

Please check the examination details below before entering your candidate information

Candidate surname		Other names	
Centre Number		Candidate Number	

Pearson Edexcel Level 3 GCE

Tuesday 13 May 2025

Morning (Time: 2 hours 15 minutes)

Paper reference **9GE0/01**

Geography
Advanced
PAPER 1

You must have:
Resource Booklet (enclosed)
Calculator, ruler

Total Marks

Instructions

- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- Answer **all** questions in Section **A**, and Section **C**.
- Answer **either** Question 2 **or** Question 3 in Section **B**.
- Answer the questions in the spaces provided
– *there may be more space than you need.*
- Any calculations must show all stages of working out and a clear answer.

Information

- The total mark for this paper is 105.
- The marks for **each** question are shown in brackets
– *use this as a guide as to how much time to spend on each question.*
- Calculators may be used.

Advice

- Read each question carefully before you start to answer it.
- Check your answers if you have time at the end.

Turn over ►

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SECTION A

Tectonic Processes and Hazards

Answer ALL questions in this section. Write your answers in the spaces provided.

You must use the Resource Booklet provided.

- 1 Study Figure 1 which shows significant earthquake events in California, 1999–2022.

Date of significant earthquake event	Magnitude (Mw) (x_i)	Mean (μ)	Magnitude-Mean ($x_i - \mu$)	(Magnitude-Mean) ² ($x_i - \mu$) ²
1999	7.1	6.2	0.9	0.81
2000	5	6.2	−1.2	
2003	6.6	6.2	0.4	0.16
2007	5.6	6.2	−0.6	0.36
2008	5.4	6.2	−0.8	0.64
2010	7.2	6.2	1	1
2010	6.5	6.2	0.3	0.09
2014	6	6.2	−0.2	0.04
2014	5.1	6.2	−1.1	1.21
2019	7.1	6.2	0.9	0.81
2019	6.4	6.2	0.2	0.04
2022	6.4	6.2	0.2	0.04
$\Sigma(x_i - \mu)^2$				

Figure 1

Significant earthquake events in California, 1999–2022

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(a) Using Figure 1;

(i) Calculate the value of $(x_i - \mu)^2$ for the year 2000.

(1)

(ii) Calculate $\sum (x_i - \mu)^2$

(1)

(iii) Using the answer to a(ii) and the formula below, calculate the Standard Deviation (SD) for this data.

In this data set $n = 12$.

You **must** show your working.

Give your answer to **two** decimal places.

$$SD = \sqrt{\frac{\sum (x_i - \mu)^2}{n - 1}}$$

(2)



(b) Assess the importance of community preparedness in influencing the vulnerability of people to tectonic hazards.

(12)

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(Total for Question 1 = 16 marks)

TOTAL FOR SECTION A = 16 MARKS



Study Figure 2b in the Resource Booklet.

- (b) Explain the influence of geology in the formation of this knock and lochan landscape.

(6)

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(c) Explain why meltwater creates distinctive depositional fluvio-glacial landforms.

(8)

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(d) Evaluate the view that the management of glaciated landscapes should always prioritise preservation over economic exploitation.

(20)

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(Total for Question 2 = 40 marks)



Do not answer Question 3 if you have answered Question 2.

Answer ONE question in this section – either Question 2 OR Question 3.

If you answer Question 3, put a cross in the box ☐ .

Coastal Landscapes and Change

You must use the Resource Booklet provided.

3 Study Figure 3a in the Resource Booklet.

(a) Explain the role of destructive waves in the formation of this landscape.

(6)

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Study Figure 3b in the Resource Booklet.

(b) Explain the influence of constructive waves in the formation of this landscape.

(6)

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(c) Explain why subaerial processes influence the rate of coastal recession.

(8)

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(d) Evaluate the view that coastal management should always prioritise the environment over economic considerations.

(20)

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(Total for Question 3 = 40 marks)

TOTAL FOR SECTION B = 40 MARKS



SECTION C

Physical Systems and Sustainability

Answer ALL questions in this section.

You must use the Resource Booklet provided.

4 Study Figure 4 in the Resource Booklet.

- (a) Explain **one** reason why the global water budget limits water availability for human use.

(3)

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(b) Explain the possible impacts of climate change on river discharge.

(6)

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Unconventional fossil fuel energy resources include tar sands, shale gas, shale oil and deepwater oil.

- (c) Explain the costs and benefits of developing unconventional fossil fuel energy resources.

(8)



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(d) Assess the extent to which future demand for water can be met using sustainable approaches.

(12)

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(e) Evaluate the view that global agreements are essential in order to reduce further planetary warming.

(20)

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(Total for Question 4 = 49 marks)

TOTAL FOR SECTION C = 49 MARKS
TOTAL FOR PAPER = 105 MARKS



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Pearson Edexcel Level 3 GCE**Tuesday 13 May 2025**

Morning (Time: 2 hours 15 minutes)

**Paper
reference****9GE0/01****Geography****Advanced
PAPER 1****Resource Booklet****Do not return this Booklet with the question paper.***Turn over* ►**P78680A**©2025 Pearson Education Ltd.
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SECTION B

The following resources relate to Question 2.



Figure 2a

Relict upland glaciated valley



Figure 2b

A knock and lochan glaciated landscape

The following resources relate to Question 3.



Figure 3a

A landscape of coastal erosion



Figure 3b
A landscape of coastal deposition

SECTION C

The following resource relates to Question 4a.

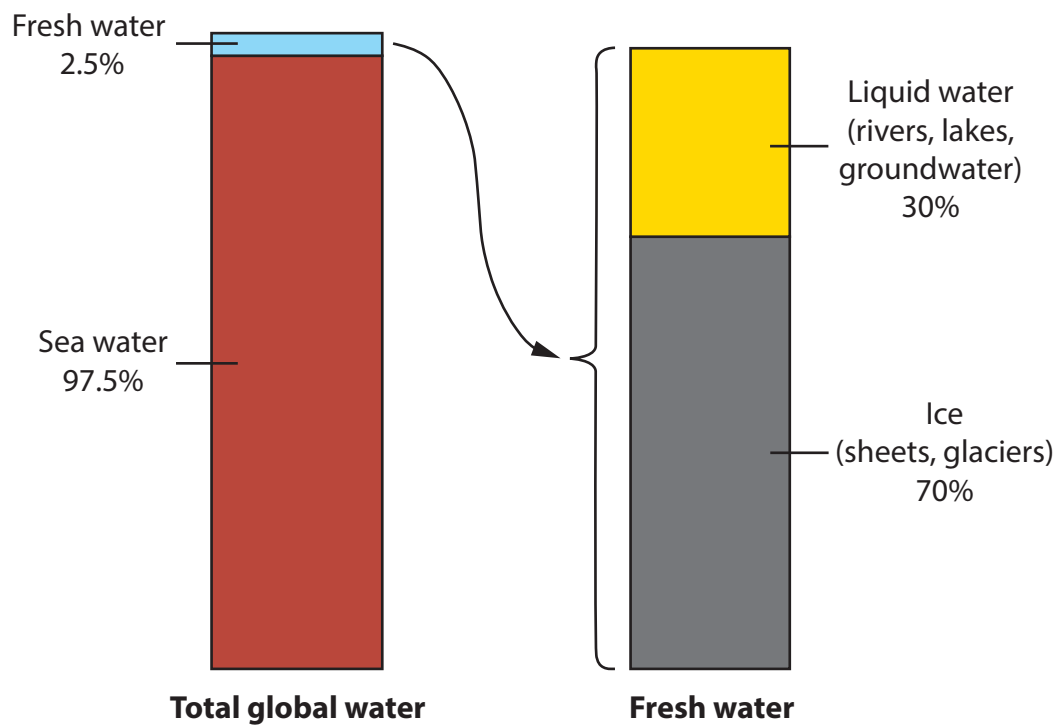


Figure 4

Major stores in the global water budget

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Acknowledgements

Pearson Education Ltd gratefully acknowledges all following sources used in preparation of this paper:

Figure 2a: © Howard Litherland/Alamy Stock Photo

Figure 2b: © Vincent Lowe/Alamy Stock Photo

Figure 3a: © Simon Turner/Alamy Stock Photo

Figure 3b: www.discoverhelston.co.uk/discover/loepool