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Please write clearly in block capitals.

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

Surname _____

Forename(s) _____

Candidate signature _____

AS
GEOGRAPHY

Paper 1 Physical geography and people and the environment

Tuesday 15 May 2018 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.
- 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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Do not write outside the box

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 are **all** stores of water in a drainage basin?

[1 mark]

A Channel flow, infiltration, runoff ○

B Evaporation, interception, soil water ○

C Ground water, soil water, surface water ○

D Precipitation, runoff, soil water ○

0 1 . 2 Which **one** of the following could be a natural cause of variation in the water cycle?

[1 mark]

A The rate of transfer of water from lithosphere stores to hydrosphere stores can be increased by urbanisation. ○

B Hydrosphere stores of water can be reduced by abstraction of water for agriculture. ○

C The amount of water stored in the biosphere could be reduced by deforestation. ○

D Storm events transfer significant amounts of water from the atmosphere store to the hydrosphere and lithosphere stores. ○

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0 1 . 3 Outline an example of positive feedback in the water cycle.

[3 marks]

Question 1 continues on the next page

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Figure 1 and **Figure 2** show information about emissions of carbon dioxide into the atmosphere from fossil fuel use in 1960 and 2016.

Figure 1 - 1960

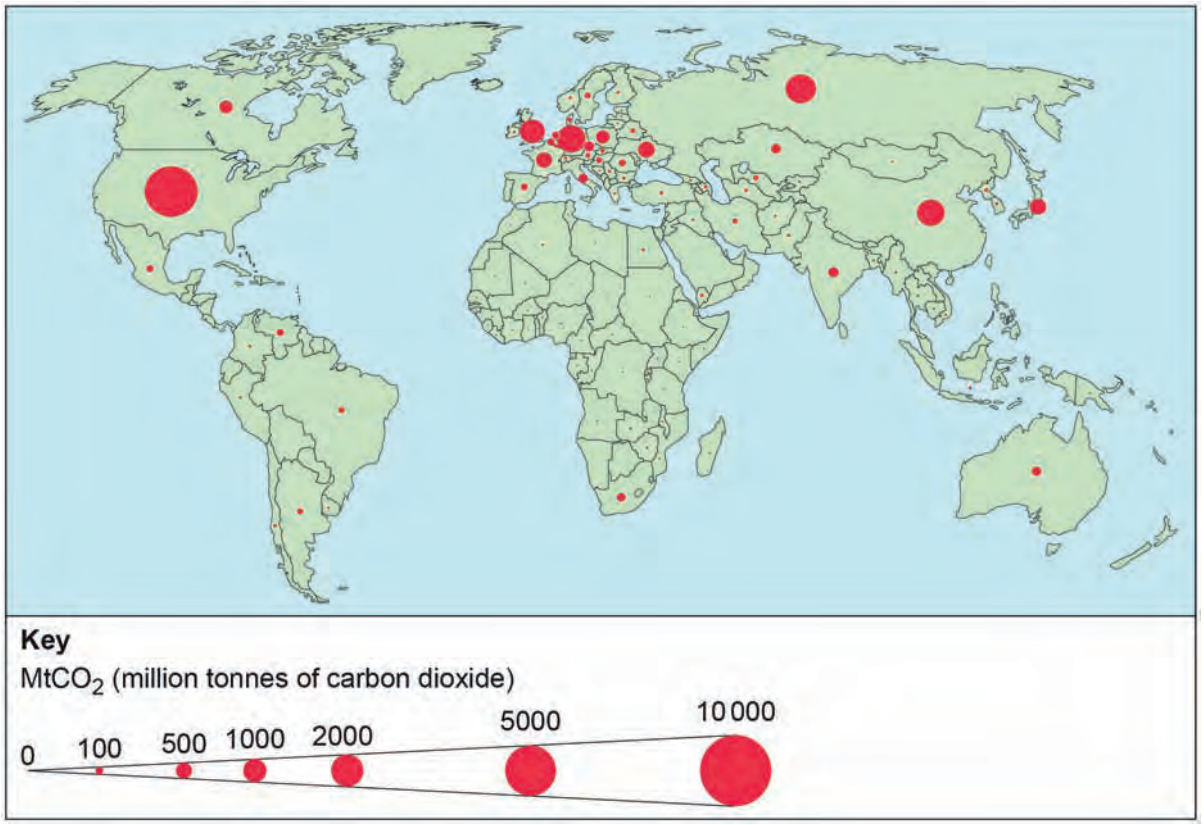
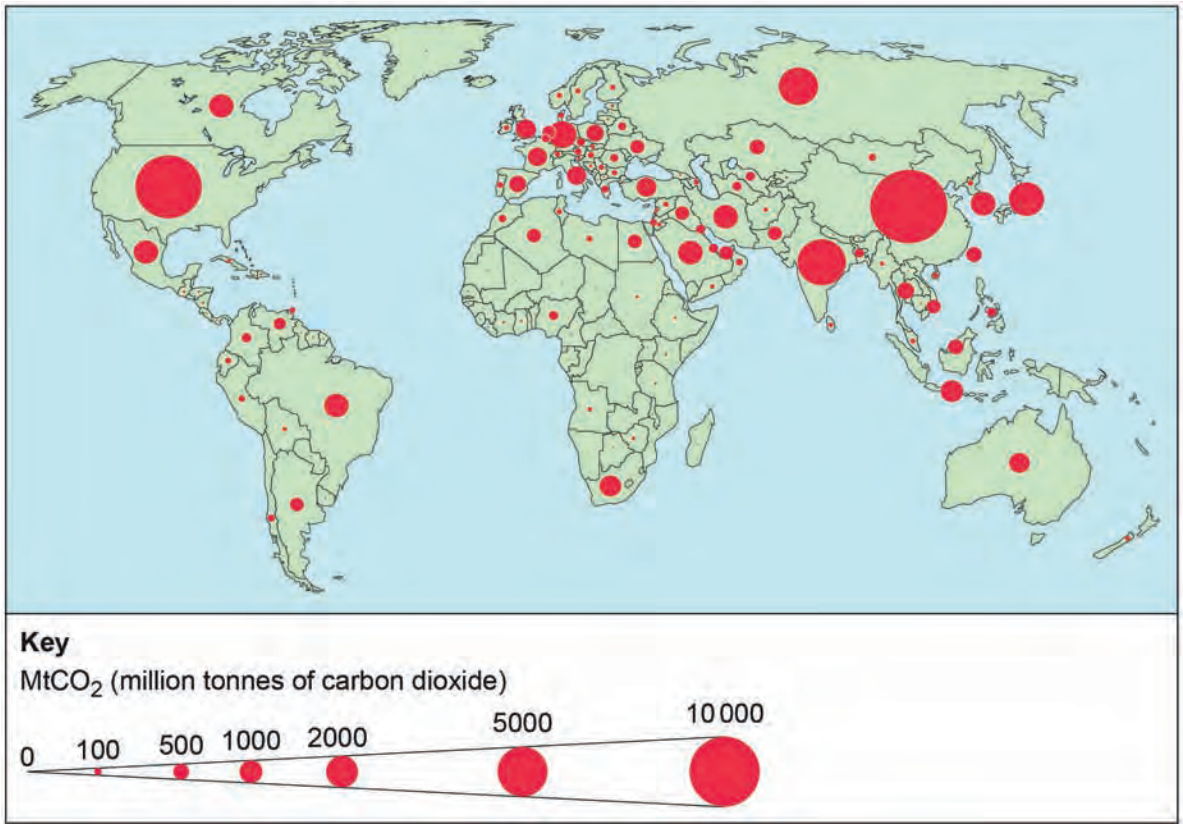


Figure 2 - 2016



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0 1 . 4 Analyse the data shown in **Figure 1** and **Figure 2**.

[6 marks]

Question 1 continues on the next page

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0 1 . 5 Assess the impact of natural changes to the carbon cycle upon life on Earth.

[9 marks]

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0 1 . 6 'The size of major stores of water change over time more because of human activity than natural variation.'

To what extent do you agree with this statement?

[20 marks]

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End of Question 1

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Question 2 Coastal systems and landscapes

0 2 . 1 Which of the following are **all** processes of coastal transportation?

[1 mark]

A Corrasion, hydraulic action, wave quarrying ⬭

B Abrasion, cavitation, attrition ⬭

C Mass movement, runoff, sub-aerial weathering ⬭

D Solution, suspension, traction ⬭

0 2 . 2 Which of the following describes a Dalmatian coast?

[1 mark]

A An emergent coastline of former wave-cut platforms and their beaches at a higher level than the current sea level. ⬭

B A series of ridges on a beach running parallel to the coast marking successively higher tides between neap and spring tides. ⬭

C A sheltered area on the landward side of a spit where coastal sediments accumulate and become stabilised by vegetation like marram grass. ⬭

D A submergent coastline where valleys have been flooded by a rise in sea level leaving a series of islands parallel to the coastline. ⬭

0 2 . 3 Outline the concept of eustatic sea level change.

[3 marks]

Question 2 continues on the next page

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Figure 3 and **Figure 4** provide information about the changes in coastal landforms in the Kuala Baram region of Sarawak, East Malaysia.

Figure 3

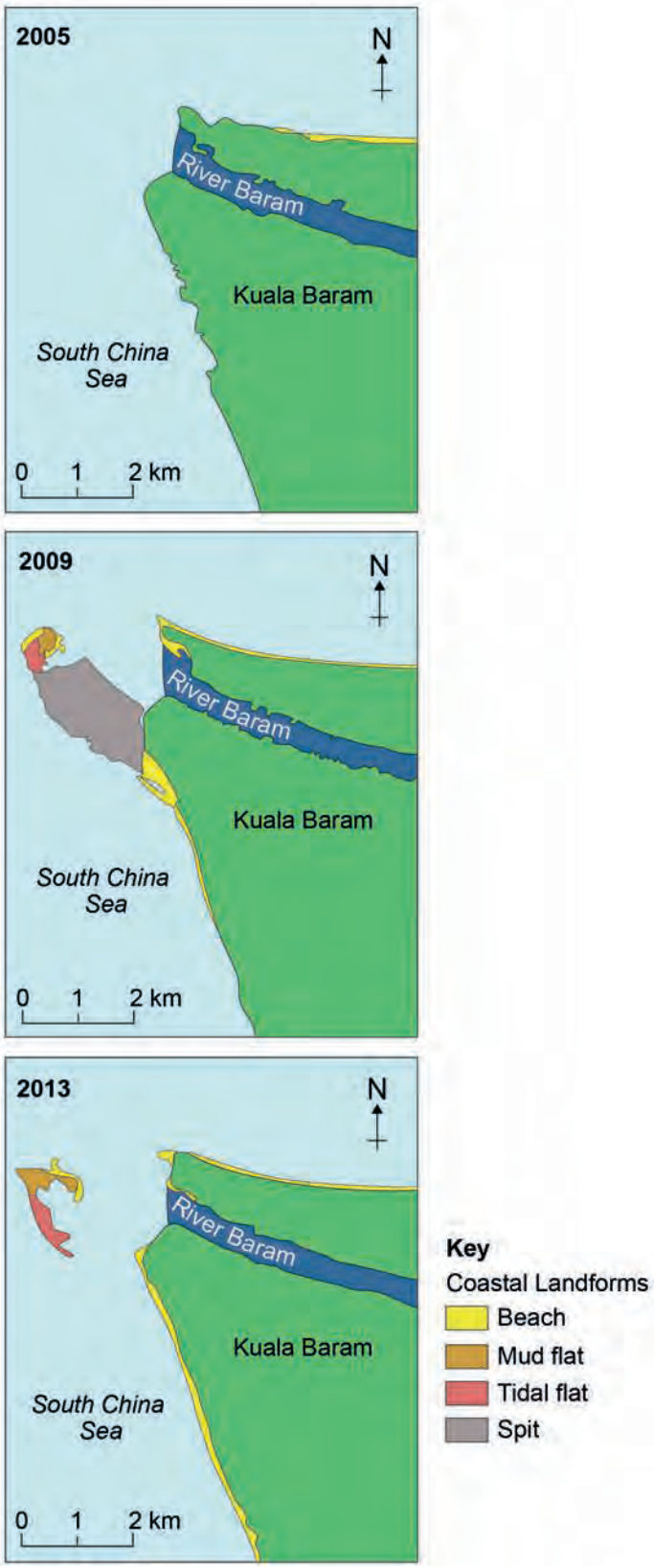

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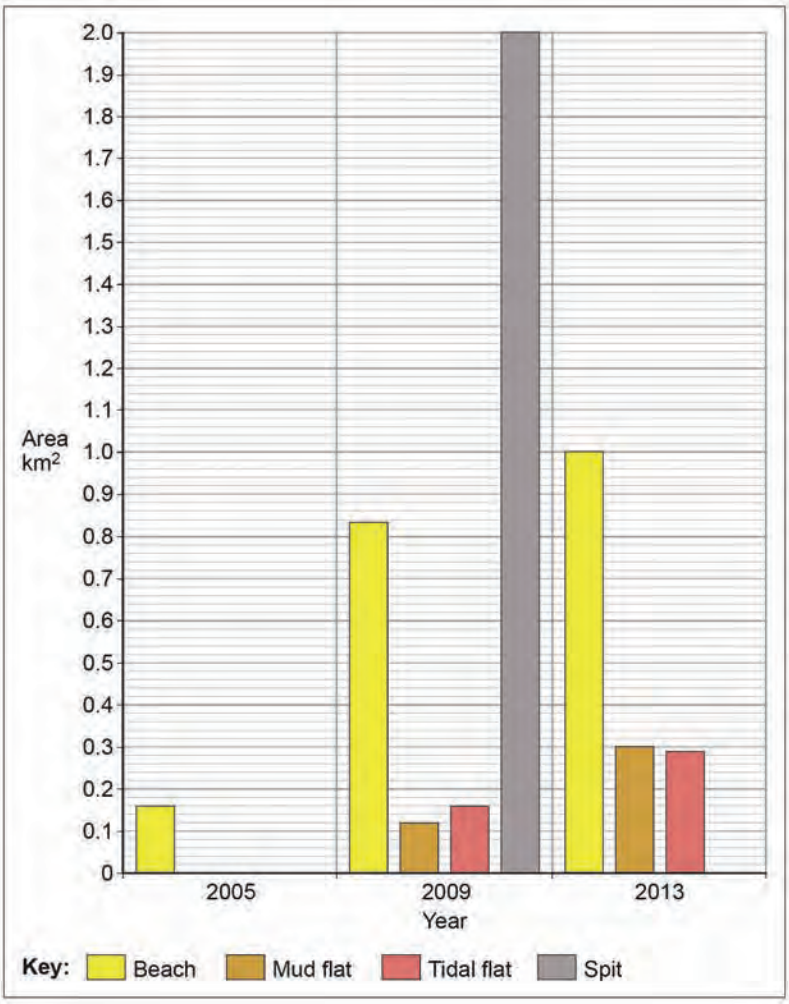
Figure 4



0 2 . 4 Analyse the data shown in **Figure 3** and **Figure 4**.

[6 marks]

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0 2 . 5 Assess the role of weathering in the development of coastal landforms.

[9 marks]

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0 2 . 6 ‘Sustainable approaches to coastal management will become more important than traditional approaches in dealing with the impacts of climate change.’

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 the geomorphological process of plucking?

[1 mark]

A A process leading to the loss of mass from the glacier mainly due to melting. ⬭

B One of a range of processes by which ice within a glacier is transported downhill from the zone of accumulation to the zone of ablation. ⬭

C Erosion caused by a glacier freezing to the valley floor and sides, removing pieces of bedrock as the glacier moves. ⬭

D Where material carried by a glacier wears away at the valley floor and sides. ⬭

0 3 . 2 Which of the following describes a till plain?

[1 mark]

A A continental size mass of ice that is dome-shaped with flows of ice radiating from the centre. ⬭

B A steep-sided ridge of unsorted material stretching across a glacial valley at right angles to the direction of ice advance. ⬭

C A swarm of streamlined elongated 'whale back' hills often found on glaciated lowland plains. ⬭

D A thick covering of unsorted glacial deposits found behind a terminal moraine. ⬭

0 3 . 3 Outline the concept of the glacial budget.

[3 marks]

Question 3 continues on the next page

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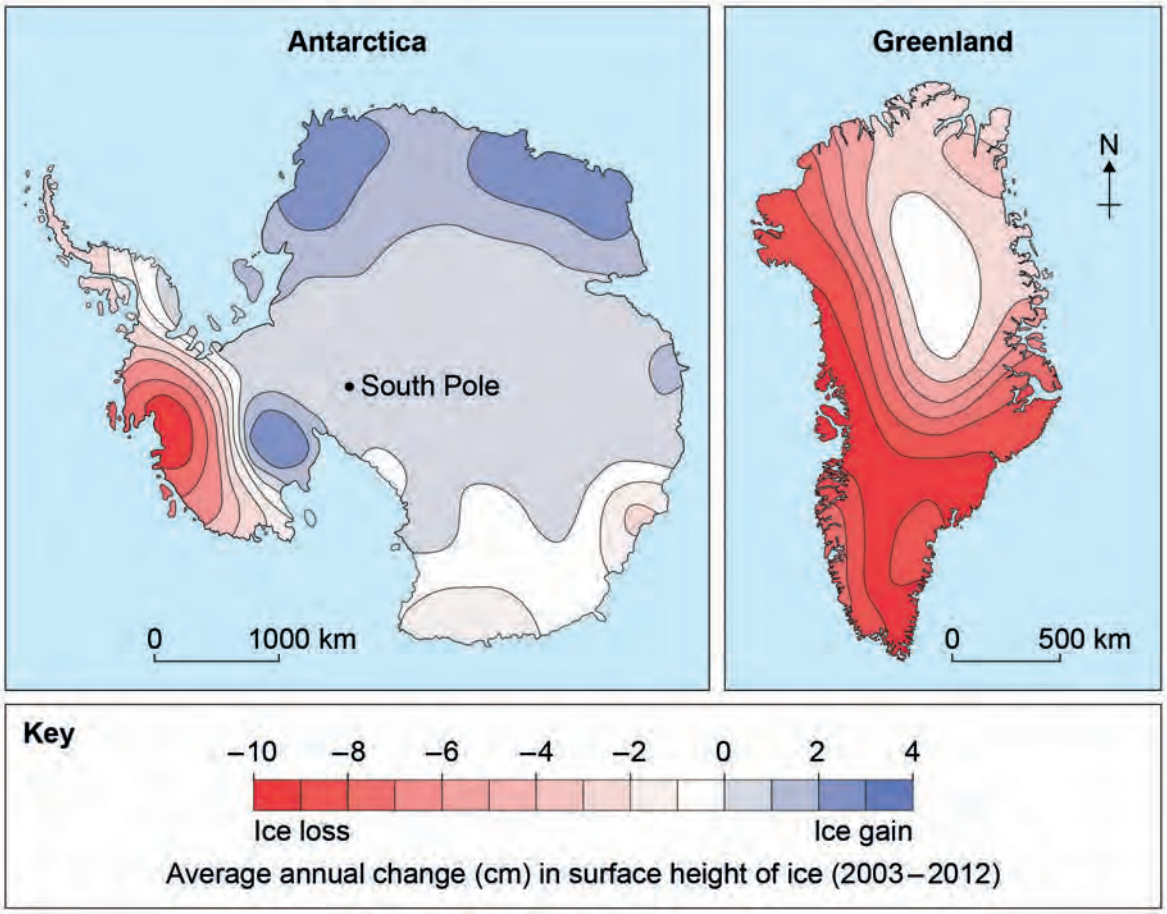
Figure 5 and **Figure 6** provide information about changes to the amount of ice in Antarctica and Greenland.

Figure 5 **Figure 6**



0 3 . 4 Analyse the data shown in **Figure 5** and **Figure 6**.

[6 marks]

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0 3 . 5 Assess the extent to which erosion has been the dominant process in a local scale glaciated environment that you have studied.

[9 marks]

Question 3 continues on the next page

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0 3 . 6 Assess the potential impact of climate change on periglacial landscapes.

[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 best describes an island arc?

[1 mark]

A An archipelago formed of a series of volcanoes rising above sea level associated with an ocean trench and destructive plate margin. ⬭

B An underwater mountain range associated with sea-floor spreading at a constructive plate boundary. ⬭

C A linear lowland area between highlands formed as tectonic processes begin to pull tectonic plates apart. ⬭

D Linear mountain ranges formed as two or more tectonic plates are pushed together often causing layers of sedimentary rocks to buckle and warp. ⬭

0 4 . 2 Which of the following are **all** hazards resulting from seismic events?

[1 mark]

A Lava flows, nuées ardentes, shockwaves ⬭

B Liquefaction, landslides, tsunamis ⬭

C Earthquakes, pyroclastic flows, tephra ⬭

D Ash flows, liquefaction, mudflows ⬭

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0 4 . 3 Outline the process of slab pull in relation to plate movement.

[3 marks]

Question 4 continues on the next page

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Figure 7 shows tropical storm basins where storms occur on a regular basis.

Figure 7

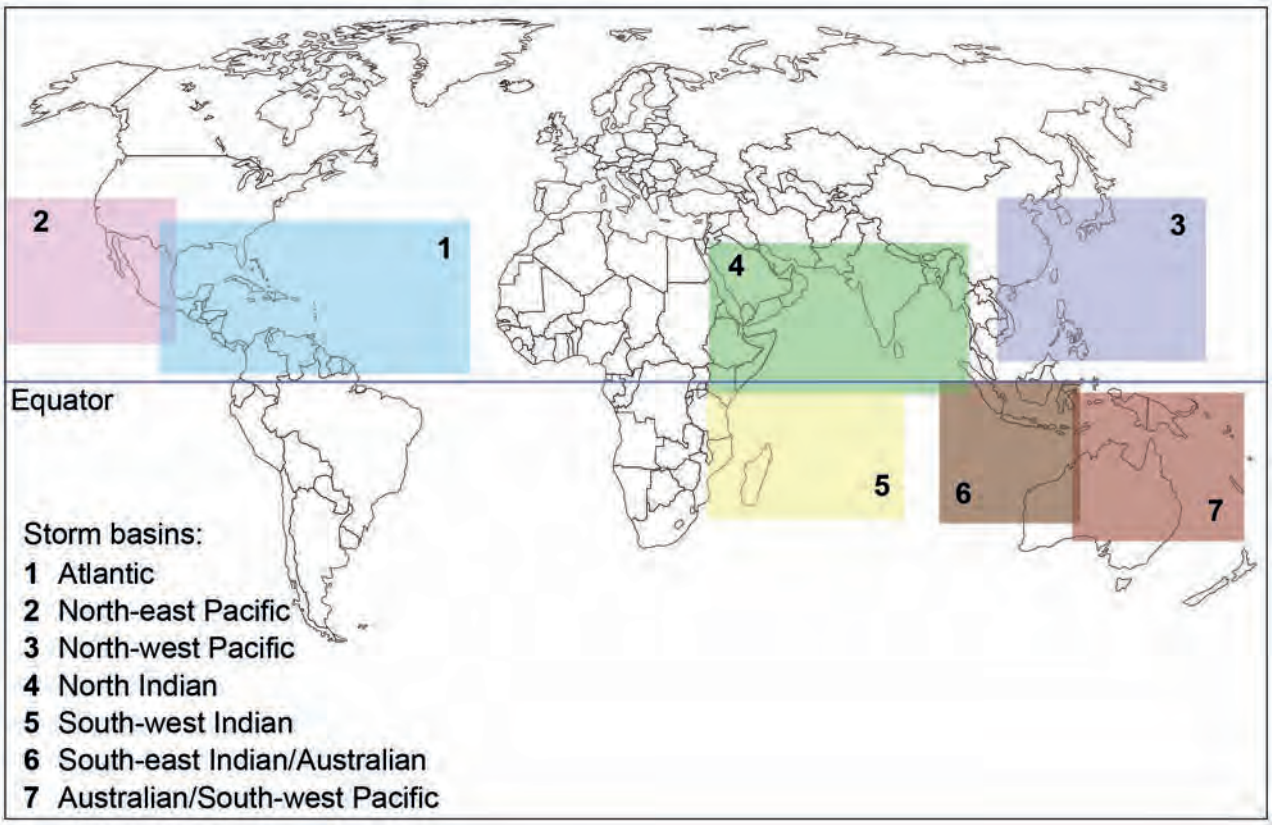

Figure 8 shows data about the frequency of storm events in each tropical storm basin between 1981 and 2010.

Figure 8

Storm basin	Tropical storms		
	Most in one year	Least in one year	Average per year
Atlantic	15	2	6.4
North-east Pacific	16	3	8.9
North-west Pacific	26	5	16.5
North Indian	5	0	1.5
South-west Indian	8	1	5.0
South-east Indian/Australian	8	1	3.6
Australian/South-west Pacific	12	1	5.2

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0 4 . 4 Analyse the data shown in **Figure 7** and **Figure 8**.

[6 marks]

Question 4 continues on the next page

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0 4 . 5 Assess the impacts of a recent wildfire event upon people's lived experience of the place.

[9 marks]

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0 4 . 6 ‘The severity of the impacts of the volcanic hazards experienced in a place is affected more by the nature of plate boundaries than the level of development of the place.’

To what extent do you agree with this view?

[20 marks]

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End of Question 4

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Question 5 Contemporary urban environments

0 5 . 1 Which of the following best describes a world city?

[1 mark]

A A city that has experienced economic and structural regeneration following a period of decline. ⬭

B A city that has very significant economic or financial and/or political influence on an international scale. ⬭

C A large metropolitan urban area with a population of at least 10 million. ⬭

D A self-contained settlement that has developed beyond the original city boundary and become a city in its own right. ⬭

0 5 . 2 Which of the following is a form of air pollution where exhaust fumes interact with sunlight to produce low-level ozone?

[1 mark]

A Methane released from landfill ⬭

B Particulate pollution ⬭

C Photo-chemical pollution ⬭

D Urban heat island effect ⬭

0 5 . 3 Outline the process of suburbanisation.

[3 marks]

Question 5 continues on the next page

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Figure 9 shows the Index of Multiple Deprivation for the city of Preston, Lancashire in 2015.

Figure 9

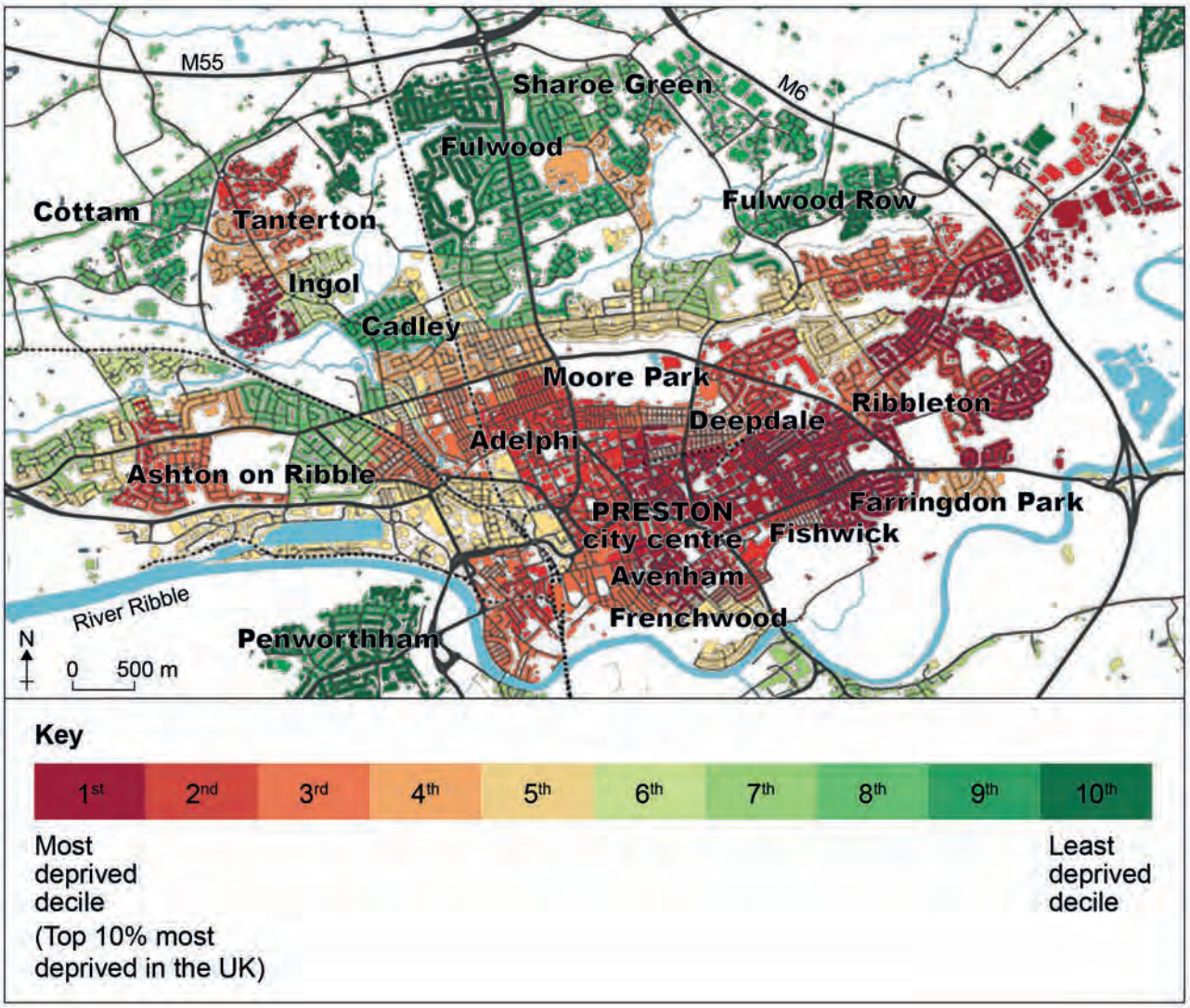

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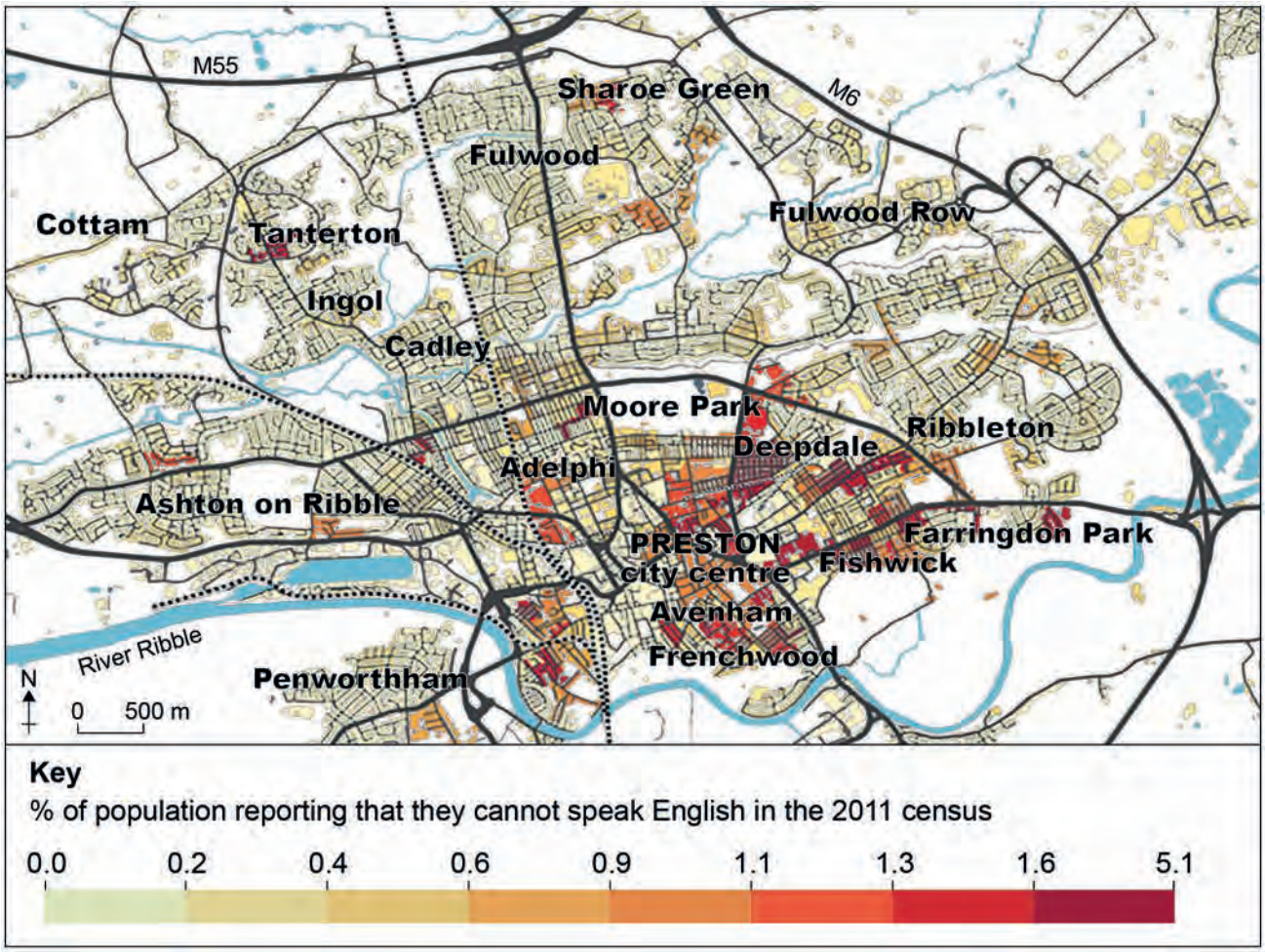
Figure 10 shows the percentage of Preston residents who cannot speak English (2011 census).

Figure 10



0 5 . 4 Analyse the data shown in **Figure 9** and **Figure 10**.

[6 marks]

Question 5 continues on the next page

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0 5 . 5 Assess the impact on the character of a place of a river restoration and conservation project in a damaged urban catchment.

[9 marks]

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0 5 . 6 ‘Environmental issues in urban areas will always emerge despite attempts to be more sustainable.’

With reference to **two** contrasting urban areas that you have studied, to what extent do you agree with this statement?

[20 marks]

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END OF QUESTIONS

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