Please write clearly in block capitals.

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 13 May 2025 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 an urban flood hydrograph for a river after a very intense but short rainstorm event?

[1 mark]

A Long lag time, gentle rising limb, low peak discharge and gentle falling limb. ⬭

B Long lag time, steep rising limb, high peak discharge and gentle falling limb. ⬭

C Short lag time, gentle rising limb, low peak discharge and steep falling limb. ⬭

D Short lag time, steep rising limb, high peak discharge and steep falling limb. ⬭

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0 1 . 2 Which of the following describes an impact of changes to the carbon budget on global climate?

[1 mark]

A As atmospheric concentrations of CO_2 decrease, carbon sequestration by vegetation decreases, enhancing the greenhouse effect. ⬭

B As atmospheric concentrations of CO_2 decrease, global temperatures increase and precipitation events become more extreme. ⬭

C As atmospheric concentrations of CO_2 increase, global temperatures decrease and precipitation levels change. ⬭

D As atmospheric concentrations of CO_2 increase, global temperatures increase and precipitation patterns change. ⬭

0 1 . 3 Outline the process of evapotranspiration.

[3 marks]

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Question 1 continues on the next page

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Figure 1a shows estimates of the amount of carbon stored in soil and plants in different biomes at the end of the 20th Century.

Figure 1b shows information about the land area covered by each of the biomes.

A biome is a large area sharing similar vegetation, soil, climate and wildlife characteristics.

Figure 1a

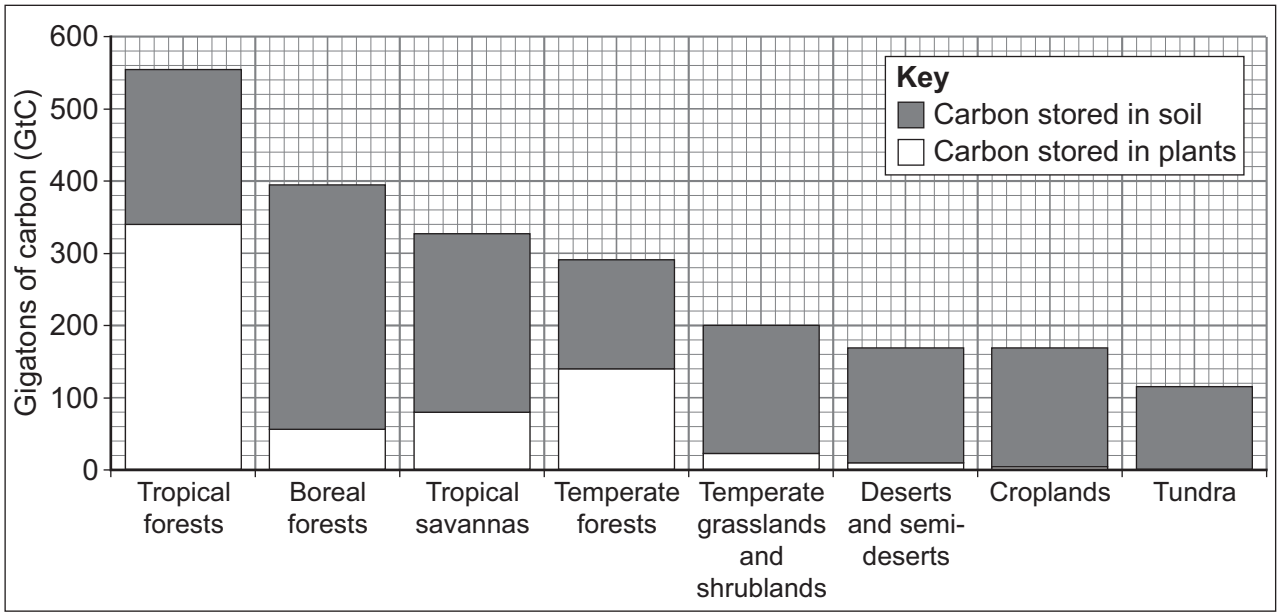
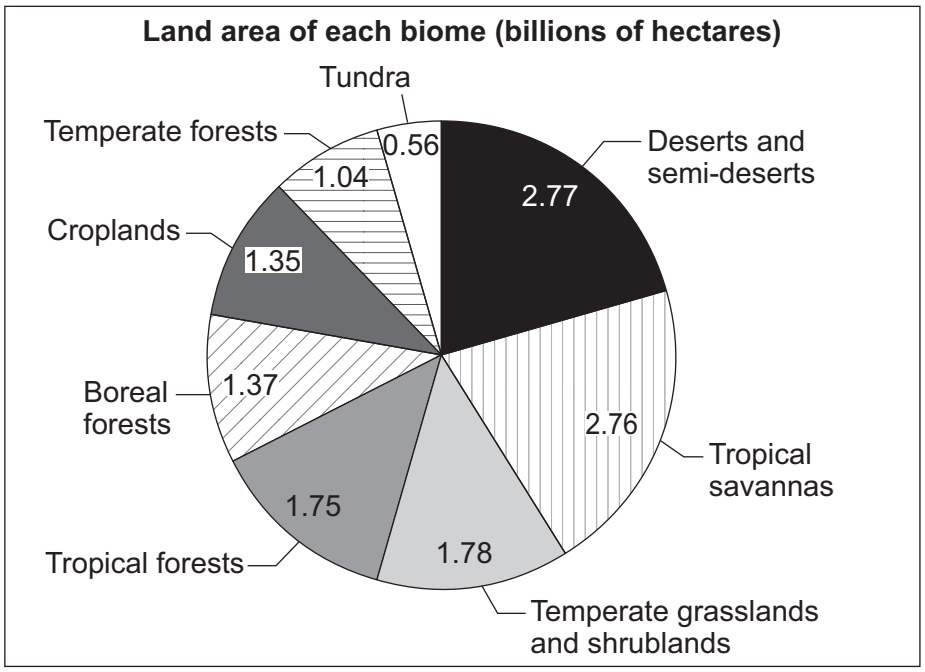


Figure 1b



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0 1 . 4 Analyse the data shown in **Figure 1a** and **Figure 1b**.

[6 marks]

Question 1 continues on the next page

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0 1 . 5 Assess the extent to which human activity affects carbon stores in the hydrosphere.

[9 marks]

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0 1 . 6 Evaluate the impact of human activity on the water cycle in a tropical rainforest you have studied.

[20 marks]

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End of Question 1

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Question 2 Coastal systems and landscapes

0 2 . 1 What is a fjord?

[1 mark]

A A cliff and beach found above the current sea level as sea levels have fallen. ⬭

B A former glacial valley that has been flooded due to rising sea levels. ⬭

C A former river valley that has been flooded due to rising sea levels. ⬭

D A series of islands running parallel to a coastline formed as rising sea levels flood former river valleys. ⬭

0 2 . 2 Which of the following describes the process of wave quarrying at the coast?

[1 mark]

A As waves break against a cliff, soluble minerals within the rock are dissolved, weakening the cliff. ⬭

B Rocks carried by the sea are rounded and smoothed as they rub against each other. ⬭

C Waves breaking against a cliff are powerful enough to remove large blocks of rock due to combined force, pressure and vibration. ⬭

D Waves breaking at the coast hurl rocks and pebbles at the base of cliffs wearing away the rock surface. ⬭

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0 2 . 3 Outline how longshore/littoral drift transports material at the coast.

[3 marks]

Question 2 continues on the next page

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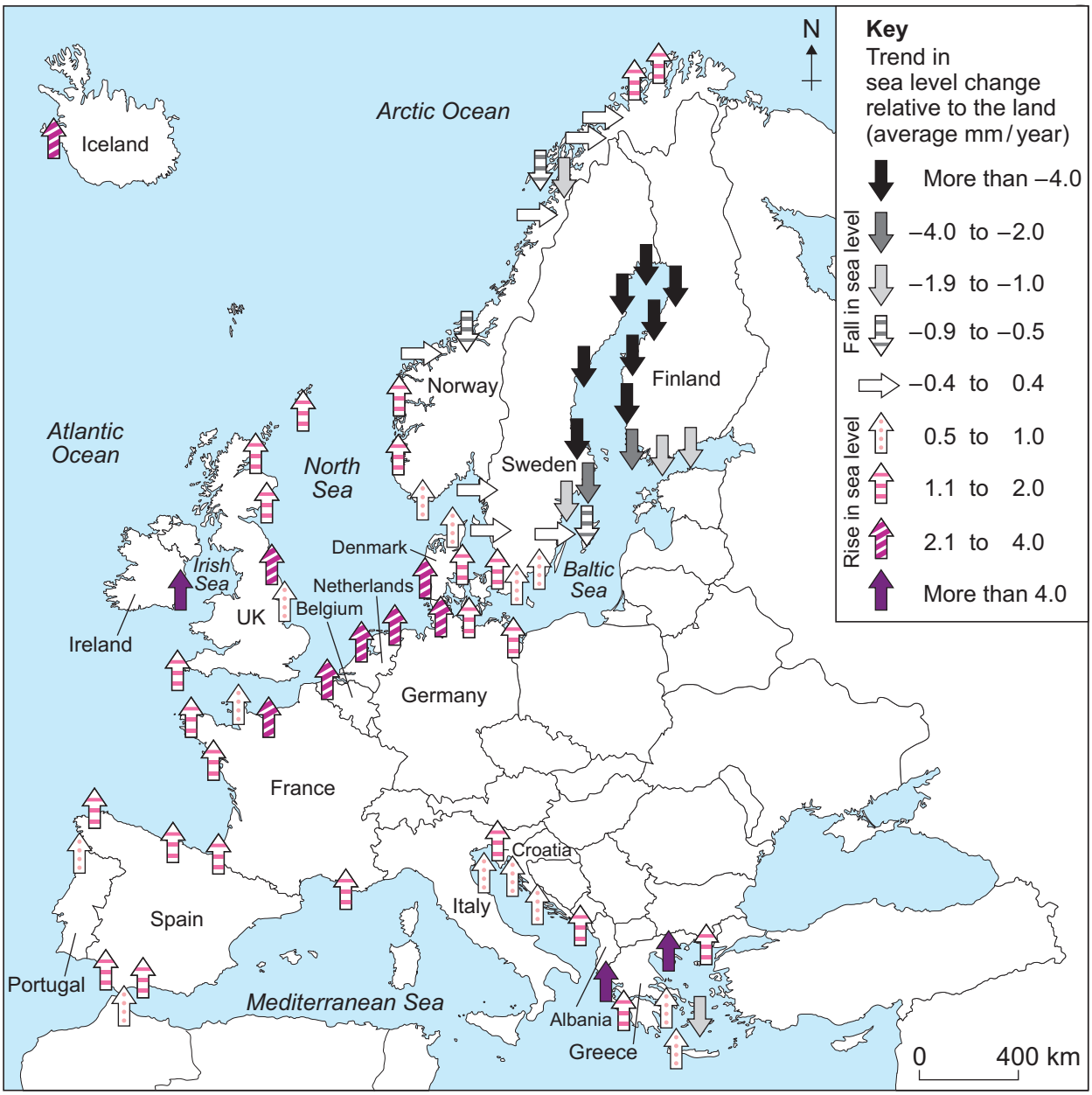
Figure 2 shows the annual average change in sea level relative to land at selected European locations from 1972 to 2022.

Figure 2



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

[6 marks]

Question 2 continues on the next page

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0 2 . 5 Assess the role of mass movement processes in shaping coastal landforms.

[9 marks]

Do not write outside the box

0 2 . 6 Analyse the relationship between sea level change and landform development over the last 10 000 years.

[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 a pingo?

[1 mark]

A A dome-shaped mound of earth with an ice core found in periglacial landscapes. ⬭

B Alternating layers of sediment deposited in proglacial lakes in periglacial landscapes. ⬭

C An elongated rounded hill of material deposited and shaped by a retreating glacier. ⬭

D A sinuous ridge of material deposited by meltwater in a sub-glacial stream. ⬭

0 3 . 2 Which of the following describes the process of abrasion in glacial environments?

[1 mark]

A As ice melts at the snout of a glacier, ridges of material are deposited across the valley floor. ⬭

B Material being carried at the base of a moving glacier erodes the valley floor and sides. ⬭

C Rock fragments are removed from the valley floor and sides due to the weight and dragging motion of the moving ice. ⬭

D When temperatures fluctuate above and below 0 °C, water repeatedly freezes and thaws in cracks in rock, causing it to fracture. ⬭

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0 3 . 3 Outline the formation of ice wedges.

[3 marks]

Question 3 continues on the next page

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Figure 3a shows the areas that were glaciated in New Zealand in 2021.

Figure 3b shows the average annual number of frost days recorded at selected weather stations in New Zealand in the years 2010 to 2019.

Frost days occur when the minimum temperature is below 0 °C.

Figure 3a

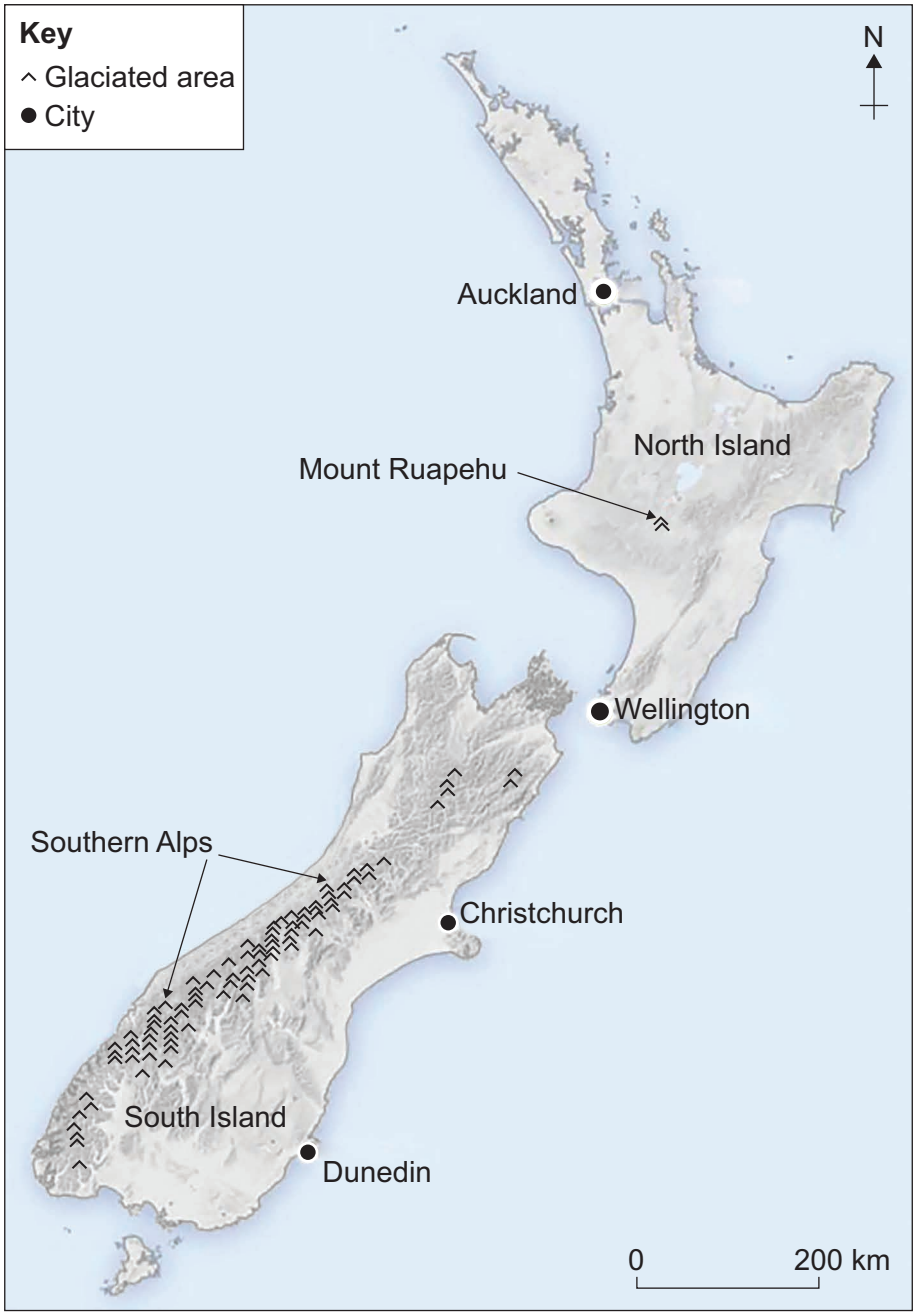

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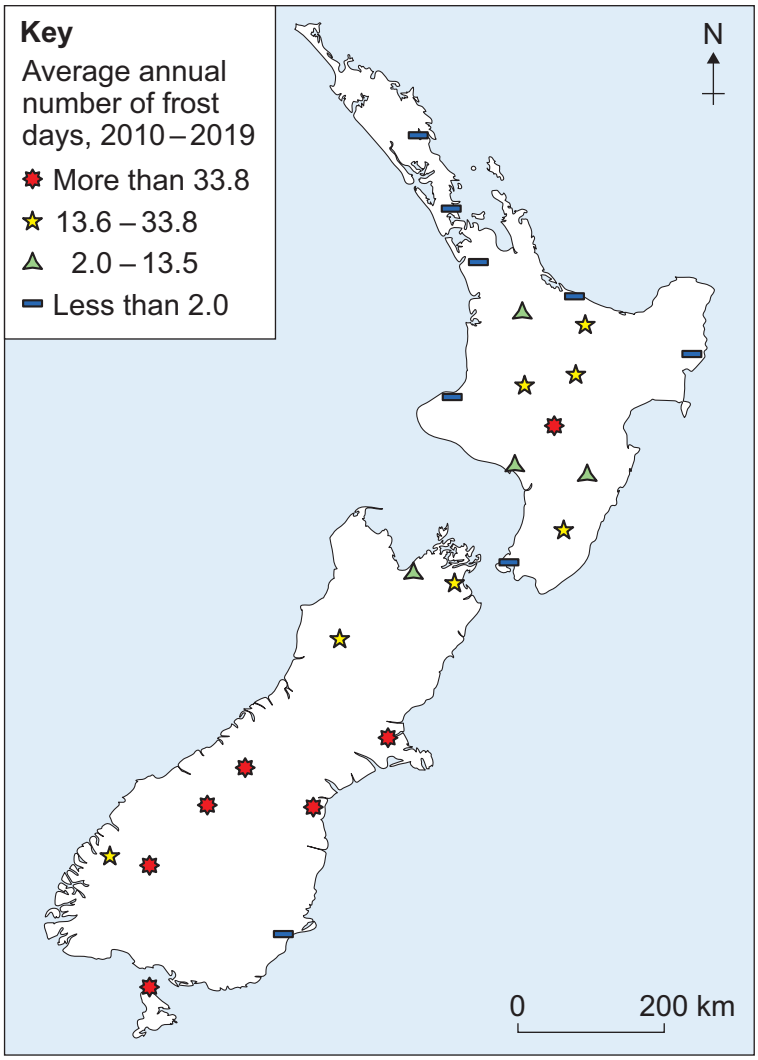
Figure 3b



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

[6 marks]

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0 3 . 5 Assess the role of meltwater in creating distinctive fluvioglacial landforms.

[9 marks]

Question 3 continues on the next page

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0 3 . 6 'The extent of cold environments will change more in the future than it has in the past.'

Evaluate this view.

[20 marks]

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End of Section A

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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 Which of the following describes a primary impact of a seismic event?

[1 mark]

A Diseases spread due to contaminated water following damage to water pipes. ⬭

B Fires spread through urban areas following the cracking of gas pipes. ⬭

C The emergency services are delayed in responding due to roads being blocked by debris. ⬭

D The ground shakes violently and causes buildings to collapse. ⬭

0 4 . 2 What is an island arc?

[1 mark]

A A long, deep valley running along the centre of a spreading ridge. ⬭

B A chain of islands found above volcanic hotspots. ⬭

C Islands formed where a coastline drops following an earthquake. ⬭

D Volcanic islands running parallel to a destructive plate margin. ⬭

0 4 . 3 Outline conditions leading to the formation of tropical storms.

[3 marks]

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Figure 4a shows the predicted intensity of earthquakes in the next 40 years across Thailand, should a seismic event occur.

Figure 4b shows the population density in Thailand by province.

Figure 4a

Note: The Modified Mercalli Scale is measured from 1 (not felt by people) to 10 (extreme damage caused).

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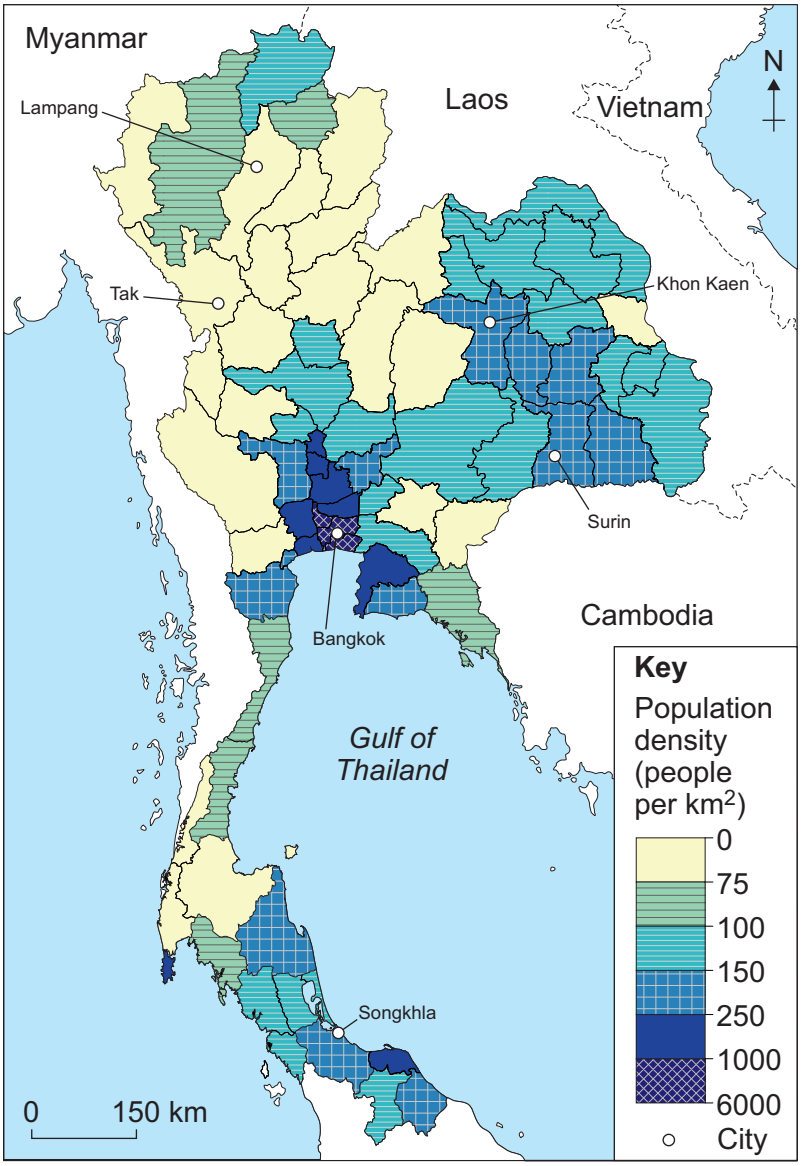
Figure 4b



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

[6 marks]

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0 4 . 5 Evaluate the impact of a recent wildfire event on the characteristics of the place where it occurred.

[9 marks]

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0 4 . 6 'People live successfully in multi-hazardous environments as they are able to adapt to and mitigate the impact of the hazards they face.'

With reference to a multi-hazardous environment beyond the UK that you have studied, assess the extent to which 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 Which of these is a feature of urban policy in Britain since 1979?

[1 mark]

A Higher income households encouraged to leave congested urban areas to live in smaller rural settlements. ⬭

B Property-led initiatives including Enterprise Zones and Urban Development Corporations. ⬭

C The creation of New Towns around existing large urban areas to accommodate their overspill populations. ⬭

D Higher income families moving from inner city areas to the outskirts of cities. ⬭

0 5 . 2 What is photo-chemical pollution?

[1 mark]

A A condition of the atmosphere above urban areas where temperatures increase with height, trapping air close to the surface. ⬭

B Mixtures of dust, soot and gases emitted into the atmosphere from industry and vehicles. ⬭

C Sulphur dioxide released by the burning of fossil fuels causes acid rain in urban areas. ⬭

D Sunlight reacts with nitrogen oxides and vehicle exhaust gases producing ozone, causing discomfort for people. ⬭

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0 5 . 3 Outline changes that have typically occurred in gentrified urban areas.

[3 marks]

Question 5 continues on the next page

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Figure 5a shows how temperatures deviated from the summer mean in New York City, USA, in 2019.

Figure 5b shows the location of parks and green spaces in New York City.

Figure 5a

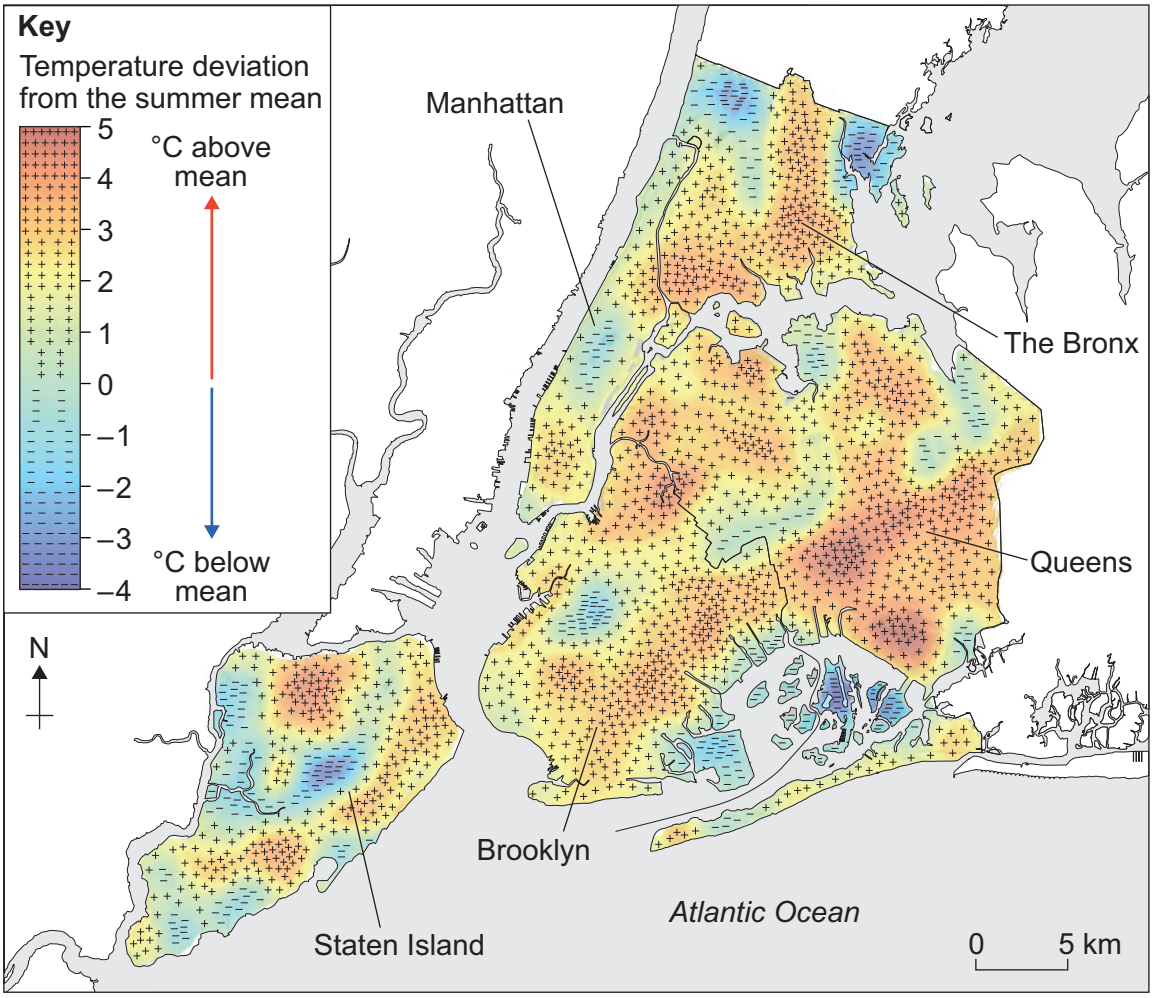

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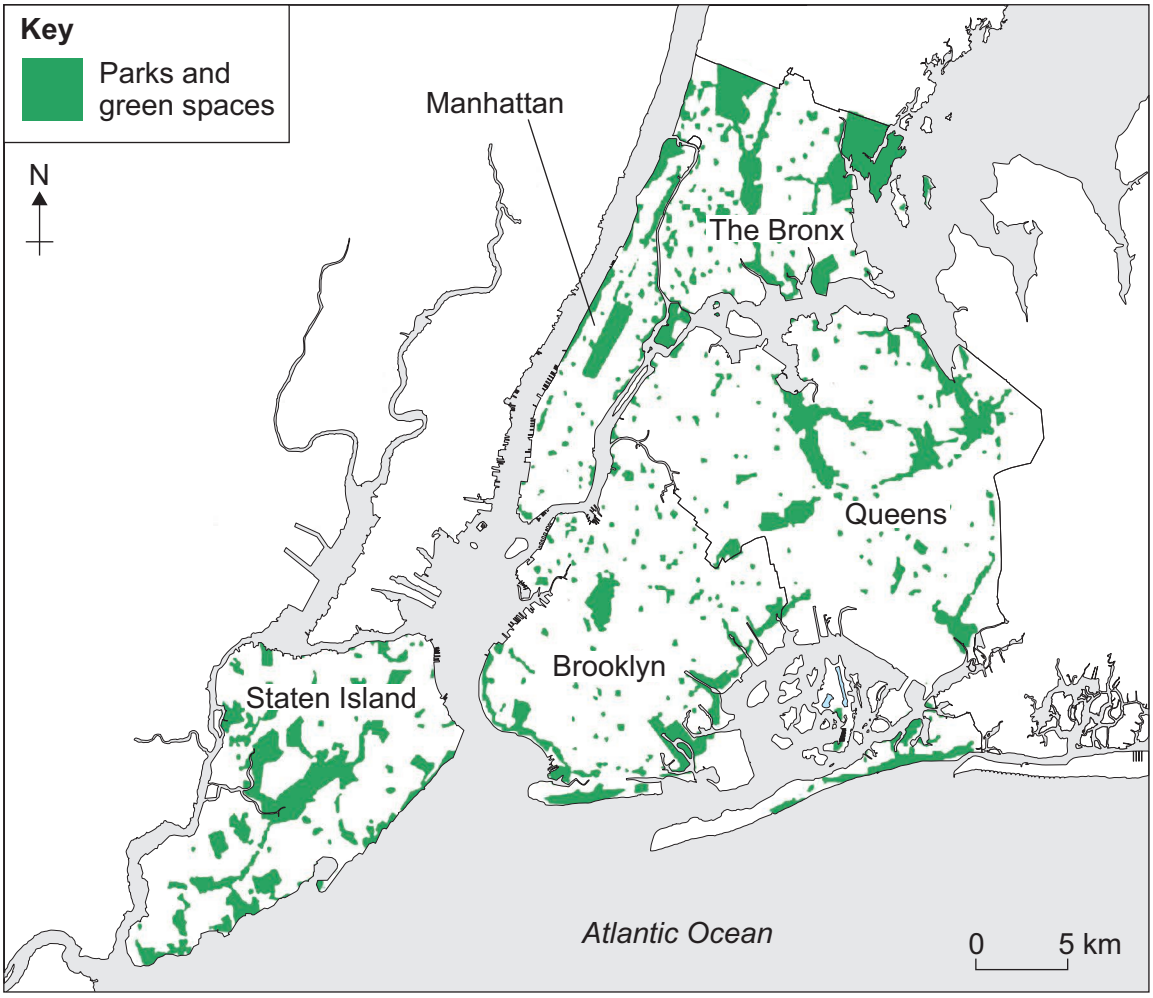
Figure 5b



0 5 . 4 Interpret the information shown in **Figure 5a** and **Figure 5b**.

[6 marks]

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0 5 . 5 Assess the impact of environmental problems on people's lived experience of place in an urban area that you have studied.

[9 marks]

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0 5 . 6 'Urban areas have a significant impact on the urban water cycle.'

To what extent do you agree with this statement?

[20 marks]

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END OF QUESTIONS

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ANSWER IN THE SPACES PROVIDED

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Question number	Additional page, if required. Write the question numbers in the left-hand margin.

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Question number	Additional page, if required. Write the question numbers in the left-hand margin.

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