

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** **4WGE1/01R**

Geography (Modular)

UNIT 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 unit 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.

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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 **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)

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

(2)



(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 **geology** and **altitude** can affect river processes.

(4)

geology

altitude

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

(3)



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(Total for Question 1 = 25 marks)



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)

(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)

(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.

(4)

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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 **one** industrial and **one** agricultural threat to coastal ecosystems such as coral reefs.

(4)

industrial

agriculture

(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)

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

(2)

(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** reasons volcanoes are formed at different types of plate boundary.

(4)

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(3)

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

(a) Describe **one** health and safety risk included in your risk assessment.

(2)

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

(3)

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

(4)

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

(3)

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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

(a) Describe **one** health and safety risk included in your risk assessment.

(2)

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

(3)

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

(4)

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

(3)

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- (8)



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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

(a) Describe **one** health and safety risk included in your risk assessment.

(2)

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

(3)

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

(4)

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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.

(8)

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(Total for Question 6 = 20 marks)

TOTAL FOR SECTION B = 20 MARKS

TOTAL FOR UNIT = 70 MARKS



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Pearson Edexcel International GCSE (9–1)

Wednesday 14 May 2025

Morning (Time: 1 hour 10 minutes)

Paper
reference

4WGE1/01R

Geography (Modular)

UNIT 1: Physical geography

Resource Booklet

Do not return this Booklet with the question paper.

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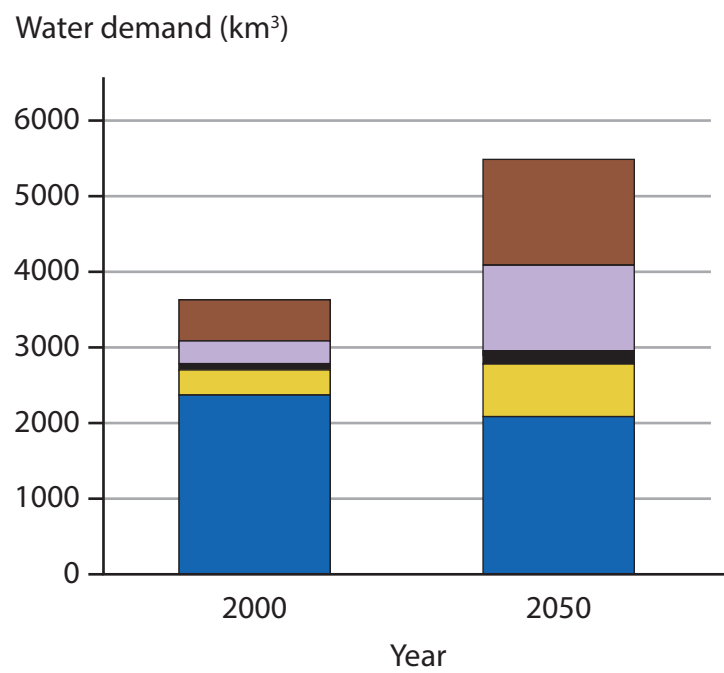
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Key



Figure 1a
Global water demand in 2000 and projected for 2050



Figure 1b
Upland river landscape

This example of river management is an example of soft river management which works with nature to reduce flooding.

Rewilding involves returning the river to its natural state. In this case meanders were reintroduced.

This increased the width of the channel and slowed down the flow of water.

Before

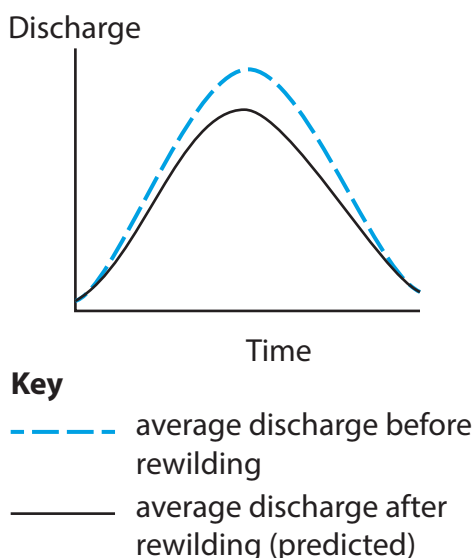


After



Before rewilding (restoration) of the Thur River, Switzerland was completed:

- Hard engineering was built on this river which involved straightening and narrowing the river channel.
- The banks are lined with levees.
- The river flows through a mainly rural catchment.



After rewilding (restoration) of the Thur River, Switzerland was completed:

- The risk of flooding had been reduced.
- The river has a better habitat.
- Boats find it more difficult to travel along the river.
- The restored part is only 1.5 km long while the remaining 130 km of the river are still totally embanked with levees.

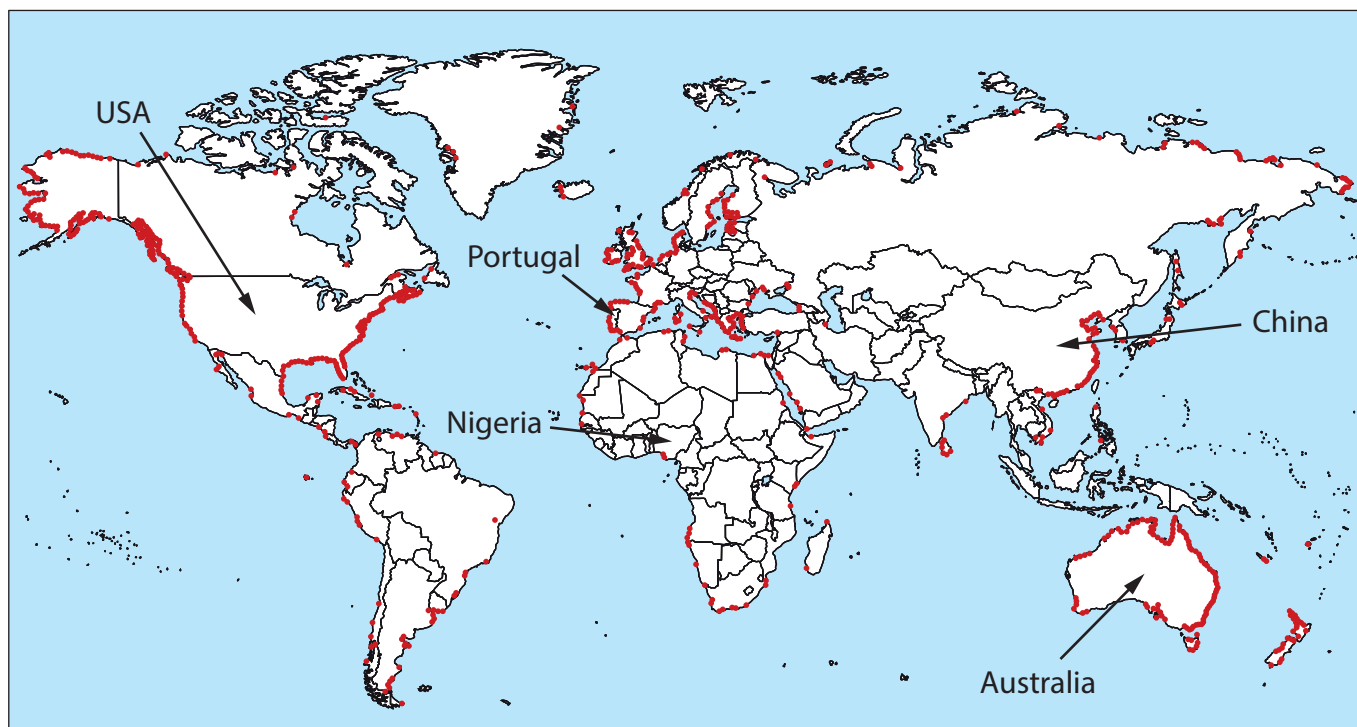
Figure 1c

River regime (predicted) for Thur River before and after rewilding (restoration) completion



Figure 2a

Managed (hard engineering) coastal environments



Key

● Saltmarsh



Figure 2b
Global distribution of saltmarsh ecosystems



Relief map of Thailand

Fact file:

Annual temperature range: 27°C to 32°C
 Dominant wave type: constructive waves
 Mean fetch: 337 km

Thailand mangrove ecosystem:

Mangroves are trees and shrubs that grow in saline coastal locations leading to the creation of woodland or shrubland habitats. They need sheltered conditions with high sediment availability.

Thailand mangrove forest climate:

This region has a tropical monsoon climate which means there is a rainy season from May to October, a northeast monsoon season from October to February and a pre-monsoon season from February to May. Southern parts of Thailand experience long periods of hot weather.



Photograph of mangrove forest, Thailand coastline

Figure 2c

Coastline characteristics of Phang Nga Bay, Thailand

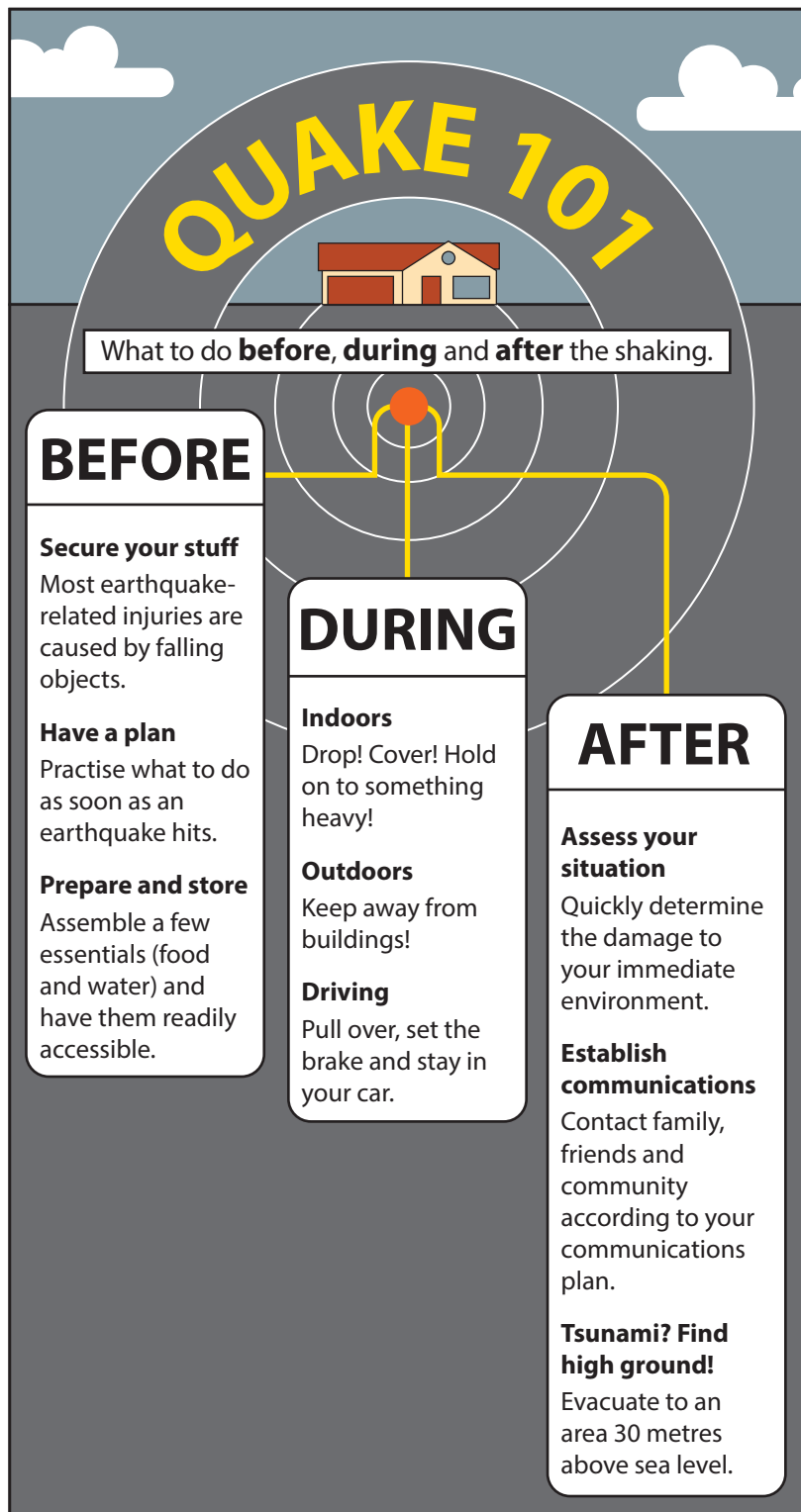


Figure 3a

Information for residents in Salt Lake City, USA

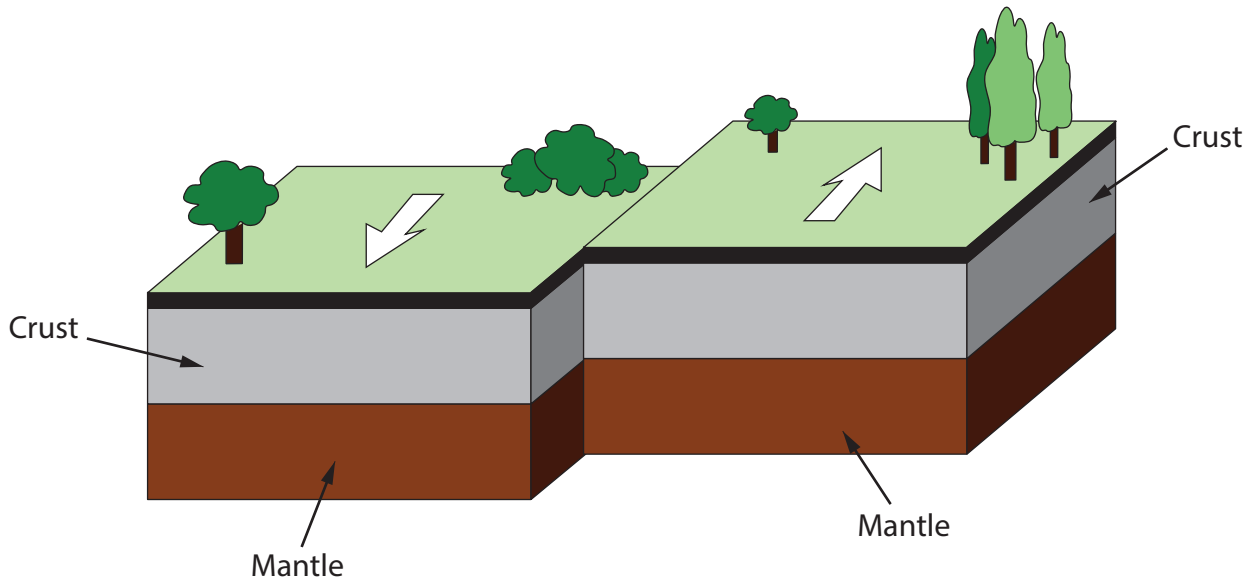
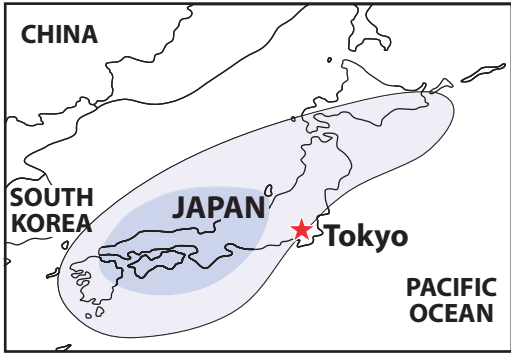
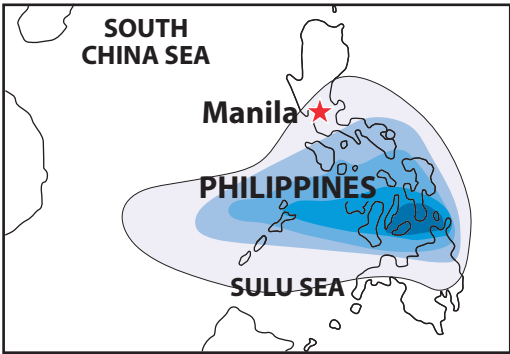


Figure 3b
Tectonic plate boundary

	Japan typhoon (cyclone) Nanmadol – September 2022	Philippines typhoon (cyclone) Rai – December 2021
Map		
Category	4	5
Mean population density	65 people per km ²	394 people per km ²
Percentage (%) of young dependents	9.8	30.7
Percentage (%) of old dependents	50.4	5.4
Percentage (%) population living in poverty	15.4	18.1
Level of public preparedness	High	1/3 of population are prepared
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)

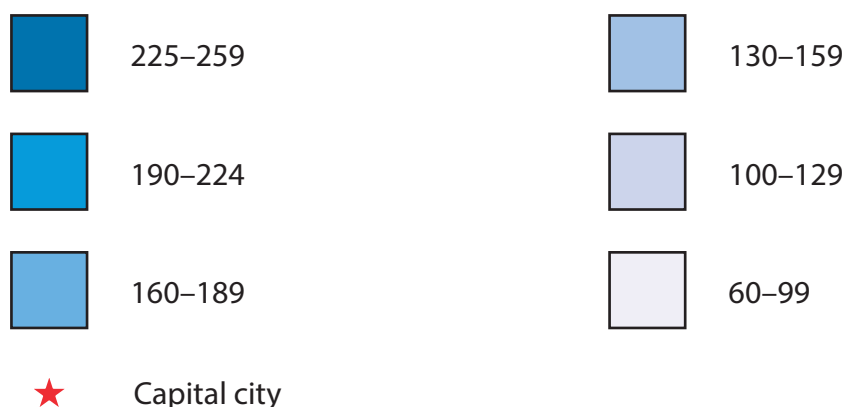


Figure 3c

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.

The channel splits into three in the 1904 image.

Meander remains in all three images – similar size and shape.

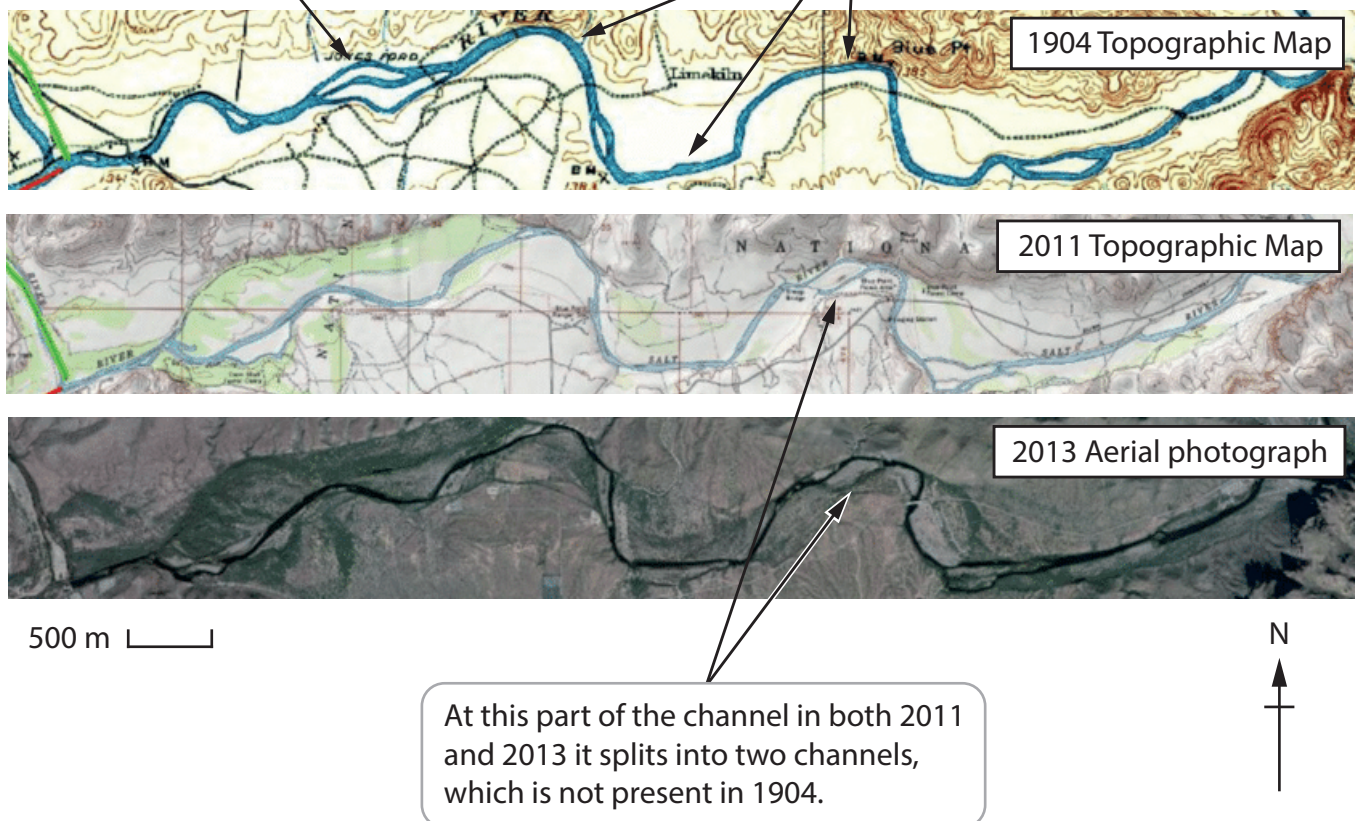


Figure 4

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.

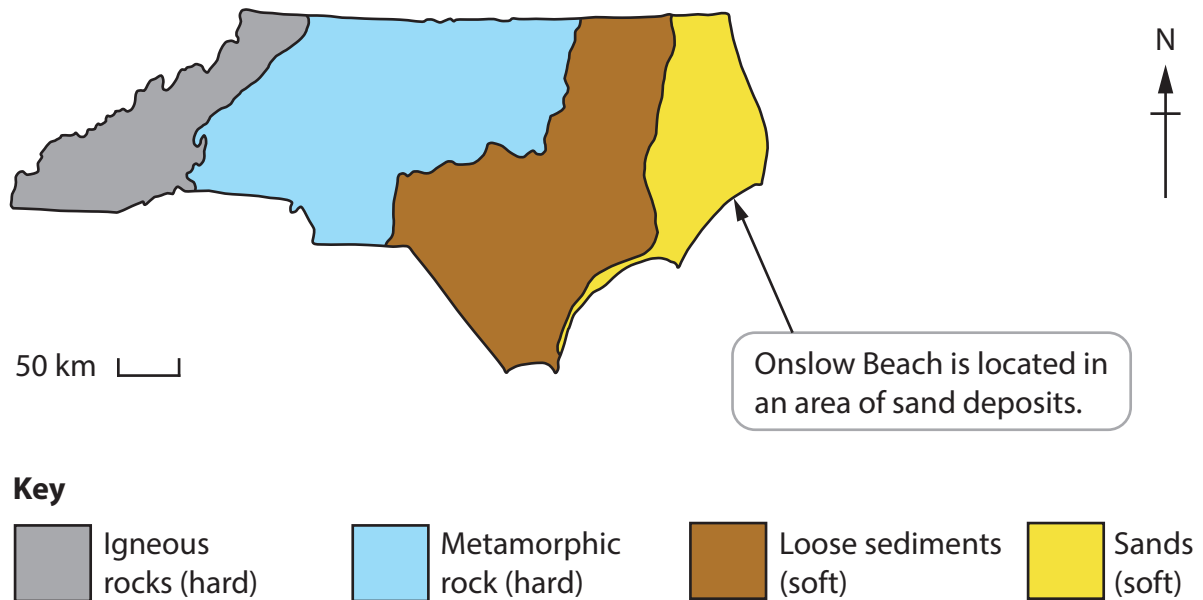


Figure 5a

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

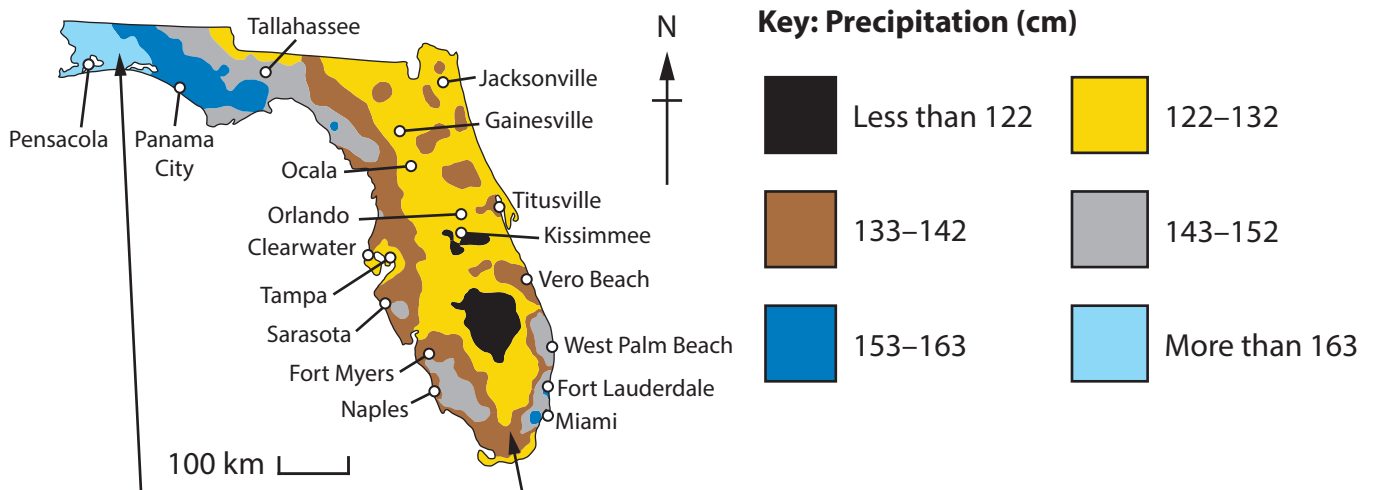
Analysis of secondary data in the form of historic photographs for Onslow Beach, North Carolina, USA

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.

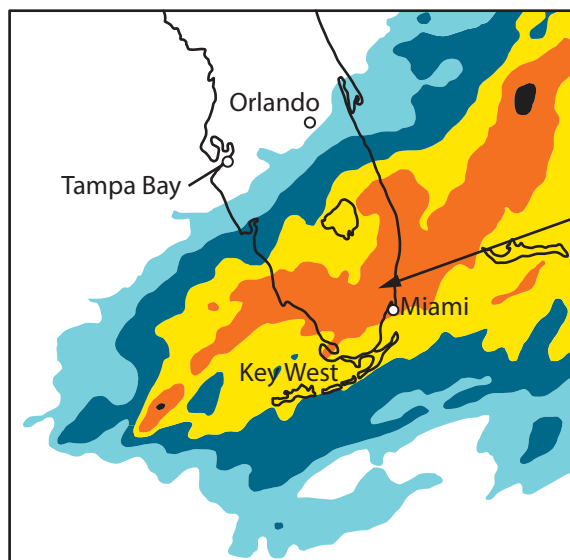
The conclusion they proposed was:

Miami has the highest precipitation in Florida.



Northwest Florida has over 163 cm of precipitation each year.

Some areas in Southern Florida have over 133 cm of precipitation each year.



South Florida was predicted to experience up to 25 cm of precipitation on Friday 3 June 2022.

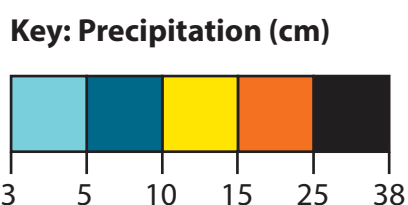


Figure 6

Results of analysing secondary data sources for Southern Florida, USA

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