Please check the examination details below before entering your candidate information

Candidate surname	Other names

Centre Number | Candidate Number

Pearson Edexcel International GCSE (9–1)

Wednesday 14 May 2025

Morning (Time: 1 hour 10 minutes)

Paper reference **4GE1/01**

Geography

PAPER 1: Physical geography

You must have:
Resource Booklet (enclosed), calculator

Total Marks

Instructions

- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- In Section A, answer **two** questions from Questions 1, 2 and 3.
- In Section B, answer **one** question from Questions 4, 5 and 6.
- Answer the questions in the spaces provided – *there may be more space than you need.*
- Calculators may be used.
- **Where asked you must show all your working out with your answer clearly identified at the end of your solution.**

Information

- The total mark for this paper is 70.
- The marks for **each** question are shown in brackets – *use this as a guide as to how much time to spend on each question.*

Advice

- Read each question carefully before you start to answer it.
- Check your answers if you have time at the end.

Turn over ▶

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P 7 8 6 5 5 A 0 1 2 8

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SECTION A

Answer TWO questions from this section.

Some questions must be answered with a cross in a box ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

If you answer Question 1, put a cross in the box ☒ .

1 River environments

(a) Identify the best definition of altitude.

(1)

- ☒ **A** average weather conditions
- ☒ **B** direction a surface faces
- ☒ **C** ground that has a natural incline
- ☒ **D** height above sea level

(b) (i) Identify **one** cause of water surplus.

(1)

- ☒ **A** abstraction
- ☒ **B** drought
- ☒ **C** evaporation
- ☒ **D** monsoon

(ii) State **one** way a river transports sediment.

(1)

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(c) Explain **one** flood prevention method used in river environments.

(2)

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(d) Study Figure 1a in the Resource Booklet.

Suggest **two** ways people can affect water quality.

You **must** refer to the resource in your answer.

(4)

1 .....

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2 .....

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(e) Study Figure 1b in the Resource Booklet.

Identify **one** transfer in the hydrological cycle.

(1)

.....

(f) Explain the formation of **two** lowland river landforms.

(4)

landform 1

landform 2

(g) Explain **one** reason for the rising demand for water.

(3)

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(h) Study Figure 1c in the Resource Booklet.

Analyse the reasons for differences in river regimes.

You **must** refer to the resource in your answer.

(8)

(Total for Question 1 = 25 marks)

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If you answer Question 2, put a cross in the box ☒ .

2 Coastal environments

(a) Identify **one** way to prevent buildings being flooded.

(1)

☒ **A** buildings insurance

☒ **B** moving documents upstairs

☒ **C** planned evacuation routes

☒ **D** using sand bags

(b) (i) Identify the best definition of sea level change.

(1)

☒ **A** an alteration in the usual wind direction

☒ **B** an alteration in the water height of the ocean

☒ **C** the boundary between the land and the sea

☒ **D** the prediction of what the atmosphere will be like

(ii) State **one** cause of coastal flooding.

(1)

.....

(iii) Explain **one** type of hard engineering used in coastal management.

(2)

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(c) Study Figure 2a in the Resource Booklet.

Suggest **two** reasons why this coastal management strategy could cause conflict between different users.

You **must** refer to the resource in your answer.

(4)

1 .....

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2 .....

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(d) Explain **one** reason for the distribution of coral reef ecosystems.

(3)

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(e) Study Figure 2b in the Resource Booklet.

Identify an abiotic characteristic in this ecosystem.

(1)

(f) Explain **one** industrial and **one** agricultural threat to a coastal ecosystem, such as salt marshes.

(4)

industrial

agricultural

(g) Study Figure 2c in the Resource Booklet.

Analyse the effect of physical processes on this coastline.

You **must** refer to the resource in your answer.

(8)

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(Total for Question 2 = 25 marks)

If you answer Question 3, put a cross in the box ☒ .

3 Hazardous environments

(a) Identify the statement that best describes a destructive/convergent plate boundary.

(1)

☒ **A** tectonic plates moving away from each other

☒ **B** tectonic plates moving towards each other

☒ **C** tectonic plates sliding past each other

☒ **D** tectonic plates that never move

(b) (i) Identify a feature of a volcano.

(1)

☒ **A** epicentre

☒ **B** eye

☒ **C** focus

☒ **D** vent

(ii) State **one** hazard caused by a volcanic eruption.

(1)

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(iii) Explain **one** reason why volcanoes are formed at hotspots.

(2)

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(c) Study Figure 3a in the Resource Booklet.

Suggest **two** long-term impacts of the volcanic eruption on people.

You **must** refer to the resource in your answer.

(4)

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2 .....

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(d) Study Figure 3b in the Resource Booklet.

Identify **one** labelled country at risk from this tropical cyclone.

(1)

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(e) Explain **two** causes of tropical cyclones.

(4)

1 .....

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(f) Explain **one** reason why people live in areas at risk from tropical cyclones.

(3)

(g) Study Figure 3c in the Resource Booklet.

Analyse the impact physical factors have on a country's vulnerability to earthquakes.

You **must** refer to the resource in your answer.

(8)

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(Total for Question 3 = 25 marks)

TOTAL FOR SECTION A = 50 MARKS

SECTION B

Geographical Enquiry

Answer ONE question from this section.

Some questions must be answered with a cross in a box ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

If you answer Question 4, put a cross in the box ☒ .

4 Investigating river environments

You have carried out a geographical enquiry as part of your work on river environments.

Title of geographical enquiry

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(a) Describe **one** sampling strategy used to select your sites for data collection.

(2)

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(b) Explain **one** quantitative method you chose for your data collection.

(3)

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(c) Explain why **two** different named data presentation techniques were appropriate for your collected data.

(4)

Name of data presentation technique 1

technique 1

Name of data presentation technique 2

technique 2

(d) Explain **one** reason collecting more data can make your investigation more reliable.

(3)

(e) Study the data in Figure 4 in the Resource Booklet. It shows secondary data collected for background research to help produce a hypothesis.

Students' hypothesis: **As river depth and width increase downstream velocity will increase**.

Note: A hypothesis is a prediction or guess about what is going to happen in the students' fieldwork.

Evaluate how suitable the hypothesis reached by the students is in helping to answer their enquiry question.

You **must** refer to the resource in your answer.

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(Total for Question 4 = 20 marks)

If you answer Question 5, put a cross in the box ☒ .

5 Investigating coastal environments

You have carried out a geographical enquiry as part of your work on coastal environments.

Title of geographical enquiry

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(a) Describe **one** sampling strategy used to select your sites for data collection.

(2)

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(b) Explain **one** quantitative method you chose for your data collection.

(3)

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(c) Explain why **two** different named data presentation techniques were appropriate for the data being plotted.

(4)

Name of data presentation technique 1

technique 1

Name of data presentation technique 2

technique 2

(d) Explain **one** reason collecting more data can make your investigation more reliable.

(3)

(e) Study the data in Figure 5 in the Resource Booklet. It shows secondary data collected for background research to help produce a hypothesis.

Students' hypothesis: **Sediment size will decrease as you move from north to south along the beach**.

Note: A hypothesis is a prediction or guess about what is going to happen in the students' fieldwork.

Evaluate how suitable the hypothesis reached by the students is in helping to answer their enquiry question.

You **must** refer to the resource in your answer.

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(Total for Question 5 = 20 marks)

If you answer Question 6, put a cross in the box ☒ .

6 Investigating hazardous environments

You have carried out a geographical enquiry as part of your work on hazardous environments (an extreme weather event).

Title of geographical enquiry

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(a) Describe **one** sampling strategy used to select your sites for data collection.

(2)

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(b) Explain **one** quantitative method you chose for your data collection.

(3)

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(c) Explain why **two** different named data presentation techniques were appropriate for the data being plotted.

(4)

Name of data presentation technique 1

technique 1

Name of data presentation technique 2

technique 2

(d) Explain **one** reason collecting more data can make your investigation more reliable.

(3)

(e) Study the data in Figure 6 in the Resource Booklet. It shows secondary data collected for background research to help produce a hypothesis.

Students' hypothesis: **As wind speed increases, air pressure decreases**.

Note: A hypothesis is a prediction or guess about what is going to happen in the students' fieldwork.

Evaluate how suitable the hypothesis reached by the students is in helping to answer their enquiry question.

You **must** refer to the resource in your answer.

(8)

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(Total for Question 6 = 20 marks)

TOTAL FOR SECTION B = 20 MARKS
TOTAL FOR PAPER = 70 MARKS

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GradeMax

Pearson Edexcel International GCSE (9–1)

Wednesday 14 May 2025

Morning (Time: 1 hour 10 minutes)

Paper reference **4GE1/01**

Geography

PAPER 1: Physical geography

Resource Booklet

Do not return this Booklet with the question paper.

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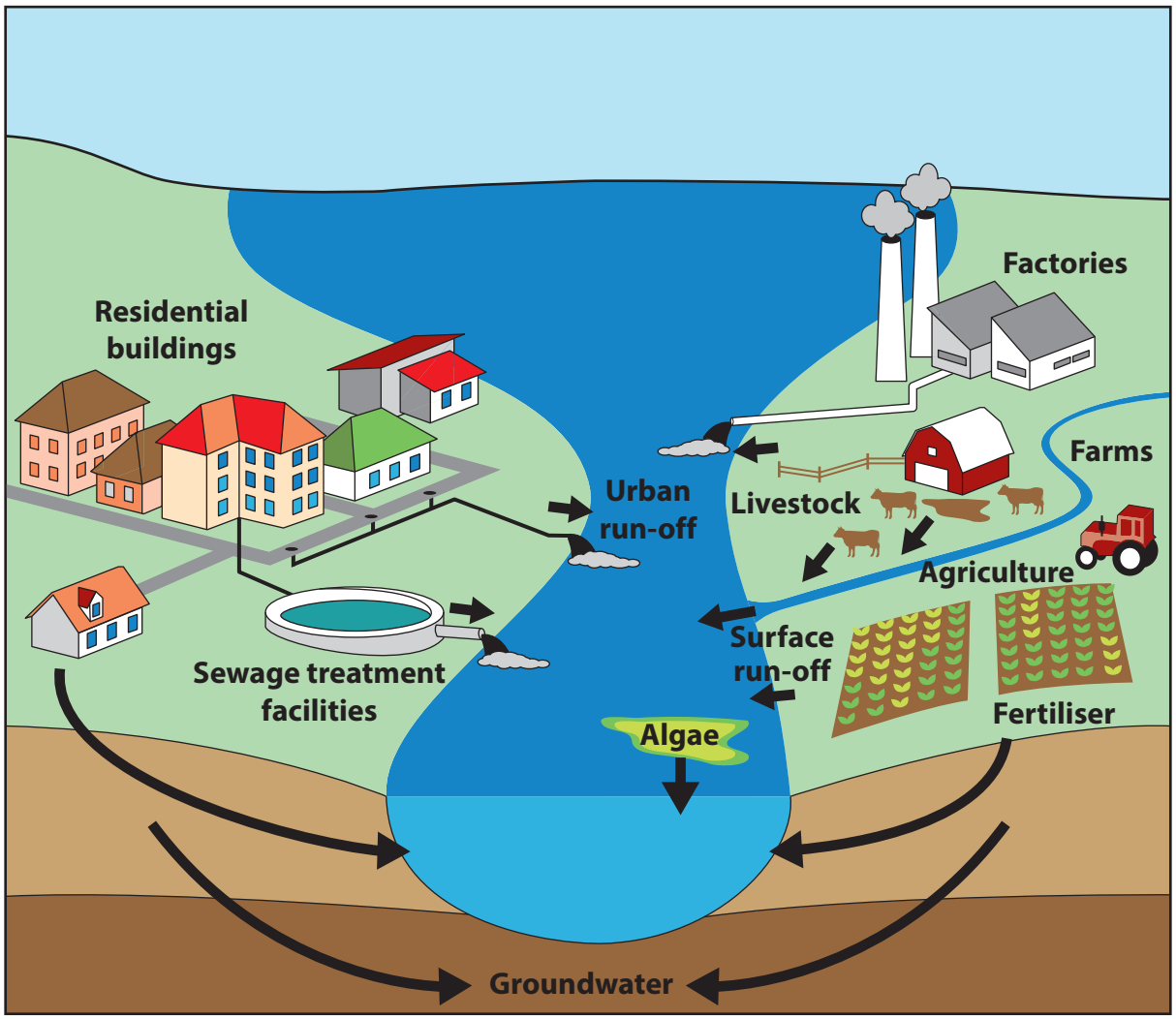


Figure 1a

Causes of variation in water quality

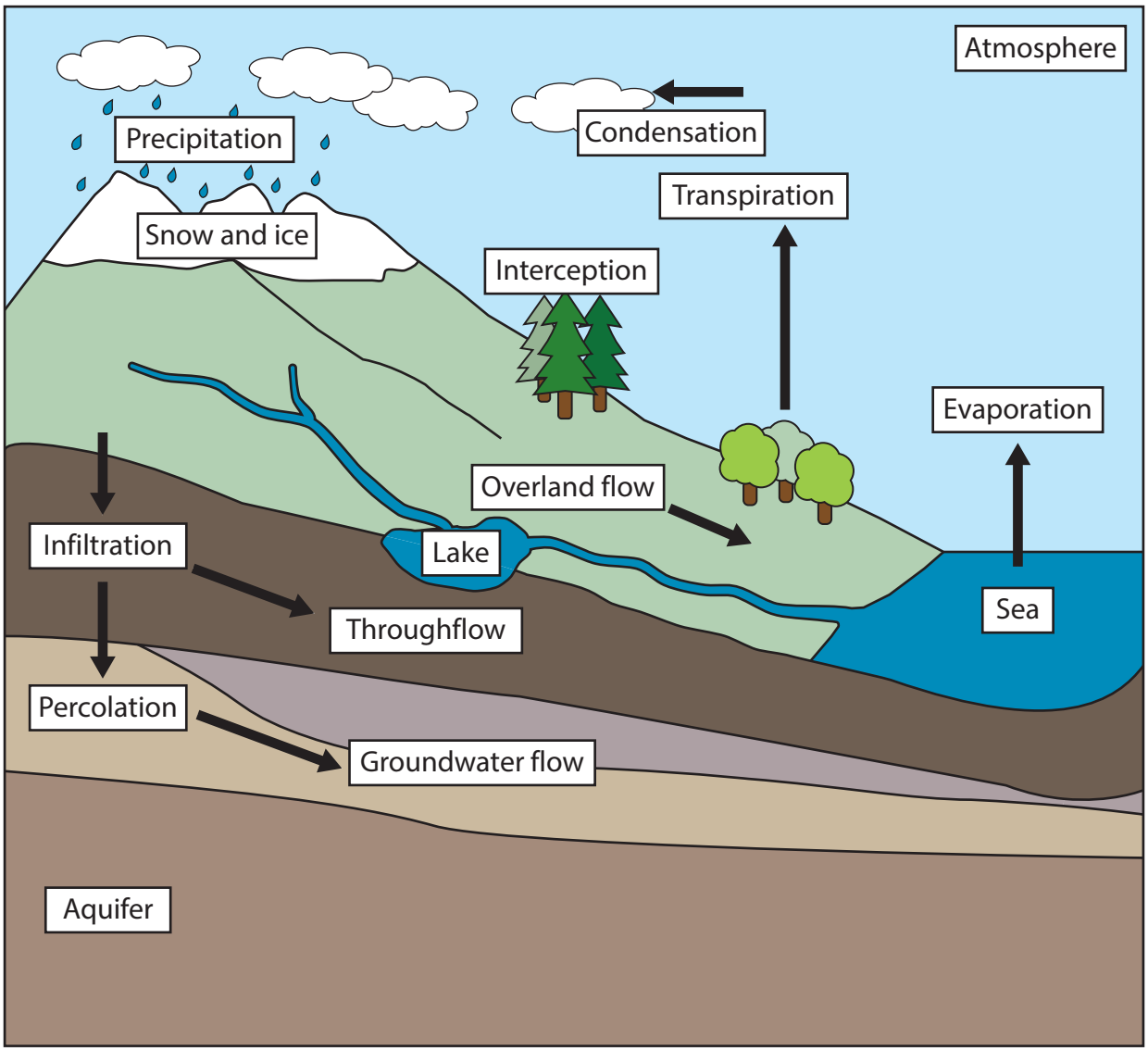
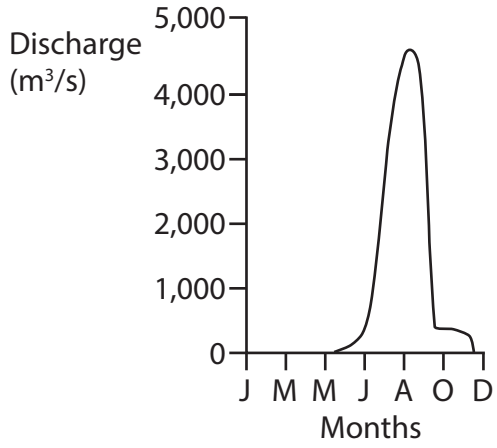


Figure 1b

Hydrological cycle

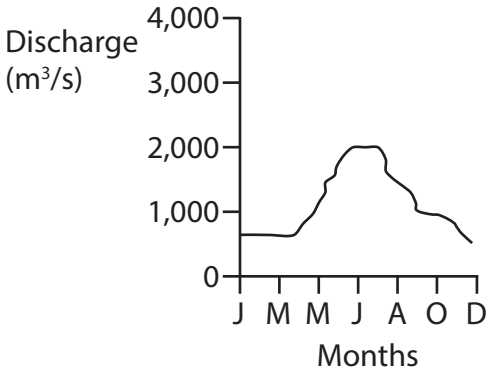
River Volta





Savanna/grassland regime – River Volta
Average rainfall: 1,000 mm
Average temperature: 29°C
Catchment area: 390,000 km²
Geology: Sandstone/shales - permeable
Water removed for human use:
3 billion m³

River Rhone





Mountain regime – River Rhone
Average rainfall: 825 mm
Average temperature: 13°C
Catchment area: 98,500 km²
Geology: Limestone – permeable
Water removed for human use: 6 billion m³

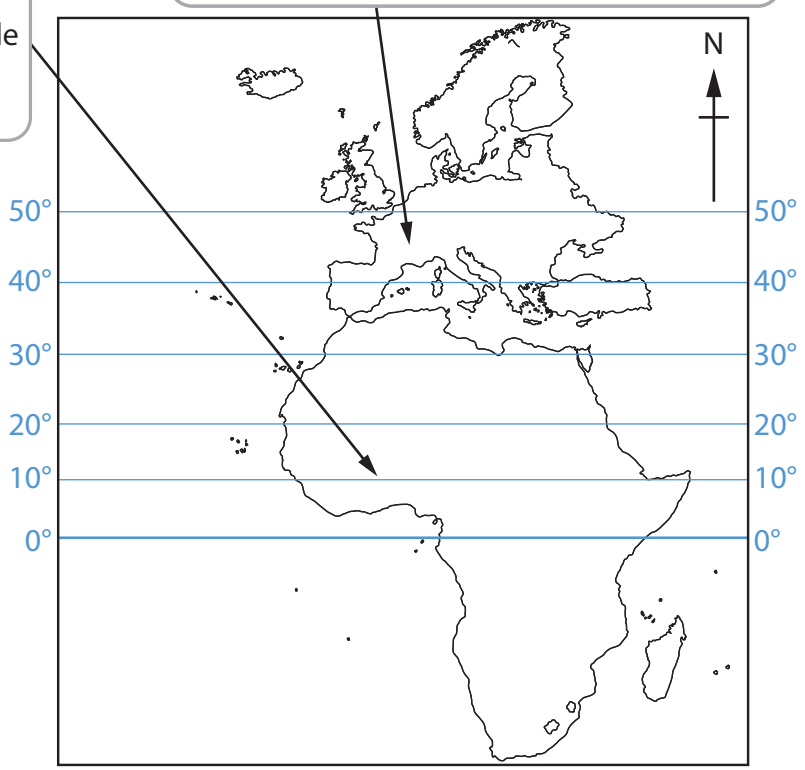


Figure 1c

River regimes for two climatic regions and selected characteristics of their drainage basin



Figure 2a

Coastal management before and after soft engineering (managed retreat), Surfers Point, California

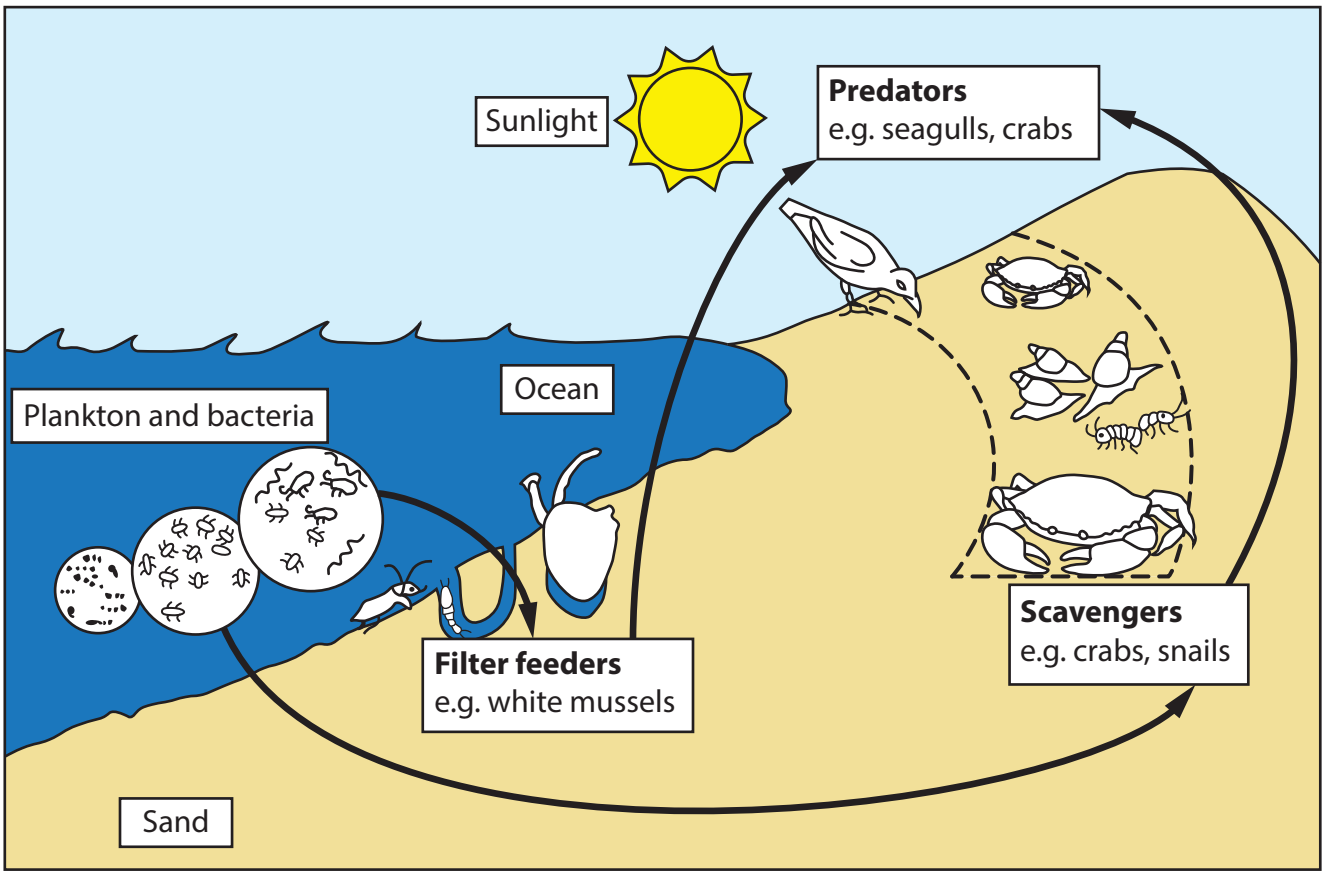


Figure 2b

Sandy coastal ecosystem food chain



0m 500m

Relief map of Étretat, Normandy, France coastline



Photograph of Étretat, Normandy, France coastline

Fact file:
Climate: temperate
Annual temperature range: 4°C to 22°C
Geology: chalk
Dominant wave type: destructive waves
Mean fetch: 95 km

Étretat coastline ecosystem:
The coastline is made of high chalk cliffs and valleys.

At Étretat, the base of the cliffs are made from hard chalk with a layer of softer chalk laying on top.

The Étretat Needle is a coastal stack showing the old cliff location. This shows the chalk is vulnerable to coastal processes.

Climate:
The temperature in Étretat varies during the year. The warmer months range from June to September (prevailing wind direction is from the west with an average annual wind speed of 23 kmph) with an average annual precipitation of 1,110 mm.

Figure 2c

Coastline characteristics of Étretat, Normandy, France

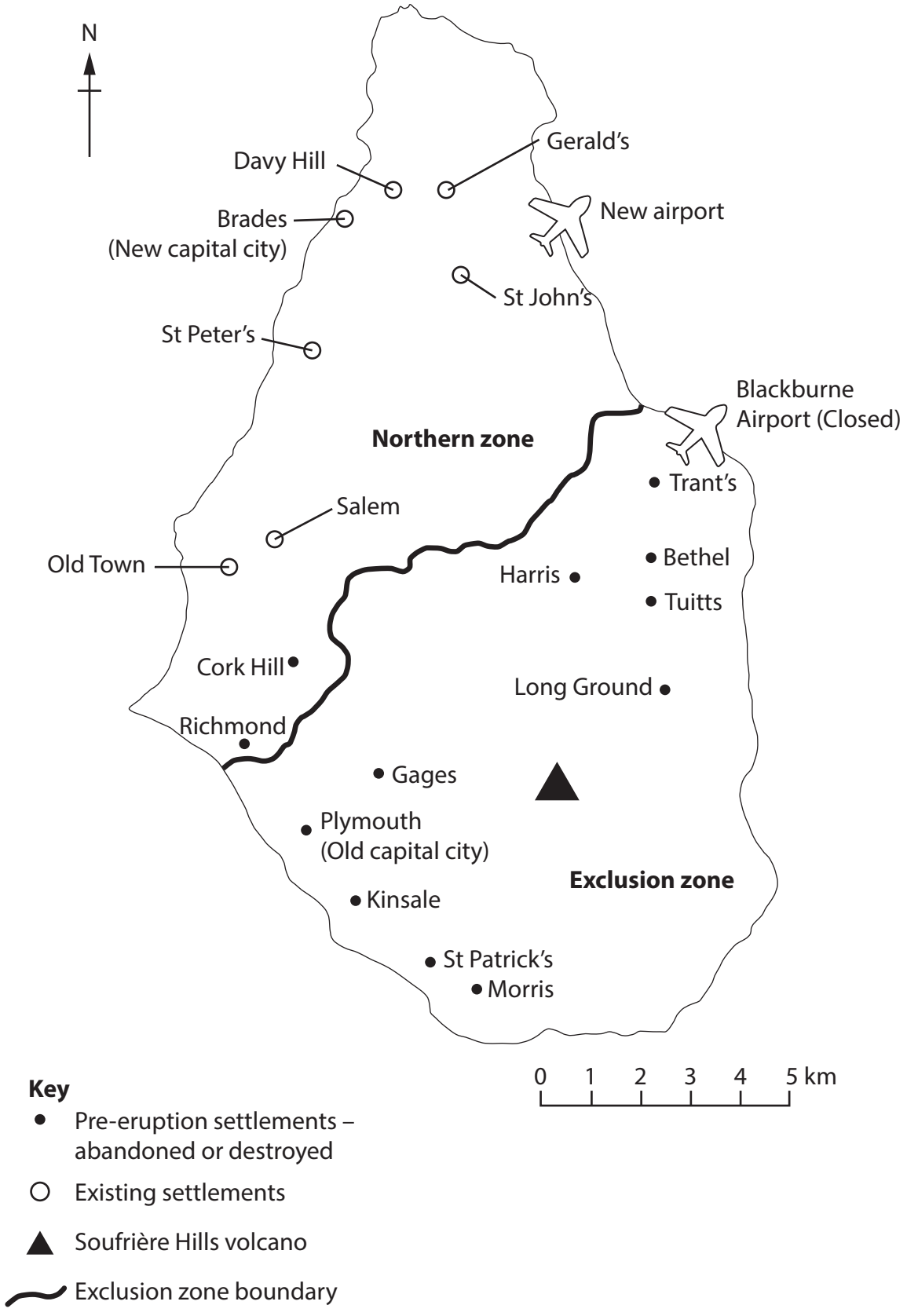


Figure 3a

Impacts of volcanic eruption, Montserrat

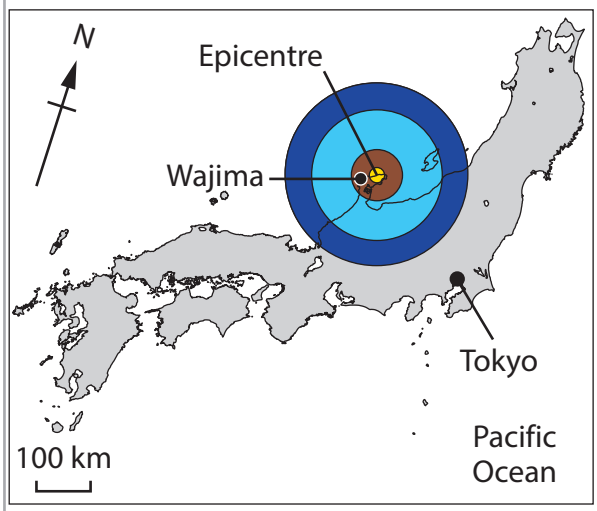
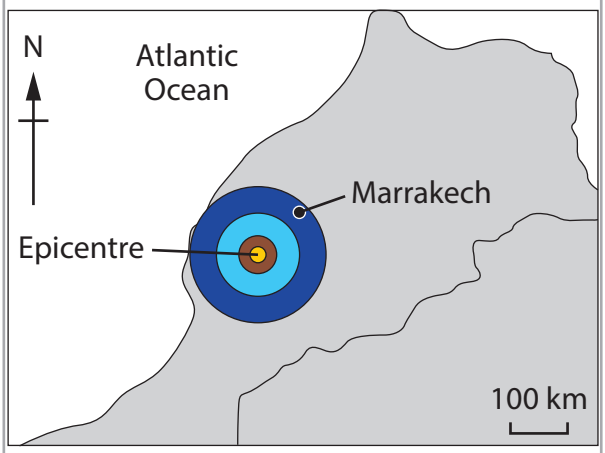


Key

- Depression
- Storm
- Hurricane
- Category 3 (or higher) hurricane

Figure 3b

Path of Hurricane (Tropical Cyclone) Ida, 2021

	Japan earthquake – 1 January 2024	Morocco earthquake – 8 September 2023
Map		
Plate boundary	Convergent (destructive)	Transform (conservative)
Magnitude	7.5	6.9
Focus depth	10 km	19 km
Epicentre	30 km northeast of Wajima city	72 km southwest of Marrakech city
Tsunami	Yes – 3.6 m	No
Time of day / year	Time: 16:10 Daily temperature range 0 to 6°C Public holiday	Time: 23:11 Daily temperature range 18 to 29°C
Impacts	• 500 deaths • 4,500 houses destroyed • 62,000 people displaced • Total cost of damage US$17.6 billion	• 3,000 deaths • 59,700 houses destroyed • 500,000 people displaced • Total cost of damage US$7 billion

Key: Earthquake strength

Moderate Strong Very strong Severe

Figure 3c

Characteristics of two earthquakes and selected impacts in contrasting countries

As part of their enquiry question on the relationship between river depth and velocity in the study location Comal River, Texas, USA, the students set up a hypothesis*.

(*A hypothesis is a prediction or guess about what is going to happen in the students' fieldwork.)

The enquiry question was:

Does width, depth and velocity increase downstream?

They researched secondary data, collected in March, on depth and width of the river channel and studied a topographical map of Comal River, Texas, USA.

The hypothesis they proposed was:

As river depth and width increase downstream velocity will increase.

Source of Comal River 196 m above sea level
Average depth for March: 0.6 m
Average width: 11.8 m



Mouth of Comal River 187 m above sea level
Average river depth for March: 1.0 m
Average river width: 26.9 m

Figure 4

Results of background research on Comal River, Texas, USA

As part of their enquiry question on the relationship between sediment size and distance along coastline in the study location Long Bay, South Australia, the students set up a hypothesis*.

(*A hypothesis is a prediction or guess about what is going to happen in the students' fieldwork.)

The enquiry question was:

Does sediment size and beach width change along a coastline?

They researched secondary data on sediment characteristics along a beach and studied a geology map of Long Bay, South Australia.

The hypothesis they proposed was:

Sediment size will decrease as you move from north to south along the beach.

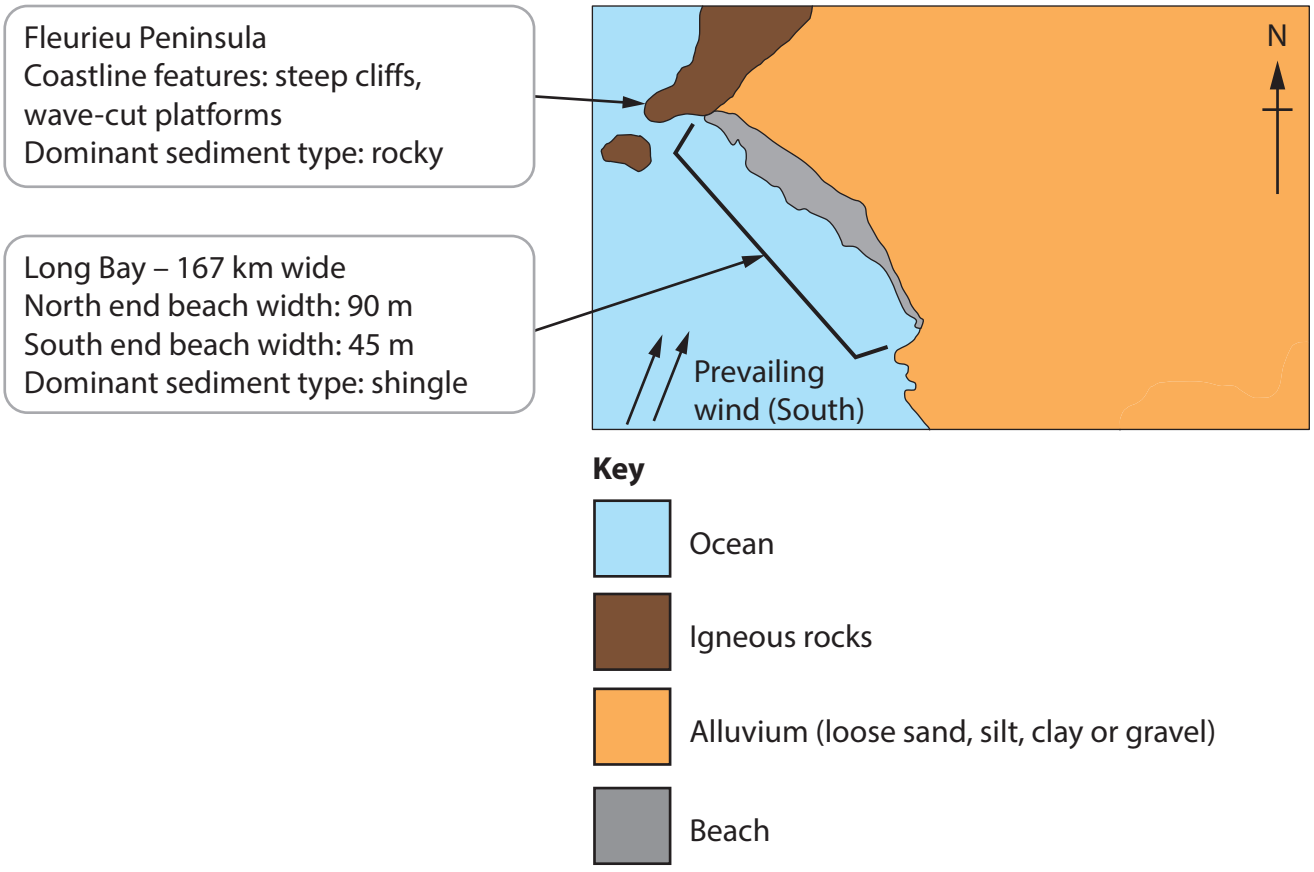


Figure 5

Results of background research on the headland and bay coastline in South Australia

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FIGURE 6 FOR USE WITH QUESTION 6 BEGINS ON THE NEXT PAGE.

As part of their enquiry question on the relationship between wind speed and air pressure in the study location Evansville, Indiana, USA the students set up a hypothesis*.

(*A hypothesis is a prediction or guess about what is going to happen in the students' fieldwork.)

The enquiry question was:

Does wind speed change when air pressure changes?

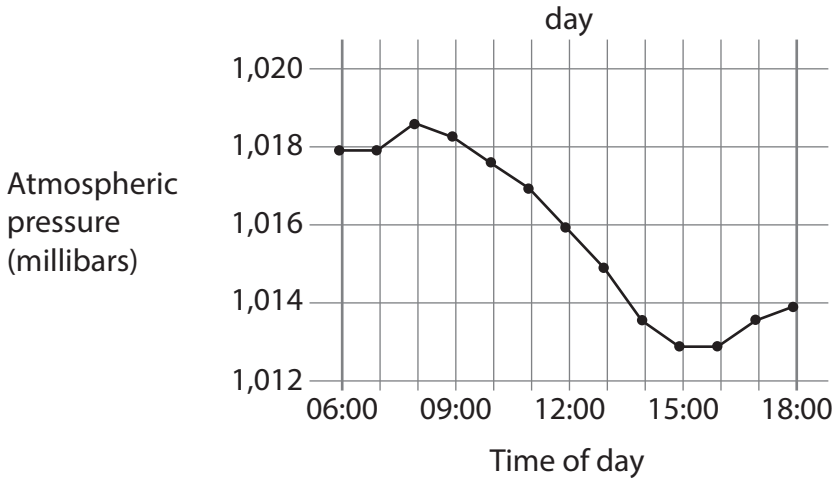
They researched secondary data on wind speed and air pressure in Evansville, Indiana, USA.

The hypothesis they proposed was:

As wind speed increases, air pressure decreases.

FIGURE 6 CONTINUES ONTO PAGE 15.

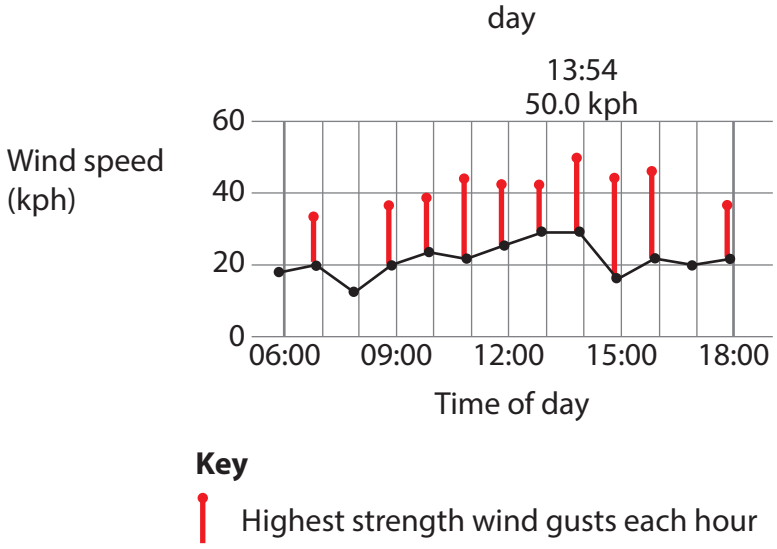
Daytime atmospheric pressure on Thursday 8 February 2024
at Evansville Regional Airport



Maximum air pressure is at 7:59 am (07:59).

Minimum air pressure is at 2:59 pm (14:59).

Wind speed on Thursday 8 February 2024
at Evansville Regional Airport



Key

Highest strength wind gusts each hour

Maximum wind speed is at 1:54 pm (13:54).

Minimum wind speed is at 7:59 am (07:59).

Figure 6

Results of background research on an extreme weather event in Evansville, Indiana, February 2024

GradeMax

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