

CANDIDATE  
NAME

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NUMBER

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NUMBER

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**ENVIRONMENTAL MANAGEMENT**

**8291/12**

Paper 1 Lithosphere and Atmosphere

**October/November 2015**

**1 hour 30 minutes**

Additional Materials: Answer Booklet/Paper

**READ THESE INSTRUCTIONS FIRST**

Write your Centre number, candidate number and name on all the work you hand in.  
Write in dark blue or black pen.  
You may use an HB pencil for any diagrams or graphs.  
Do not use staples, paper clips, glue or correction fluid.  
**DO NOT WRITE IN ANY BARCODES.**

Electronic calculators may be used.  
You may lose marks if you do not show your working or if you do not use appropriate units.

**Section A**

Answer **all** questions.  
Write your answers in the spaces provided on the question paper.

**Section B**

Answer **one** question from this section.  
Answer the question on the separate answer paper provided.

At the end of the examination,

1. fasten all separate answer paper securely to the question paper;
2. enter the question number from Section B in the grid opposite.

	For Examiner's Use
<b>Section A</b>	/
1	
2	
<b>Section B</b>	/
<b>Total</b>	

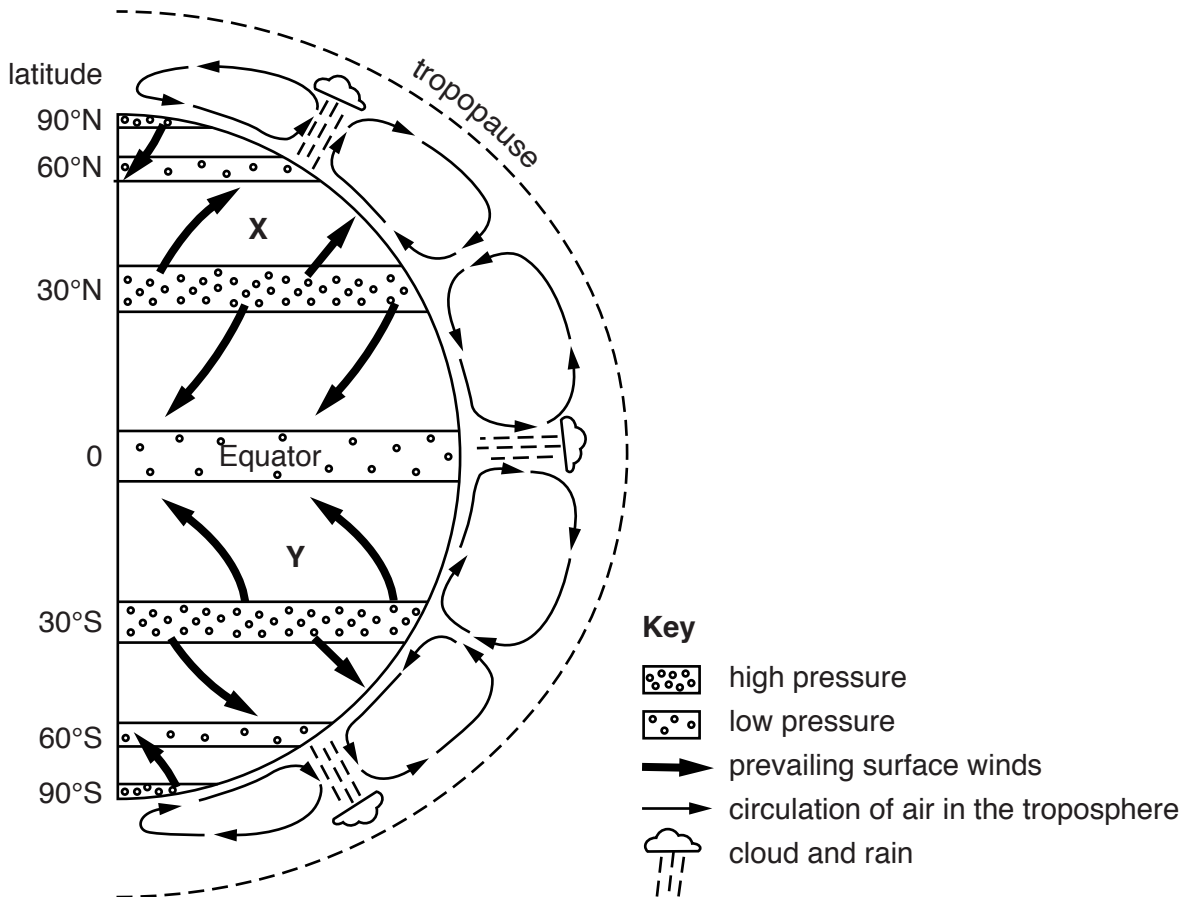
This document consists of **10** printed pages and **2** blank pages.

**Section A**

Answer **all** questions in this section.

Write your answers in the spaces provided.

1 (a) Fig. 1.1 shows a pattern of global air circulation in the troposphere.



**Fig. 1.1**

(i) State the name of the prevailing surface winds found at **X** and **Y**, as shown on Fig. 1.1.

**X** .....

**Y** .....[2]

(ii) Describe **two** factors that influence the direction of prevailing surface winds as shown in Fig. 1.1.

.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....[4]

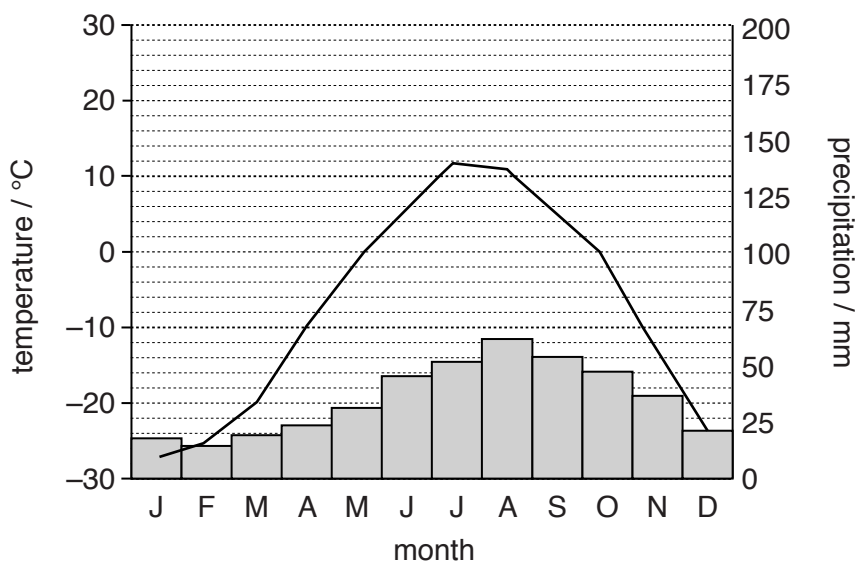
(iii) With reference to Fig. 1.1, explain why cloud and rain often occur at the Equator.

.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....[3]

(iv) With reference to Fig. 1.1, explain why the areas around 30°N and 30°S are prone to drought.

.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....[4]

(b) Fig. 1.2 shows climate statistics for the town of Churchill in Sub-Arctic Canada.



**Fig. 1.2**

- (i) With reference to Fig. 1.2, describe the pattern of temperature and precipitation in Churchill.

.....  
 .....  
 .....  
 .....  
 .....  
 .....  
 .....  
 .....  
 .....  
 .....  
 .....[4]

- (ii) Outline **one** way in which human activity is influenced by the climate shown in Fig. 1.2.

.....  
 .....  
 .....  
 .....  
 .....  
 .....  
 .....[3]

[Total: 20]

2 (a) Fig. 2.1 shows a simplified cross-section of the boundary between the Indo-Australian and Pacific plates.

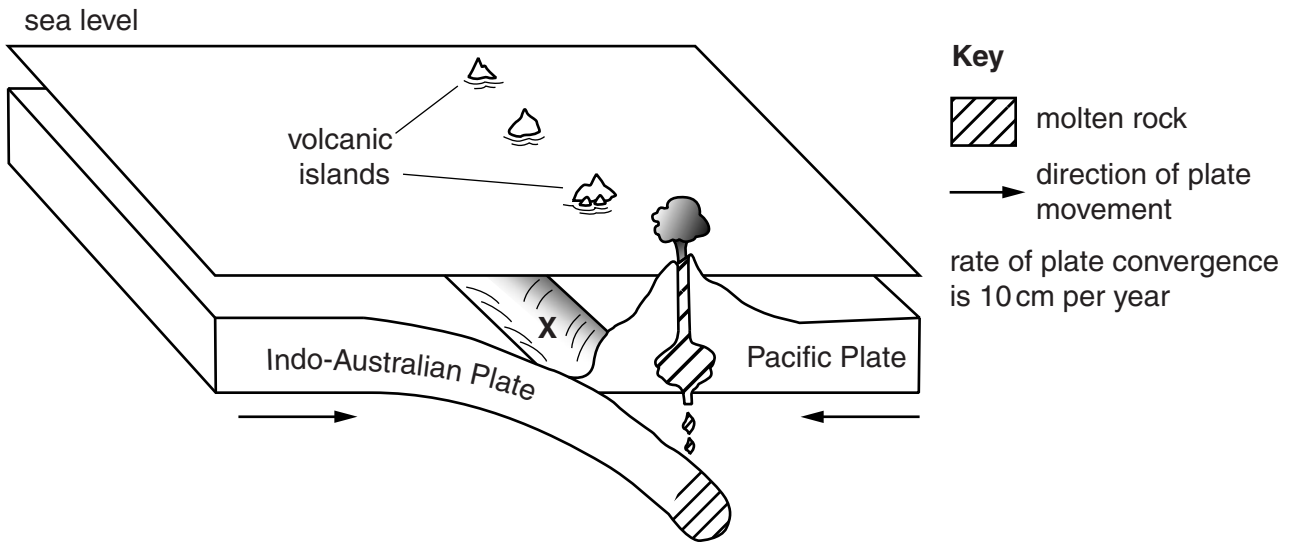


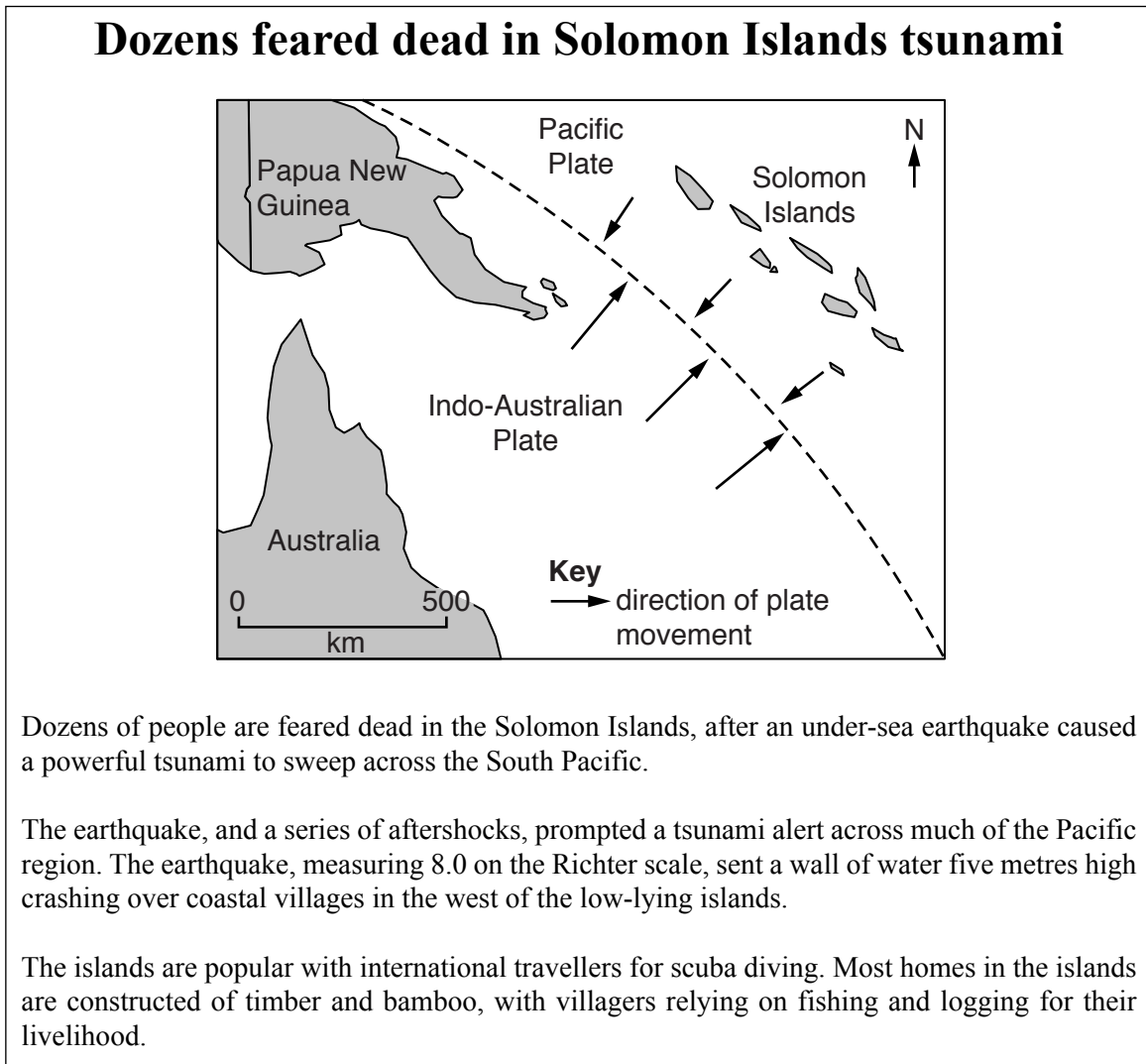
Fig. 2.1

(i) State the name of the feature labelled with an X on Fig. 2.1. ....[1]

(ii) State the name of the plate that is being subducted in Fig. 2.1. ....[1]

(iii) With reference to Fig. 2.1, describe how the process of subduction leads to frequent volcanic activity. ....[4]

(b) Fig. 2.2 is a website report of a tsunami which occurred on 2 April 2007.



**Fig. 2.2**

(i) State what is meant by the term *tsunami*.

.....

.....

.....

.....[2]

(ii) With reference to Fig. 2.2, explain why the Solomon Islands experience tsunamis.

.....

.....

.....

.....[2]

(iii) With reference to Fig. 2.2, describe the possible short **and** long term effects of the tsunami on the Solomon islanders.

.....[6]

(iv) With reference to Fig. 2.2, assess the extent to which the Solomon Islands can be protected against the threat of tsunami.

.....[4]

[Total: 20]

## Section B

Answer **one** question from this section.

- 3 Fig. 3.1 is a map showing noise levels produced by all forms of traffic in the city of Berlin in Germany.

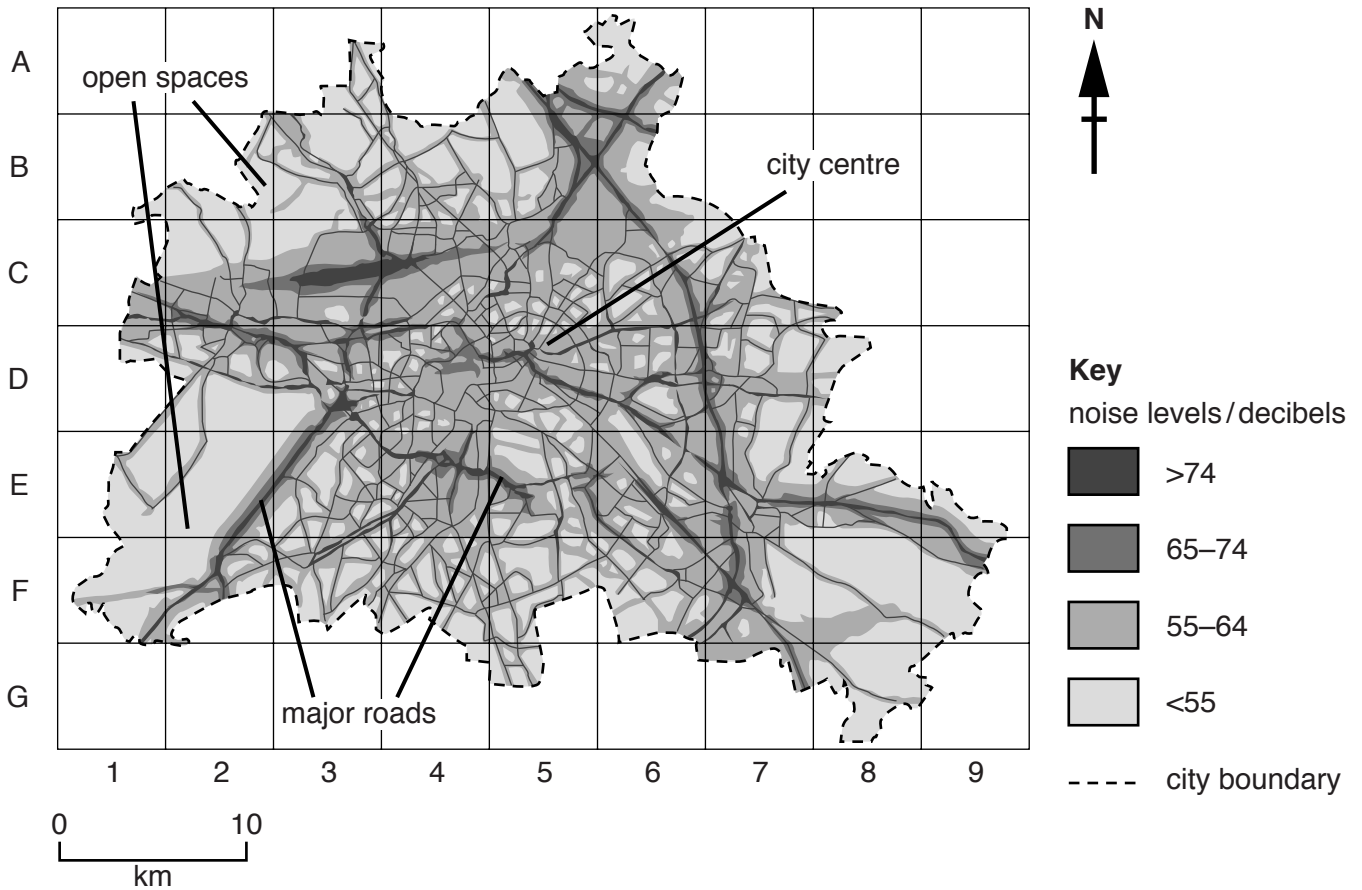


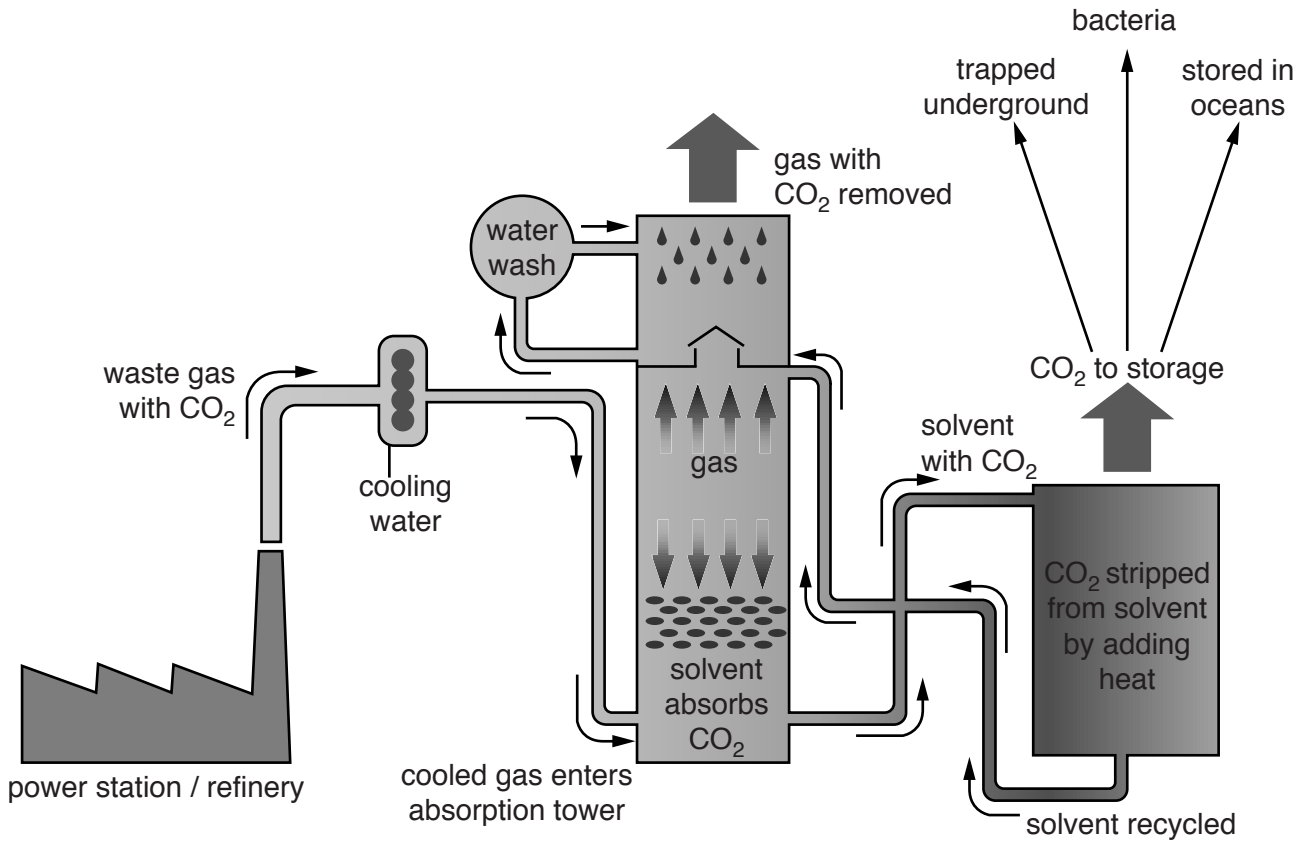
Fig. 3.1

- (a) With reference to Fig. 3.1, describe the pattern of noise shown **and** suggest possible explanations for this pattern. [10]
- (b) With reference to examples with which you are familiar, describe the effects of noise pollution in urban areas. Assess the strategies for reducing noise in these areas. [30]

[Total: 40]



- 4 Fig. 4.1 is a diagram describing the process of carbon capture and storage. Carbon capture is a method of reducing excess atmospheric carbon dioxide.



**Key**

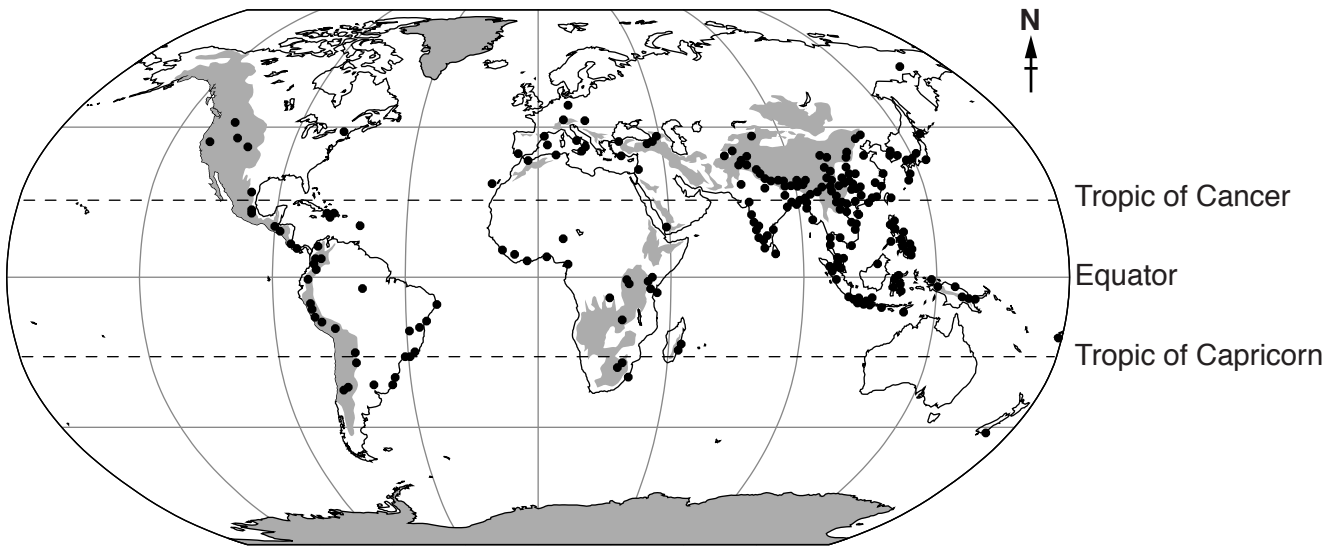
CO<sub>2</sub> carbon dioxide

**Fig. 4.1**

- (a) With reference to Fig. 4.1, describe the process of carbon capture and storage. [10]
- (b) With reference to examples from both LEDCs and MEDCs, assess the consequences of failing to reduce carbon dioxide emissions for both the natural environment and for human populations. [30]

[Total: 40]

5 Fig. 5.1 shows the global distribution of landslides over a two-year period which resulted in deaths.



**Key**

- landslide resulting in deaths

elevation / m

■ greater than 1000

□ 1000 or less

**Fig. 5.1**

- (a) Describe the distribution of landslides resulting in deaths shown in Fig. 5.1. Suggest **two** possible reasons for this distribution. [10]
- (b) Using examples with which you are familiar, describe the management of mass movements on gentle **and** steep slopes. Explain why it is often difficult to manage the prevention of mass movements. [30]

[Total: 40]



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