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BRITISH
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Geography 12

AUGUST 2004

Course Code = GEO

Student Instructions

1. Place the stickers with your Personal Education Number (PEN) in the allotted spaces above. **Under no circumstance is your name or identification, other than your Personal Education Number, to appear on this booklet.**
2. Ensure that in addition to this examination booklet, you have an **Examination Response Form**. Follow the directions on the front of the Response Form.
3. **Disqualification** from the examination will result if you bring books, paper, notes or unauthorized electronic devices into the examination room.
4. When instructed to open this booklet, **check the numbering of the pages** to ensure that they are numbered in sequence from page one to the last page, which is identified by

END OF EXAMINATION

.
5. At the end of the examination, place your Response Form inside the front cover of this booklet and return the booklet and your Response Form to the supervisor.

Question 1								
0	1	2	3	4	5	6	NR	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Question 2								
0	1	2	3	4			NR	
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Question 3								
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Question 4								
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Question 5								
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Question 6								
0	1	2	3				NR	
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Question 7								
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<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	
Question 8								
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<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	
Question 9								
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Question 10								
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<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
6	7	8	9	10			NR	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	

Geography 12

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Course Code = GEO

GENERAL INSTRUCTIONS

1. Electronic devices, including dictionaries and pagers, are **not** permitted in the examination room.
2. All multiple-choice answers must be entered on the Response Form using an **HB pencil**. Multiple-choice answers entered in this examination booklet will **not** be marked.
3. For each of the written-response questions, write your answer in **ink** in the space provided in this booklet.
4. Ensure that you use language and content appropriate to the purpose and audience of this examination. Failure to comply may result in your paper being awarded a zero.
5. This examination is designed to be completed in **two hours**. *Students may, however, take up to 30 minutes of additional time to finish.*

GEOGRAPHY 12 PROVINCIAL EXAMINATION

	Value	Suggested Time
1. This examination consists of two parts:		
PART A: 40 multiple-choice questions	40	40
PART B: 10 written-response questions	50	80
	Total:	90 marks
		120 minutes
2. The Data Booklet contains photographs, a topographic map and other information you will need to answer certain questions on this examination.		
3. A ruler or string may be used during this examination.		
4. The use of a calculator is not permitted during this examination.		

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PART A: MULTIPLE CHOICE

Value: 40 marks

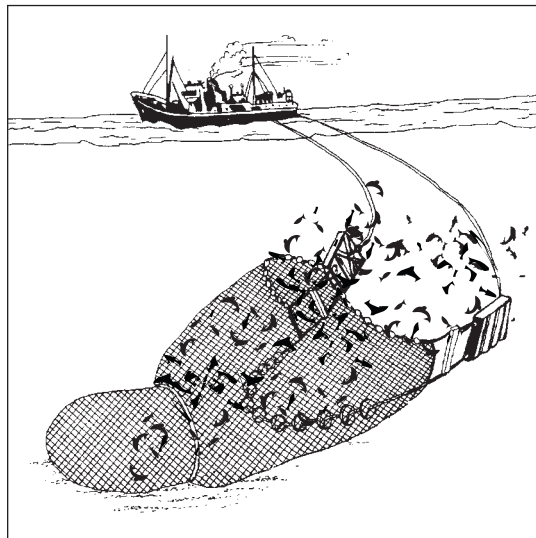
Suggested Time: 40 minutes

INSTRUCTIONS: For each question, select the **best** answer and record your choice on the Response Form provided. Using an HB pencil, completely fill in the circle that has the letter corresponding to your answer.

1. Which of the following is a non-renewable resource?
 - A. natural gas
 - B. farmed fish
 - C. groundwater
 - D. coniferous forests

2. ~~Globally, why is the recycling of mineral resources such as aluminum cans so difficult to achieve?~~
 - A. ~~There is not a demand for recycled products.~~
 - B. ~~It requires more energy to process than raw materials.~~
 - C. ~~The resource is widely scattered and costly to recover.~~
 - D. ~~A convenient and reliable technology is not widely available.~~

Use the following diagram to answer question 3.



Based on a diagram from *Geography: Skillmasters Canada* by Fred Jones. ©1982 McGraw-Hill Ryerson Ltd. Toronto. p.97.

3. Identify the resource ethic illustrated in the diagram above.
 - A. economic
 - B. preservation
 - C. multiple-use
 - D. sustainability

OVER

Use the following diagram to answer question 4.



4. Which of the following pairs of geographic themes is represented above?

- A. absolute location and place
- B. region and relative location
- C. spatial distribution and biomagnification
- D. movement and human/physical interaction

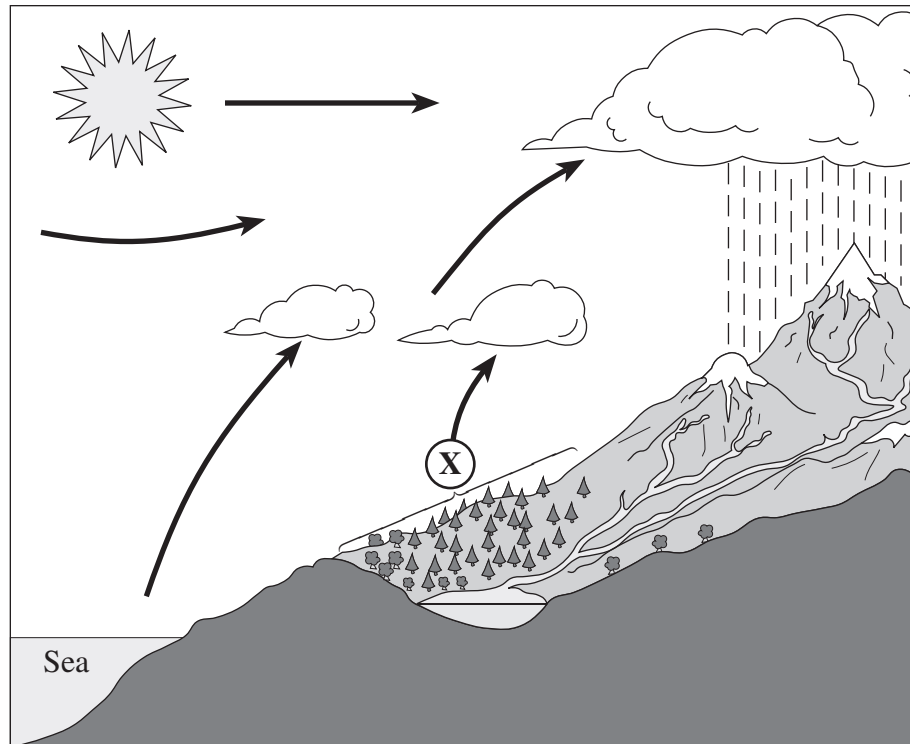
Use the following to answer question 5.

Topics
<ul style="list-style-type: none">• study of plate movements• rock structures• compression within the earth

5. Which career is dependent upon an expert understanding of the topics above?

- A. hydrologist
- B. seismologist
- C. climatologist
- D. cartographer

Use the following diagram to answer question 6.



Based on a diagram from *Dictionary of Geography* by Michael Upshall. Page 94. Helicon Publishing Ltd. © 1993. 42 Hyth Bridge Street. Oxford, England. OX1 2EP.

6. The interaction between which two spheres results in the process at location **X**?

- A. biosphere and hydrosphere
- B. atmosphere and mesosphere
- C. asthenosphere and biosphere
- D. centrosphere and hydrosphere

7. Identify the gas that is **primarily** responsible for climate change.

- A. ozone
- B. methane
- C. nitrous oxide
- D. carbon dioxide

8. In which atmospheric layer does weather occur?

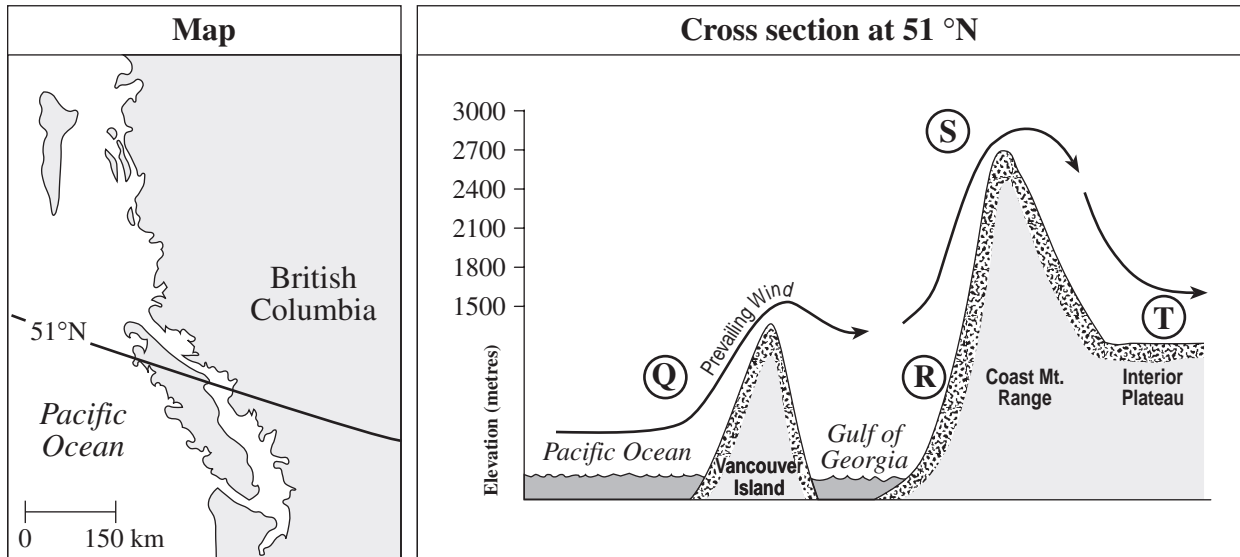
- A. troposphere
- B. mesosphere
- C. stratosphere
- D. thermosphere

OVER

9. What cloud type is associated with the development of thunderstorms?

- A. cirrostratus
- B. altocumulus
- C. nimbostratus
- D. cumulonimbus

Use the following map and cross section to answer questions 10 to 12.



Based on a diagram from *A Summary of Climatic Regions of BC* by Chilton, RRH, 1981. BC Ministry of the Environment.

10. The prevailing wind that influences coastal British Columbia is the

- A. Doldrums.
- B. Westerlies.
- C. Polar Easterlies.
- D. Northeast Trade.

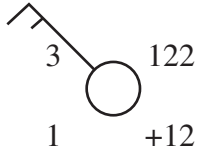
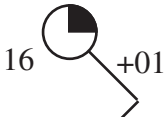
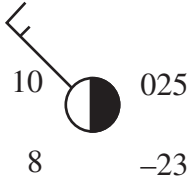
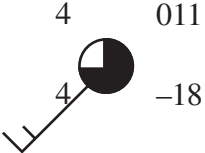
11. Which location on the cross section above has the lowest air pressure?

- A. Q
- B. R
- C. S
- D. T

12. At which location on the cross section above would the lowest annual precipitation occur?

- A. Q
- B. R
- C. S
- D. T

Use the following station models to answer questions 13 to 15.

W	X	Y	Z
			

13. What is the temperature at weather station **Y**?

- A. 8 °C
- B. 10 °C
- C. 23 °C
- D. 25 °C

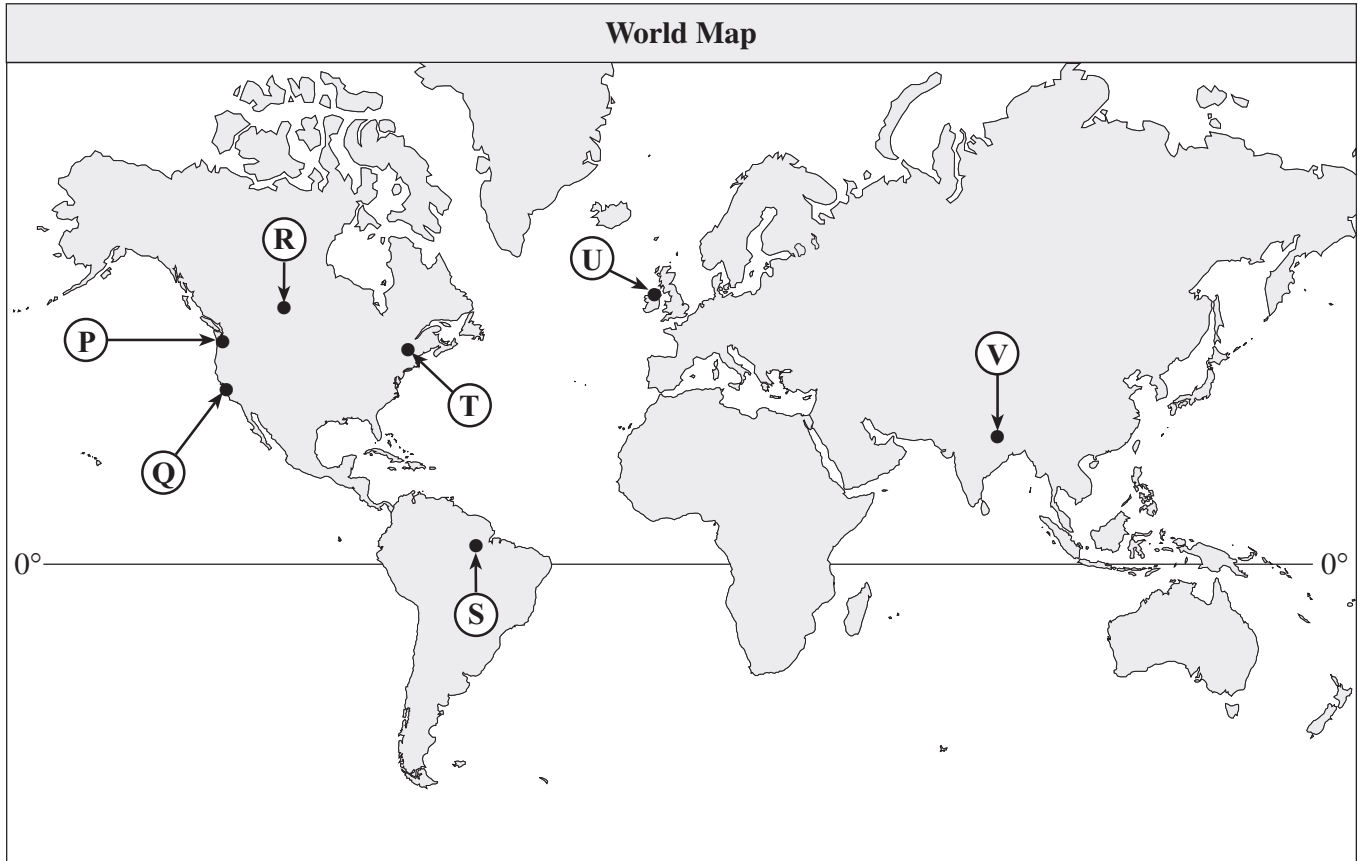
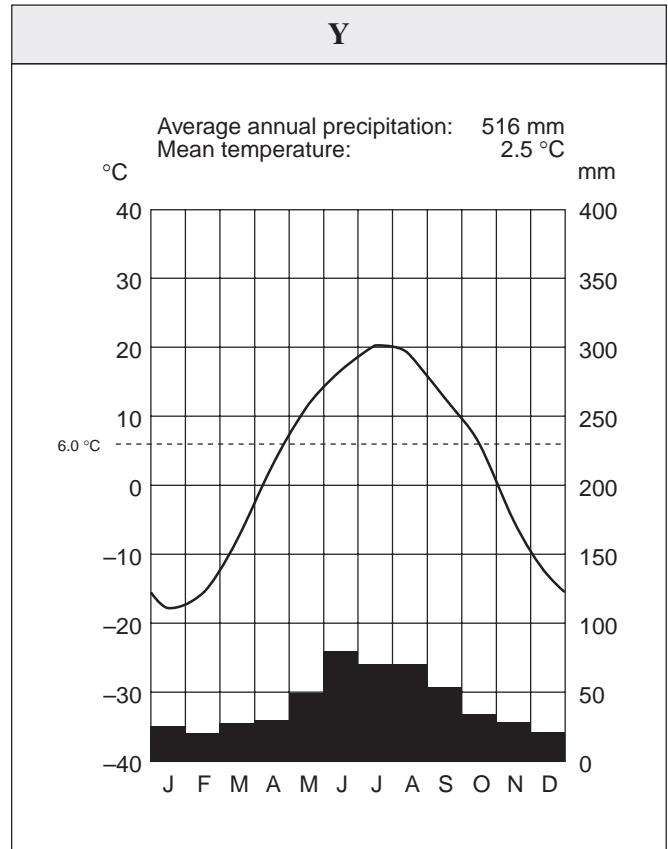
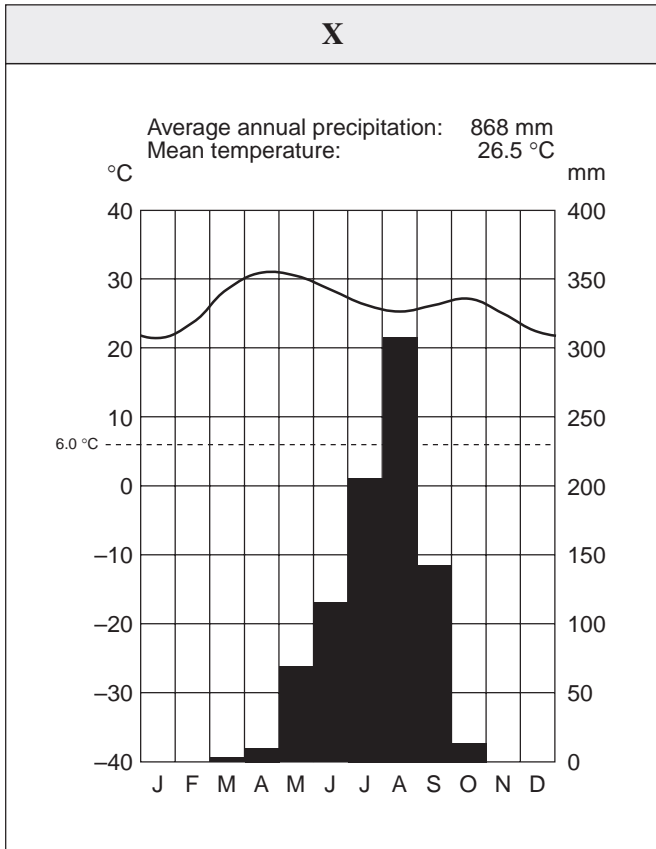
14. Identify the air pressure at weather station **Z**.

- A. 901.1 mb
- B. 1001.1 mb
- C. 1001.9 mb
- D. 1018.0 mb

15. Which weather station indicates the recent passing of a cold front?

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

Use the following climate graphs and world map to answer questions 16 to 20.



16. Which climate region is represented by **climate graph X**?
- A. equatorial
 - B. mediterranean
 - C. tropical wet-dry
 - D. humid sub-tropical
17. Which map location best represents the climate associated with **climate graph Y**?
- A. P
 - B. R
 - C. U
 - D. V
18. Identify the climate control responsible for mild winters at **map location U**.
- A. latitude
 - B. altitude
 - C. ocean current
 - D. mountain barrier
19. Grey brown podzolic soils and deciduous trees such as maple are typically associated with which **map location**?
- A. Q
 - B. R
 - C. S
 - D. T
20. What is the greatest threat to the natural vegetation in the region located at **map location V**?
- A. rapid spread of pests and disease
 - B. annual dry winds which fan brush fires
 - C. slash and burning of forests for agriculture
 - D. slope destabilization from the harvesting of hardwoods

Use the following photograph to answer question 21 and 22.



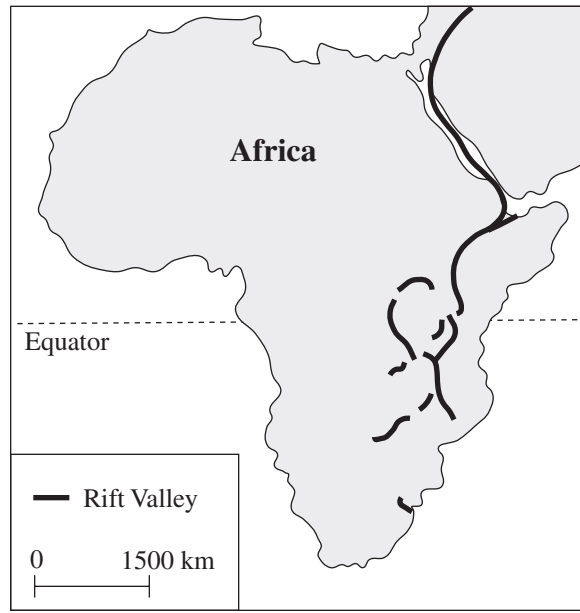
21. Identify the rock classification associated with the strata in the photograph.

- A. magmatic
- B. sedimentary
- C. metamorphic
- D. extrusive igneous

22. Which processes are responsible for the mountain formation in the photograph above?

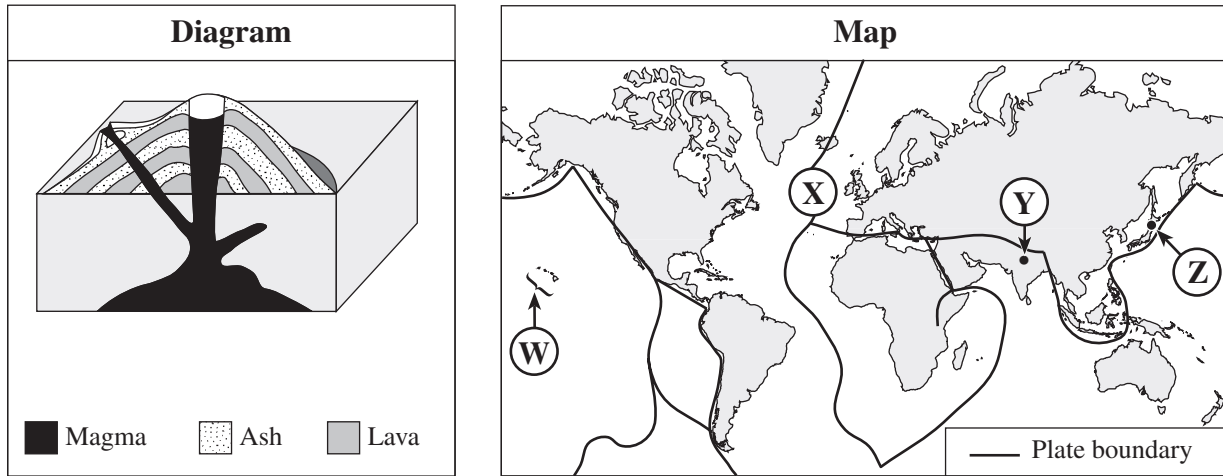
- A. rifting and volcanism
- B. faulting and divergence
- C. hot spot activity and tension
- D. convergence and compression

Use the following map to answer question 23.



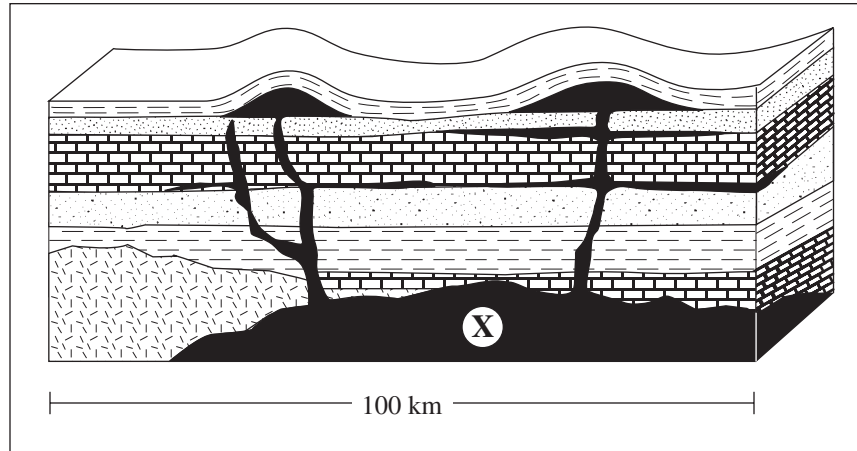
23. Which process created the Great East African Rift Valley?
- A. deflation
 - B. volcanism
 - C. divergence
 - D. subduction

Use the following diagram and map to answer questions 24 and 25.



24. Which of the following volcanic cones is illustrated in the diagram?
- A. shield
 - B. cinder
 - C. caldera
 - D. composite
25. The volcanic cone illustrated above is most commonly associated with which map location?
- A. W
 - B. X
 - C. Y
 - D. Z
-
26. California's earthquake preparedness programs have been improved largely due to a better monitoring of which plate activity?
- A. tearing
 - B. isostasy
 - C. subduction
 - D. translocation

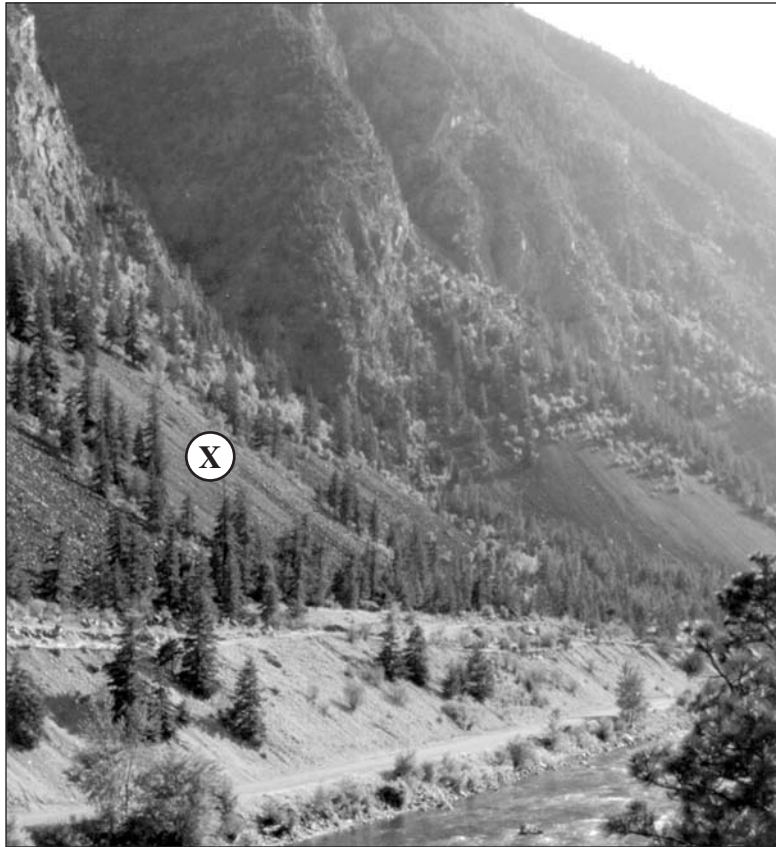
Use the following diagram to answer question 27.



27. Identify feature **X** in the diagram.

- A. sill
- B. dike
- C. laccolith
- D. batholith

Use the following photograph to answer questions 28 and 29.



28. Identify feature X in the photograph.

- A. scree slope
- B. raised levee
- C. truncated spur
- D. lateral moraine

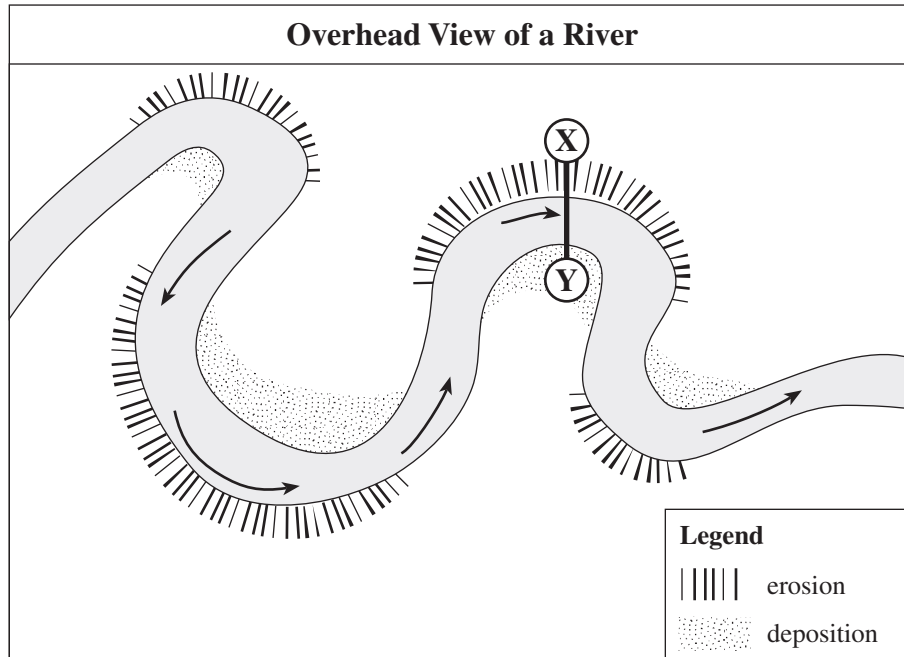
29. Which process is responsible for the creation of feature X in the photograph above?

- A. river erosion
 - B. frost shattering
 - C. glacial deposition
 - D. chemical weathering
-

30. Groundwater is primarily associated with which of the following?

- A. deltas
- B. aquifers
- C. oxbow lakes
- D. youthful rivers

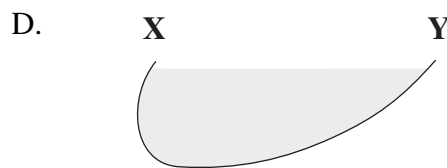
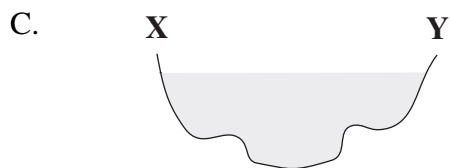
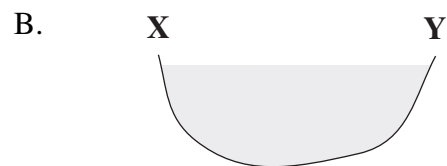
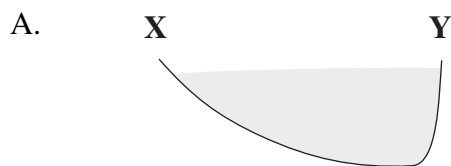
Use the following diagram to answer questions 31 and 32.



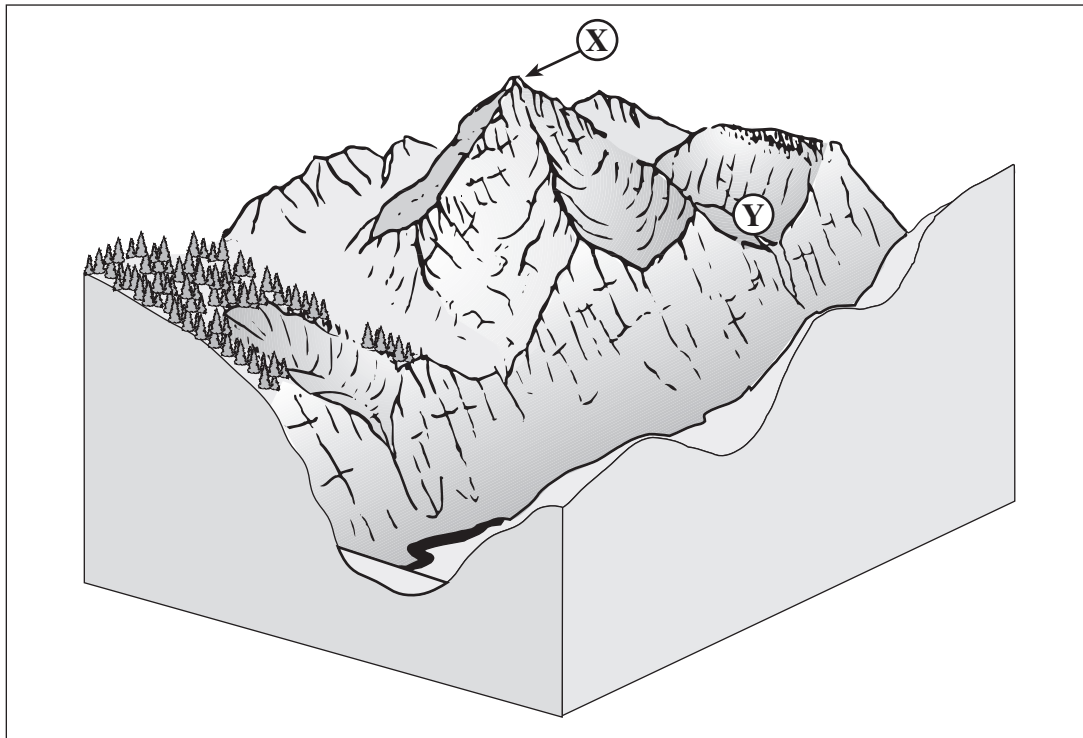
31. Identify feature **Y** in the diagram.

- A. levee
- B. esker
- C. point bar
- D. undercut bank

32. Which cross section below best represents **X — Y** on the diagram above?



Use the following diagram to answer questions 33 and 34.



©Canadian Council for Geographic Education

33. Identify feature **X** in the diagram.

- A. pyramidal peak
- B. hanging valley
- C. roche moutonnée
- D. terminal moraine

34. Which processes are mainly responsible for shaping feature **Y** in the diagram above?

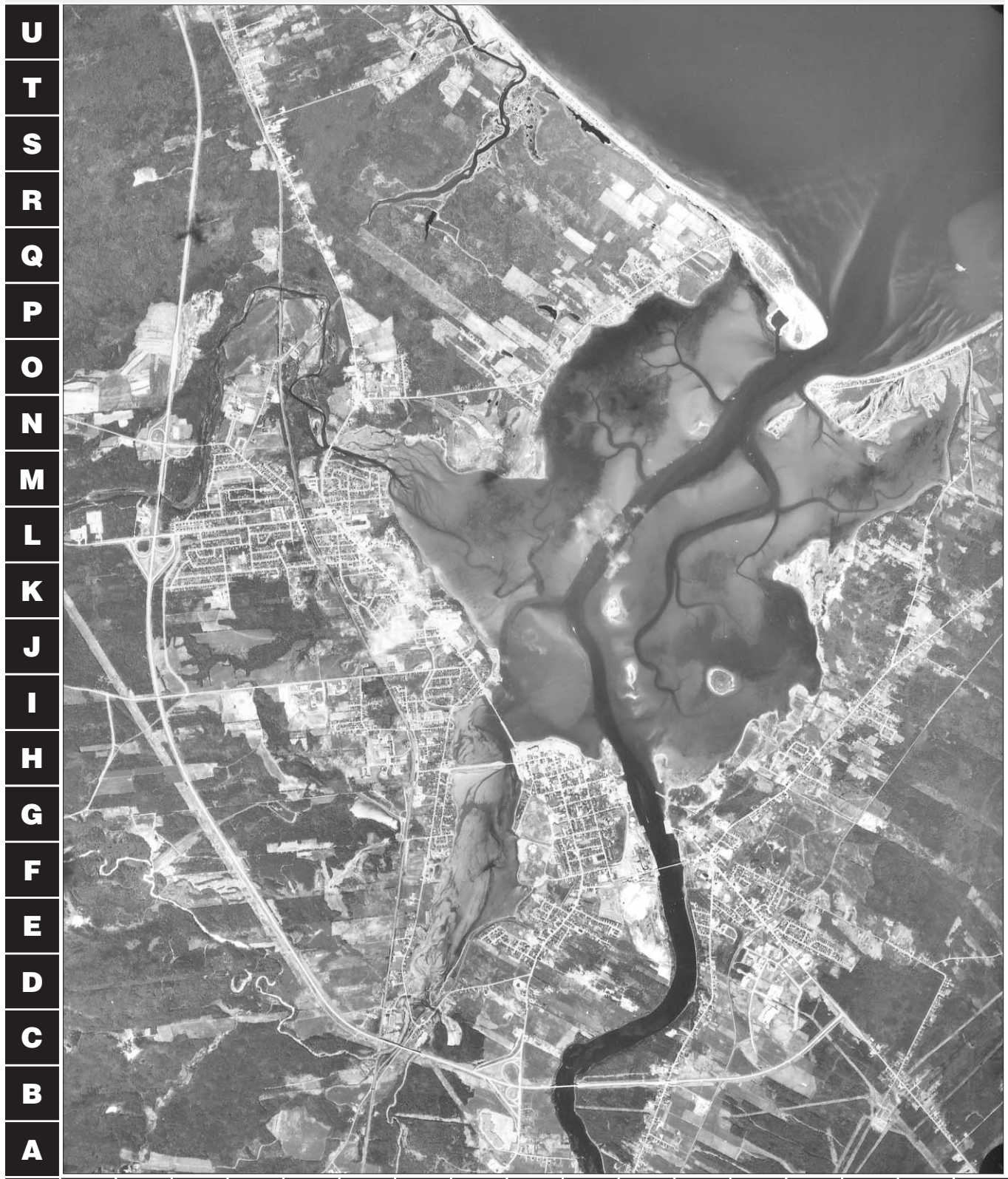
- A. plucking and abrasion
- B. quarrying and exfoliation
- C. ice wedging and oxidation
- D. frost shattering and saltation

35. Which pair of features is associated with continental glaciation?

- A. drumlins and arêtes
- B. kettle lakes and tarns
- C. outwash plains and eskers
- D. moraines and truncated spurs

Use the following air photograph and the topographic map on page 17 to answer multiple-choice questions 36 to 40 and written response question 1.

BATHURST



U
T
S
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Q
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K
J
I
H
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F
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D
C
B
A

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17

You may detach this page for convenient reference.
Exercise care when tearing along perforations.

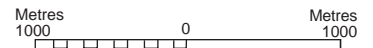
OVER

Bathurst 1:50 000 is based on information taken from the collection of the National Air Photo Library – Photograph A26695-52 (Bathurst, New Brunswick), ©1985 Her Majesty the Queen in Right of Canada, reproduced with permission of Natural Resources Canada.

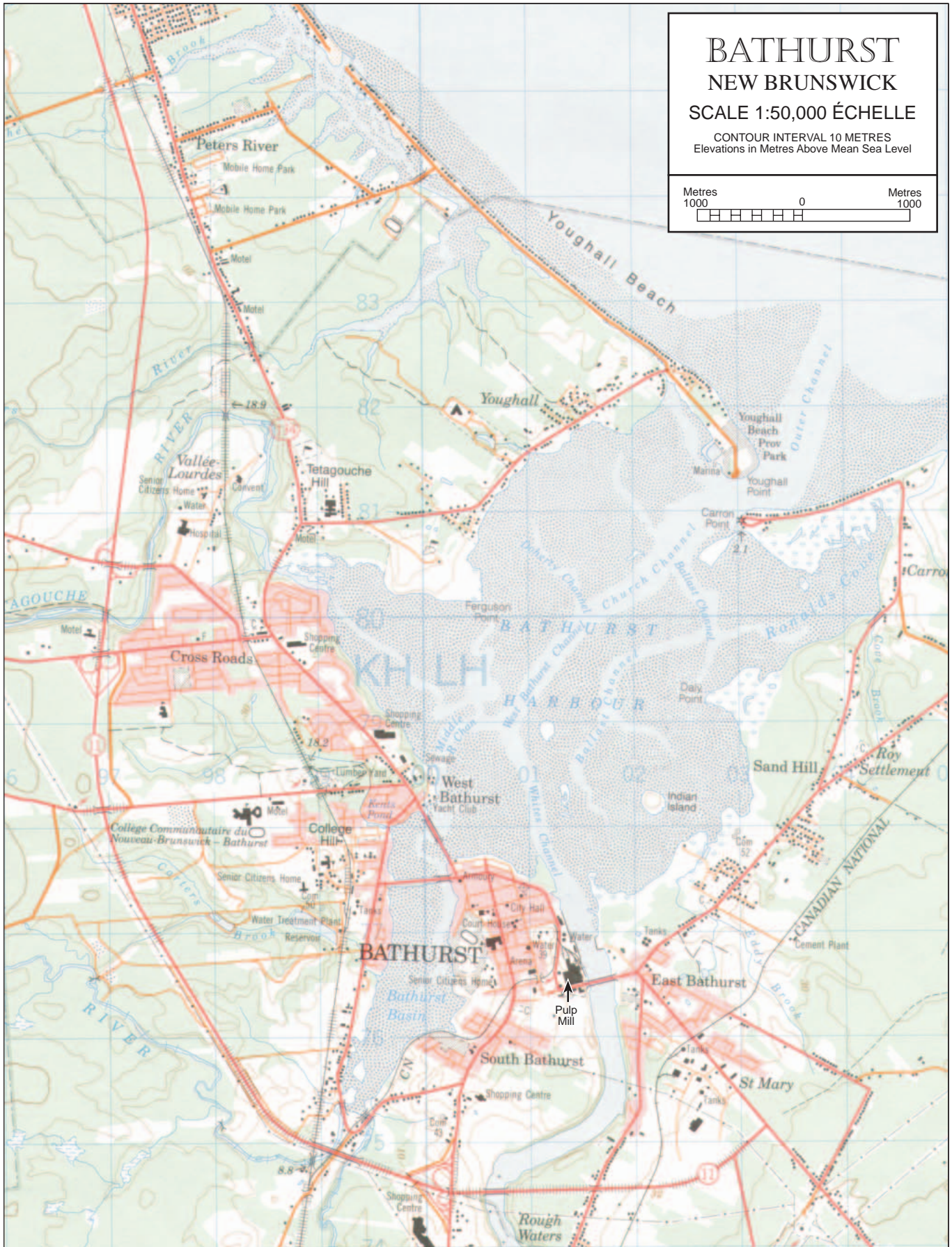
BATHURST NEW BRUNSWICK

SCALE 1:50,000 ÉCHELLE

CONTOUR INTERVAL 10 METRES
Elevations in Metres Above Mean Sea Level



85
84
83
82
81
80
79
78
77
76
75



47°30'N

66°00'W 97 98 99 00 01 02 03 04 05

OVER

The topographic map is based on information taken from the National Topographic System map sheet number: 21P/12 Edition 4 (Bathurst, New Brunswick), ©1993 Her Majesty the Queen in Right of Canada, reproduced with permission of Natural Resources Canada.

Use the detachable air photograph on page 15 and
topographic map on page 17 to answer questions 36 to 40.

36. What direction is it from Peters River (9884) to St. Mary (0375)?
- A. northeast
 - B. northwest
 - C. southeast
 - D. southwest
37. What is the approximate road distance from the pulp mill (014766) to the lighthouse at Carron Point (031809)?
- A. 4.5 km
 - B. 7.5 km
 - C. 9.0 km
 - D. 14 km
38. Which physical feature is located at **14P** on the air photograph?
- A. spit
 - B. tombolo
 - C. baymouth bar
 - D. outwash plain
39. Which of the following processes is responsible for the shape of Youghall Point (030813)?
- A. longshore drift
 - B. hydraulic wave action
 - C. alluvial deposition at the mouth of the river
 - D. terminal moraine deposition during glaciation
40. Identify the cultural feature located at grid reference 988816.
- A. motel
 - B. convent
 - C. golf course
 - D. high school

PART B: WRITTEN RESPONSE

Value: 50 marks

Suggested Time: 80 minutes

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

Use the following information along with the detachable air photograph on page 15 and topographic map on page 17 to answer question 1.

In the 1960s, lead, zinc, and copper mining gradually replaced pulp and paper production as the major industry in the Bathurst region. A major mining and smelting operation is located 20 km south of Bathurst on the Little River.

1. **Outline** the economic, social and environmental consequences of resource extraction for the people of the Bathurst region. Answer in **paragraph** form. **(6 marks)**

Organization and Planning

Use the following photograph to answer question 2.



2. a) **Identify** the natural vegetation shown in the photograph. **(1 mark)**


- b) **Explain** two different ways the natural vegetation has adapted to the climatic conditions of this biome. **(2 marks)**

i) _____

ii) _____

- c) **State** one threat to this biome. **(1 mark)**

Use the following map to answer question 3.

Canada's Top 10 Endangered National Parks	
<ul style="list-style-type: none">① Prince Edward Island National Park② Nahanni National Park Reserve③ Point Pelee National Park④ Wood Buffalo National Park⑤ St. Lawrence Islands National Park⑥ Riding Mountain National Park⑦ Pacific Rim National Park Reserve⑧ Gwai Haanas National Park Reserve⑨ Elk Island National Park⑩ Waterton Lakes National Park	

3. a) **Describe** three possible threats to Canada's National Parks. **(3 marks)**

i) _____

ii) _____

iii) _____

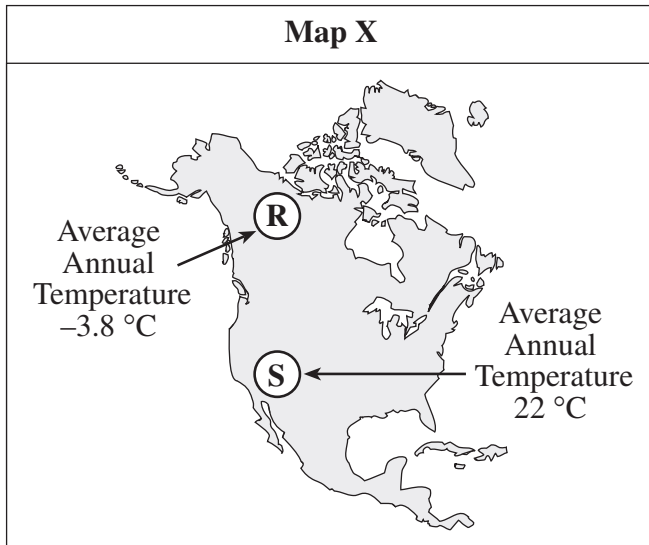
b) **Explain** two reasons why it is important to protect Canada's National Parks. **(2 marks)**

i) _____

ii) _____

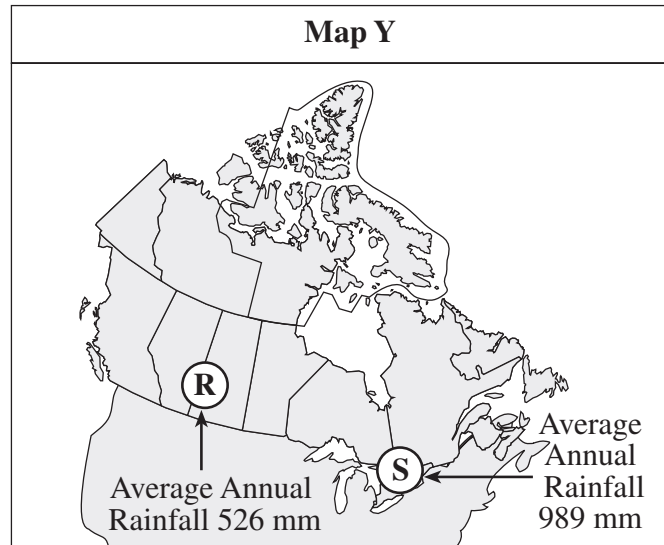
Select one of the following maps to answer question 4.
Indicate your selection with a ✓.

Map X



I have selected
Map X

Map Y



I have selected
Map Y

4. a) **Identify** the dominant climate control responsible for the conditions illustrated on the map you have selected. **(1 mark)**

b) **Explain** the reasons for the difference in climatic conditions illustrated at locations **R** and **S** on the map you have selected. **(2 marks)**

Location R: _____

Location S: _____

c) **Describe** how human activities are influenced by the climate control you have identified. **(1 mark)**

5. **Explain** why the sustainability of global resources is difficult to achieve. **(4 marks)**

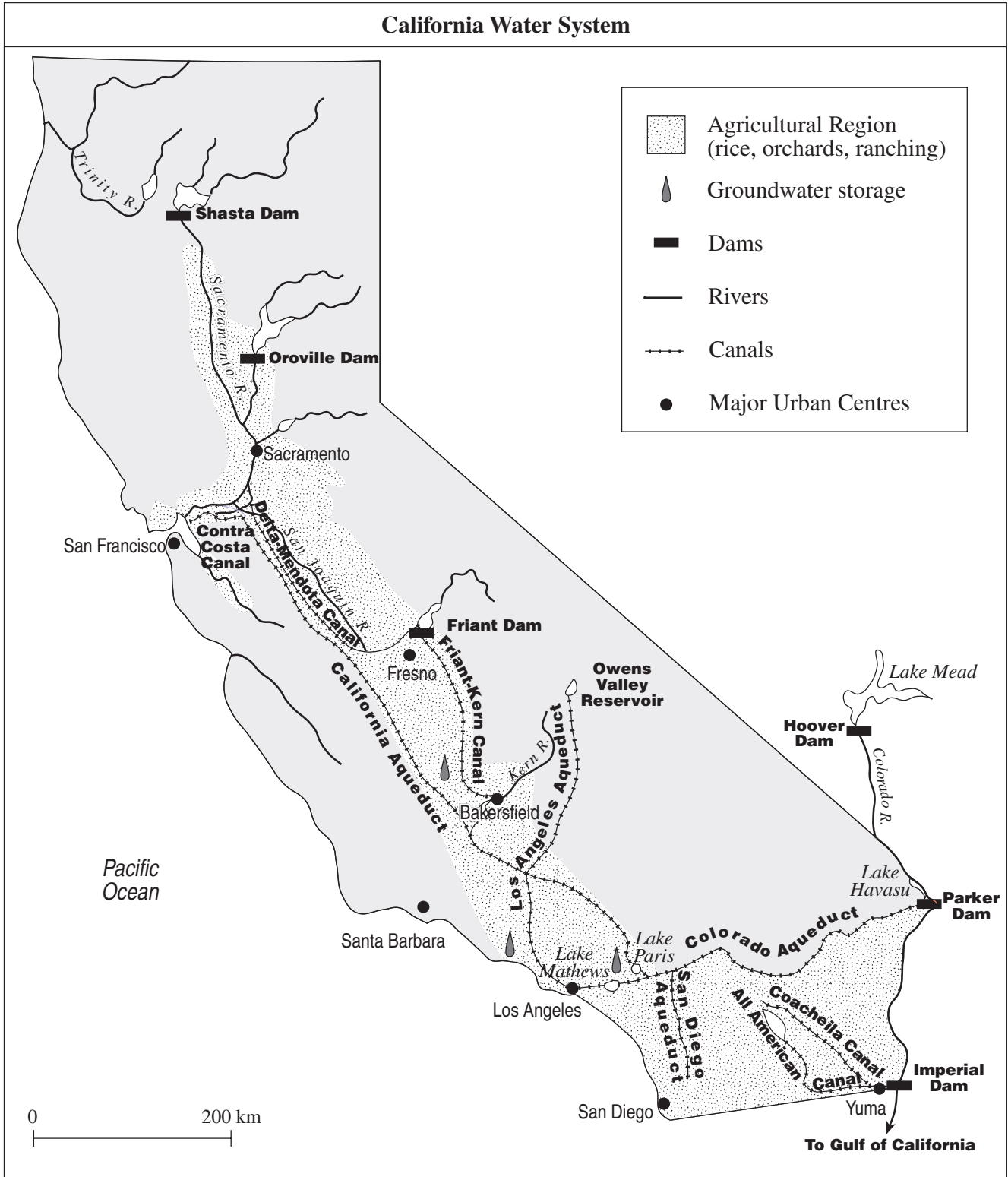
6. a) **Provide** a benefit associated with fossil fuel (thermal) electrical power generation. **(1 mark)**

b) **State** two different negative consequences associated with thermal power generation. **(2 marks)**

i) _____

ii) _____

Use the following map to answer question 7.



7. a) **Provide** two reasons for the need to divert water to Southern California. **(2 marks)**

i) _____

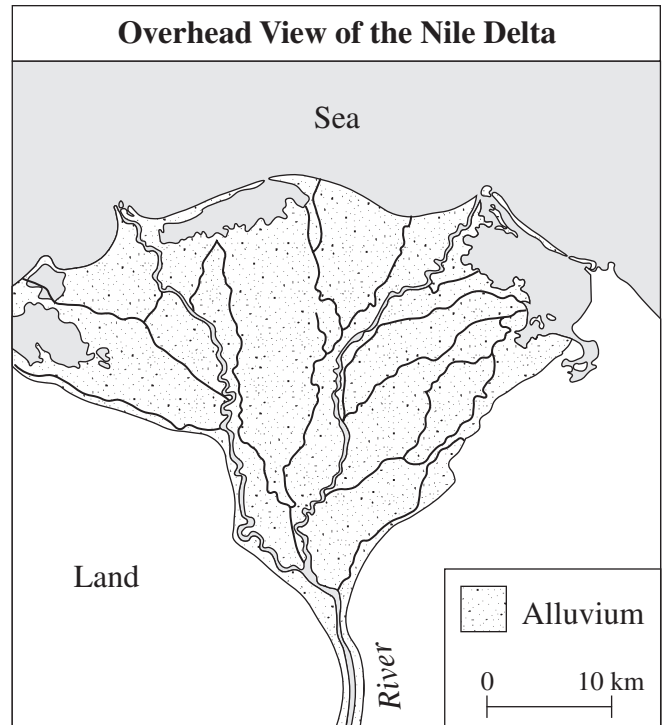
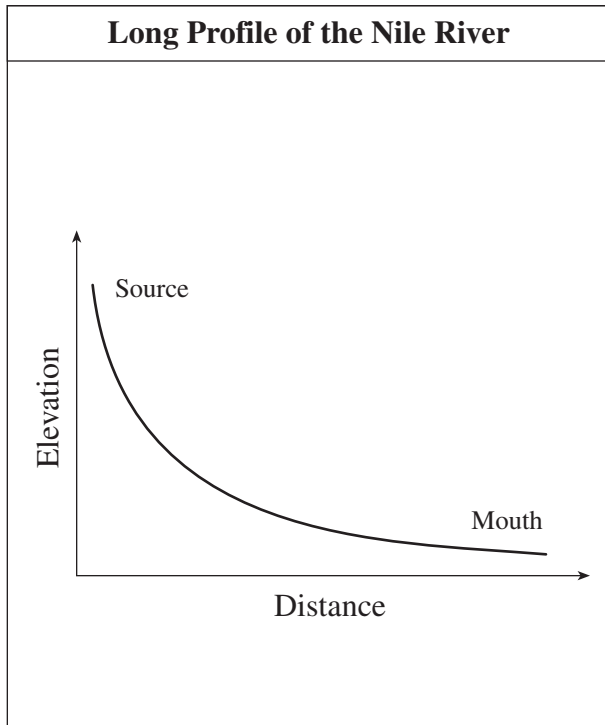
ii) _____

b) **Propose** two strategies that will make the use of fresh water more sustainable in this region. **(2 marks)**

i) _____

ii) _____

Use the following data to answer question 8.



8. a) **Describe** two processes associated with the formation of the delta illustrated in the data. **(2 marks)**

i) _____

ii) _____

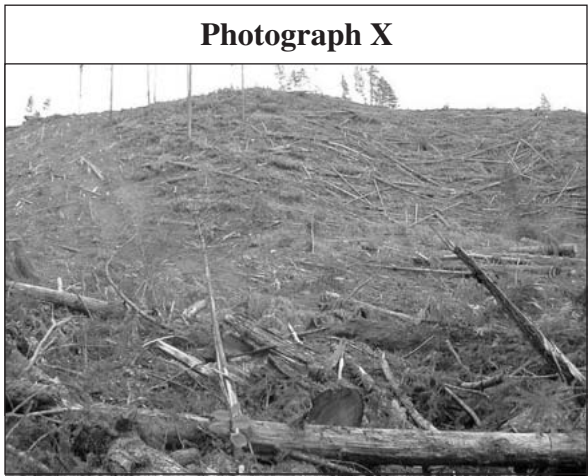
b) **Explain** three ways that a large-scale dam on the river may affect the delta region. **(3 marks)**

i) _____

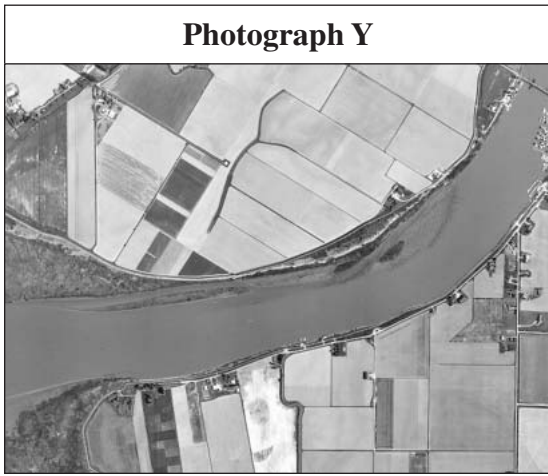
ii) _____

iii) _____

Select one of the following photographs to answer question 9.
Indicate your selection with a ✓.



<http://pictures.care2.com/view/2/683240531>



“S5,” Vancouver and Fraser Valley Orthophotos on CD-ROM, Triathlon Mapping Corporation

I have selected
Photograph X

I have selected
Photograph Y

9. a) **Identify** the dominant economic activity in the photograph you have selected. **(1 mark)**

b) **Outline** two benefits associated with this economic activity. **(2 marks)**

i) _____

ii) _____

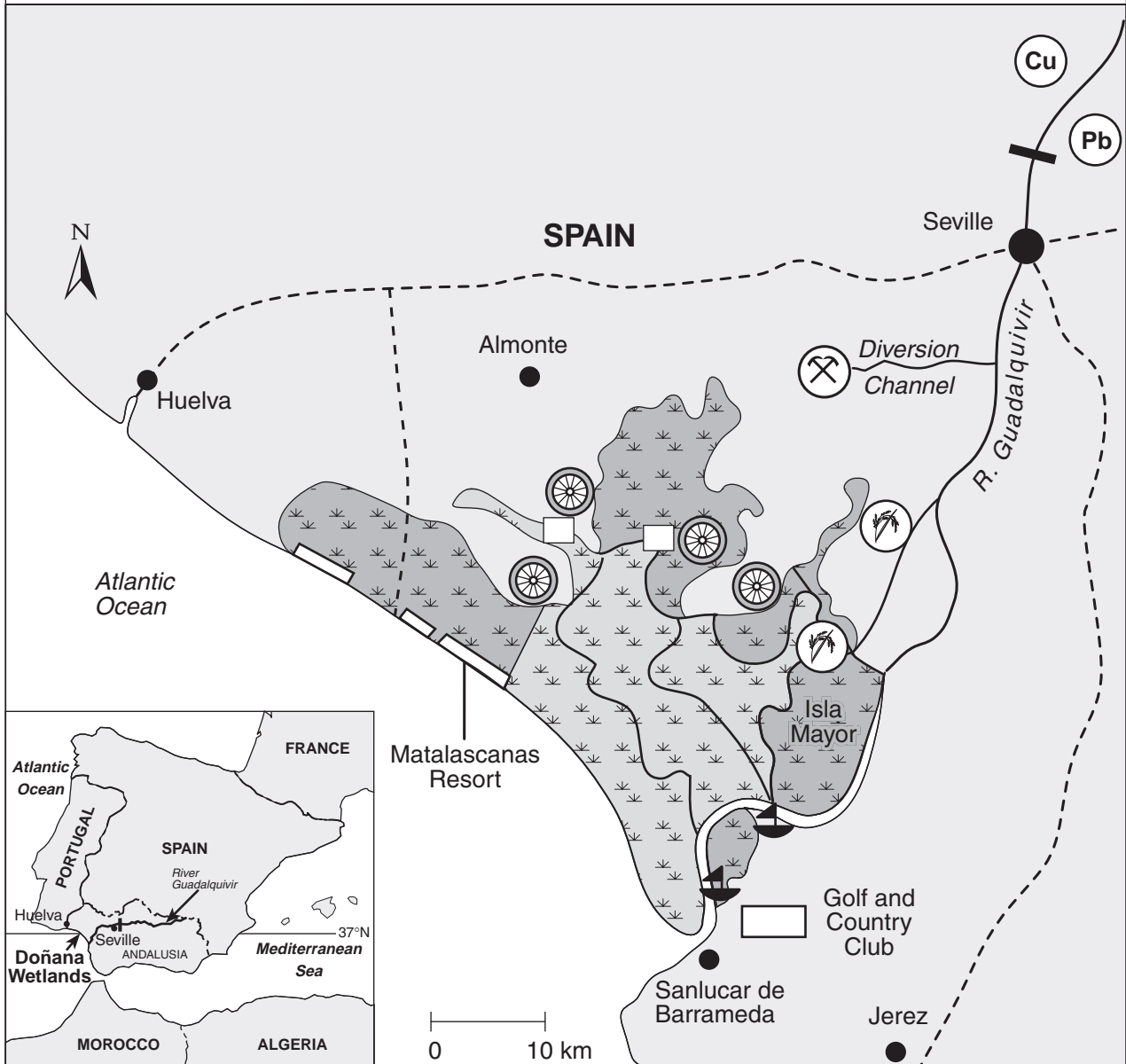
c) **Explain** how this economic activity could have an impact on the hydrosphere and the biosphere. **(2 marks)**

Hydrosphere: _____

Biosphere: _____

Use the following Case Study to answer question 10.

The Fate of the Doñana Wetlands Can Conservation and Development Co-exist?



Legend

- | | | | |
|----------------------|--------------------------|--------|-----------------|
| Wetlands | Aznalcollar Sulphur Mine | Rice | Highway |
| Doñana National Park | Copper Mine | Cities | Rivers/Channels |
| Natural Park | Lead Mine | Marina | Dam |
| Tourist Complex | Irrigated Farming | | |

Doñana Fact File

Elevation:

0 – 10 metres above sea level

Species:

250 bird species, 28 mammal species, 17 different types of reptiles, 9 species of amphibians, 8 species of fish



www.panda.org/graphics/guido_schmidt_donana_wetland.jpg

Activities:

- 40% of Europe's rice comes from this region.
- Strawberry crops are harvested 5 times a year.
- Matalascanas, promoted as a tourist destination, attracts over 100 000 visitors annually.

- Doñana is situated at the mouth of the Guadalquivir River in the province of Andalusia, in one of the least developed and poorest regions of Spain.
- Two parks have been created in the wetlands: in 1969, the Doñana National Park, managed by Spain's National Government; and in 1989, the Natural Park which is controlled by the Andalusian Regional Government. The Natural Park allows economic development within its boundaries.
- The Andalusian Regional Government obtained a multi-million dollar subsidy from the European Union for the:
 - protection and restoration of the environment
 - construction and development of necessary tourist infrastructure
 - development of agriculture
 - promotion of business projects in Doñana
- Recently, the Andalusian government reclassified land within the Natural Park from green belt to urban, thus increasing pressure on the Doñana region for highway construction, residential development and the expansion of its tourist destinations.

Organization and Planning

