Surname	Centre Number	Candidate Number
First name(s)		0

GCSE

3110U10-1

S23-3110U10-1

MONDAY, 22 MAY 2023 – AFTERNOON

GEOGRAPHY

Unit 1: Changing Physical and Human Landscapes

1 hour 30 minutes

	For Examiner's use only		
		Maximum Mark	Mark Awarded
	Question 1	28	
	Question 2	28	
	Writing accurately	3	
either	Question 3	24	
or	Question 4	24	
	Total	83	

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ADDITIONAL MATERIALS

In addition to this paper you may use a calculator and a ruler if required.

INSTRUCTIONS TO CANDIDATES

Use black ink or black ball-point pen. Do not use gel pen or correction fluid.

Write your name, centre number and candidate number in the spaces at the top of this page.

Answer **both** questions in Section A.

Answer **one** question from Section B.

Write your answers in the spaces provided in this booklet.

Additional space is provided for some questions within the booklet (if required). If further space is required for any question, you should use the additional page(s) at the end of this booklet. The question number(s) should be clearly shown.

INFORMATION FOR CANDIDATES

The number of marks is given in brackets [ ] at the end of each question.

Your ability to communicate and organise your ideas will be assessed in questions that are worth 6 or 8 marks. The accuracy of your writing will be assessed in your answer to question **2**(c)(ii).

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Examiner only

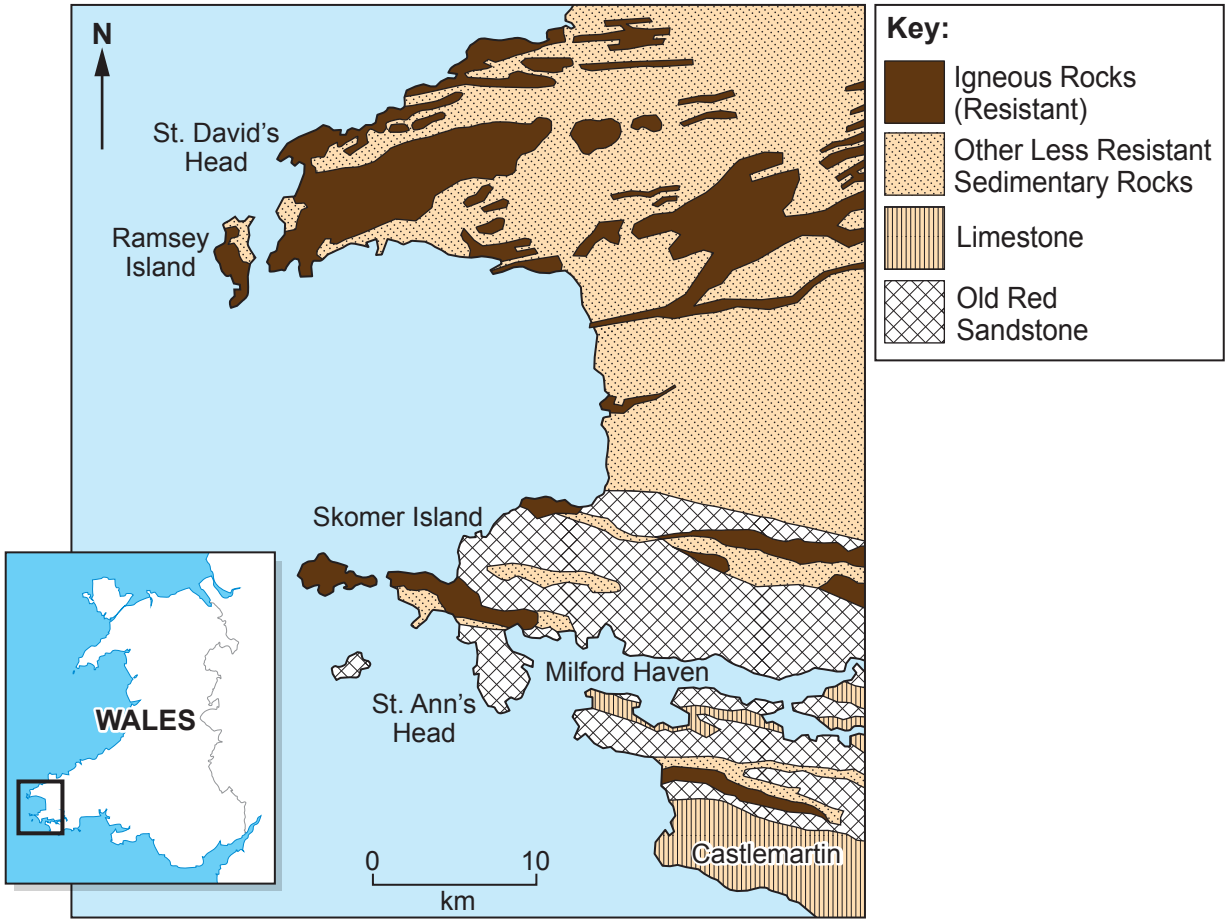
SECTION A – CORE THEMES

Answer **all** questions in this section.

THEME 1: Landscapes and Physical Processes

1. (a) Study the map below.

Geology of the Pembrokeshire Coast



(i) Complete the following sentences using the words below. [2]

headland	landscape	bay	deposition	rocks

A geology map shows the types of ..... in an area.

The coastal feature between Ramsey Island and Skomer Island is a

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Examiner only

(ii) Give the rock type at Castlemartin in the south of Pembrokeshire. [1]

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(iii) Describe the pattern of igneous rocks along this stretch of the Pembrokeshire Coast. Use map evidence only. [3]

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(iv) Suggest how geology has made the Pembrokeshire Coast landscape distinctive. Use map evidence. [3]

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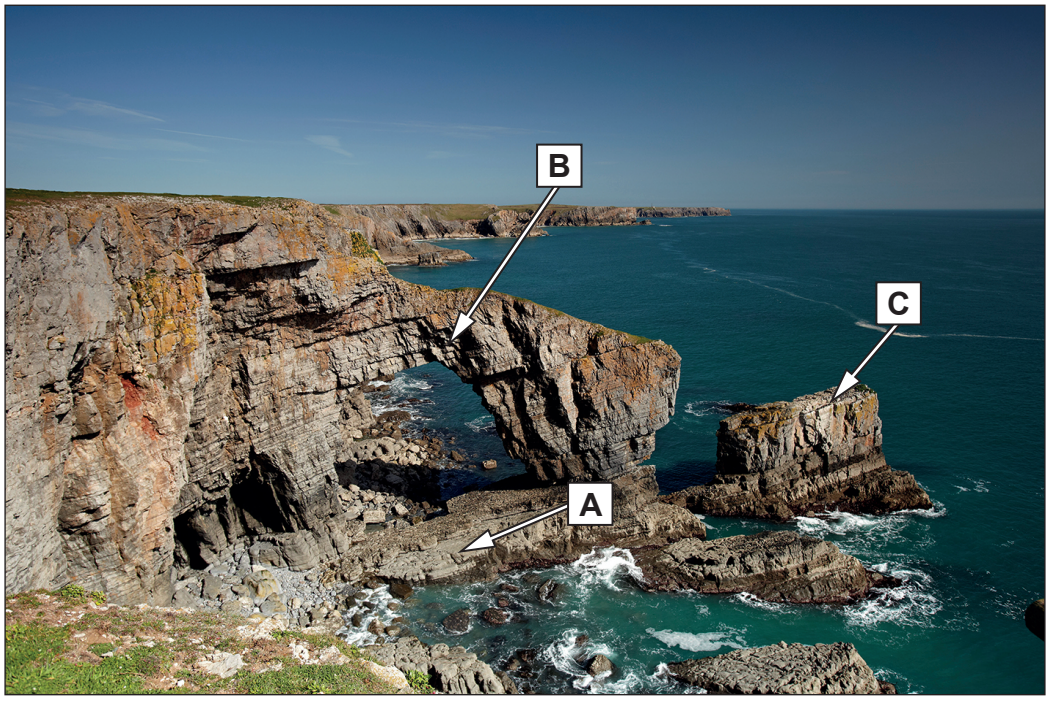
Turn over.

Examiner only

(b) (i) Study the photograph below. It shows an area along the South Pembrokeshire Coastline.



Identify landforms **A**, **B** and **C** by putting the correct letter in the list below. [3]

Landform	Letter
Stack	
Arch	
Spit	
Cave	
Wave-cut platform	

Examiner only

(ii) Explain why stacks form when coastal processes and geology interact. You may use a diagram to help your answer. [6]

Additional space for Question **1**(b)(ii) only:

Turn over.

Examiner only

(c) Study the graph and map below.

Planned spending on flood defences in England up to 2026

Regions of England

(i) Describe one method you could use to represent the data from the graph onto the regional map of England. [2]

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(ii) Give **one** advantage and **one** disadvantage of the method you have chosen. [2]

Advantage: .....

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Disadvantage: .....

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Examiner only

(iii) Study the resource below.

Morpeth Flood Protection Scheme, North-East England, an example of Hard Engineering

The scheme opened in August 2015, at a cost of £26m. It includes one of the largest flood storage reservoirs the Environment Agency has ever built and reduces the risk of flooding to 1000 homes and businesses in the area. The upstream dam and storage area work by storing up to 1.4 million cubic metres of water when river levels are high. There is now a 0.7% chance of river flooding in Morpeth each year. The scheme created 17 hectares of new habitat for local wildlife.

Evaluate hard engineering as a method of preventing river floods. You may use the resource and/or refer to other examples you have studied. [6]

Examiner only

Additional space for Question **1**(c)(iii) only:

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End of Question 1

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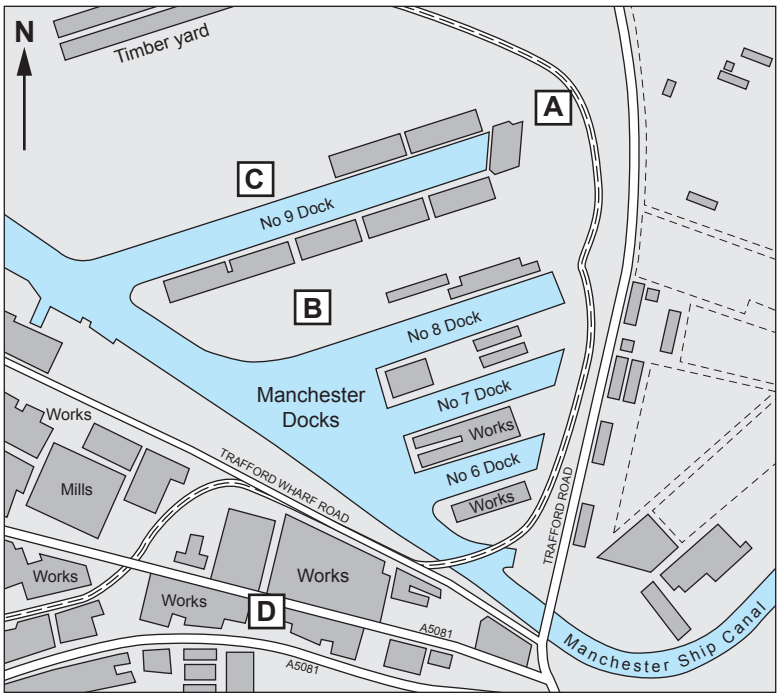
THEME 2: Rural-Urban Links

2. (a) Study the map and photograph below. They show how a part of Manchester, in the north of England, has changed between 1980 and the present day.

OS Map of Manchester Docks in 1980 (Scale 1:10 000)



Recent photo of Manchester Docks

Examiner only

(i) Salford Quays is a modern development of residential, retail, and leisure activities.

Identify the location on the map where Salford Quays has been built since 1980.

Tick (✓) the correct answer in the box below. [1]

Location on Map	Salford Quays (✓)
A	
B	
C	
D	

(ii) Give **two** other ways the photo shows that Manchester Docks has changed since 1980. [2]

1. .....

2. .....

(iii) Salford Quays was developed on a brownfield site. Describe how the map shows that this was a brownfield site. [2]

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Examiner only

(iv) Suggest how the development of Salford Quays may have brought benefits and challenges to this part of Manchester. Use evidence from the map and photograph. [6]

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Examiner only

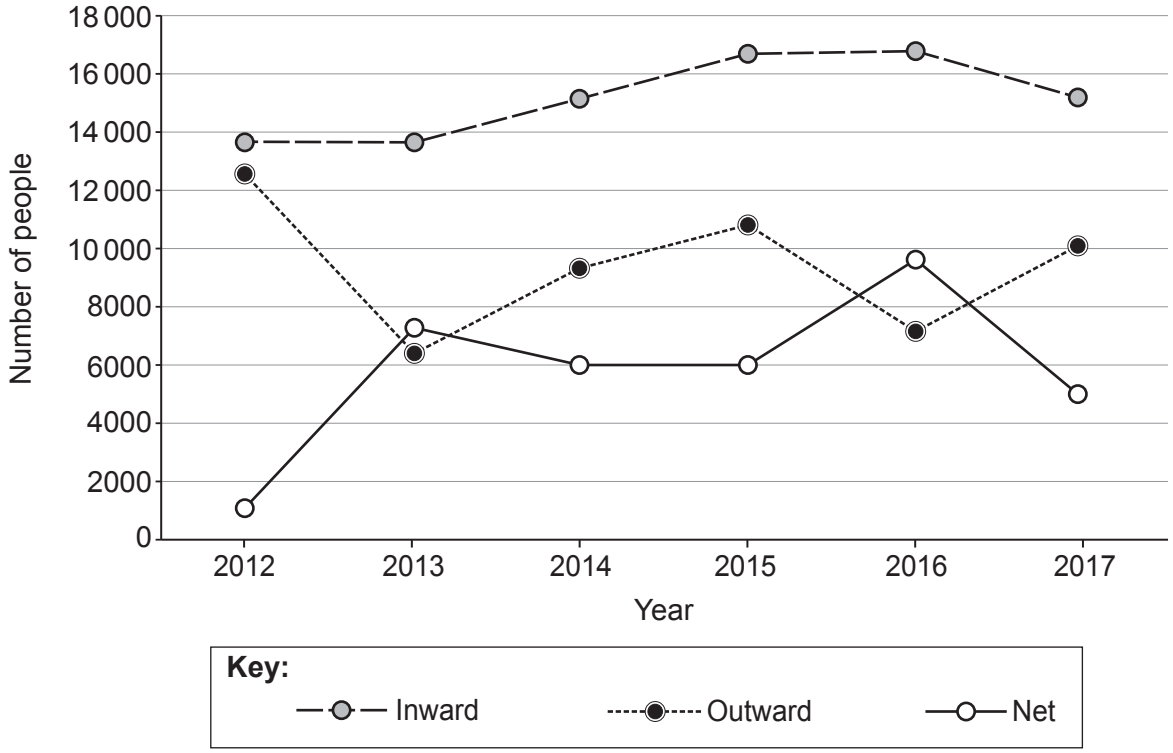
(b) (i) Give the meaning of the following terms by choosing from the definitions in the box below. Write the correct letter in each box. [2]

Term	Letter
International migration	
Rural to urban migration	

Definition	Letter
The movement of people from the countryside to the city	A
The difference between the number of people moving into a country and the number moving within a country	B
The movement of people from the city to the countryside	C
The movement of people from one country to another country	D
The movement of people to another country for a holiday	E

Study the graph below.

International migration, 2012–2017, Wales



Examiner only

Net migration is the difference between the number of people moving in and the number of people moving out of a country.

(ii) Explain why the line showing **net** international migration changes over time. Use the information from the graph **only**. [3]

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(iii) Describe **one social** consequence and **one economic** consequence of international migration into the UK. [4]

Social: .....

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Economic: .....

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Turn over.

Examiner only

(c) (i) Give **one** reason why some cities become global cities. [2]

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(ii) The growth of global cities can have positive and negative impacts on the way of life of people who live in them. Explain why. [6]

The accuracy of your writing will be assessed in your answer to this question. [3]

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Examiner only

Additional space for Question **2**(c)(ii) only:

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End of Question 2

Examiner only

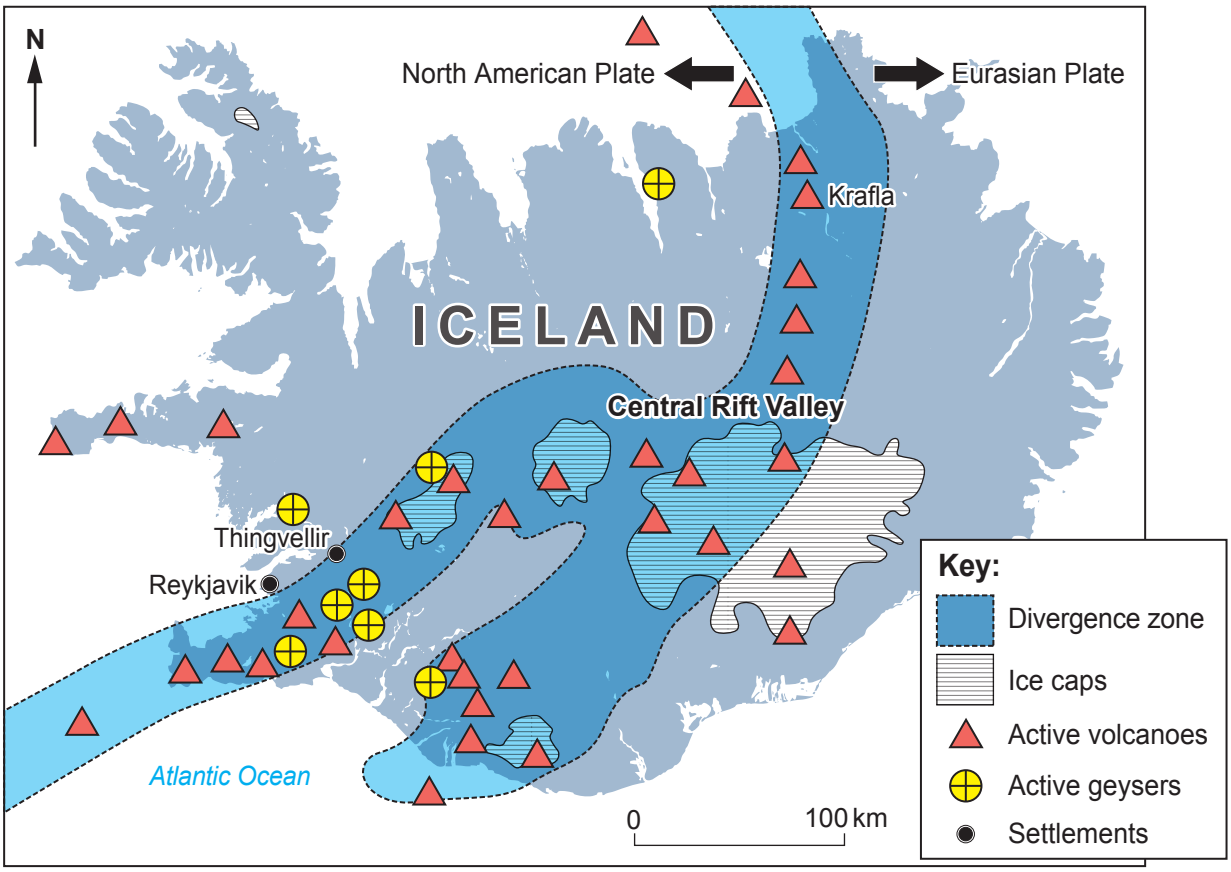
SECTION B – OPTIONS

Answer **one** question in this section, **either** Question 3 **or** Question 4.

THEME 3: Tectonic Landscapes and Hazards

3. (a) Study the map of Iceland below. Iceland lies across a divergent plate boundary where two plates are pulling apart.

Map of Tectonic Landscape Features of Iceland



(i) Describe the pattern of active volcanoes in Iceland. [3]

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Examiner only

(ii) Geysers are features of volcanic landscapes. Describe the processes that cause geysers to become active. [3]

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(iii) Explain why rift valleys can form at divergent plate boundaries. You may use a diagram to help your answer. [4]

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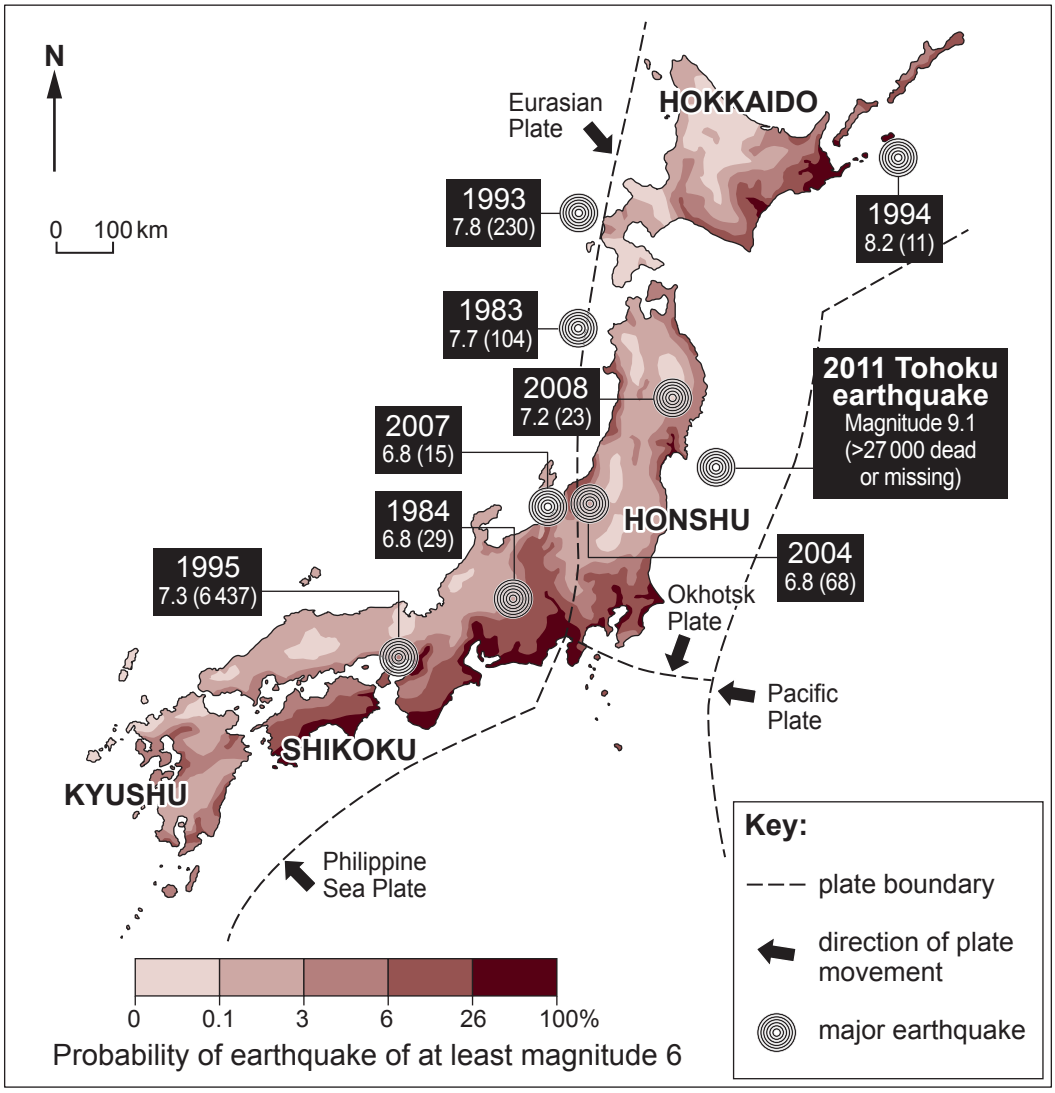
Examiner only

(b) Study the map below.

Earthquake Hazard Risk Map, Japan



(i) Give **one** use for a hazard risk map. [1]

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Examiner only

(ii) Describe the location of the 2011 Tohoku earthquake. [3]

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(iii) Explain why planners should be cautious about using hazard risk maps in earthquake zones. [2]

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Examiner only

(iv) Study the **Resource Box** below.

Information on Japan

Earthquake-Resistant Building Technology

Earthquake Emergency Drill in Japan

Fact File

- Japan is one of the wealthiest countries in the world with GDP per capita $40 000.
- The Japanese government has spent $1 billion to build its seismic alert system that can detect the peak of an earthquake 80 seconds before it arrives.
- In Japan the most seismically active areas are also the most densely populated areas.
- It is estimated that earthquake damage costs the Japanese economy an average $20 billion per year.

Part of Tokyo's Built-up Area

People who live in wealthier countries like Japan are less vulnerable to earthquakes than other communities who live in tectonic zones.

To what extent do you agree with this statement? Use evidence from the **Resource Box** and the **Earthquake Hazard Risk Map** to help your answer. You may also use other examples you have studied. [8]

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Examiner only

Additional space for Question **3**(b)(iv) only:

End of Question 3

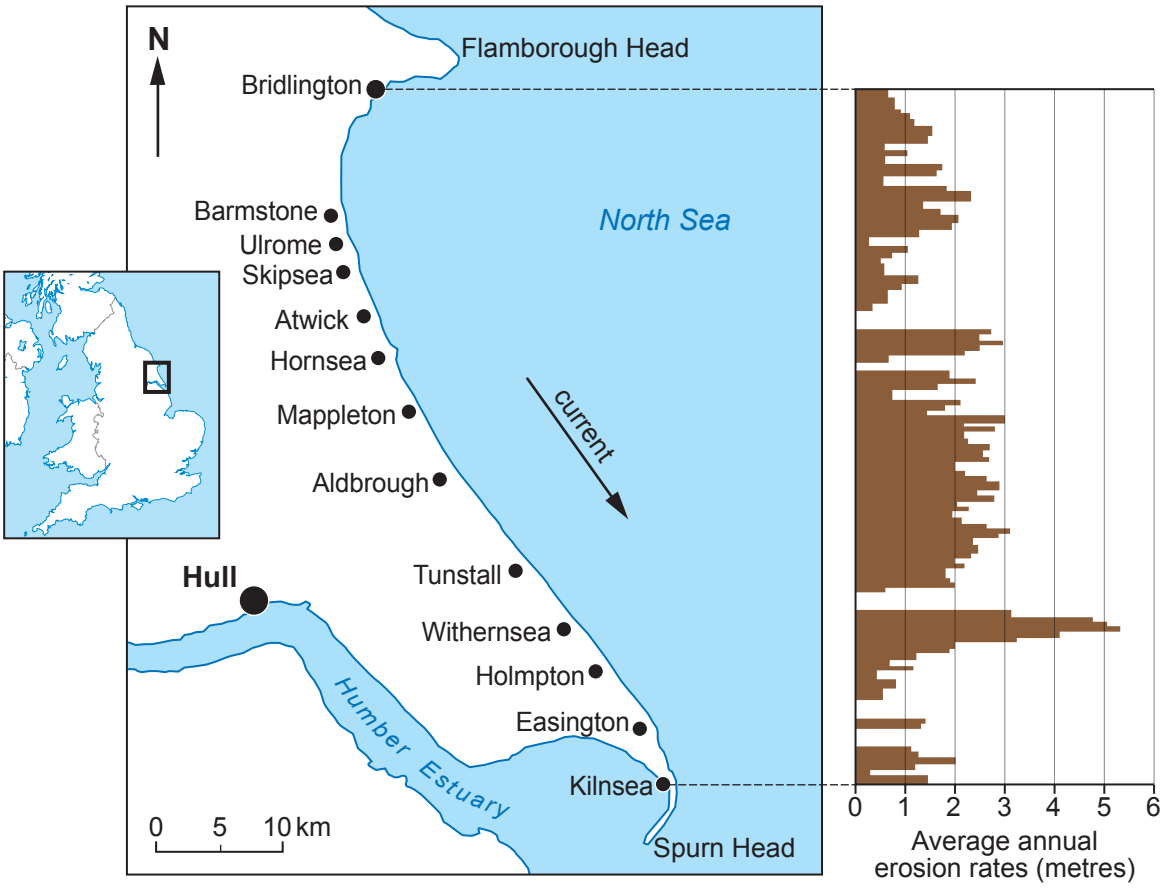
Examiner only

If you have answered Question 3 **do not** answer Question 4

THEME 4: Coastal Hazards and their Management

4. (a)

Average annual erosion rates 2003 – 2017 along the Holderness Coast, northern England



(i) Describe how the pattern of coastal erosion changes along the Holderness coast. [3]

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Examiner only

(ii) Describe **one** impact of coastal erosion on communities living along coastlines. [3]

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(iii) Explain why some people believe that managed retreat should be used along rapidly eroding coastlines. [4]

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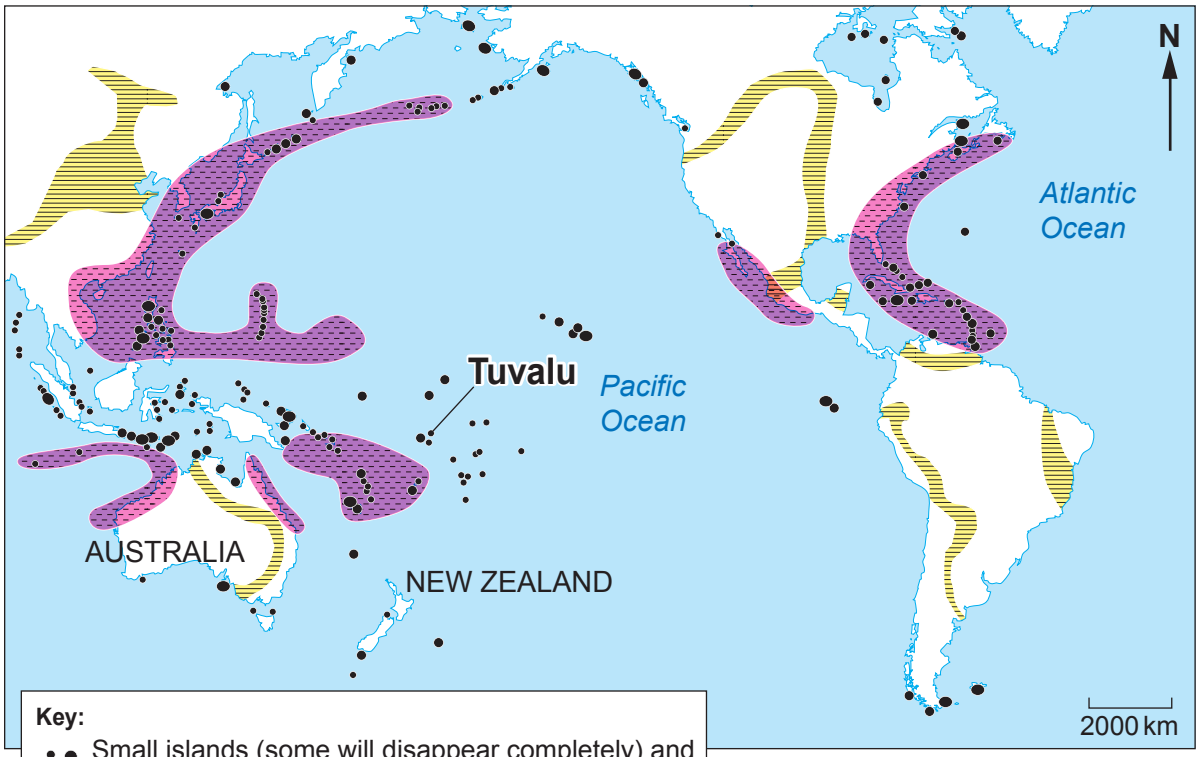
Examiner only

(b) Study the map below.

Areas at risk of creating environmental refugees



(i) What are environmental refugees? [1]

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(ii) Give **one** reason why climate change increases the vulnerability of many coastal communities. [2]

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Examiner only

(iii) Describe the location of the islands of Tuvalu shown on the map. [3]

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(iv) Study the **Resource Box** below.

Information about Tuvalu

Fact File

- Tuvalu is a Small Island Developing State (SIDS). It comprises 9 small, sparsely populated islands with palm-fringed beaches.
- The islands are the lowest lying of all SIDS. The highest point above sea level is 4.6 m.
- Its population of 11 500 mostly live by farming and fishing.
- GDP per capita is $4 059 (UK $43 500).
- Climate change is causing sea levels to rise, threatening the islanders' way of life.
- Salt water is flooding the shores and killing coconut palms. Many large parcels of land used for palm plantations are no longer of any value, greatly affecting the local economy.
- In the past floods occurred twice a year. Now it is every month. One of the smallest islands disappeared in 1997.

Aerial photograph of part of Tuvalu

Examiner only

SIDS like Tuvalu are more vulnerable than other coastal communities to the effect of rising sea levels.

To what extent do you agree with this statement? Use evidence from the **Resource Box** and the **Map of Environmental Refugees** above to help your answer. You may use other examples you have studied. [8]

Examiner only

Additional space for question **4**(b)(iv) only:

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End of Question 4

END OF PAPER

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

Examiner only

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

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