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 **4GE1/01R**

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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Pearson

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 **one** store in the hydrological cycle.

(1)

- ☒ **A** evaporation
- ☒ **B** groundwater
- ☒ **C** infiltration
- ☒ **D** rainfall

(b) (i) Identify the best definition of river velocity.

(1)

- ☒ **A** the cross-section of a river's channel
- ☒ **B** the speed of the water flow
- ☒ **C** the volume of water in the river
- ☒ **D** the wetted perimeter of the river

(ii) State **one** characteristic of the channel shape in the lower course of a river.

(1)

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(c) Explain **one** reason why some sediment is transported by traction in rivers.

(2)

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

Suggest **two** reasons why demand for water is projected to increase.

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

(4)

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

Identify the river landform in the valley shown at X.

(1)

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(f) Explain how **one climate** factor and **one slope (gradient)** factor can affect river processes.

(4)

climate

slope (gradient)

(g) Explain how **one** source of river pollution can affect water quality.

(3)

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

Analyse the strengths of this flood prevention strategy.

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

(8)

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(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) (i) Identify **one** cause of coastal flooding.

(1)

- ☒ **A** high evaporation
- ☒ **B** high temperatures
- ☒ **C** low humidity
- ☒ **D** storm surge

(ii) Coastal flooding is one impact of sea level change.

State **one other** impact of sea level change on coastal landforms.

(1)

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(b) Identify the best definition of a coastal headland.

(1)

- ☒ **A** a cliff surrounded by water on three sides
- ☒ **B** a gently sloping surface of rock at the base of a cliff
- ☒ **C** a large pillar of rock separated from the shoreline
- ☒ **D** a low-lying inlet of land on the coast

(c) Explain **one** type of soft engineering used in coastal management.

(2)

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

Suggest **two** reasons the coastal management shown could cause conflict with different users of the coastline.

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

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(e) The non-living parts of an ecosystem are called abiotic characteristics.

Explain how **one** abiotic characteristic can affect a named coastal ecosystem.

(3)

Named coastal ecosystem

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

Identify the labelled country with the shortest length of saltmarsh ecosystems.

(1)

(g) Explain **two** threats caused by tourism on coastal ecosystems such as coral reefs.

(4)

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

Analyse the effect of physical processes on the 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 **one** scale used to measure earthquake magnitude.

(1)

- ☒ **A** Beaufort scale
- ☒ **B** Okta scale
- ☒ **C** Richter scale
- ☒ **D** Saffir-Simpson scale

(b) (i) Identify which statement best describes the focus of an earthquake.

(1)

- ☒ **A** older and lighter tectonic crust
- ☒ **B** point inside the Earth's crust where the earthquake starts
- ☒ **C** point on the Earth's surface directly above where the earthquake starts
- ☒ **D** younger and denser tectonic crust

(ii) State **one** hazard caused by an earthquake.

(1)

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(iii) Explain **one** long-term impact earthquakes can have on the natural environment.

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

Suggest **two** strategies used in Salt Lake City to effectively manage earthquakes.

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

(4)

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

Identify the type of plate boundary shown.

(1)

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(e) Explain **two** characteristics of volcanoes found at different types of plate boundary.

(4)

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(f) Explain **one** reason people live in areas at risk from volcanic eruptions.

(3)

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

Analyse how physical factors can contribute to a country's vulnerability to tropical cyclones (typhoon).

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

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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** health and safety risk included in your risk assessment.

(2)

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(b) Explain **one** data collection method used to help answer your enquiry title.

(3)

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(c) Explain **two** ways you ensured your data presentation was accurate.

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(d) Explain **one** reason why there might be an anomaly in the data you collected.

(3)

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(e) Study the data in Figure 4 in the Resource Booklet. It shows some information about the secondary data the students used to support their enquiry.

Conclusion: **There is very little change to channel width or river course between 1904 to 2013.**

Evaluate the extent to which the secondary data supported the students' conclusion.

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** health and safety risk included in your risk assessment.

(2)

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(b) Explain **one** data collection method used to help answer your enquiry title.

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(c) Explain **two** ways you ensured your data presentation was accurate.

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(d) Explain **one** reason why there might be an anomaly in the data you collected.

(3)

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(e) Study the data in Figures 5a and 5b in the Resource Booklet. It shows some information about the secondary data the students used to support their enquiry.

Conclusion: **There is very little change in beach profile between calm and stormy years.**

Evaluate the extent to which the secondary data supported the students' conclusion.

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** health and safety risk included in your risk assessment.

(2)

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(b) Explain **one** data collection method used to help answer your enquiry title.

(3)

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(c) Explain **two** ways you ensured your data presentation was accurate.

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(d) Explain **one** reason why there might be an anomaly in the data you collected.

(3)

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(e) Study the data in Figure 6 in the Resource Booklet. It shows some information about the secondary data the students used to support their enquiry.

Conclusion: **Miami has the highest precipitation in Florida.**

Evaluate the extent to which the secondary data supported the students' conclusion.

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

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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 **4GE1/01R**

Geography

PAPER 1: Physical geography

Resource Booklet

Do not return this Booklet with the question paper.

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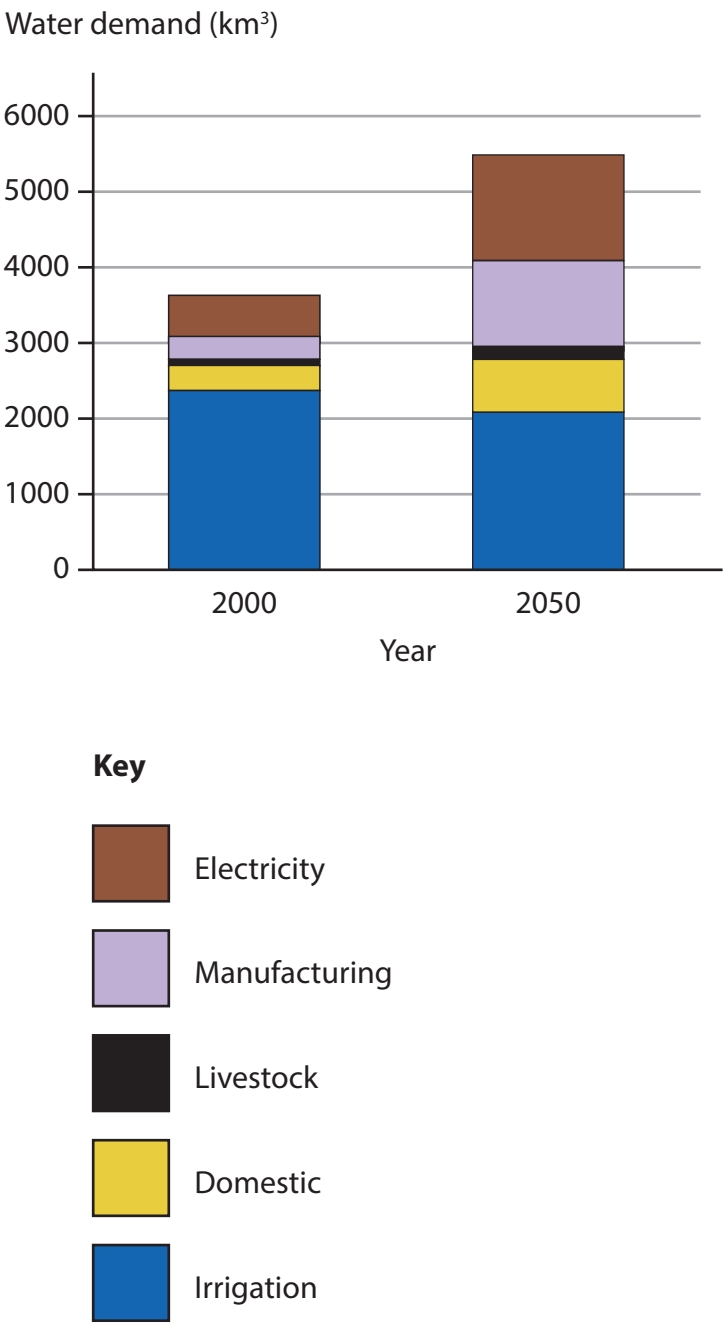


Figure 1a

Global water demand in 2000 and projected for 2050

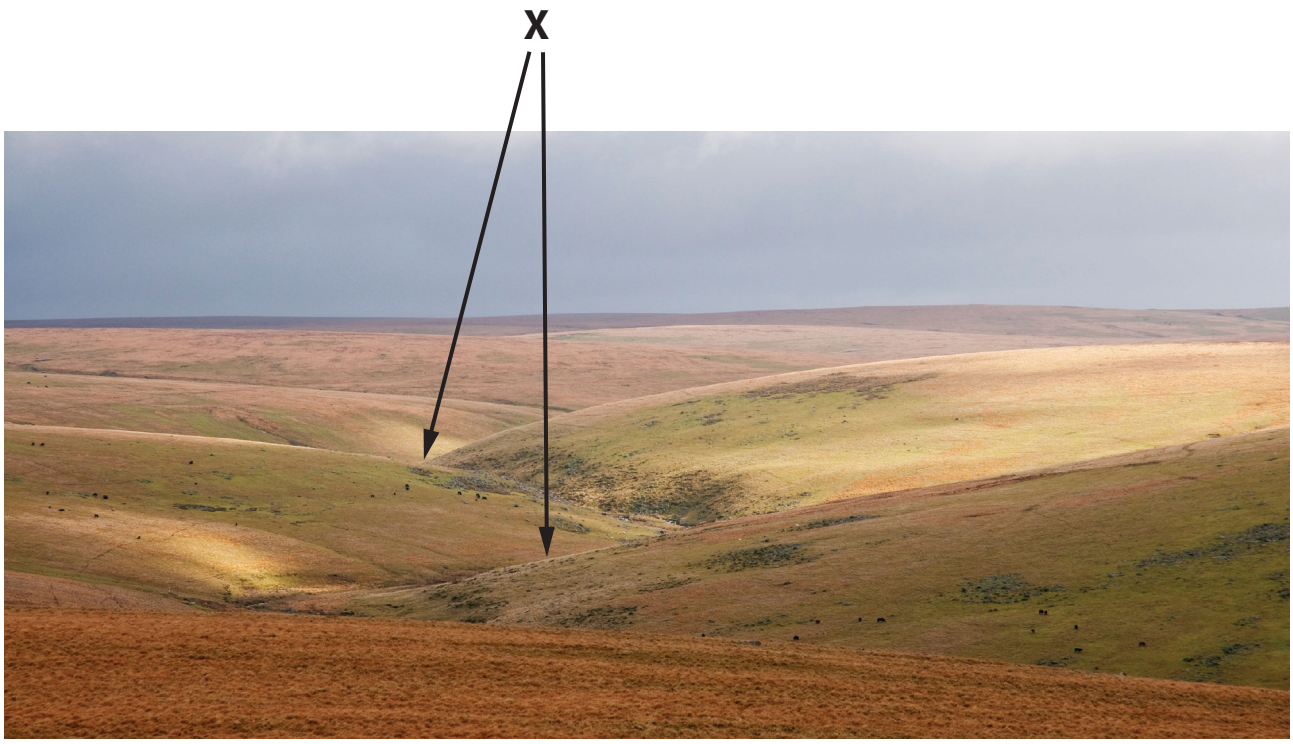


Figure 1b

Upland river landscape

Before Aswan High Dam building completed:

- The River Nile flooding was not controlled effectively prior to the Aswan High Dam, with discharge as high as 14,000 m^3/second.
- These high water periods caused devastating floods affecting agriculture, industry and housing.
- Low water periods during January to May meant discharge could fall to as low as 274 m^3/second leading to severe drought.



After Aswan High Dam building completed:

- The dam regulated the flow of water and provided a year-round supply for irrigation. This meant farmers could grow crops throughout the year.
- Cost US$ 1 billion to build.
- 10 years to complete.
- The flood control of the dam saved lives in 1965, 1975 and 1987.
- Less flooding reduces flood repair and insurance costs.

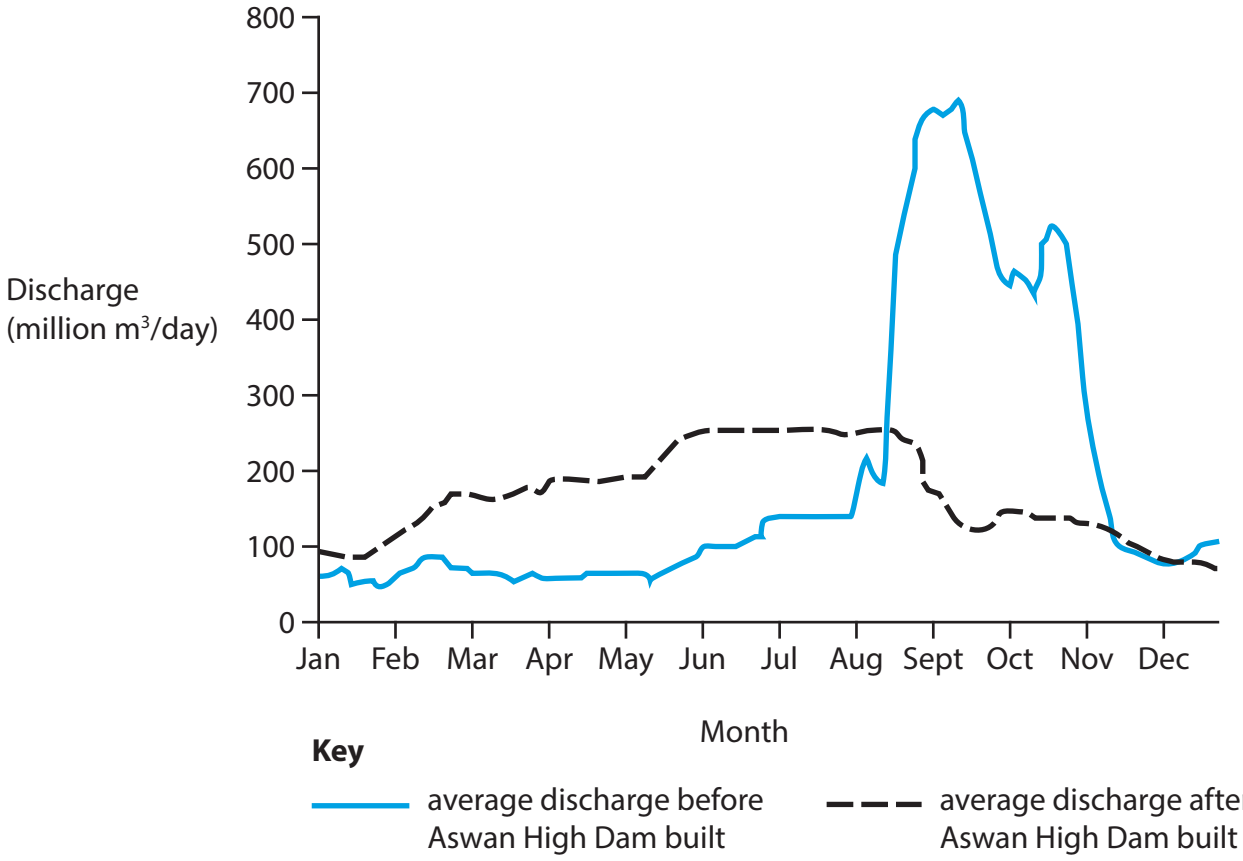


Figure 1c

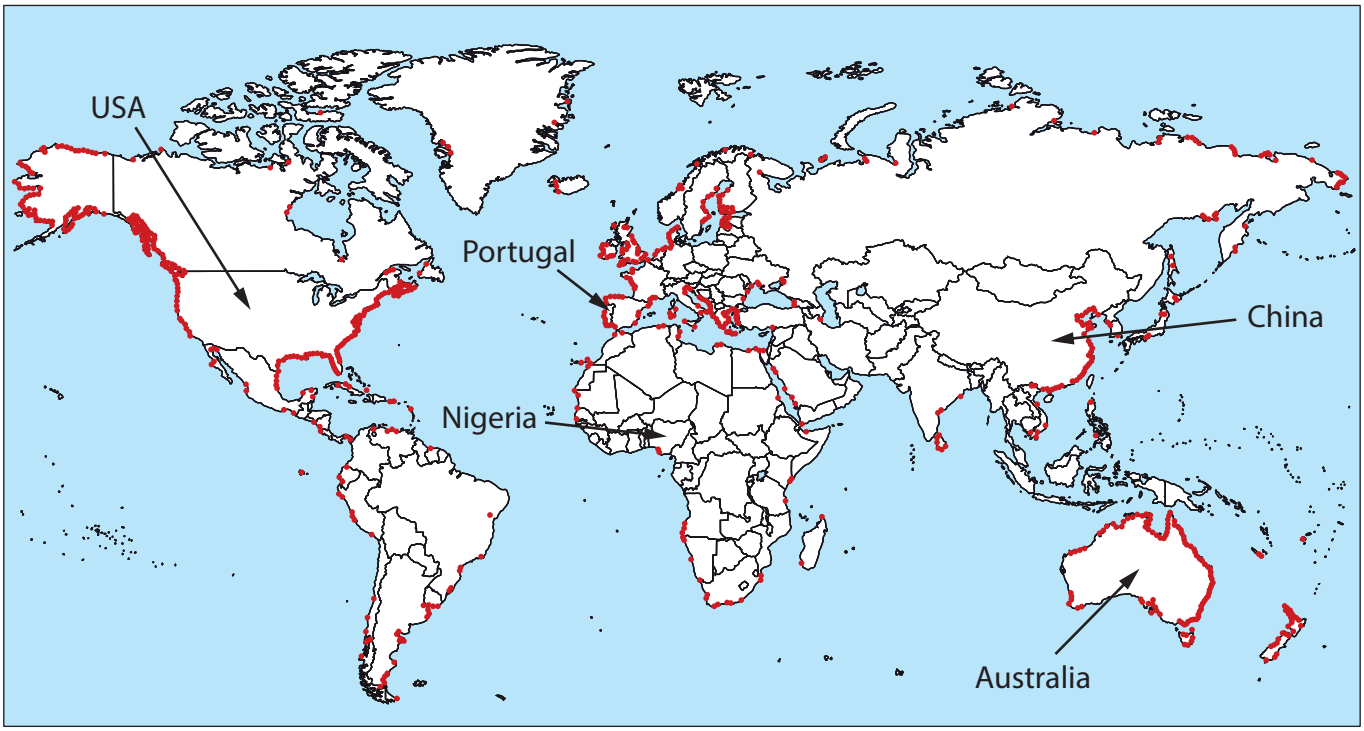
River regime for River Nile before and after flood prevention strategy (Aswan High Dam) completion





Figure 2a

Managed (hard engineering) coastal environments



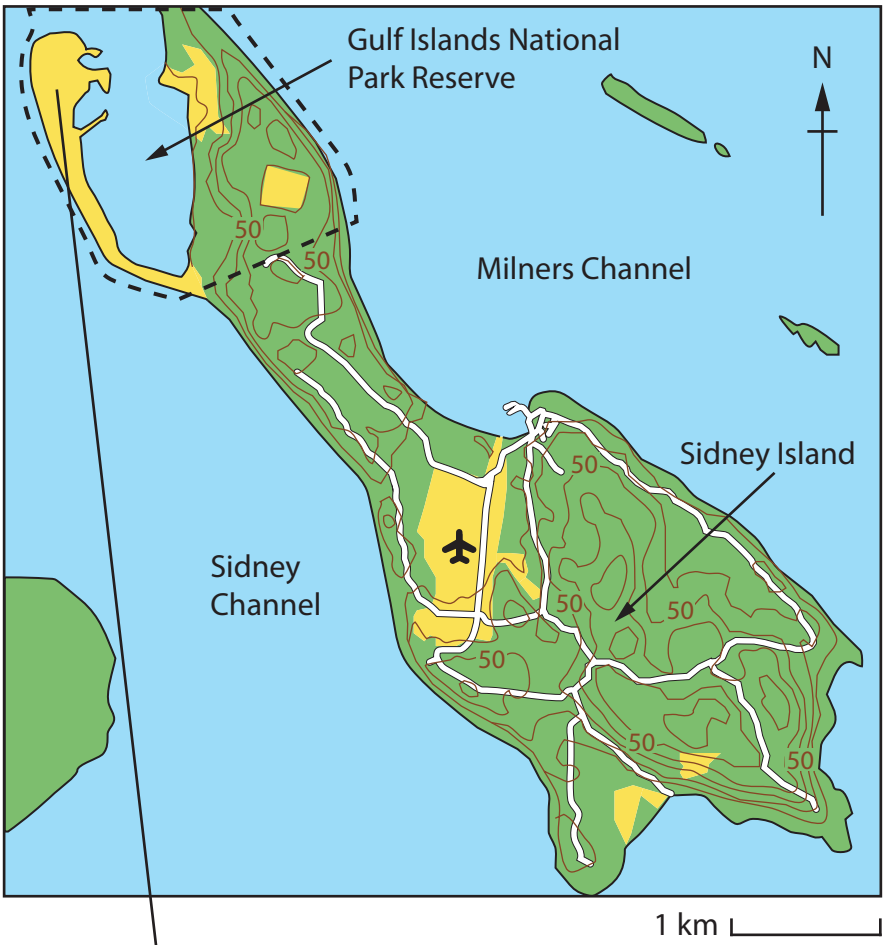
Key

- Saltmarsh

N

Figure 2b

Global distribution of saltmarsh ecosystems



Relief map of Sidney Island, Canada

Fact file

Annual temperature range: 5°C to 18°C
Dominant wave type: constructive waves
Mean fetch: 6 km

Sidney Island habitat:
The island is made up primarily of sands and clays and its coastline is dominated by sand beach and sand dunes. A large hook spit, lagoon and long spit are found to the north of the island. Vegetation consists of fir forests and areas of oak woodlands.

Climate:
Mild wet winters and warm summers with little precipitation.



Photograph of Sidney Island, Canada coastline

Key

–50– Metres above sea level

Figure 2c

Coastline characteristics of Sidney Island, British Columbia, Canada

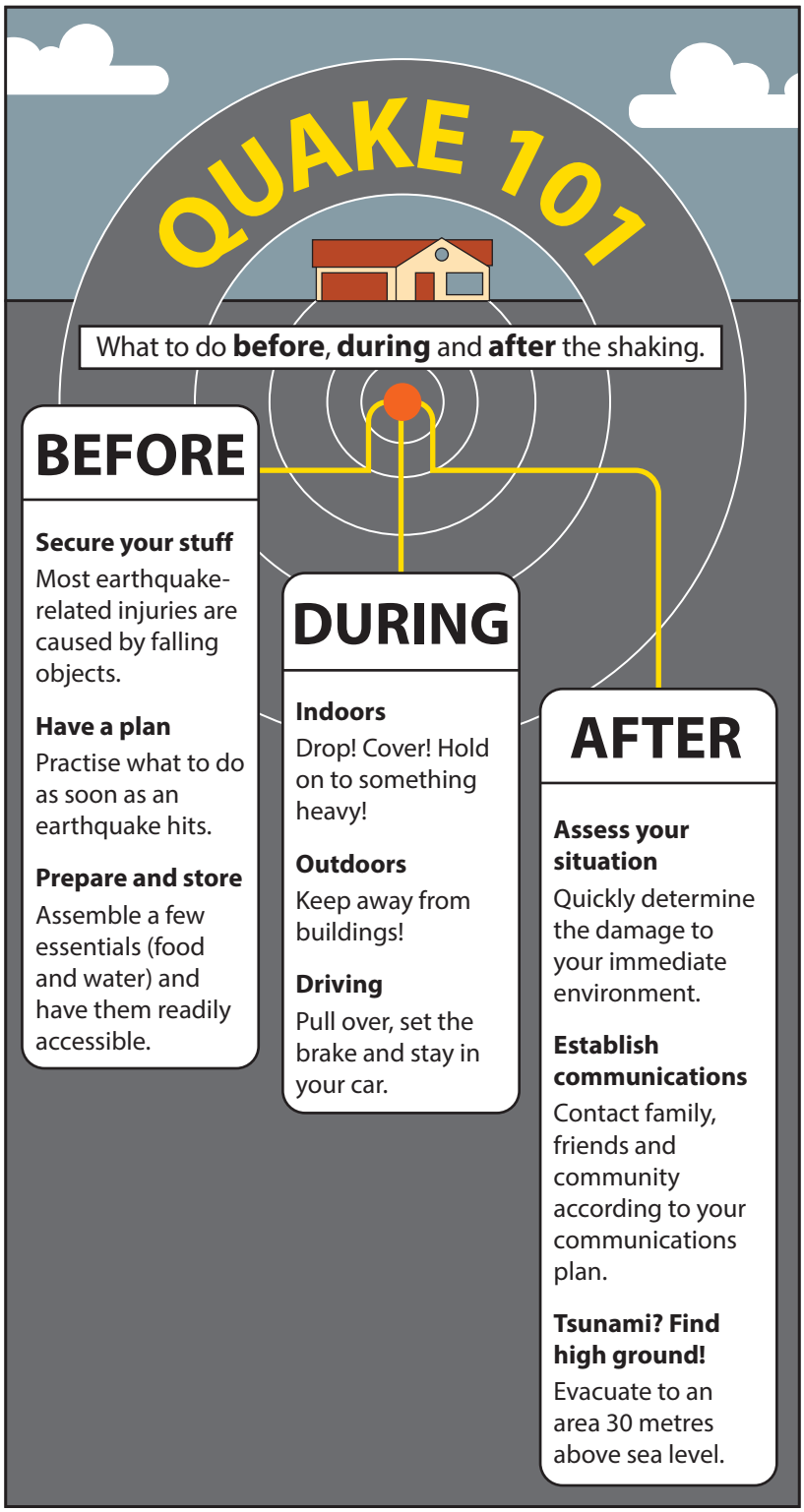


Figure 3a

Information for residents in Salt Lake City, USA

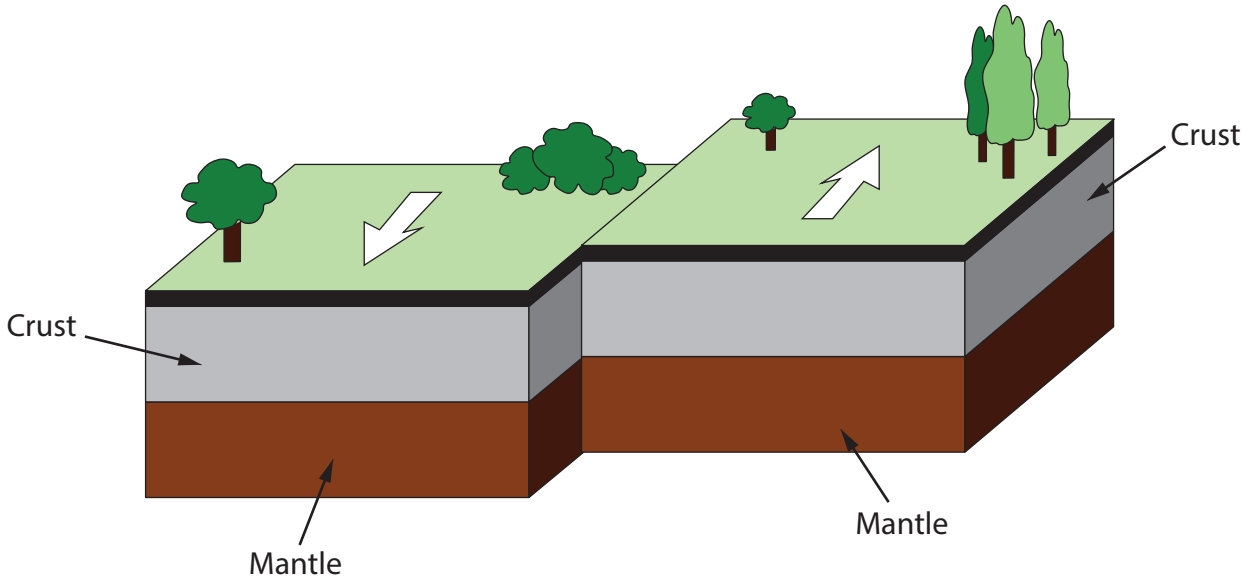
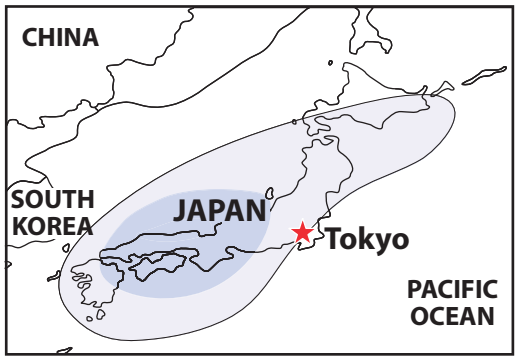
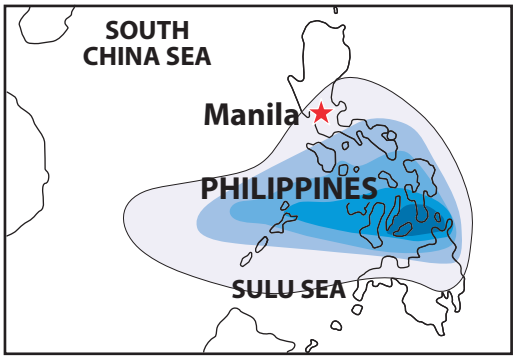


Figure 3b

Tectonic plate boundary

	Japan typhoon (cyclone) Nanmadol – September 2022	Philippines typhoon (cyclone) Rai – December 2021
Map		
Category	4	5
Storm diameter	926 km	833 km
Peak wind speed	249 km/h	272 km/h
Storm surge height	14 m	4 m
Precipitation	500 mm in 24 hours	150 mm in 24 hours
Landslide	Yes	Yes
Impacts	• 5 deaths • 190,000 experienced power cut • Total cost of damage US$1.2 billion	• 410 deaths • 3 million experienced power cut • Total cost of damage US$1.05 billion

Key: Wind speed (km/h)

- 225–259
- 190–224
- 160–189
- 130–159
- 100–129
- 60–99
- ★ Capital city

Figure 3c

Characteristics of tropical cyclones and selected impacts in two different countries

A group of students analysed secondary data sources for their study location, Salt River, Arizona, to help them reach their conclusion.

They annotated topographical maps and an aerial photograph of Salt River, Arizona, USA taken in different years.

The conclusion they proposed was:
There is very little change to channel width or river course between 1904 to 2013.

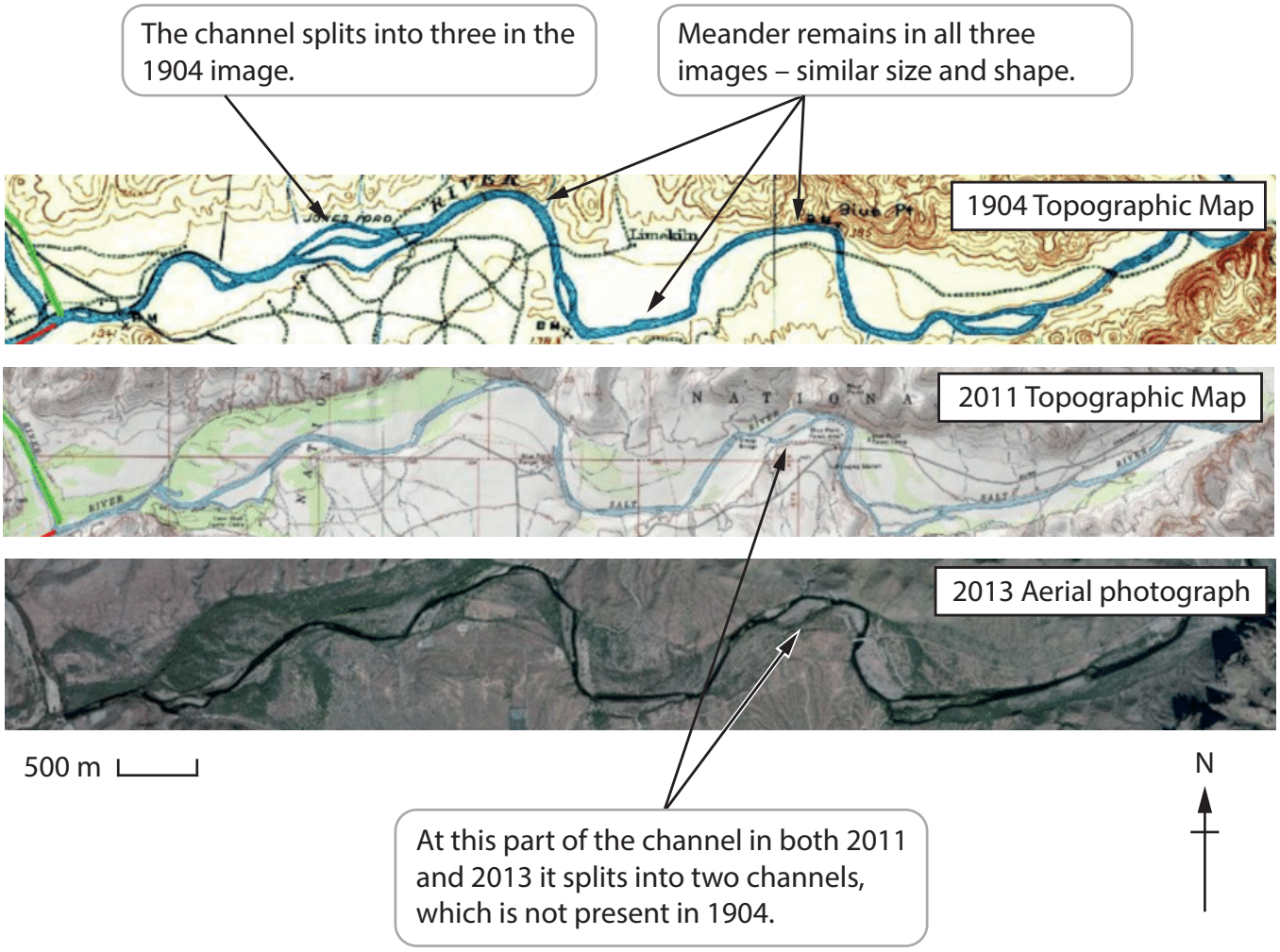


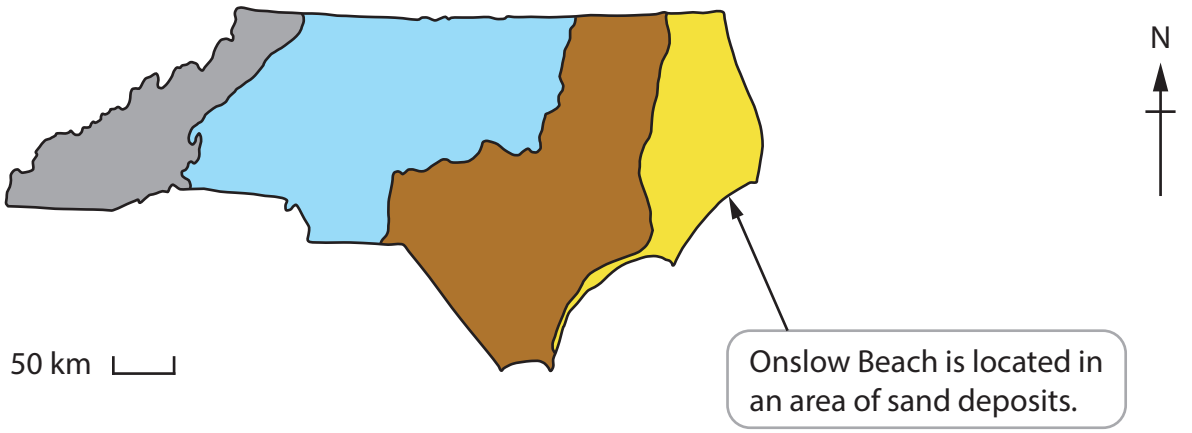
Figure 4

Results of analysing secondary data sources for Salt River, Arizona, USA

A group of students analysed secondary data sources for their study location, Onslow Beach, North Carolina, to help them reach their conclusion.

They annotated a geology map and beach photographs taken in different years.

The conclusion they proposed was:
There is very little change in beach profile between calm and stormy years.



Key

Igneous rocks (hard)

Metamorphic rock (hard)

Loose sediments (soft)

Sands (soft)

Figure 5a

Secondary data geology map for Onslow Beach, North Carolina, USA



Key

reference point to confirm photograph is taken at the same site each year

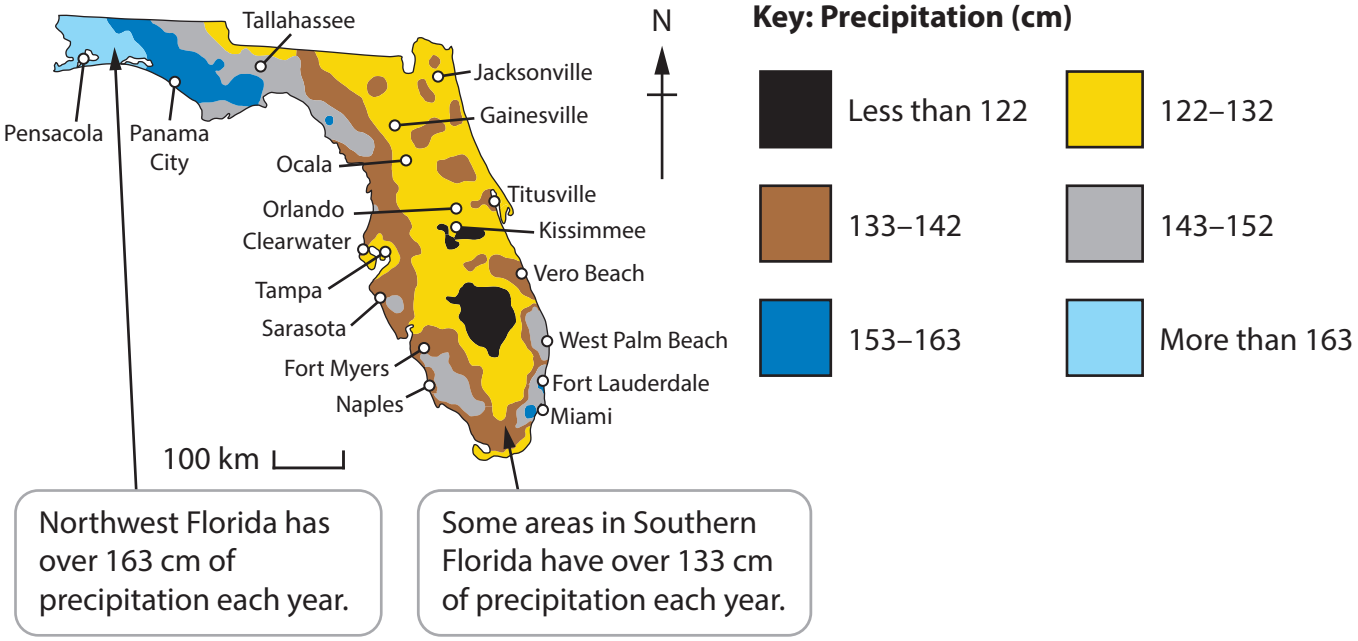
Figure 5b

Analysis of secondary data in the form of historic photographs for Onslow Beach, North Carolina, USA

A group of students analysed secondary data sources for their study location, South Florida, USA, to help them reach their conclusion.

They annotated weather maps of extreme weather events in the USA taken on different days.

The conclusion they proposed was:
Miami has the highest precipitation in Florida.



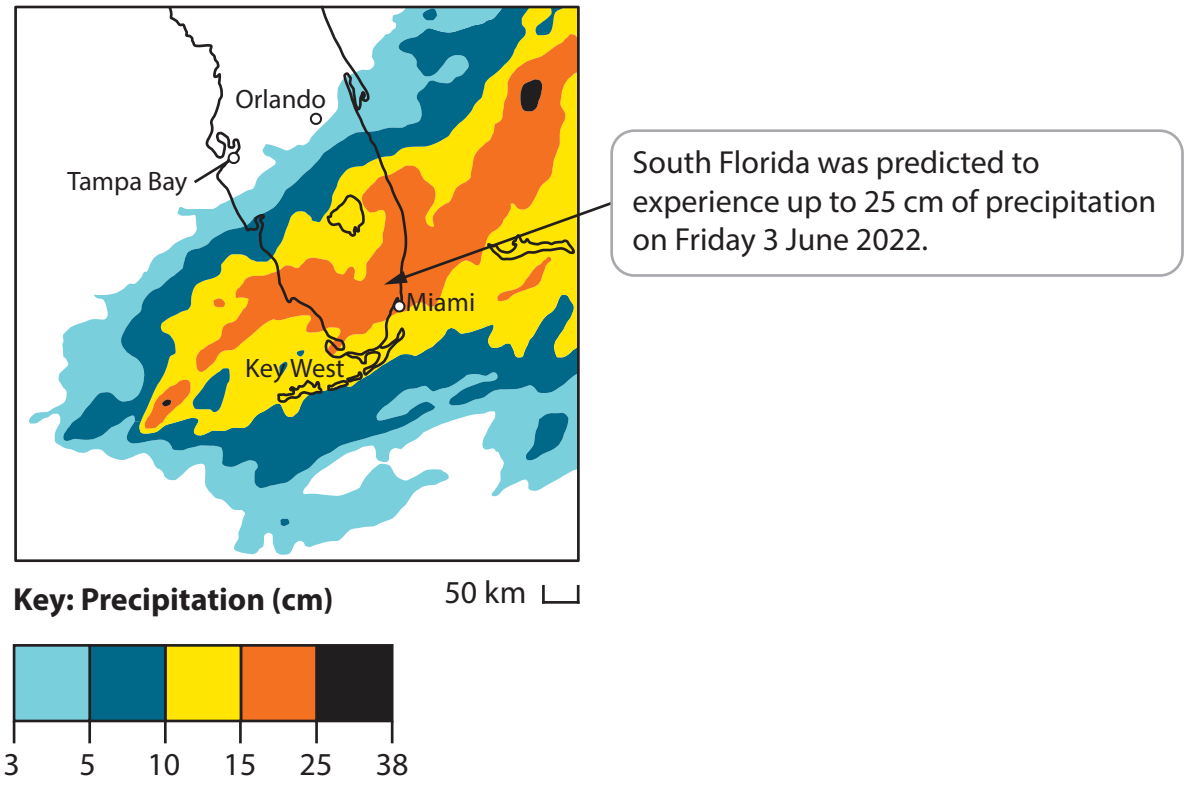


Figure 6

Results of analysing secondary data sources for Southern Florida, USA

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