



GCSE
3110U20-1

WEDNESDAY, 5 JUNE 2024 – MORNING

GEOGRAPHY

Unit 2: Environmental and Developmental Issues

1 hour 30 minutes plus your additional time allowance

Surname

First Name(s)

Centre Number

Candidate Number

0

ADDITIONAL MATERIALS

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

INSTRUCTIONS TO CANDIDATES

Use black ink, black ball-point pen or your usual method.

Write your name, centre number and candidate number in the spaces on the previous 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).

(Turn over)

If further space is required for any question, you should use the additional page(s) at the back of the booklet, taking care to number the question(s) correctly.

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(b)(ii).

(Turn over)

SECTION A – CORE THEMES

Answer ALL of the questions in this section.

THEME 5: WEATHER, CLIMATE AND ECOSYSTEMS

1 (a) Study the diagram opposite.

(i) Complete the diagram opposite using TWO labels from the box below:

[2 marks]

Photosynthesis	Contamination
Infiltration	
Respiration	Decomposition

(Turn over)

1 (a)(ii) Describe how ONE natural process transfers carbon from the land to the atmosphere. [2 marks]

1 (a)(iii) Explain why human activity can increase the amount of carbon in the atmosphere. [2 marks]

1 (b) Study the information in the map opposite.

The power of exploding volcanoes is measured using a numbered scale. The scale is called the Volcanic Explosivity Index (VEI).

(i) Tick (✓) the mode of the VEI for the volcanic eruptions shown on the map.

[1 mark]

MODE	TICK (✓)
6	
8	
10	

(Turn over)

1 (b)(iii) Suggest why the eruption of Krakatoa may have caused climate change. Refer to information from the map opposite page 7 to support your answer. [3 marks]

1 (c) More intense high pressure systems are creating record temperatures in the UK.

Study the information opposite.

(i) Complete the graph by adding the 2022 temperature for Buxton. [1 mark]

Buxton	36
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(ii) Name the location with the largest increase in record temperature.

[1 mark]

(Turn over)

1 (c)(iii) Use the graph opposite page 10 to calculate the range of temperature increase for Goudhurst.

[2 marks]

Show your working.

Answer _____ **°C**

(Turn over)

1 (d) Study the resource box below and the images opposite.

EFFECTS OF DROUGHT IN AUSTRALIA, 2019–2020

- **Long-lasting high pressure resulted in low rainfall and high temperatures.**
- **This was the warmest period on record in most of Australia.**
- **Large numbers of fish died due to lack of water in rivers.**
- **Many parts of Australia experienced extreme water stress.**
- **Extreme water restrictions left many farmers unable to plant crops.**
- **Many tourists stayed away from drought-affected areas.**
- **18 million hectares were burned in wildfires, destroying 5900 buildings.**
- **An estimated one billion animals died as a result of the wildfires.**

(Turn over)

Additional space for question 1(d) only:

(Turn over)

1 (e)(i) Define the term National Parks. Tick (✓) ONE box in the table below.

[1 mark]

DEFINITION	TICK (✓)
An area of land divided into zones to protect wildlife.	
Land where strips of vegetation cover allow animals to move freely.	
An area of important landscape, protected for people to enjoy.	

(Turn over)

1 (e)(ii) Explain why creating National Parks is used as a strategy to manage habitats. [4 marks]

END OF QUESTION 1

(Turn over)

THEME 6: DEVELOPMENT AND RESOURCE ISSUES

2 (a) Study the information opposite.

WATER STRESS occurs when the demand for water in an area is more than the water available for supply in that area.

(i) Identify the mapping technique shown opposite. [1 mark]

(Turn over)

2 (a)(ii) Use the map opposite page 18 to describe the pattern of areas predicted to have very high levels of water stress in 2040. [2 marks]

2 (a)(iii) Use the map opposite page 18 to give the predicted water stress level for the USA. [1 mark]

Answer: _____ %

(iv) Give ONE reason why agricultural change leads to increased demand for water. [2 marks]

2 (a)(v) Give TWO strategies used to manage water resources.

[2 marks]

Strategy 1:_____

Strategy 2:_____

(Turn over)

2 (a)(vi) Explain why the management of water resources at an international scale can have economic and environmental consequences.

[6 marks]

(Turn over)

2 (b) Study the resource box opposite and opposite page 25.

- (i) Use the map to complete the table, giving the height above sea level for the two regions in China. [2 marks]**

- (ii) Countries have differences in the level of economic development between their regions.**

Three factors that contribute towards these regional inequalities are:

Economic	Social	Environmental
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Evaluate these factors that result in inequalities between regions. [8 marks]

(Turn over)

2 (c) Levels of economic development also vary within Wales.

Describe ONE economic and ONE social impact of uneven development within Wales. [4 marks]

Economic: _____

Social: _____

(Turn over)

END OF QUESTION 2

(Turn over)

SECTION B – OPTIONS

Answer ONE question in this section,
EITHER Question 3 OR Question 4.

THEME 7: SOCIAL DEVELOPMENT ISSUES

3 (a) Study the table below.

SOCIAL DEVELOPMENT INDICATORS FOR EGYPT AND THE UK

	EGYPT		UK	
	2000	2019	2000	2019
Literacy rate (%)	61	71.2	99	99
Access to electricity (%)	97.7	100	100	100
Net migration	-74 000	-190 000	992 000	1 303 000
Carbon dioxide emissions (metric tonnes per capita)	1.7	2.5	9	5.2

(Turn over)

3 (a)(i) Use the table on page 31 to circle the correct response in the sentences below. [2 marks]

From 2000 to 2019:

Literacy rates in Egypt have increased by (10.2% / 11% / 12.1%).

Carbon dioxide emissions in the UK have nearly (HALVED / DOUBLED / TRIPLD).

(Turn over)

3 (a)(ii) Describe how the development gap is changing between Egypt and the UK. Use evidence from the table on page 31. [4 marks]

3 (a)(iii) There are other indicators of social development.

Give ONE health and ONE gender indicator used to measure social development. [2 marks]

Health indicator: _____

Gender indicator: _____

(Turn over)

3 (b)(ii) Describe ONE consequence of child labour. [2 marks]

If you have answered Question 3 then DO NOT answer Question 4.

THEME 8: ENVIRONMENTAL CHALLENGES

4 (a) Study the table below.

E-WASTE DATA FOR CHINA AND THE UK

	CHINA		UK	
	2015	2019	2015	2019
E-waste generated (in kilotons)	8045	10 129	1483	1598
Percentage of e-waste that is collected for recycling (%)	16	16	45	58

(Turn over)

Weight of e-waste that is collected for recycling (in kilotons)	1412	1546	663	871
Population (million)	1370	1400	65.1	66.8

(Turn over)

4 (a)(i) Use the table on page 42 and 43 to **circle** the correct response in the sentences below. [2 marks]

From 2015 to 2019:

The population in the UK has increased by (1.7m / 2.7m / 3.1m).

The percentage of e-waste collected for recycling in the UK has increased by nearly (A HALF / THREE QUARTERS / A THIRD).

(Turn over)

4 (a)(iii) Give ONE impact e-waste has on people and ONE impact it has on the environment. [2 marks]

People: _____

Environment: _____

(Turn over)

4 (b) The global average temperature today is estimated to be 1.17°C higher than it was 100 years ago.

**(i) Describe ONE short-term effect of climate change experienced in the UK.
[2 marks]**

4 (b)(ii) Explain why some people will need to consider living differently as a result of climate change. [6 marks]

(Turn over)

4 (c) Study the images opposite.

Evaluate the importance of individuals and governments in tackling climate change. You may refer to examples you have studied. [8 marks]

(Turn over)

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

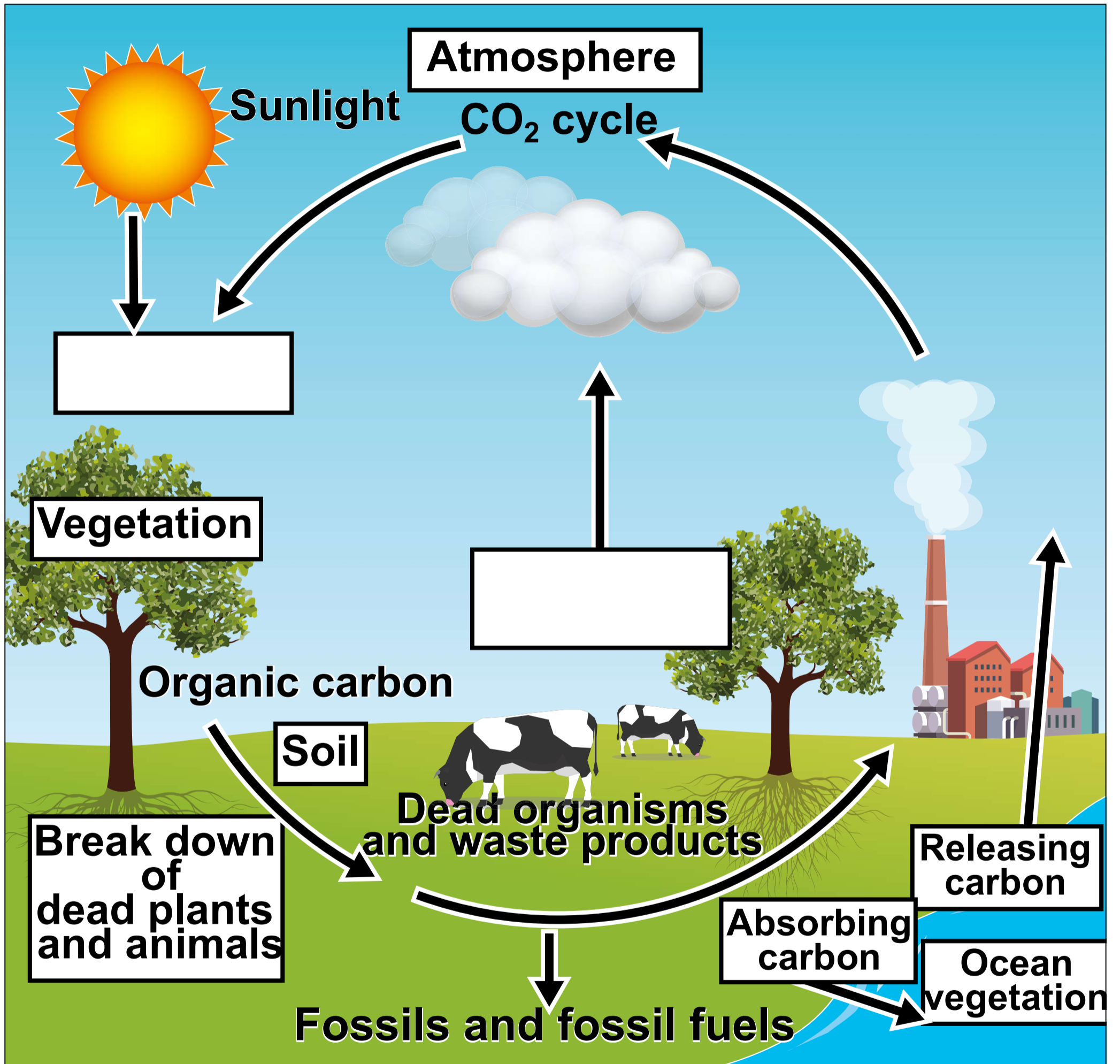
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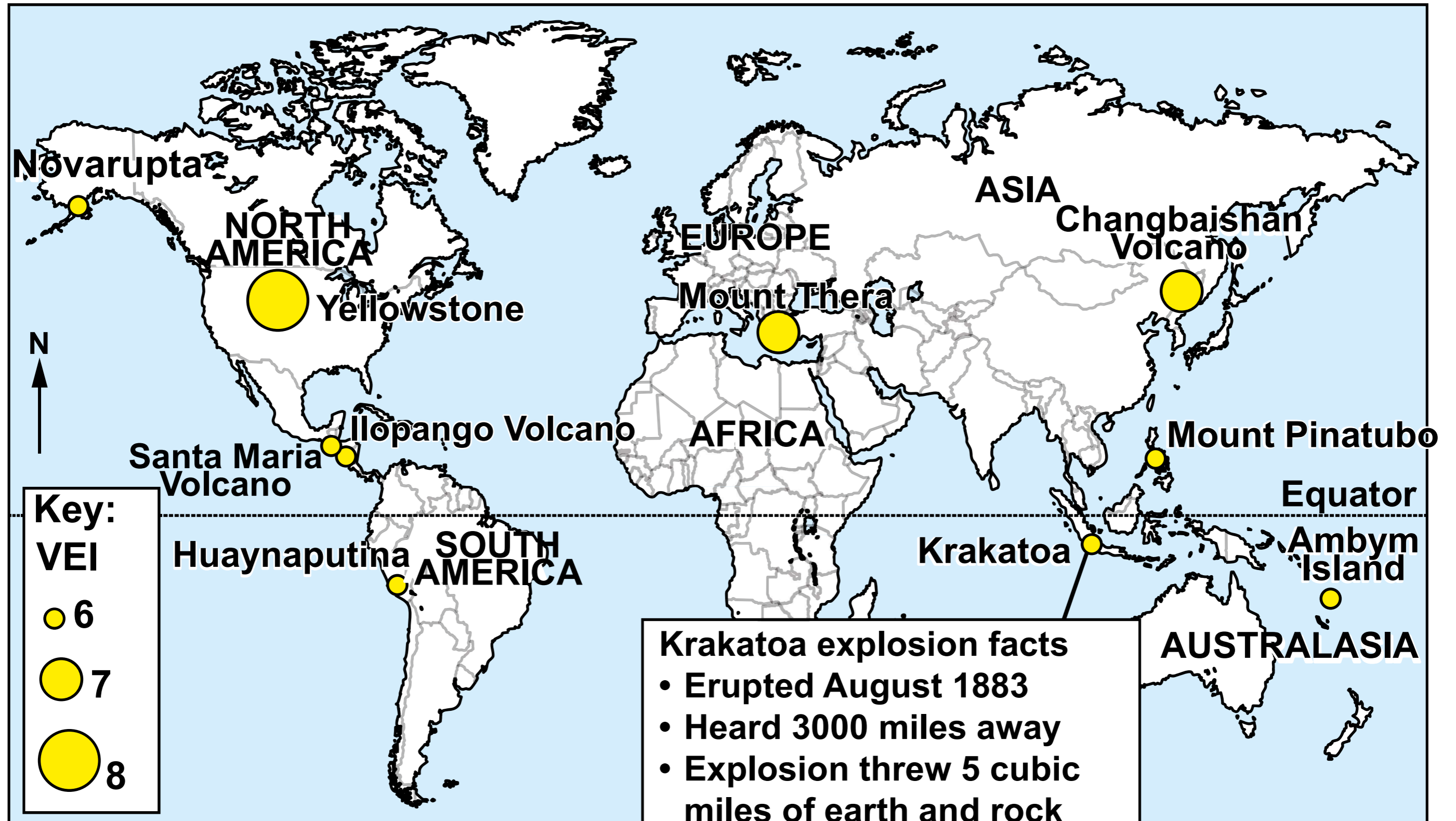
For Examiner's use only		
	Maximum Mark	Mark Awarded
Question 1	28	
Question 2	28	
Writing accurately	3	
Question 3	24	
Question 4	24	
Total	83	

**either
or**

THE CARBON CYCLE

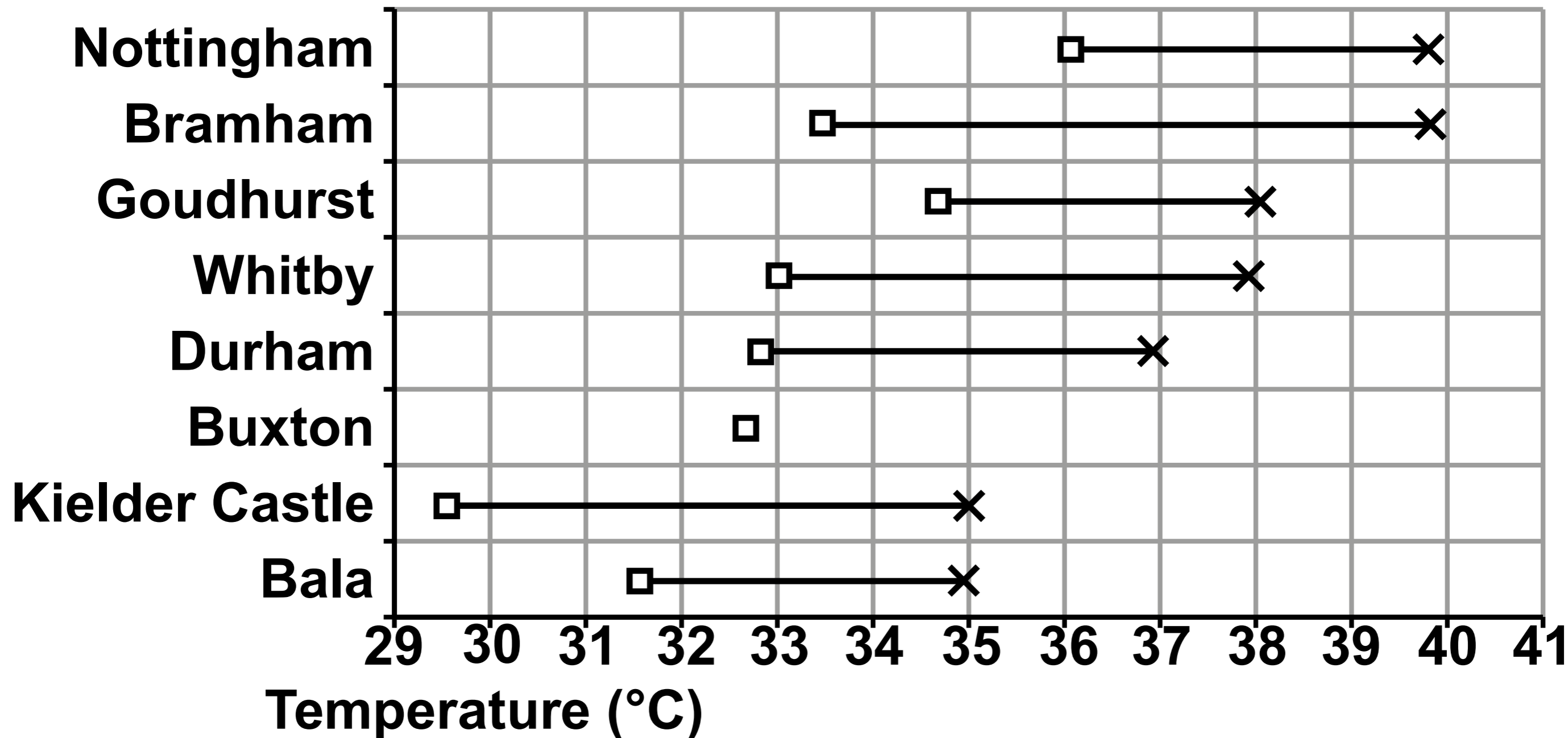


VEI FIGURES FOR SELECTED WORLD VOLCANOES



LOCATIONS WITH A LARGE INCREASE IN RECORD TEMPERATURES IN 2022

UK Locations



Key: □ = previous record × = 2022 record

EFFECTS OF DROUGHT IN AUSTRALIA, 2019-2020

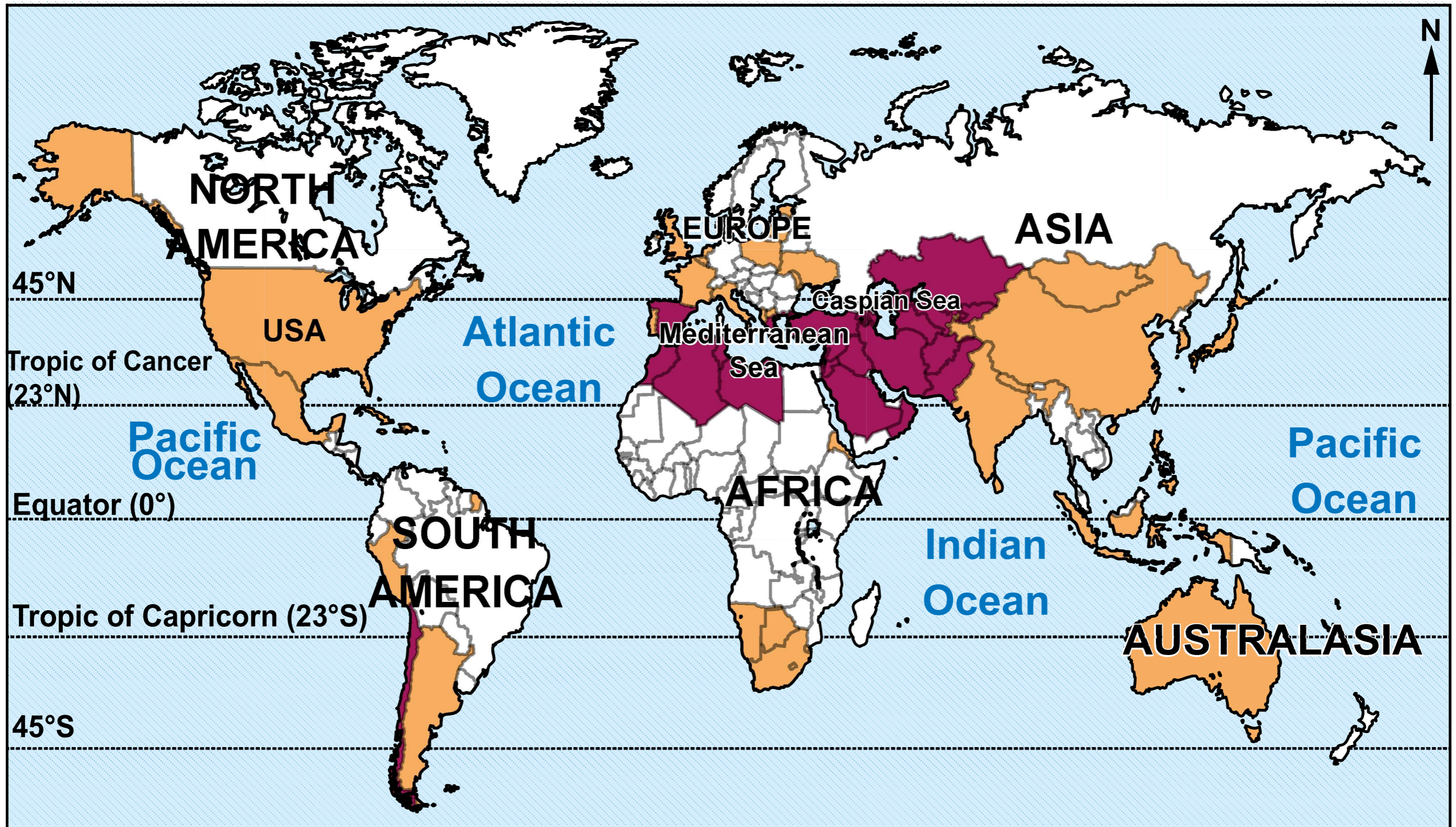
Failed crops



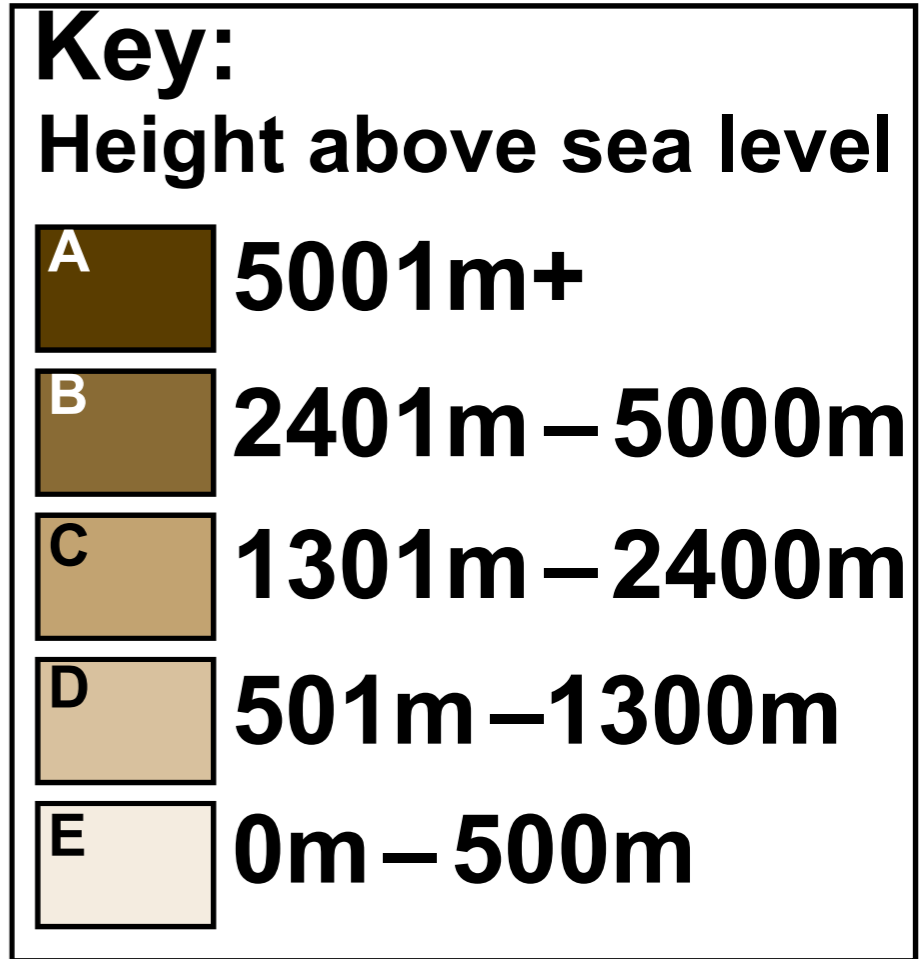
Wildfires endangering wildlife



PREDICTED WATER STRESS BY COUNTRY IN 2040



THE LOCATIONS OF TIANJIN CITY AREA AND QINGHAI PROVINCE, CHINA



		TIANJIN CITY AREA	QINGHAI PROVINCE
	Region of China	North	Northwest
	GDP (USD)	204 billion	43 billion
Development Indicators	Major industries	Petrochemical, textiles & car manufacturing	Iron & steel production, saltworks
	Infant mortality rate (number of deaths per 1000 live births)	2.3	43.1
	Literacy rate (percentage of the population that can read and write)	95.2	75.9
	Human Development Index (measures development by considering education, life expectancy and average income, a higher figure equals greater development)	0.838	0.689
Other factors	Distance from the coast (km)	0	1300
	Population (million)	13.8	5.9
	Height above sea level (m)	_____	_____
	Temperature range	-3.4 to 26.8°C	-5 to 8°C

EXAMPLES OF DIFFERENT STRATEGIES USED TO REDUCE CHILD LABOUR

LOCAL STRATEGIES

Primary school in Togo,
West Africa



Sign against child labour
in Ghana



GLOBAL STRATEGIES

Global conference on
child labour



World day against child
labour



EXAMPLES OF DIFFERENT STRATEGIES USED TO TACKLE CLIMATE CHANGE

INDIVIDUAL STRATEGIES

Cyclists in Amsterdam



Volunteers planting trees



GOVERNMENT STRATEGIES

United Nations Climate Change Conference



Offshore wind farm

