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AQA

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Centre number | | | | | | Candidate number | | | | |

Surname _____

Forename(s) _____

Candidate signature _____
I declare this is my own work.

AS
GEOGRAPHY

Paper 1 Physical geography and people and the environment

Tuesday 14 May 2024 Afternoon Time allowed: 1 hour 30 minutes

Materials
For this paper you must have:
- a pencil
- a rubber
- a ruler.

You may use a calculator.

For Examiner's Use	
Section	Mark
A	
B	
TOTAL	

Instructions
- Use black ink or black ball-point pen.
- Fill in the boxes at the top of this page.
- Answer **either** Question 1 **or** Question 2 **or** Question 3 in Section A.
- Answer **either** Question 4 **or** Question 5 in Section B.
- You must answer the questions in the spaces provided. Do not write outside the box around each page or on blank pages.
- If you need additional extra space for your answer(s), use the lined pages at the end of this book. Write the question number against your answer(s).
- Do all rough work in this book. Cross through any work you do not want to be marked.

Information
- The marks for questions are shown in brackets.
- The total number of marks available for this paper is 80.

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Only **one** answer per question is allowed.

For the multiple-choice questions, completely fill in the circle alongside the appropriate answer.

CORRECT METHOD ⬬ WRONG METHODS ⊗ ⦿ ≋ ✓

If you want to change your answer you must cross out your original answer as shown. ⬬

If you wish to return to an answer previously crossed out, ring the answer you now wish to select as shown. ⬬

Section A

Answer **one** question in this section.

Answer **either** Question 1 **or** Question 2 **or** Question 3.

Question 1 Water and carbon cycles

0 1 . 1 Which of the following describes a cause of precipitation?

[1 mark]

A As air rises from the Earth's surface due to convection, it warms as it gets higher and changes state from liquid to ice. ⬭

B At a cold front, warmer, less dense air is forced to sink under denser, colder air leading to cloud formation along the front. ⬭

C When air is forced to rise over hills it cools, water vapour condenses forming clouds and water then falls to the surface of the Earth. ⬭

D When the humidity of the air decreases, it means more liquid water can change state and become water vapour. ⬭

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0 1 . 2 In the carbon cycle, what is respiration?

[1 mark]

A A transfer of carbon from a solid state to a gaseous state, when combined with oxygen during combustion of organic material. ⬭

B Animal and plant cells use oxygen to free energy from stored carbohydrates, releasing carbon dioxide into the atmosphere. ⬭

C As organic material decomposes and is broken down, carbon is returned to the atmosphere as carbon dioxide. ⬭

D Where plants use solar energy to combine carbon dioxide from the atmosphere with water and release oxygen as a by-product. ⬭

0 1 . 3 Outline impacts of wildfires on major stores of carbon.

[3 marks]

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Question 1 continues on the next page

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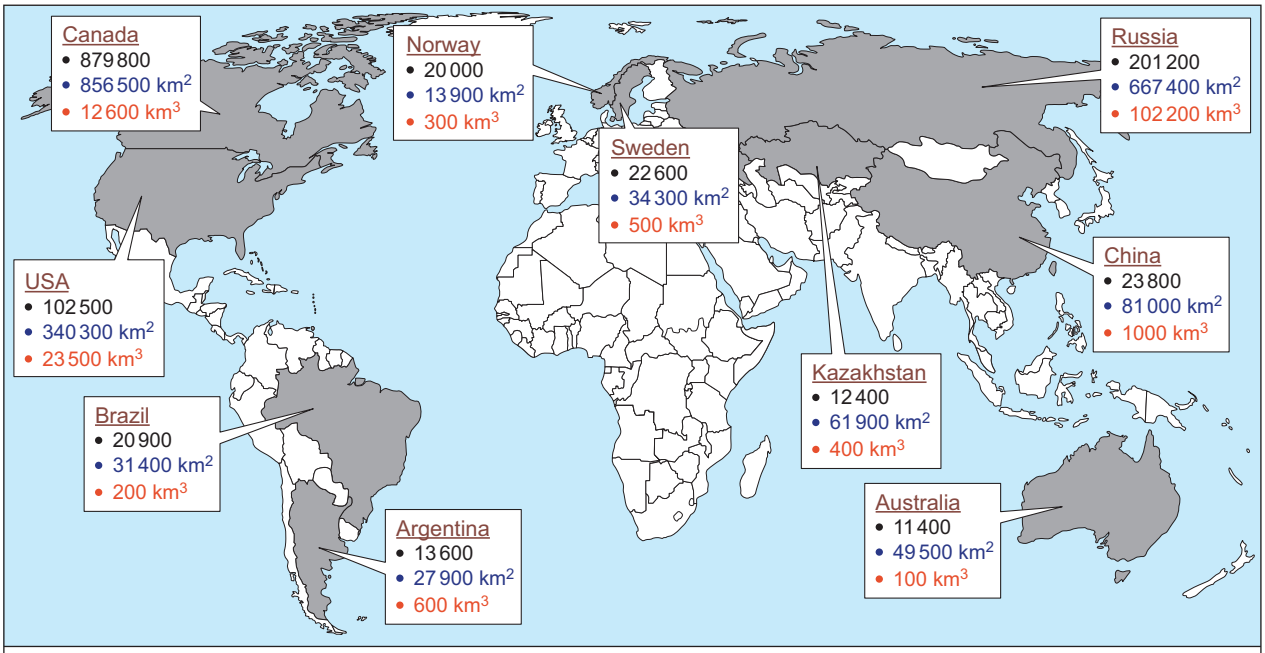
Figure 1 shows information about the ten countries with the largest number of lakes in the world.

Figure 1



Key

Country name

- Number of lakes
- Total area of those lakes
- Total volume of water in those lakes

0 1 . 4 Analyse the data shown in **Figure 1**.

[6 marks]

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0 1 . 5 Assess potential impacts of climate change on a local river catchment you have studied.

[9 marks]

Question 1 continues on the next page

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0 1 . 6 Assess the contribution of natural carbon sequestration in reducing the impacts of human activity on climate change.

[20 marks]

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Question 2 **Coastal systems and landscapes**

0 2 . 1 Which of the following are all sources of energy in the coastal system?

[1 mark]

A Currents driven by temperature differences in the ocean, tidal flows driven by gravity and waves generated by wind. ⬭

B Eustatic changes in sea level, ocean currents driven by variations in temperature and sediment added to a beach by mass movement. ⬭

C Isostatic changes in sea level, local tidal flows and sediment deposited in estuaries by rivers. ⬭

D Tidal currents driven by gravity, the movement of sediment by longshore drift and the accumulation of sediment on offshore bars. ⬭

0 2 . 2 Which of the following describes a process of mass movement at the coast?

[1 mark]

A Breaking waves trap air as they hit a cliff face, creating pressure and weakening the rock. ⬭

B Rocks at the coast are weakened and broken down in the presence of air and water, and by the action of animals and plants. ⬭

C Where water acts as a lubricant between different layers of material in a cliff, gravity causes a downwards rotational movement. ⬭

D Wind reaching the coast provides enough energy to allow sand particles to be transported and thrown against a cliff face. ⬭

0 2 . 3 Outline processes involved in the development of estuarine mudflat environments.

[3 marks]

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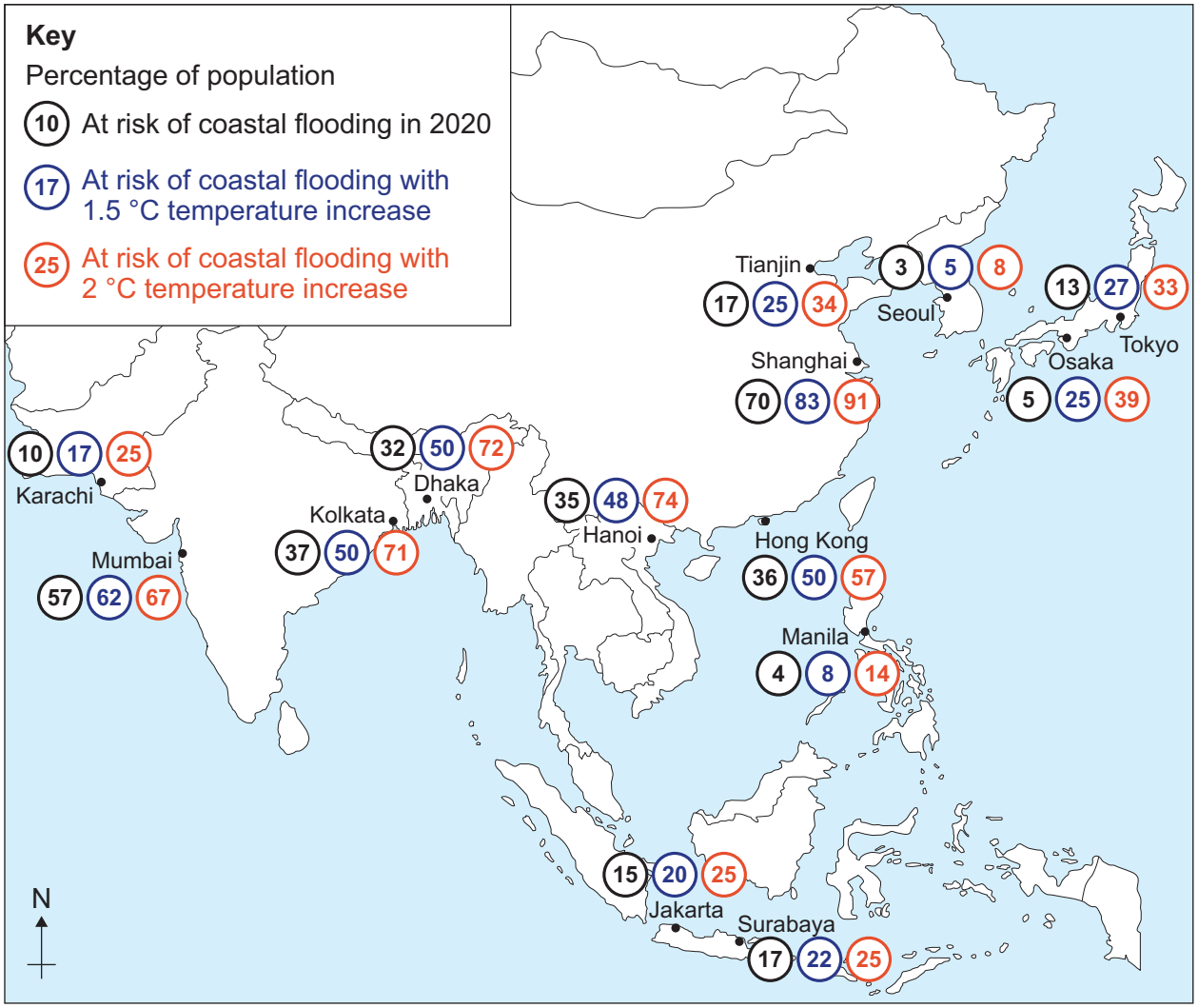
Figure 2 shows the percentages of populations at risk from coastal flooding in selected cities in Asia in 2020 and in future climate change scenarios.

Figure 2



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0 2 . 4 Analyse the information shown in **Figure 2**.

[6 marks]

Question 2 continues on the next page

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0 2 . 5 Assess potential impacts of climate change on the physical landforms of a local scale coastal landscape you have studied.

[9 marks]

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0 2 . 6 'Adaptation will become more important than mitigation as a response to predicted sea level rise for people living in coastal environments.'

To what extent do you agree with this view?

[20 marks]

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End of Question 2

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Question 3 Glacial systems and landscapes

0 3 . 1 What is ablation?

[1 mark]

A The build up of ice on a glacier due to snow and avalanches. ⬭

B The loss of ice from a glacier as it melts and breaks up. ⬭

C The movement of saturated soil downhill on top of permafrost. ⬭

D The wearing away of bedrock by the action of ice moving over it. ⬭

0 3 . 2 Which of the following describes a cold-based glacier?

[1 mark]

A A generally large mass of ice, where the ice remains frozen throughout its profile, with an absence of meltwater at its base. ⬭

B A glacier usually found in temperate latitudes, with ice at the base reaching its pressure melting point leading to the presence of meltwater. ⬭

C A mass of ice occupying a valley, where the presence of meltwater lubricates the base leading to basal sliding. ⬭

D A small mass of ice occupying an armchair-shaped hollow on a mountain side, with the ice having a rotational flow. ⬭

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0 3 . 3 Outline processes leading to the occurrence of erratics.

[3 marks]

Question 3 continues on the next page

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Figure 3a shows information about the area of land covered by glaciers in different regions of the world in 2020.

Figure 3b shows information about the average annual loss of ice from glaciers in the same regions of the world, from 2000 to 2019.

Figure 3a

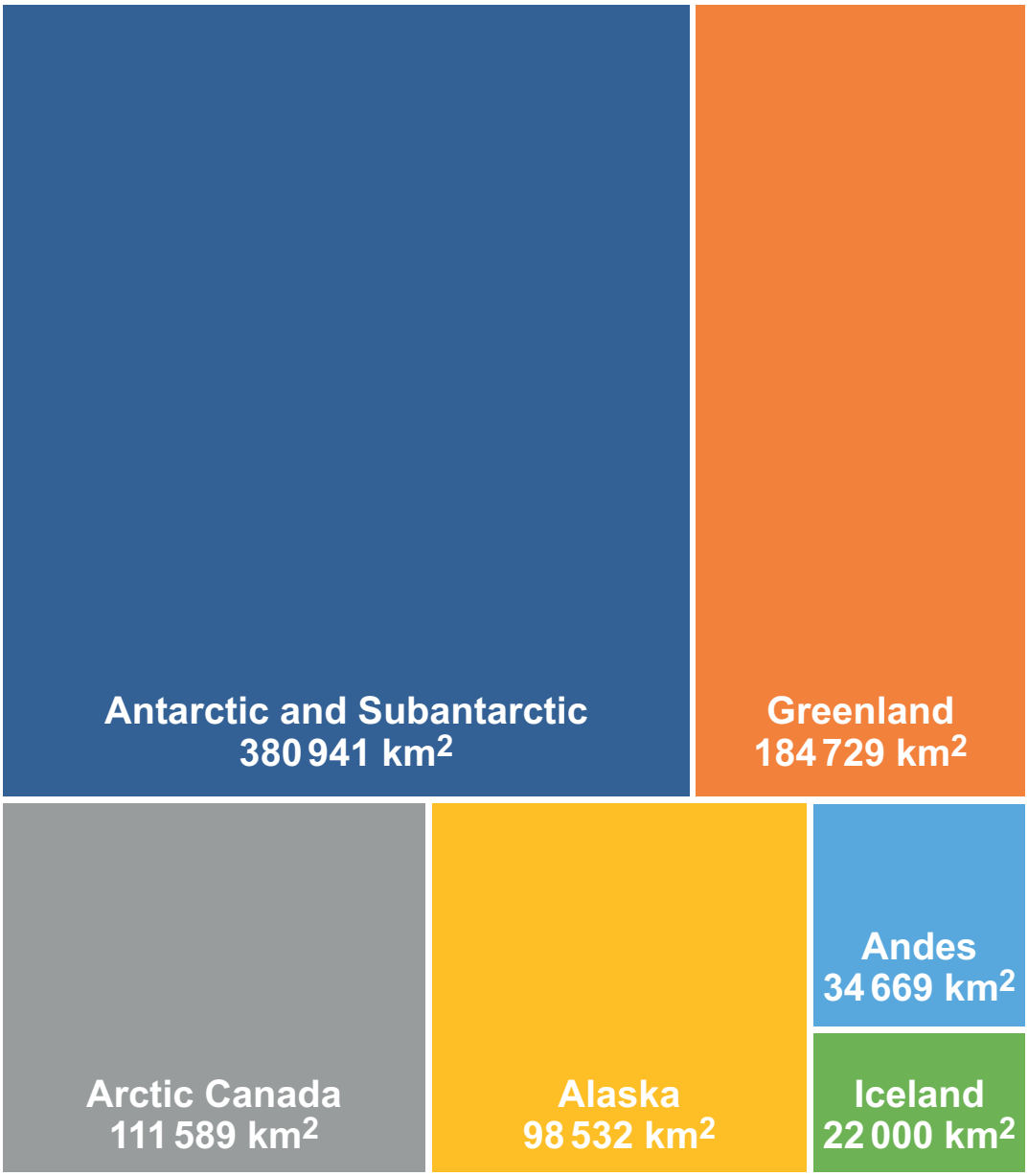

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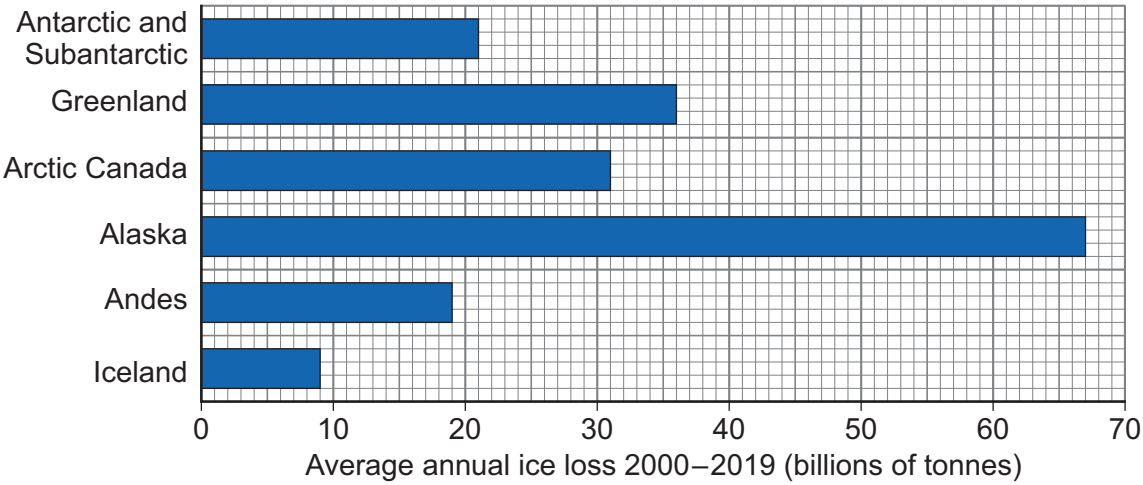
Figure 3b



0 3 . 4 Analyse the information shown in **Figure 3a** and **Figure 3b**.

[6 marks]

Question 3 continues on the next page

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0 3 . 5 Analyse the interaction between climate, vegetation and soil in a periglacial environment.

[9 marks]

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0 3 . 6 'Sustainably managing human activity in fragile cold environments will become increasingly difficult in the future.'

To what extent do you agree with this statement?

[20 marks]

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End of Section A

Turn over for Section B

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Section B

Answer **one** question in this section.

Answer **either** Question 4 **or** Question 5.

Question 4 Hazards

0 4 . 1 What is risk sharing as a response to natural hazards?

[1 mark]

A Where people and communities adjust how they live their lives in order to reduce their level of vulnerability to hazards. ⬭

B Where people and communities feel there is little that can be done to mitigate the hazard they face, so take no preventative measures. ⬭

C Where people and communities jointly invest in projects to protect against impacts and take out insurance against losses. ⬭

D Where people and communities monitor hazards in order to give warnings for future potentially hazardous events. ⬭

0 4 . 2 Which of the following describes tephra?

[1 mark]

A Extremely hot gas and steam forced from an erupting volcano under immense pressure. ⬭

B Fragments of rock of any size ejected from a volcano during an eruption. ⬭

C Molten rock, or magma, flowing onto the Earth's surface. ⬭

D Saturated soil, or sand, behaving like a liquid during an earthquake. ⬭

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0 4 . 3 Outline characteristics of young fold mountains.

[3 marks]

Question 4 continues on the next page

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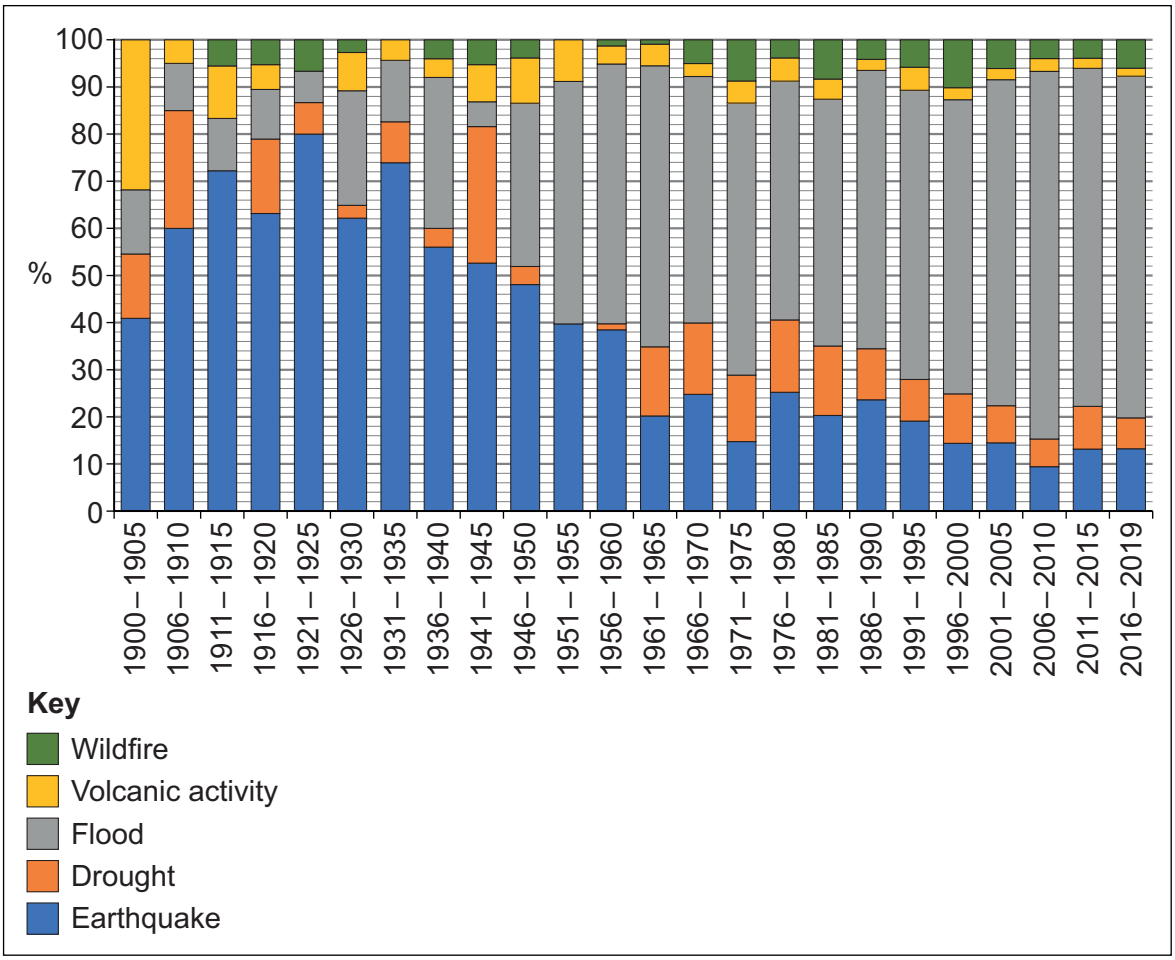
Figure 4 shows information about the proportions of selected natural hazards reported globally from 1900 to 2019.

Figure 4



0 4 . 4 Analyse the information shown in **Figure 4**.

[6 marks]

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0 4 . 5 Evaluate the importance of the economic characteristics of place in influencing the level of risk people experienced from a recent volcanic event.

[9 marks]

Question 4 continues on the next page

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0 4 . 6 'The predictability of storm hazards allows people to prepare for them and mitigate their impacts.'

How far do you agree with this statement?

[20 marks]

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End of Question 4

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Question 5 Contemporary urban environments

0 5 . 1 What is suburbanisation?

[1 mark]

A An increase in the proportion of a country's population living in urban areas. ⬭

B The economic and structural regeneration of an urban area following a period of decline. ⬭

C The movement of people from living in central areas of a city to the outer edges. ⬭

D Where wealthy individuals buy and renovate older property in often run-down urban areas. ⬭

0 5 . 2 Which of the following describes the ecological footprint of an urban area?

[1 mark]

A A measure of the area of land surrounding a city swallowed up by the process of urban sprawl. ⬭

B A measure of the sustainability of waste management in an urban area, assessing the balance between landfill and recycling. ⬭

C The level of biodiversity of an urban area, including the number of plant and animal species living there. ⬭

D The total area of productive land and water required to produce the resources required and absorb the waste produced in an urban area. ⬭

0 5 . 3 Outline potential impacts of urban areas on thunderstorms.

[3 marks]

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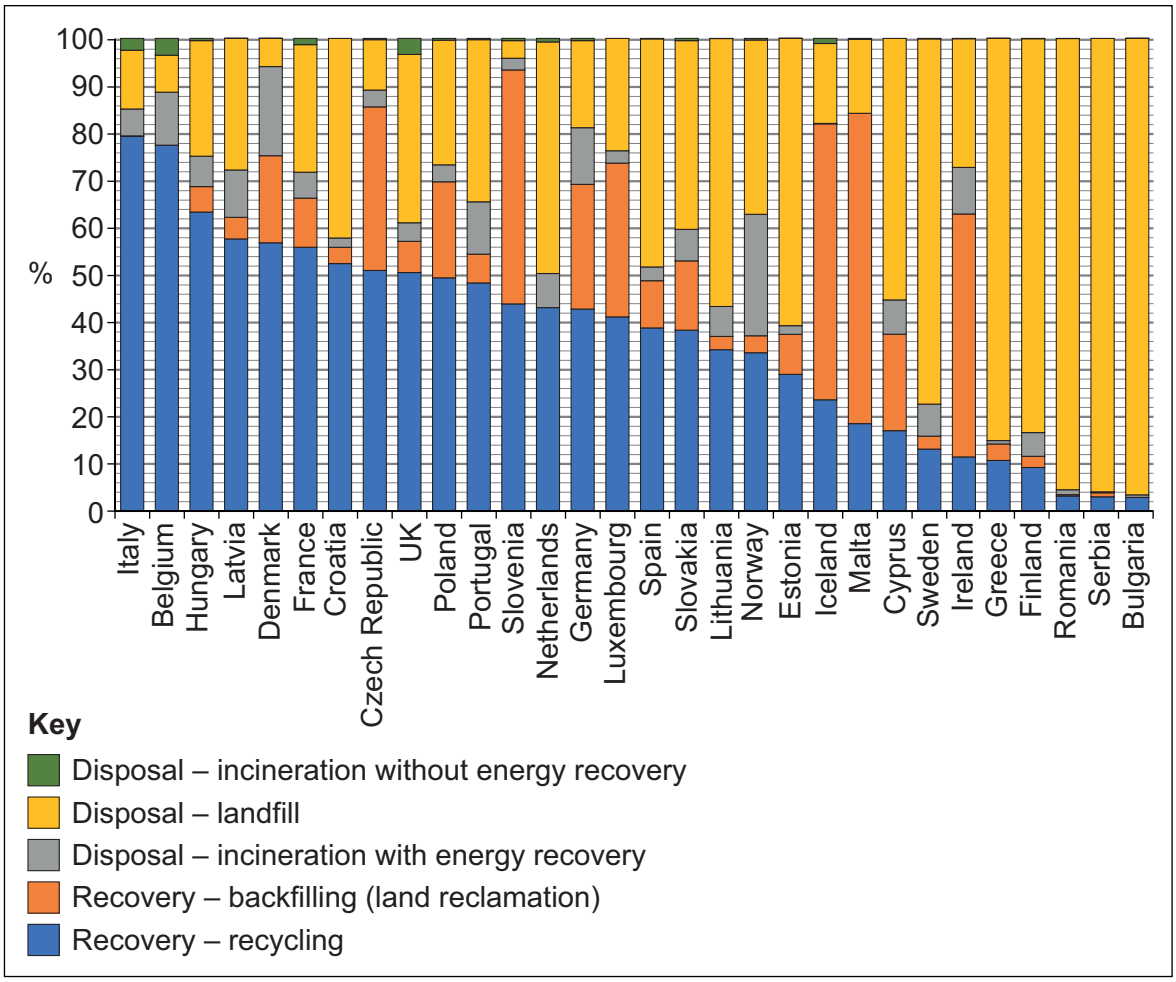
Figure 5 shows information about the proportions of different waste management strategies used in selected European countries in 2020.

Figure 5



0 5 . 4 Analyse the information shown in **Figure 5**.

[6 marks]

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0 5 . 5 Evaluate the importance of the economic characteristics of place in determining the level of atmospheric pollution in an urban area you have studied.

[9 marks]

Question 5 continues on the next page

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0 5 . 6 'The future development of mega cities will present increasing social and economic challenges for the people living in them.'

To what extent do you agree with this statement?

[20 marks]

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END OF QUESTIONS

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