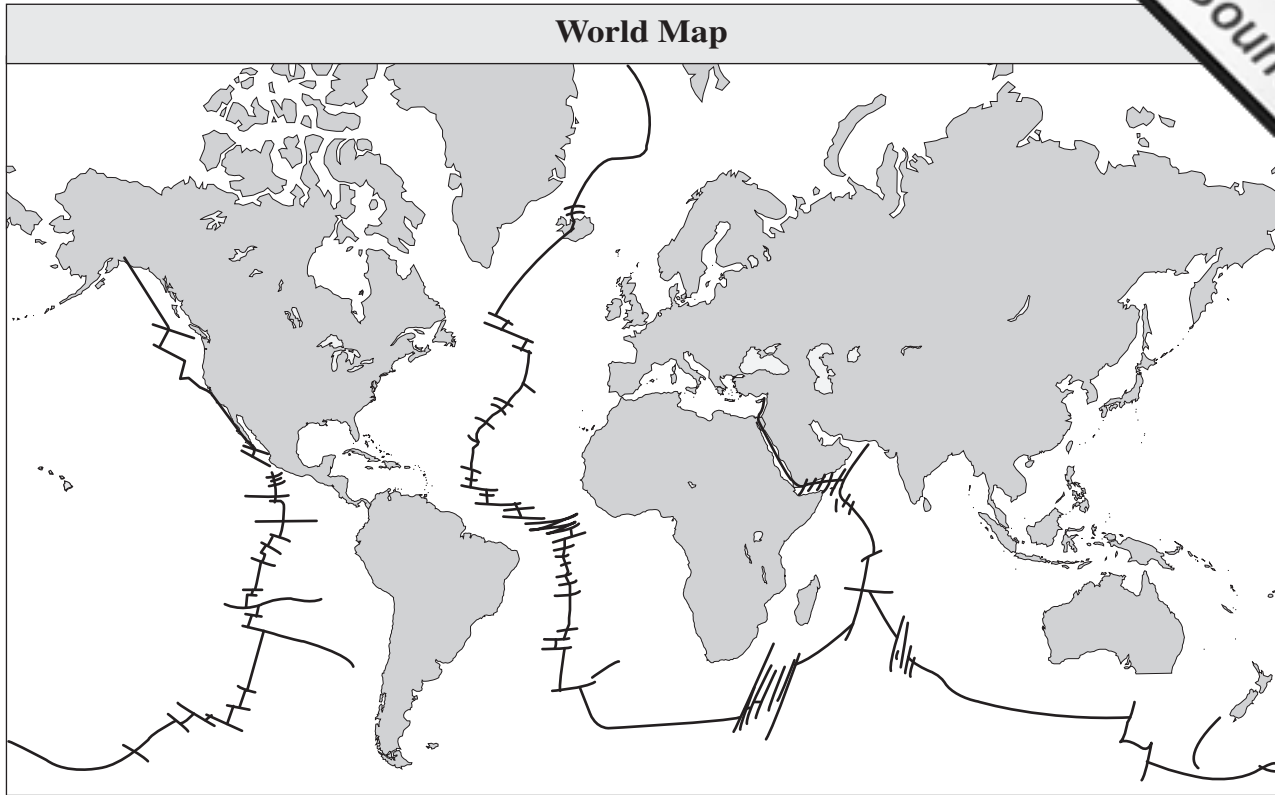
23. Which of the following climate regions is found at map location **J**?

- A. Equatorial
- B. Mediterranean
- C. Cool temperate
- D. Humid subtropical

24. Identify the map location associated with temperate deciduous vegetation and grey-brown podzol soils.

- A. J
- B. K
- C. L
- D. M

Use the following map to answer question 25.



25. The map illustrates the world distribution of which features?
- A. island arcs
 - B. ocean ridges
 - C. composite cones
 - D. deep sea trenches

26. The volcanoes that make up the Hawaiian Islands are the result of which process?
- A. hot spot activity
 - B. seafloor spreading
 - C. rifting of continental plates
 - D. subduction of an ocean plate

Use the following photograph to answer questions 27 and 28.

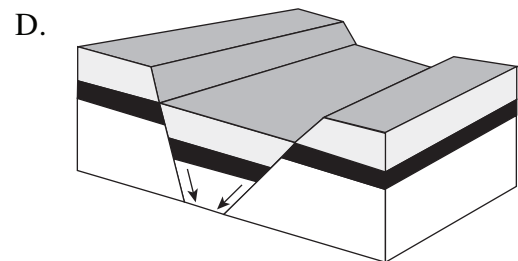
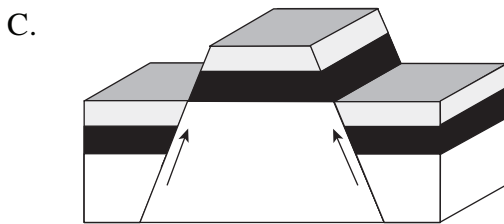
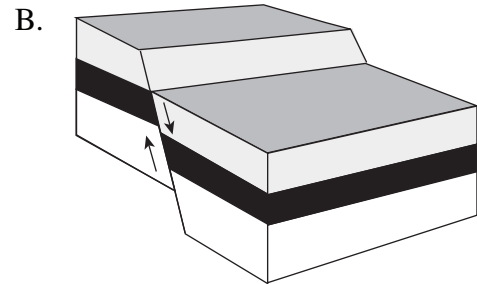
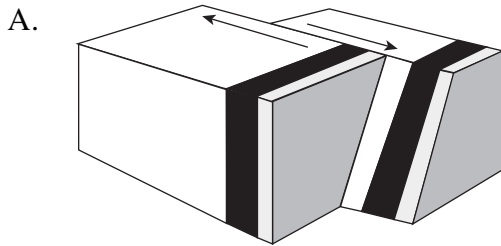


27. Which rock type is found at **X** in the photograph?
- A. sedimentary
 - B. metamorphic
 - C. hydrothermal
 - D. intrusive igneous
28. Which processes are responsible for the formation of the mountain?
- A. tearing and volcanism
 - B. divergence and tension
 - C. faulting and translocation
 - D. deposition and compression

29. Which plate activity is responsible for the majority of earthquakes along the San Andreas fault?
- A. rifting
 - B. tearing
 - C. divergence
 - D. convergence

30. The greatest loss of life and property damage is associated with high-magnitude earthquakes located on
- A. lava plateaus.
 - B. ancient shields.
 - C. alluvial deposits.
 - D. extensive batholiths.

31. Which diagram best represents a graben?



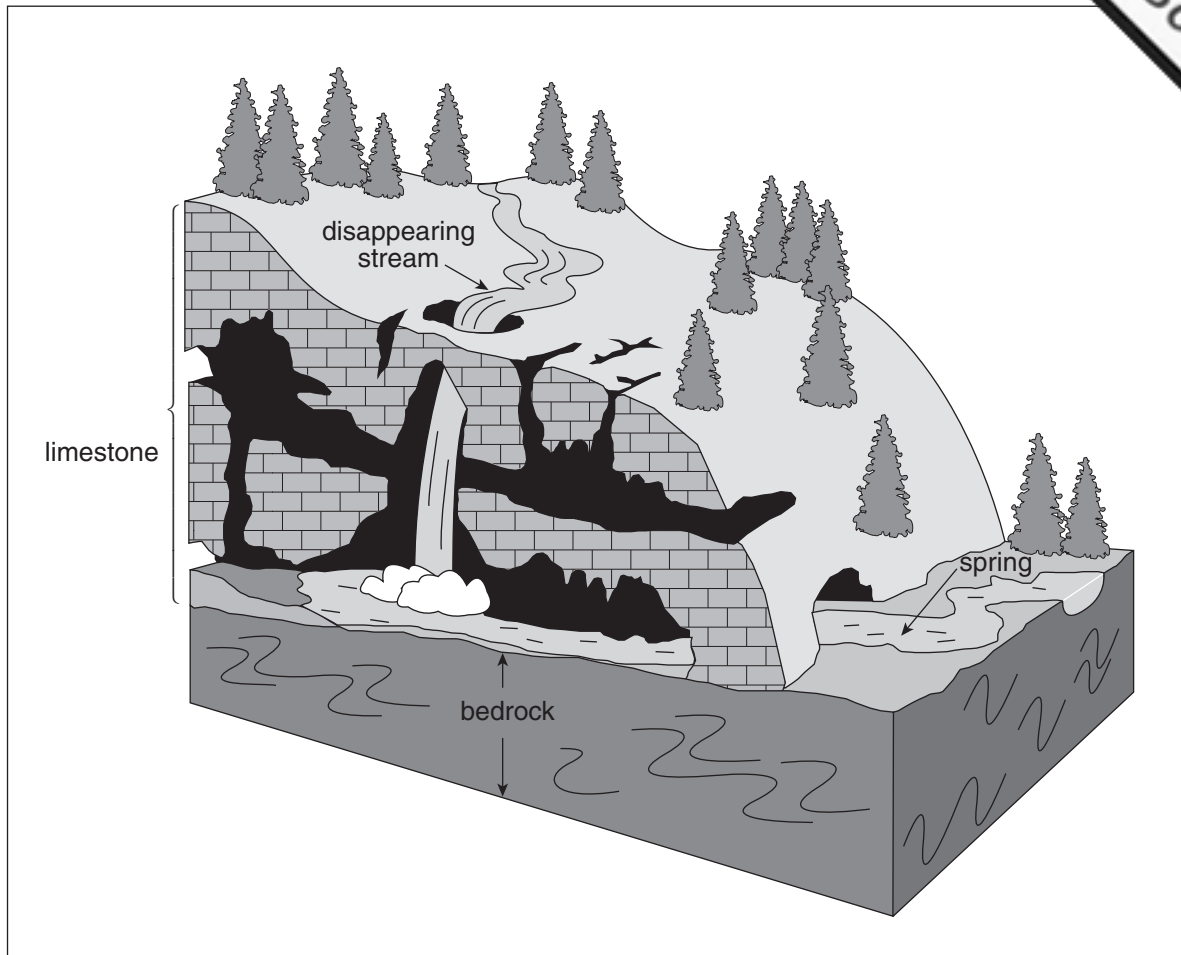
32. Which features result from intrusive igneous activity?
- A. dike and horst
 - B. sill and laccolith
 - C. fissure and graben
 - D. batholith and syncline

Use the following photograph to answer question 33.



33. Identify feature X in the photograph.
- A. rift valley
 - B. dome mountain
 - C. volcanic caldera
 - D. exposed laccolith

Use the following diagram to answer question 34.

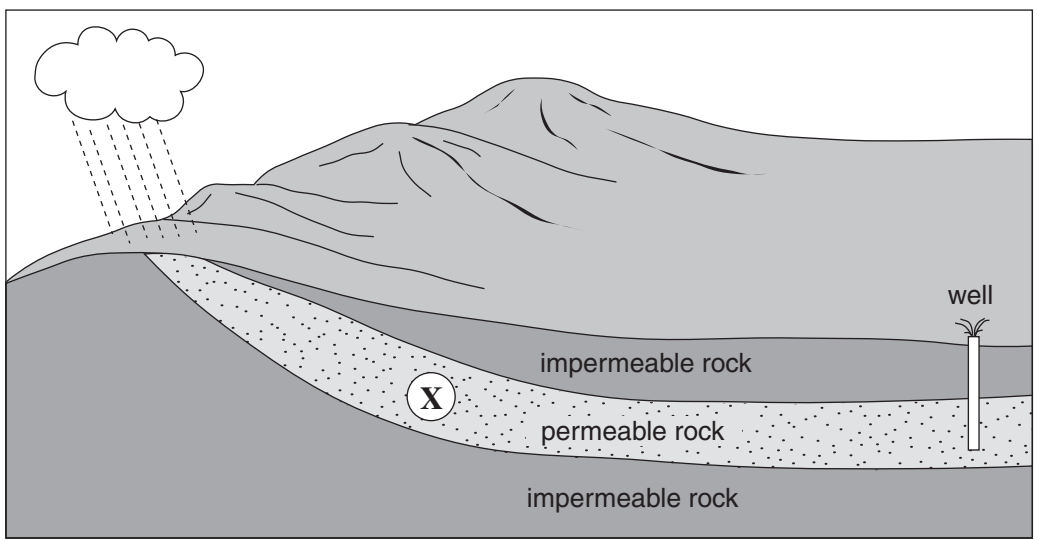


34. Which process is responsible for the karst landscape illustrated in the diagram?
- A. frost shattering
 - B. hydraulic action
 - C. thermal expansion
 - D. chemical weathering

35. Weathered rock fragments that accumulate at the base of a slope are called
- A. till.
 - B. scree.
 - C. moraine.
 - D. alluvium.

36. Retaining walls built along highways help to reduce damage caused by
- A. subsidence.
 - B. liquefaction.
 - C. mass wasting.
 - D. basal slippage.

Use the following diagram to answer question 37.



37. Identify feature X in the diagram.
- A. sill
 - B. oasis
 - C. fissure
 - D. aquifer

Use the following aerial photograph to answer questions 38 and 39



38. What is the dominant method of sediment transport in this stage of river development?
- A. traction
 - B. saltation
 - C. deflation
 - D. suspension
39. Based on evidence in the photograph, which activity benefits the most from the river?
- A. logging
 - B. agriculture
 - C. strip mining
 - D. power generation

40. Which agent of erosion is responsible for the formation of barchans and rock pedestals?
- A. river
 - B. wind
 - C. wave
 - D. glacier

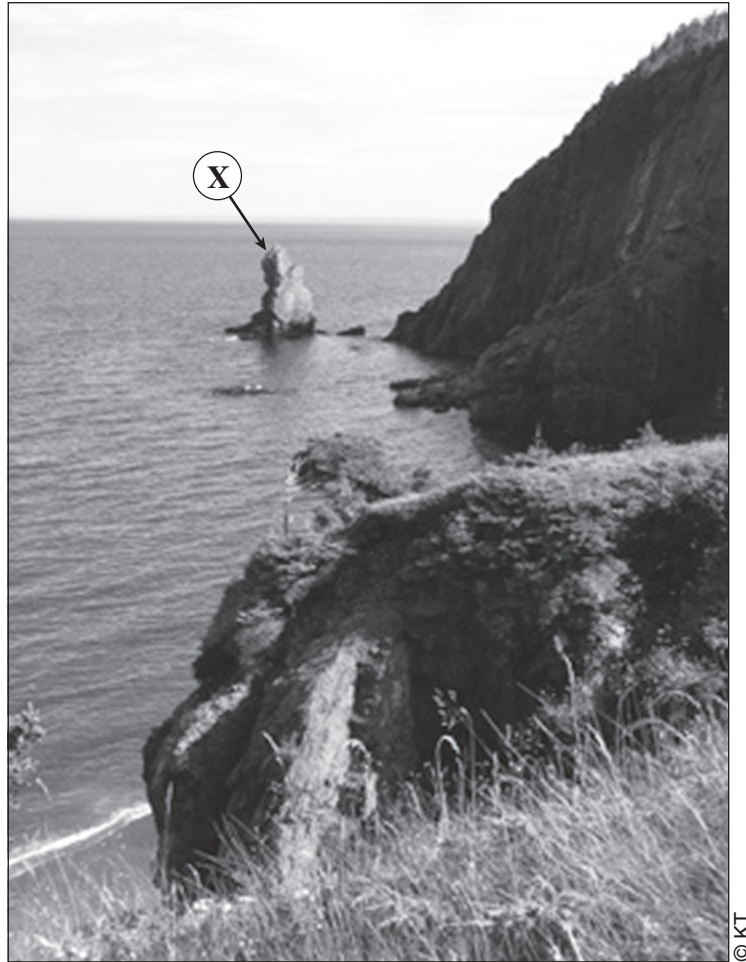
Use the following photograph to answer questions 41 and 42.



Reproduced with the permission of Natural Resources Canada, 2008, courtesy of the Geological Survey of Canada (Photo #A89S0054 by R.J. Fulton)

41. Identify feature X in the photograph.
- A. levee
 - B. esker
 - C. fissure
 - D. tombolo
42. Which process is responsible for the formation of the feature?
- A. wind erosion
 - B. volcanic activity
 - C. wave deposition
 - D. continental glaciation

Use the following photograph to answer questions 43 and 44.



43. Identify feature **X** in the photograph.
- A. arch
 - B. stack
 - C. tombolo
 - D. headland
44. Which processes are responsible for the formation of the feature?
- A. corrosion and traction
 - B. attrition and deposition
 - C. wave refraction and abrasion
 - D. thermal expansion and saltation

**REFER TO
DATA PAGES**

Use the Topographic Map and Air Photograph of
Lake Louise, Alberta to answer questions 45 to 53.

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45. What is the direction from the peak of Mount Niblock (5096) to the peak of Mount Huber (4791)?
- A. northeast
 - B. southeast
 - C. northwest
 - D. southwest
46. In what general direction does Paradise Creek flow in the southeast quadrant of the map?
- A. northeast
 - B. southeast
 - C. northwest
 - D. southwest
47. What is the approximate road distance from the hotel (545966) to the bridge (571972) in the town of Lake Louise?
- A. 1.5 km
 - B. 3.5 km
 - C. 7.5 km
 - D. 10.5 km
48. What is the approximate area of the lake named Lake Louise?
- A. 0.5 km^2
 - B. 1.0 km^2
 - C. 2.0 km^2
 - D. 5.0 km^2

49. What is the approximate elevation of Narao Peak (4795)?
- A. 2930 m
 - B. 2970 m
 - C. 3030 m
 - D. 3200 m
50. Identify the cultural feature at 563963.
- A. motel
 - B. toll booth
 - C. picnic site
 - D. power line
51. What is the stage of development for the river flowing out of Temple Lake (5790)?
- A. mature
 - B. old age
 - C. youthful
 - D. rejuvenated
52. Identify the physical feature located at **5G** on the air photograph.
- A. tarn
 - B. arête
 - C. esker
 - D. drumlin

53. Which processes are mainly responsible for shaping of the Lake Louise region?
- A. corrosion and traction
 - B. plucking and abrasion
 - C. deflation and hydrolysis
 - D. hydraulic action and saltation

**This is the end of the multiple-choice section.
Answer the remaining questions directly in the Response Booklet.**

PART B: WRITTEN RESPONSE

Value: 40 marks

Suggested Time:

INSTRUCTIONS: Answer each question in the **Response Booklet**. You may not need all of the resources provided. Answers should be written in **ink**. **Comprehensive answers are required for full marks.**

**REFER TO
DATA PAGES**

Use the **Topographic Map and Air Photograph of Lake Louise, Alberta** to answer questions 1 and 2.

1. **Outline** two negative and two positive impacts that people have had upon the environment of the Lake Louise region.

Use **page 1** in the Response Booklet.

(4 marks)

2. **Describe** the interactions that are occurring between the four spheres in the Lake Louise region. All four spheres must be addressed for full marks. Answer in **paragraph** form.

Use **page 2** in the Response Booklet.

(6 marks)

Organization and Planning

Use this space to plan your ideas before writing in the **Response Booklet**.

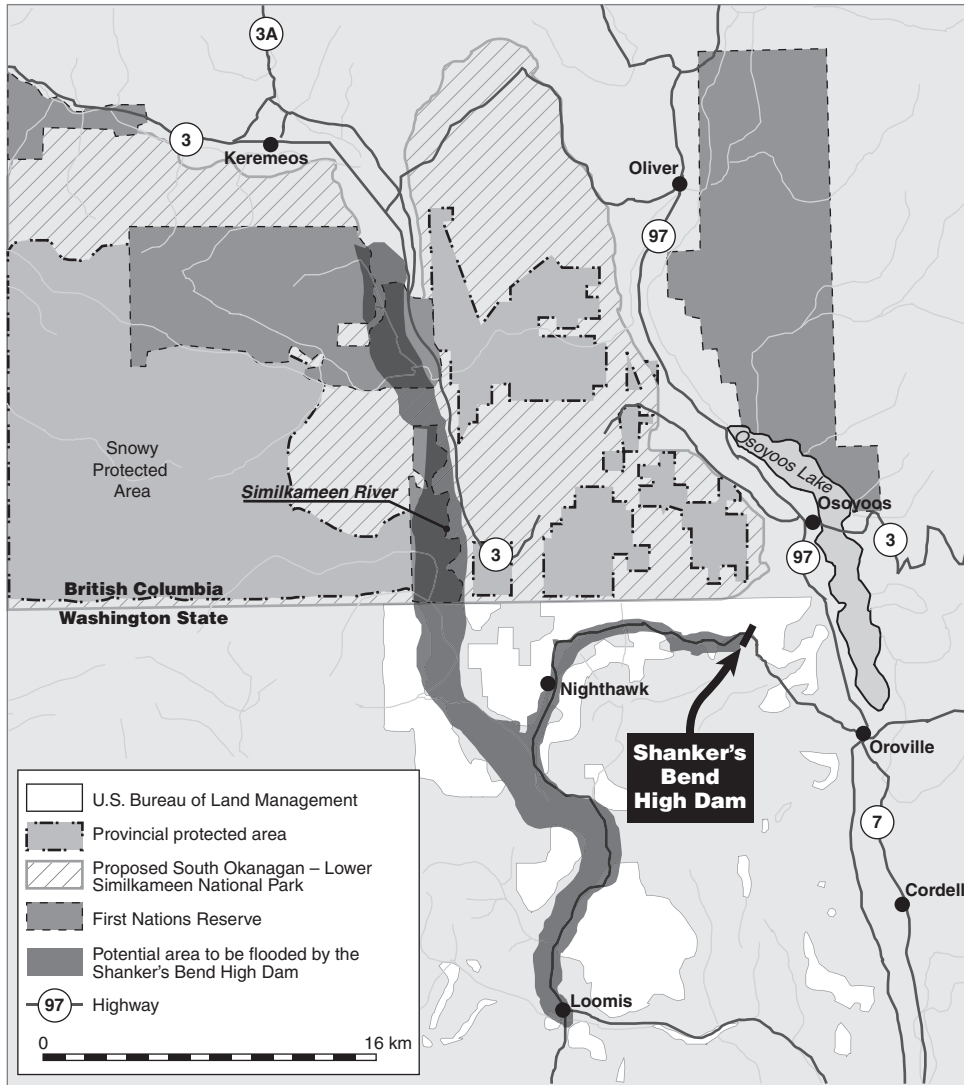
WRITING ON THIS PAGE WILL NOT BE MARKED

Organization and Planning

Use this space to plan your ideas before writing in the **Response Booklet**.

WRITING ON THIS PAGE WILL NOT BE MARKED

Use the following map to answer question 3.



Sources: Okanagan Public Utility Department, B.C. Parks, Parks Canada

3. **Discuss** three benefits and three drawbacks of the Shanker's Bend High Dam project.

Use **page 3** in the Response Booklet.

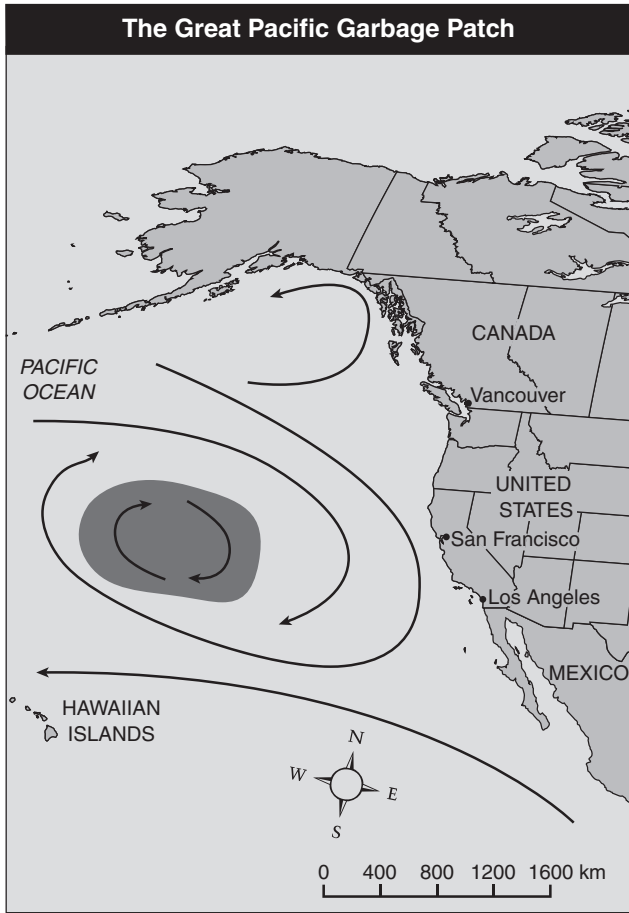
(6 marks)

Organization and Planning

Use this space to plan your ideas before writing in the **Response Booklet**.

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Use the following map and photograph to answer question 4.



LEGEND

- ← ocean currents
- area of the Great Pacific Garbage Patch



www.dreamways.org

For decades, garbage, mostly plastic, has continued to build up and slowly rotate in the Pacific Ocean, forming the "world's largest floating landfill."

4. **Explain** why solutions to the Great Pacific Garbage Patch are difficult to implement. Answer in **paragraph** form.

Use **page 4** in the Response Booklet.

(6 marks)

Organization and Planning

Use this space to plan your ideas before writing in the **Response Booklet**.

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**REFER TO
DATA PAGES**

**Use the case study of Mount Pinatubo:
The Mountain that Woke the World to answer questions**

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5. Using the information provided and your understanding of geography:
- **Describe** the physical characteristics of Mount Pinatubo and the Philippine region.
 - **Explain** the impacts the eruption of Mount Pinatubo had upon the Philippine region.
 - **Propose** short-term and long-term strategies that could be implemented to reduce the impacts of this natural disaster.

Answer in a **multi-paragraph** essay.
Use **pages 5 to 8** in the Response Booklet.

(18 marks)

END OF EXAM

