



NSW Education Standards Authority

**2019** HIGHER SCHOOL CERTIFICATE EXAMINATION

# Geography

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## General Instructions

- Reading time – 5 minutes
- Working time – 3 hours
- Write using black pen
- Calculators approved by NESA may be used
- A Stimulus Booklet is provided with this paper

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## Total marks: 100

### **Section I – 20 marks** (pages 2–8)

- Attempt Questions 1–20
- Allow about 35 minutes for this section

### **Section II – 40 marks** (pages 9–16)

- Attempt Questions 21–25
- Allow about 1 hour and 10 minutes for this section

### **Section III – 40 marks** (page 17)

- Attempt TWO questions from Questions 26–28
- Allow about 1 hour and 15 minutes for this section

## Section I

**20 marks**

**Attempt Questions 1–20**

**Allow about 35 minutes for this section**

**Refer to the Stimulus Booklet**

Use the multiple-choice answer sheet for Questions 1–20.

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Refer to Source *A* on page 1 of the Stimulus Booklet to answer Question 1.

- 1** The wind rose shows wind speed and wind direction at a city.

What percentage of wind at the city, from the northeast, has a speed between 10 and 20 kilometres per hour?

- A. 9
- B. 12
- C. 16
- D. 20

Refer to Source *B* on page 1 of the Stimulus Booklet to answer Question 2.

- 2** Which season has an average precipitation of approximately 80 mm?

- A. Autumn
- B. Spring
- C. Summer
- D. Winter

- 3** An urban village is best described as a distinctive residential district consisting of a clustering of people who

- A. live in high security estates.
- B. have moved from a rural area.
- C. commute to the city centre for work.
- D. share a common culture and lifestyle.

- 4 An area of 25 hectares in a forest is to be cleared.

Which biogeographical process would be most likely to result from this clearing initially?

- A. Drought
- B. Invasion
- C. Resilience
- D. Succession

- 5 As the global population approaches eight billion people, megacities continue to grow rapidly in the developing world.

In which of the following do BOTH factors contribute to this growth?

A.	Increasing rate of rural–urban migration	Increasing participation in the informal sector
B.	Increasing rate of rural–urban migration	Increasing birth rate
C.	Declining rate of rural–urban migration	Declining challenges of megacities
D.	Declining rate of rural–urban migration	Increasing death rate

Refer to Source C on page 1 of the Stimulus Booklet to answer Question 6.

- 6 Source C represents the size of countries relative to their population in 2013.

In which pair of countries did each country have a population greater than that of Egypt?

- A. Nigeria and USA
- B. Australia and Brazil
- C. Sri Lanka and China
- D. Madagascar and India

Refer to Source *D* on pages 2–3 of the Stimulus Booklet to answer Questions 7–12.

- 7 A tourist is standing at the 46 m spot height in AR 4230.

Which feature could the tourist see at a bearing of  $140^\circ$ ?

- A. Shed (AR 4734)
- B. Mannum (AR 4434)
- C. Rubbish Dump (AR 4627)
- D. Telephone Exchange (AR 4428)

- 8 What is the local relief between GR 421309 and the spot elevation GR 432309?

- A. 0 m
- B. 10 m
- C. 50 m
- D. 100 m

- 9 A bushfire front approaches Mannum from the west.

Which of the following features on the map would slow its progress?

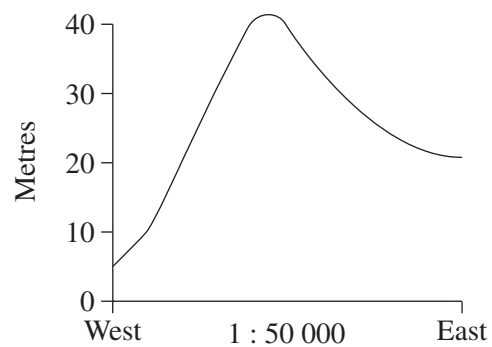
- A. Road
- B. River
- C. Mountains
- D. Irrigation area

- 10 A team of surveyors is planning to drive from the road junction at GR 485300 to the road junction at GR 474354. They will take the shortest route at a speed of 60 km/h.

Which row of the table correctly identifies the approximate distance and time required for the trip?

	<i>Distance</i>	<i>Time required</i>
A.	6 km	6 minutes
B.	6 km	9 minutes
C.	9 km	6 minutes
D.	9 km	9 minutes

- 11** Which of the following areas has the steepest gradient with a northerly aspect?
- A. AR 4328
  - B. AR 4330
  - C. AR 4331
  - D. AR 4631
- 12** A cross-section from Source *D* is shown.



Which of the following areas is represented by the cross-section?

- A. AR 4230 and 4330
- B. AR 4233 and 4333
- C. AR 4531 and 4631
- D. AR 4631 and 4731

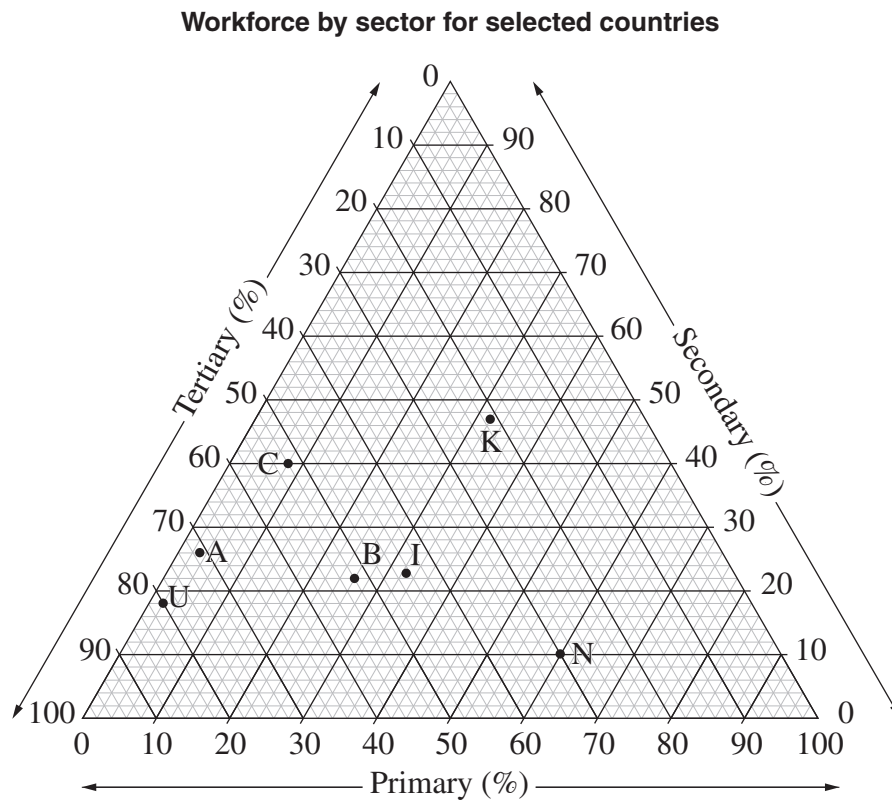
Refer to Sources *D* and *E* on pages 2 and 3 of the Stimulus Booklet to answer Questions 13 and 14.

- 13** In which direction was the camera pointing when the photograph in Source *E* was taken at 10:30 am?
- A. North
  - B. South
  - C. North-east
  - D. South-east
- 14** What is the approximate width of the Murray River, in metres, between points **X** and **Y** on the photograph?
- A. 100
  - B. 250
  - C. 450
  - D. 600

Refer to Source *G* on page 4 of the Stimulus Booklet to answer Questions 15 and 16.

- 15** Which of the following areas is most likely to experience strong winds and high humidity from the south-west in the next 24 hours?
- A. Broome
  - B. Cairns
  - C. Canberra
  - D. Perth
- 16** What is the weather feature off the south-east coast of Australia?
- A. Ridge of high pressure
  - B. Ridge of low pressure
  - C. Trough of high pressure
  - D. Trough of low pressure

Refer to the ternary graph below to answer Question 17.



- 17** What is the difference in the percentage of people employed in the tertiary sector between countries C and U?
- A. 20  
B. 21  
C. 28  
D. 29
- 18** Which row of the table correctly identifies a human-induced modification and an appropriate strategy to address it?

	<i>Human-induced modification</i>	<i>Strategy</i>
A.	Mining	Paddock rotation
B.	Over grazing	Paddock rotation
C.	Earthquake	Revegetation
D.	Tourism	Revegetation

- 19** Which of the following is a positive effect of an increase in mobility of labour and capital on global economic activity?
- A. Introduction of tariffs
  - B. Decline in transfer pricing
  - C. Greater access to resources
  - D. Increase in resource management
- 20** Which of the following criteria must be met for a city to be classified as a world city?
- A. It is a capital city.
  - B. It is a regional hub for trade and tourism.
  - C. It has a population of more than 10 million people.
  - D. It has developed responses to the challenges within the city.



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Centre Number

## Geography

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Student Number

### Section II Answer Booklet

**40 marks**

**Attempt Questions 21–25**

**Allow about 1 hour and 10 minutes for this section**

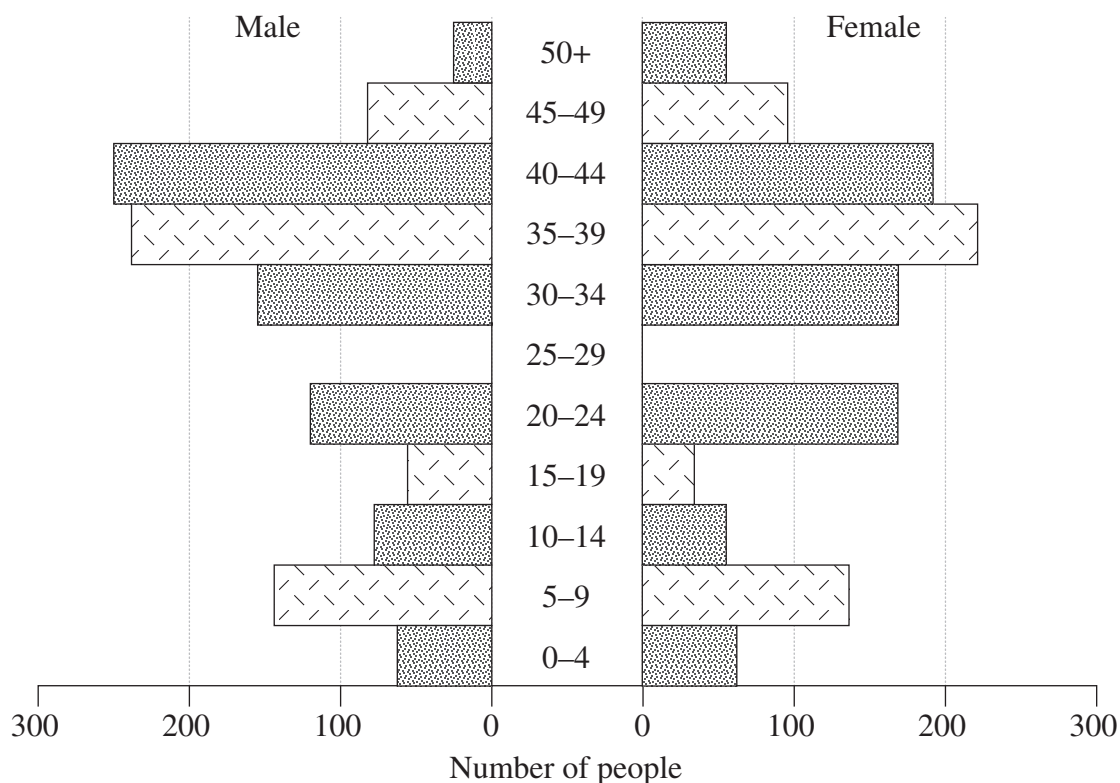
#### Instructions

- Write your Centre Number and Student Number at the top of this page.
- Use the Stimulus Booklet and your knowledge of geography to answer Questions 21–25 in the spaces provided. These spaces provide guidance for the expected length of response.
- Show all relevant working in questions involving calculations.
- Extra writing space is provided at the back of this booklet.  
If you use this space, clearly indicate which question you are answering.

**Please turn over**

**Question 21** (3 marks)

The population pyramid for a small town is shown.



- (a) Using the information in the table, complete the population pyramid for the male and female 25–29 age group.

1

Age group	Male	Female
25–29	140	160

- (b) Outline how ONE characteristic of the population pyramid reflects the demise of the small town.

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**Question 22** (9 marks)

Refer to Source *F* on page 4 of the Stimulus Booklet.

An open-cut mine has been proposed in the area ABCD. The mining company has consulted with the local Indigenous community. An environmental impact statement (EIS) also needs to be completed before the project can be approved.

- (a) Identify ONE geographical tool that would assist with the collection of primary data necessary to complete the environmental impact statement. 1

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- (b) Explain TWO possible environmental effects of the proposed mine on the local environment in Source *F*. 4

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- (c) Explain TWO possible social effects of the proposed mine on the local community in Source *F*. 4

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**Question 23** (11 marks)

- (a) Outline how ONE example of human-induced stress has affected the functioning of an ecosystem. **2**

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- (b) Describe how the dynamics of weather and climate influence the location of an ecosystem. Support your answer using an example. **3**

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- (c) Explain how natural stress can contribute to both the resilience and vulnerability of an ecosystem. **6**

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**Question 24** (8 marks)

- (a) How has ONE urban dynamic, other than urban village, changed the character of a country town or suburb?

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Urban dynamic: .....

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- (b) Describe how TWO challenges are affecting megacities in the developing world.

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**Question 25 (9 marks)**

Answer part (a) with reference to an economic enterprise you have studied.

Economic enterprise: .....

- (a) Outline the effects of environmental constraints on the economic enterprise.

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Answer part (b) with reference to an economic activity you have studied.

Economic activity: .....

- (b) Explain the social impact and economic impact of this economic activity.

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Do NOT write in this area.

**Section II extra writing space**

**If you use this space, clearly indicate which question you are answering.**

Handwriting practice lines for Section II extra writing space.

**Section II extra writing space**

**If you use this space, clearly indicate which question you are answering.**

Do NOT write in this area.



## Geography

### Section III

**40 marks**

**Attempt TWO questions from Questions 26–28**

**Allow about 1 hour and 15 minutes for this section**

Answer both questions in the Section III Writing Booklet. Extra writing booklets are available.

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Your answers will be assessed on how well you:

- demonstrate geographical knowledge and understanding relevant to the question
  - communicate ideas and information using geographical terms and concepts appropriately
  - refer to case studies, illustrative examples and the Stimulus Booklet where appropriate
  - present a sustained, logical and cohesive response
- 

#### **Question 26** (20 marks)

Explain the importance of ecosystem management and protection in ecosystems at risk.

#### **Question 27** (20 marks)

Explain how the nature and distribution of world cities affect their role in the operation of global networks.

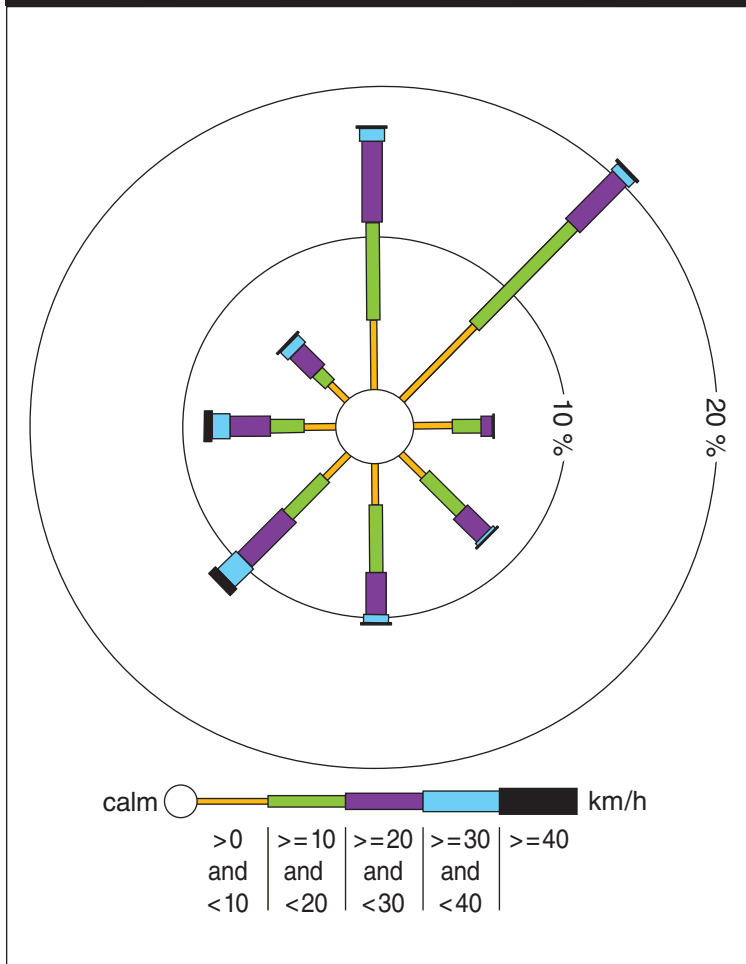
#### **Question 28** (20 marks)

Explain how biophysical and technological factors affect the nature of ONE economic activity in a global context.

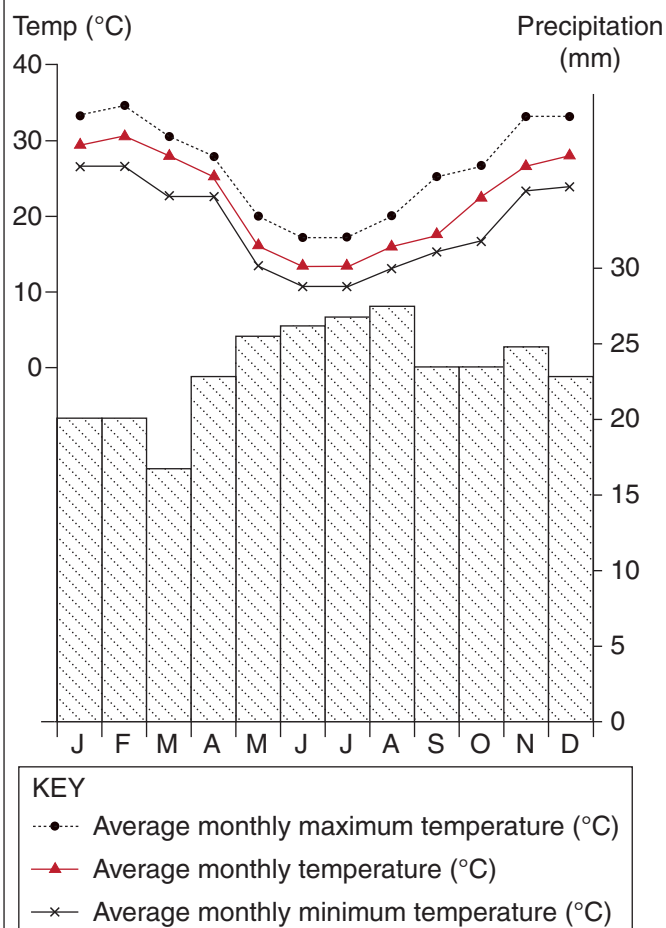
**End of paper**

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**Source A – Wind rose of a city**



**Source B – Climate graph of a city**

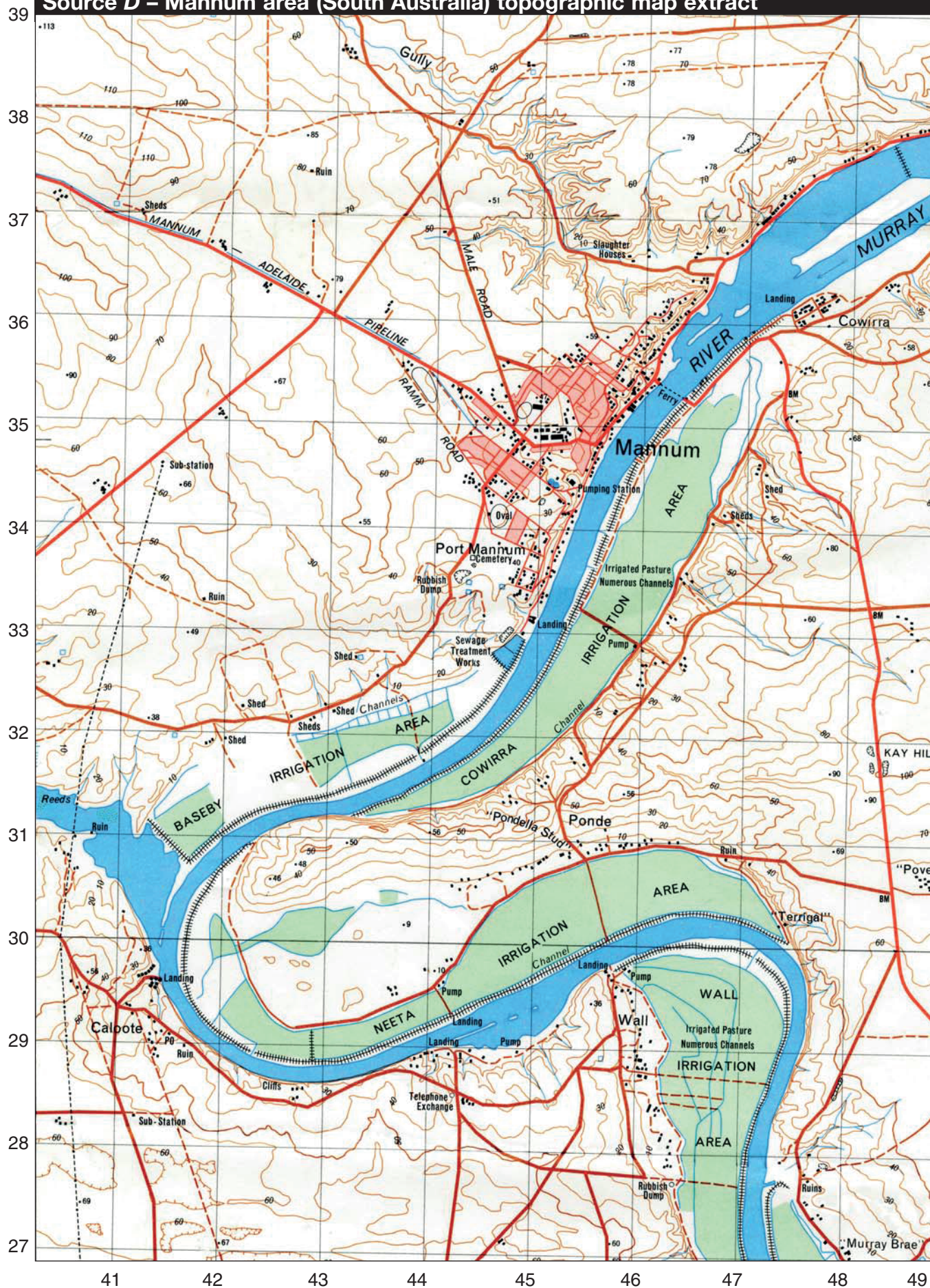


**Source C – Cartogram**

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# Source D – Mannum area (South Australia) topographic map extract




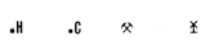

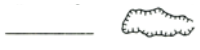












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SCALE 1:50 000

METRES 1000 0 1 2 3 4 5 KILOMETRES

CONTOUR INTERVAL 10 METRES

Legend for Source *D*

	Built-up area; National route marker		Hospital; Church; Mine; Windmill
	Road, sealed surface, two or more lanes; Cutting		Fence; Quarry
	Road, sealed surface, one lane; Embankment		Levee or bank
	Road, unsealed surface, two or more lanes; Bridge		Trig station; Spot elevation
	Road, unsealed surface, one lane		Lake, perennial; Watercourse
	Vehicular track		Lake intermittent; Small dam or waterhole on watercourse
	Building; Post office; Police station; School		Land subject to inundation
			Bore or well; Tank or small dam
			Contours

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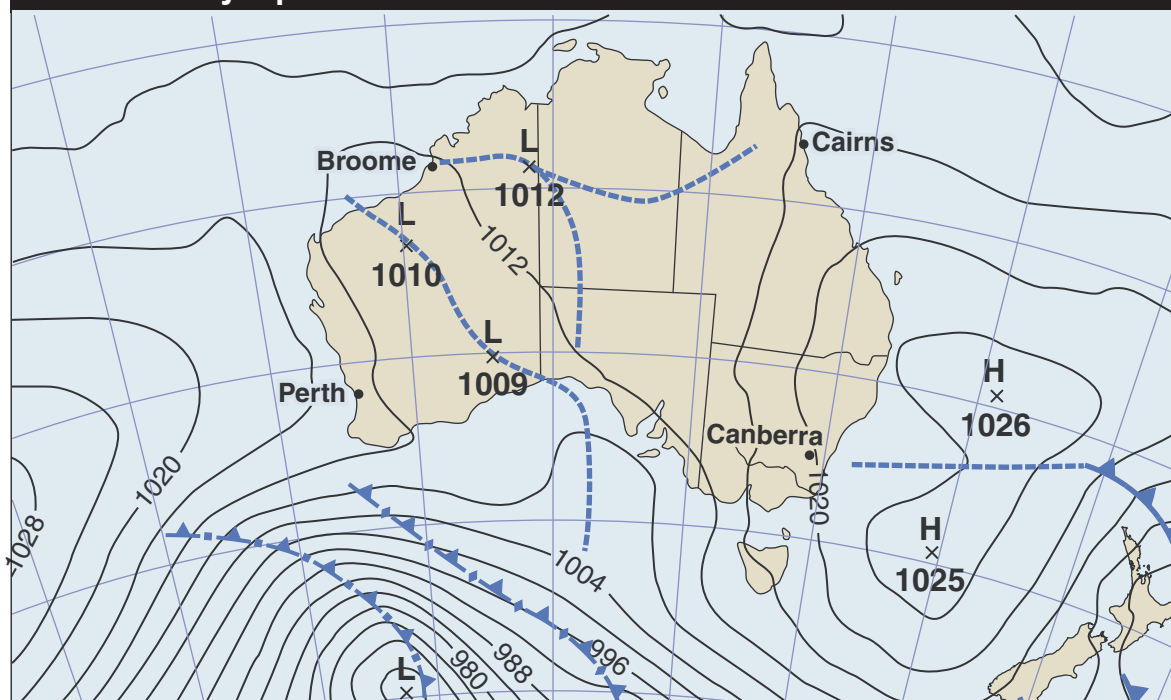
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## Source F – Aerial photograph

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## Source G – Synoptic chart



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