



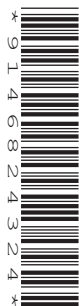
Oxford Cambridge and RSA

Monday 22 May 2023 – Afternoon

**GCSE (9–1) Geography B
(Geography for Enquiring Minds)**

J384/01 Our Natural World

Time allowed: 1 hour 15 minutes



You must have:

- the Resource Booklet (inside this document)

You can use:

- a ruler (cm/mm)
- a scientific or graphical calculator



Please write clearly in black ink. **Do not write in the barcodes.**

Centre number

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Candidate number

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First name(s)

Last name

INSTRUCTIONS

- Use black ink. You can use an HB pencil, but only for graphs and diagrams.
- Write your answer to each question in the space provided. If you need extra space use the lined pages at the end of this booklet. The question numbers must be clearly shown.
- Answer **all** the questions.

INFORMATION

- The total mark for this paper is **70**.
- The marks for each question are shown in brackets [].
- Quality of extended response will be assessed in questions marked with an asterisk (*).
- Spelling, punctuation and grammar (SPaG) and the use of specialist terminology will be assessed in questions marked with a pencil (✎).
- This document has **16** pages.

ADVICE

- Read each question carefully before you start your answer.

Section A

Global Hazards

1 (a) (i) Identify the type of **plate movement** that occurs at a destructive plate boundary.

- A plates move away from each other
- B plate moves over rising magma
- C plates move past each other
- D plates move towards each other

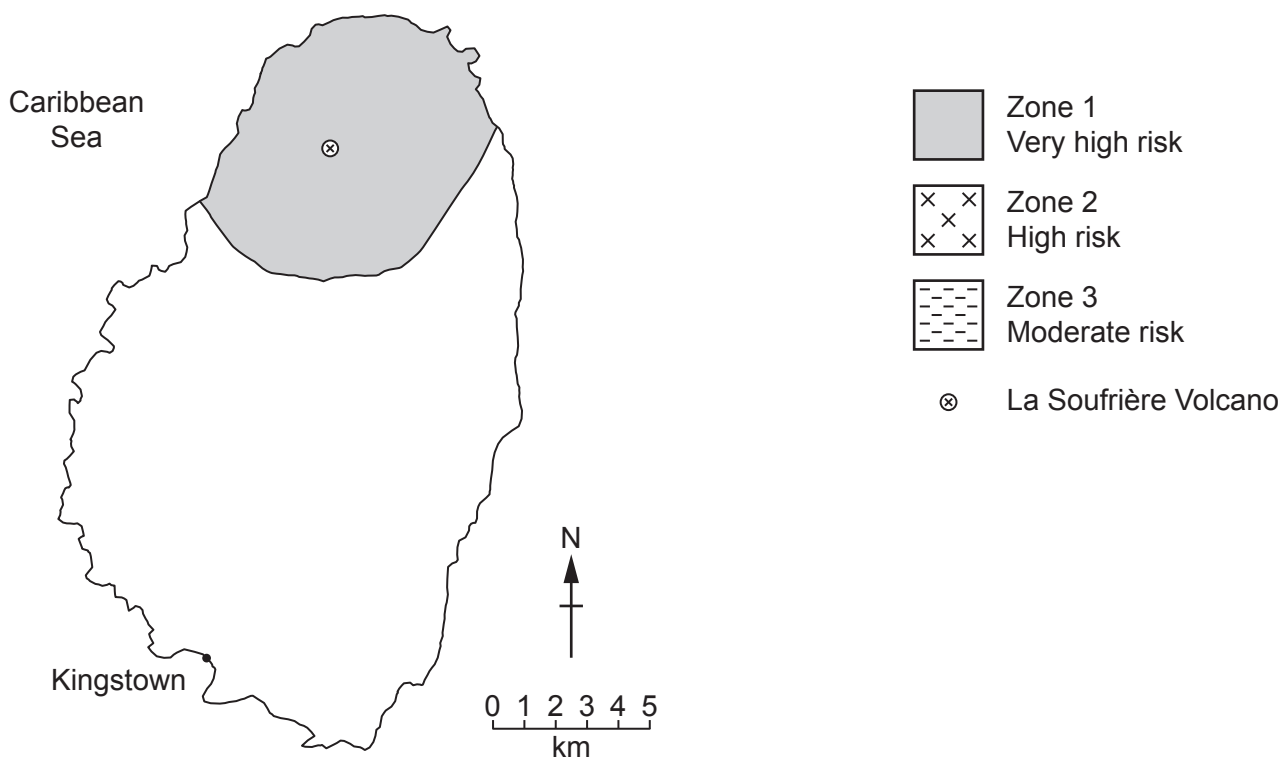
Write the correct letter in the box.

[1]

(ii) Use the information in the table below to **complete** the volcanic hazard map for the island of St Vincent. Zone 1 has been completed for you.

Zone	Distance from La Soufrière Volcano
2 High risk	4–7 km
3 Moderate risk	7–10 km

Volcanic Hazard Map for the Island of St Vincent



[3]

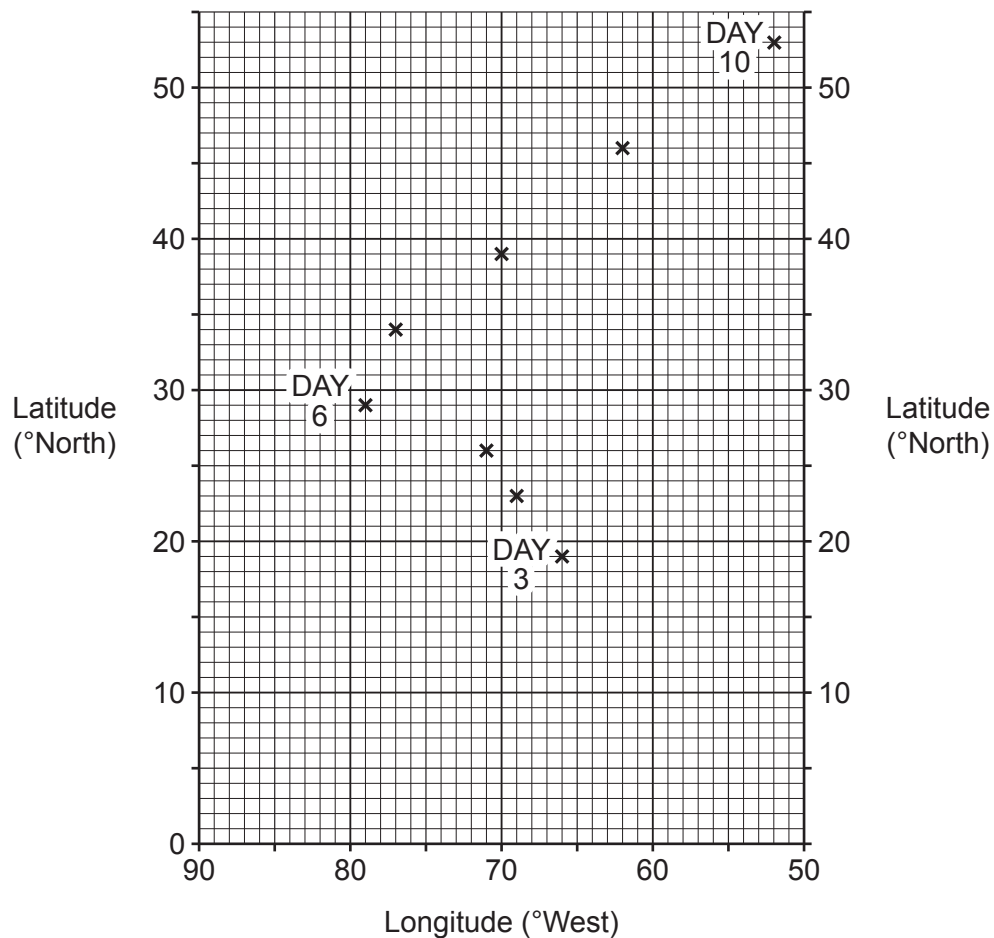
- (b) The movements of tropical storms like hurricanes can be plotted on graphs. This is called the **track** of a hurricane.

The graph shows the **track** of a hurricane in the western Atlantic Ocean.

- (i) Use the data in the table to complete the hurricane **track**.

	°West	°North
Day 1	59	13
Day 2	64	17

[2]



- (ii) Suggest **one** way this graph could be adapted to improve it.

.....

..... [1]

(c) CASE STUDY

A natural weather hazard arising from extreme weather conditions

Name of a chosen natural weather hazard

Explain the **consequences** of the natural weather hazard.

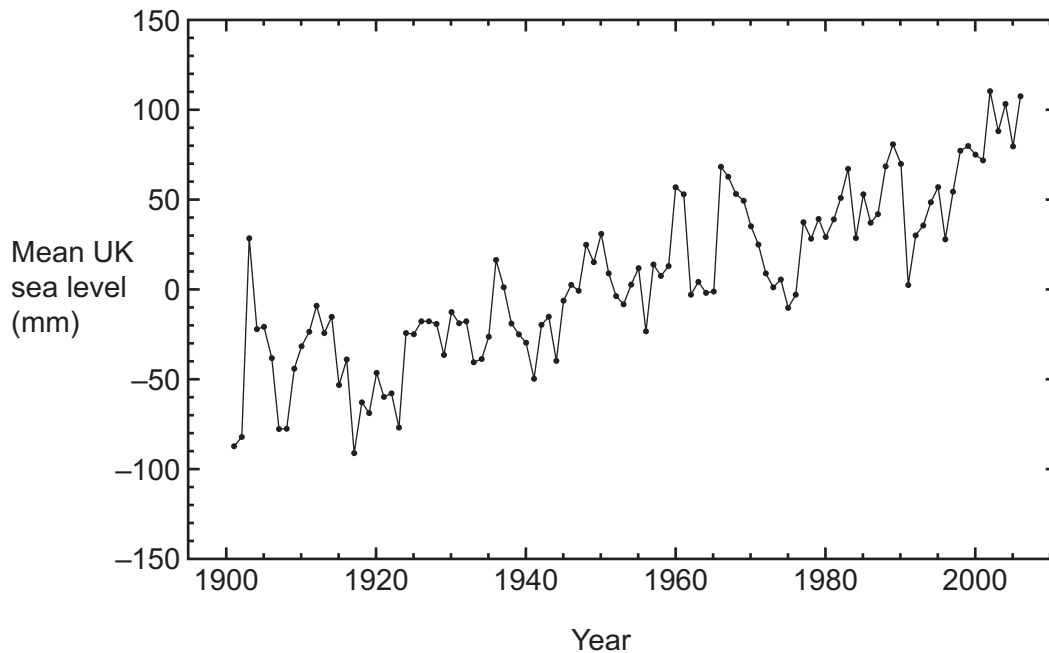
..... [6]

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Changing Climate

2 (a) The graph shows **changes** in mean UK sea level from 1900 to 2010.



Suggest how the **changes** in mean UK sea level could be linked to global temperatures.

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.....

.....

..... [2]

(b) (i) What is **sea ice**?

- A frozen ocean water
- B frozen river water
- C icebergs and glaciers floating on the sea
- D ice from land floating on the sea

Write the correct letter in the box.

[1]

- (ii) Look at **Fig. 1** in the Resource Booklet.

Fig. 1 shows changes in winter sea ice volume in the Arctic, 1980–2010.

Calculate the **mean** annual volume of ice loss.

Show your working.

..... km³/year [2]

- (c)*** Assess the extent to which climate change is a **natural** process.

[8]

Distinctive Landscapes

3 (a) Identify the correct definition of a **landscape**.

- A everything that can be seen that is natural or man-made
- B land that has been altered by human activity
- C land that has been built on before
- D urban green spaces that are looked after by people

Write the correct letter in the box.

[1]

(b) Look at **Fig. 2** in the Resource Booklet.

Fig. 2 shows a map of UK upland, lowland and glaciated areas.

- (i) Using **Fig. 2** identify **one** similarity and **one** difference between the location of upland and glaciated areas in the UK.

Similarity

.....

.....

Difference

.....

.....

[2]

- (ii) Suggest **one** reason for the **similarity** you have identified.

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..... [1]

(c) Explain the formation of a river **levee**.

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..... [3]

(d) **CASE STUDY**

Coastal landscape in the UK

Name of a UK coastal landscape you have studied

Explain the formation of **one** landform formed by **geomorphic** processes in your chosen coastal landscape.

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Sustaining Ecosystems

- 4 (a) Look at **Fig. 3** in the Resource Booklet.

Fig. 3 shows the average daily sunshine hours per month for a polar Arctic region.

- (i) Identify which month is most likely to be **light** throughout the night.

..... [1]

- (ii) The Arctic **summer** lasts for three months from June to August.

Calculate the **total summer** sunshine hours.

..... [1]

- (iii) Select an **alternative** method that would be **appropriate** to present the data shown in **Fig. 3**.

- A line graph
- B radial graph
- C rose graph
- D scatter graph

Write the correct letter in the box.

[1]

- (b) Identify and explain **two** features of flora that allow them to **survive** in polar environments.

1

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2

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[4]

(c) CASE STUDY

Small-scale example of sustainable management in either the Antarctic or the Arctic

Name of a sustainable management example

Examine the **usefulness** of small-scale management in providing a sustainable solution for your chosen polar environment.

[6]

Physical geography fieldwork

- 5 (a) Justify the selection of **one** technique you have used to **present data** for a fieldwork investigation you have completed.

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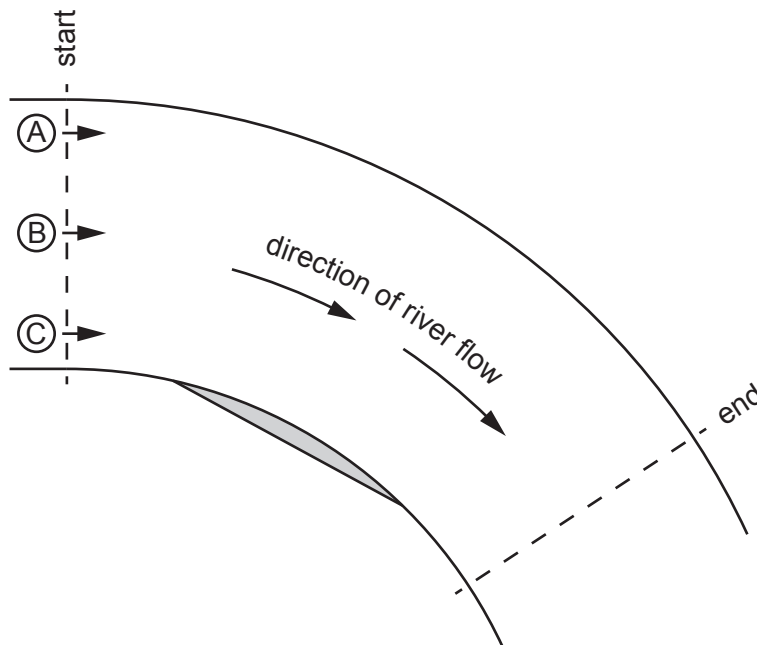
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..... [2]

- (b) Some GCSE geography students were investigating how the speed of a river changes across the river channel on a meander.

To collect their data, they timed how long it took an orange to travel 10 m at **three** different places across the meander, shown in the diagram below.

They attempted the experiment **three** times.



The table shows the length of time it took for the orange to travel 10 m at each place across the meander.

Place on river bend	Attempt 1 (seconds)	Attempt 2 (seconds)	Attempt 3 (seconds)	Mean (seconds)	Mean Speed (metres per second)
A	28	26	22	25.3	
B	32	33	34	33.0	
C	38	32	33		0.3

- (i) Calculate the **mean** speed of the river at place A and place B.

Write your answer to **one** decimal place.

You may find the following formula useful.

$$\text{Speed} = \frac{\text{Distance}}{\text{Time}}$$

Place A

Place B

[2]

- (ii) Calculate the **mean** time taken at place C.

Write your answer to **one** decimal place.

Place C [1]

- (iii) Suggest **two** observations about the data collected in the table.

1

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2

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[2]

(iv)* Look at the table below, that shows the method the students used to collect the fieldwork data.

Place on river bend	Attempt 1 (seconds)	Attempt 2 (seconds)	Attempt 3 (seconds)	Mean (seconds)	Mean Speed (metres per second)
A	28	26	22	25.3	
B	32	33	34	33.0	
C	38	32	33		0.3

Suggest how the data collection method could be **improved**.

[8]

 Spelling, punctuation and grammar and the use of specialist terminology [3]

END OF QUESTION PAPER

[illegible]

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