



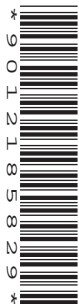
Oxford Cambridge and RSA

**Monday 23 May 2022 – Morning**

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

**J384/01 Our Natural World**

**Time allowed: 1 hour**



**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)

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Last name

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**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 in Section A.
- Choose **one** option in Section B and answer **all** the questions for that option.
- Answer **all** the questions in Section C.

**INFORMATION**

- The total mark for this paper is **49**.
- 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.

## 2

## SECTION A

Answer **all** the questions.

**Changing Climate**

1 (a) Study **Fig. 1** in the separate Resource Booklet, which shows global temperature trends over time.

(i) Identify the region with the largest decrease in temperature.

..... [1]

(ii) What is the most common temperature change shown for the UK?

..... [1]

(iii) Give **one** region that experienced a temperature increase of 0.4–0.5 °C.

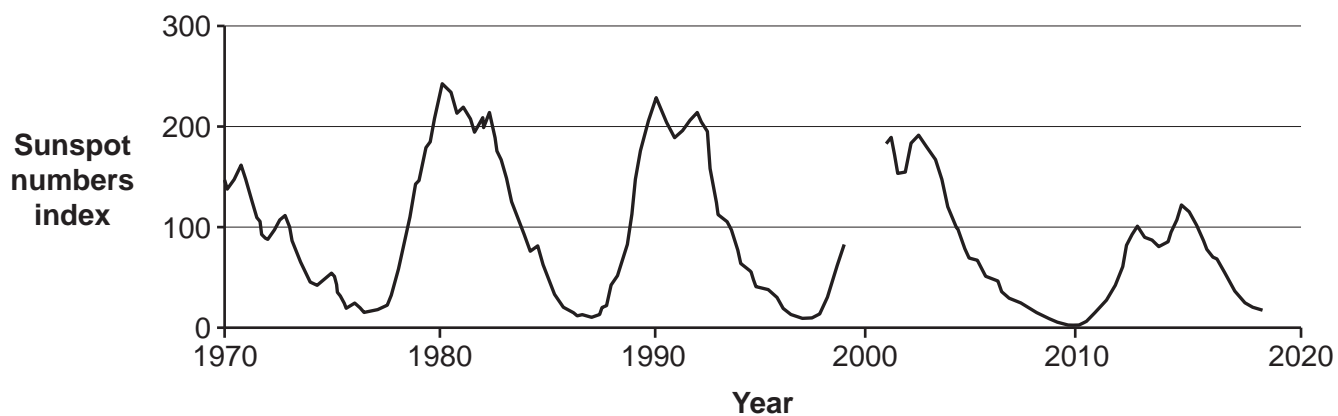
..... [1]

(iv) Suggest **one** change to **Fig. 1** to improve it.

..... [1]

3

(b) The graph below shows sunspot cycles between 1970 and 2017.



(i) In 2000 there were 150 sunspots. Use this information to complete the graph. [2]

(ii) Use the graph to identify the average timing of one sunspot cycle.

- A 1 year
- B 11 years
- C 17 years
- D 20 years

Write the correct letter in the box.

[1]



5  
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**Turn over for the next question**

**Distinctive Landscapes**

2 (a) Over time, waterfalls retreat upstream forming a gorge. The data in the table below gives the amount of retreat of a waterfall over time.

Year	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Retreat (cm)	6.5	2.0	4.0	0.5	9.0	7.0	4.5	3.0	2.0	10.0

Use the data in the table to calculate the mean rate of retreat of the waterfall over time. Show your working.

..... cm/year [2]

(b) Explain the formation of a v-shaped valley.

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

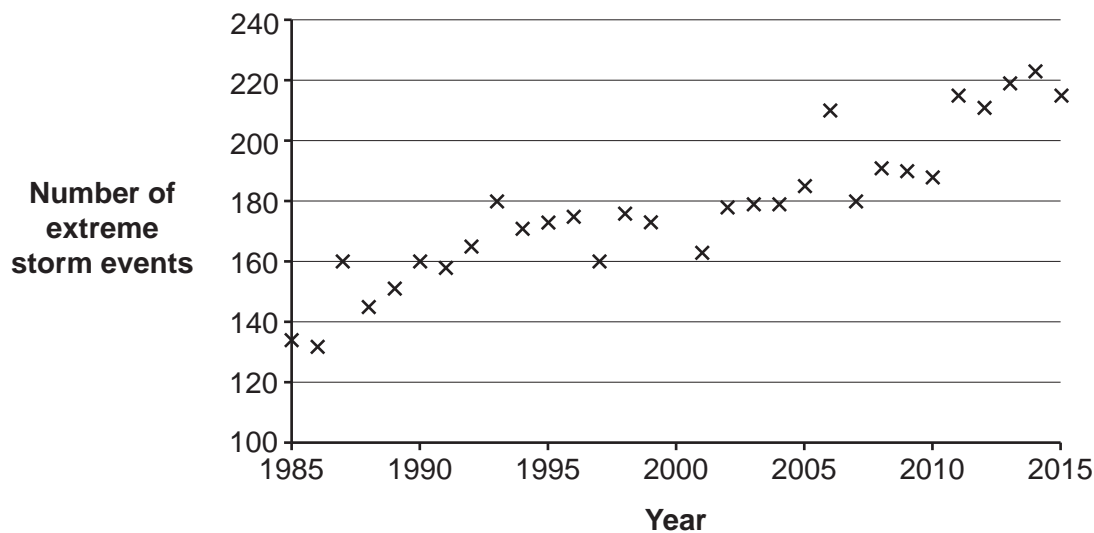


**8**  
**SECTION B**

Choose **one** option and answer **all** the questions for that option.

**Option A – Global Hazards**

- 3 (a)** Study the graph below showing the global number of extreme storm events between 1985 and 2015.



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

Year	Number of extreme storm events
2000	182

[1]

- (ii)** Add a trend line to the graph.

[1]

- (iii)** Identify the correct description of the relationship shown by the graph.

- A** negative correlation
- B** no correlation
- C** strong positive correlation
- D** weak positive correlation

Write the correct letter in the box.

[1]

- (iv)** Identify the lowest number of global extreme events to occur in one year between 1995 and 2000.

..... [1]



(b) Explain **one** way in which global atmospheric circulation creates a climatic zone.

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

(c) **CASE STUDY – a tectonic event that has been hazardous for people.**

Name of tectonic event .....

Assess the causes of the tectonic event.

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..... [6]

**Option B – Sustaining Ecosystems**

- 4 (a) Study **Fig. 2** in the separate Resource Booklet, which shows the Trans-Alaska oil pipeline in North America.

Using **Fig. 2**, identify **one** environmental impact of resource extraction in Arctic Polar regions.

.....  
 ..... [1]

- (b) Study **Fig. 3** in the separate Resource Booklet, which shows a climate graph for a polar region location.

(i) Select the correct temperature range shown on the graph.

- A -31 °C
- B 3 °C
- C 34 °C
- D 68 °C

Write the correct letter in the box.

[1]

(ii) Calculate the total annual precipitation for this polar region location.

..... mm [1]

- (c) Explain how climate and plants are interdependent in tropical rainforest ecosystems.

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 ..... [3]



**Option C – Resource Reliance**

5 (a) Describe **two** ways in which the mechanisation of farming has impacted on ecosystems.

1 .....

.....

2 .....

.....

[2]

(b) Which **one** of the following statements most accurately defines ethical consumerism?

- A Choosing to buy food which has been produced with minimal harm to people and the environment.
- B Choosing to buy more food than we need.
- C Composting any waste food.
- D Importing more food from overseas.

Write the correct letter in the box.

[1]

(c) Study **Fig. 5** in the separate Resource Booklet, which shows a map showing the biggest single food item imported into the UK from countries in Europe.

Suggest **two** ways that the map could be improved.

1 .....

.....

2 .....

.....

[2]



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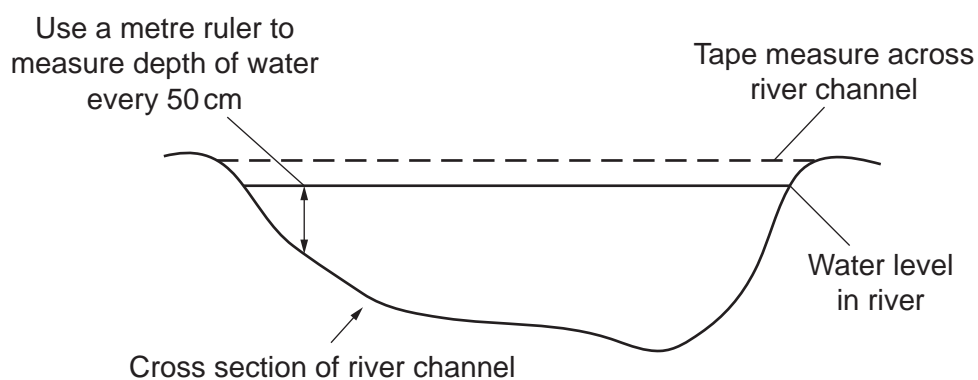
## SECTION C

Answer **all** the questions.

### Physical Geography Fieldwork

- 6 Some GCSE geography students were testing the hypothesis that ‘the river channel gets wider and deeper as you go downstream’.

They stretched a tape measure across the river channel and measured the width. They also recorded the depth of the river at 50 cm intervals. The students repeated this at three separate locations. Their method is illustrated in the diagram below.



- (a) (i) Design a data sheet below which they could use to record this information.

[3]

(ii) Select the most appropriate way of displaying the data which they have collected.

- A Bar chart
- B Line graph
- C Pie chart
- D Radial graph

Write the correct letter in the box.

[1]

(iii) Why is this an appropriate way of displaying the data collected?

.....  
..... [1]

(b) Explain **one** factor that students would need to consider when selecting the appropriate sites at which to carry out their data collection.

.....  
.....  
.....  
..... [2]

**END OF QUESTION PAPER**

**ADDITIONAL ANSWER SPACE**

If additional space is required, you should use the following lined page(s). The question number(s) must be clearly shown in the margin(s).

A large rectangular area with a vertical solid line on the left side and horizontal dotted lines across the rest of the page, providing space for writing answers.



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