

2016 HIGHER SCHOOL CERTIFICATE
EXAMINATION

Geography

General Instructions

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

Total marks – 100

Section I Pages 2–10

20 marks

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

Section II Pages 13–23

40 marks

- Attempt Questions 21–24
- Allow about 1 hour and 10 minutes for this section

Section III Page 25

40 marks

- Attempt TWO questions from Questions 25–27
- 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.

- 1** Which of the following terms best describes the relationship between people and the environment and the effect they have on each other?

- (A) Ecological dimension
- (B) Spatial interdependence
- (C) Sustainable development
- (D) Environmental constraint

- 2** A council requires rooftop and vertical gardens to be installed on all new commercial buildings.

What is the council aiming to achieve?

- (A) A reduction in spatial exclusion
- (B) Excellence in heritage architecture
- (C) The promotion of urban consolidation
- (D) An improvement in ecological sustainability

- 3** Early Indigenous artefacts have been discovered in a national park.

Protecting the area where the artefacts were discovered would help maintain

- (A) intrinsic values and natural change.
- (B) utility values and genetic diversity.
- (C) heritage values and intrinsic values.
- (D) genetic diversity and heritage values.

Refer to Source *A* and Source *B* on page 1 of the Stimulus Booklet to answer Question 4.

- 4** Which of the following identifies the pressure system and wind direction influencing Windhoek?
- (A) Low pressure system and southerly winds
 - (B) Low pressure system and northerly winds
 - (C) High pressure system and southerly winds
 - (D) High pressure system and northerly winds

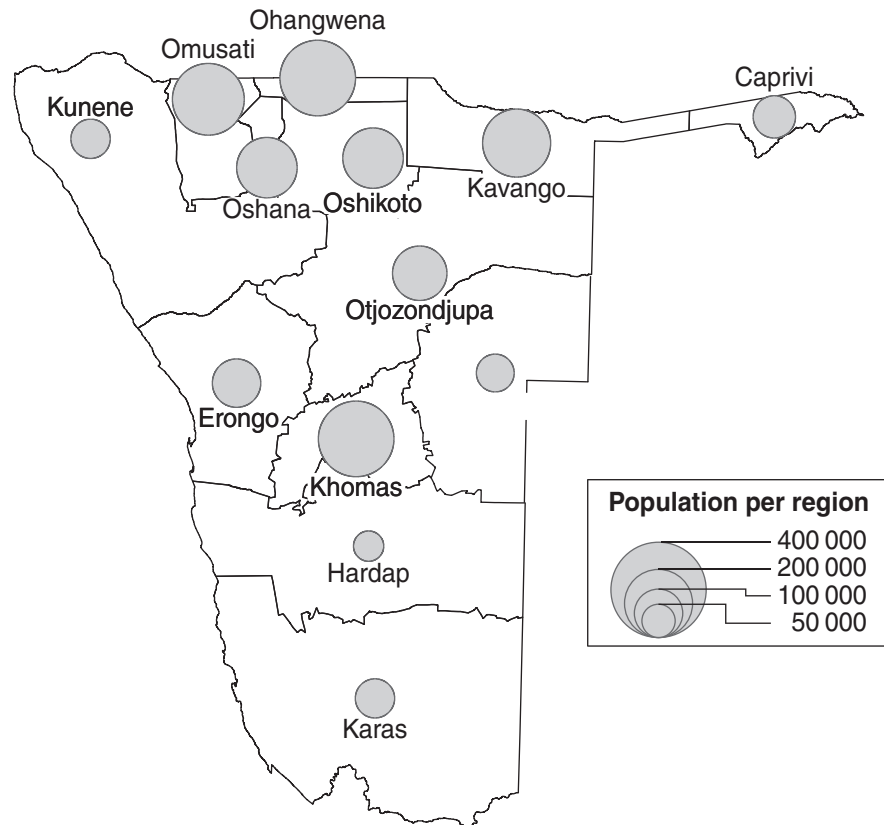
Refer to Source *C* on page 1 of the Stimulus Booklet to answer Question 5.

- 5** A tourist wants to visit Windhoek during a warm and dry period.

During which of the following periods would it be best to visit?

- (A) January – February
- (B) May – June
- (C) September – October
- (D) November – December

- 6 This diagram illustrates the regional populations of Namibia in 2014.



RAISON 2010, An atlas of Namibia's population: monitoring and understanding its characteristics, Windhoek, Namibia.

Which of the following identifies TWO regions that each had more than 200 000 people in 2014?

- (A) Oshikoto and Khomas
- (B) Kavango and Oshikoto
- (C) Ohangwena and Erongo
- (D) Khomas and Ohangwena

Refer to Source *D* on page 2 of the Stimulus Booklet to answer Question 7.

- 7 Imagine you are travelling from 24°43'S 15°00'E to 24°43'S 16°59'E.

What successive landform features would you pass on this transect?

- (A) Stream, Tsaris-Berge, Dune 45
- (B) Dune 45, Tsaris-Berge, sand dunes
- (C) Sand dunes, Dune 45, Tsaris-Berge
- (D) Tsaris-Berge, sand dunes, stream

Refer to Source *E* on page 2 of the Stimulus Booklet to answer Question 8.

8 What type of photograph is shown in Source *E*?

- (A) Ground
- (B) Satellite
- (C) Oblique aerial
- (D) Vertical aerial

Refer to Source *G* on page 3 of the Stimulus Booklet to answer Questions 9–13.

9 Which of the following locations has a north-east aspect?

- (A) AR 8947
- (B) AR 8952
- (C) AR 9347
- (D) AR 9352

10 What is the approximate area of the Darling Range Conservation Area that is visible on the northern section of the map?

- (A) 9 km²
- (B) 13 km²
- (C) 17 km²
- (D) 21 km²

11 A bushfire has developed around Costers Gully (AR 9548) and strong westerly winds are affecting Flinders Island.

Which of the following areas is most likely to be at risk from this fire?

- (A) Ranga (AR 9455)
- (B) Cooma (AR 0047)
- (C) Loccota (AR 8848)
- (D) Mount Razorback (AR 9247)

- 12** A cyclist leaves Whitemark (AR 8660) at 8.45 am to travel to Ranga (AR 9455) along Lady Barron Road.

At approximately what time would the cyclist arrive if she travels at 15 km/h?

- (A) 9:25 am
 - (B) 9:40 am
 - (C) 10:15 am
 - (D) 10:30 am
- 13** What is the average gradient between Lovetts Hill (GR 906481) and Buffalos Beach (GR 902460)?
- (A) 1 : 0.3
 - (B) 1 : 3.5
 - (C) 1 : 30
 - (D) 1 : 35

Refer to Source *G* and Source *H* on page 3 of the Stimulus Booklet to answer Question 14.

- 14** In which direction was the camera pointing when the photograph in Source *H* was taken?
- (A) North east
 - (B) North west
 - (C) South east
 - (D) South west

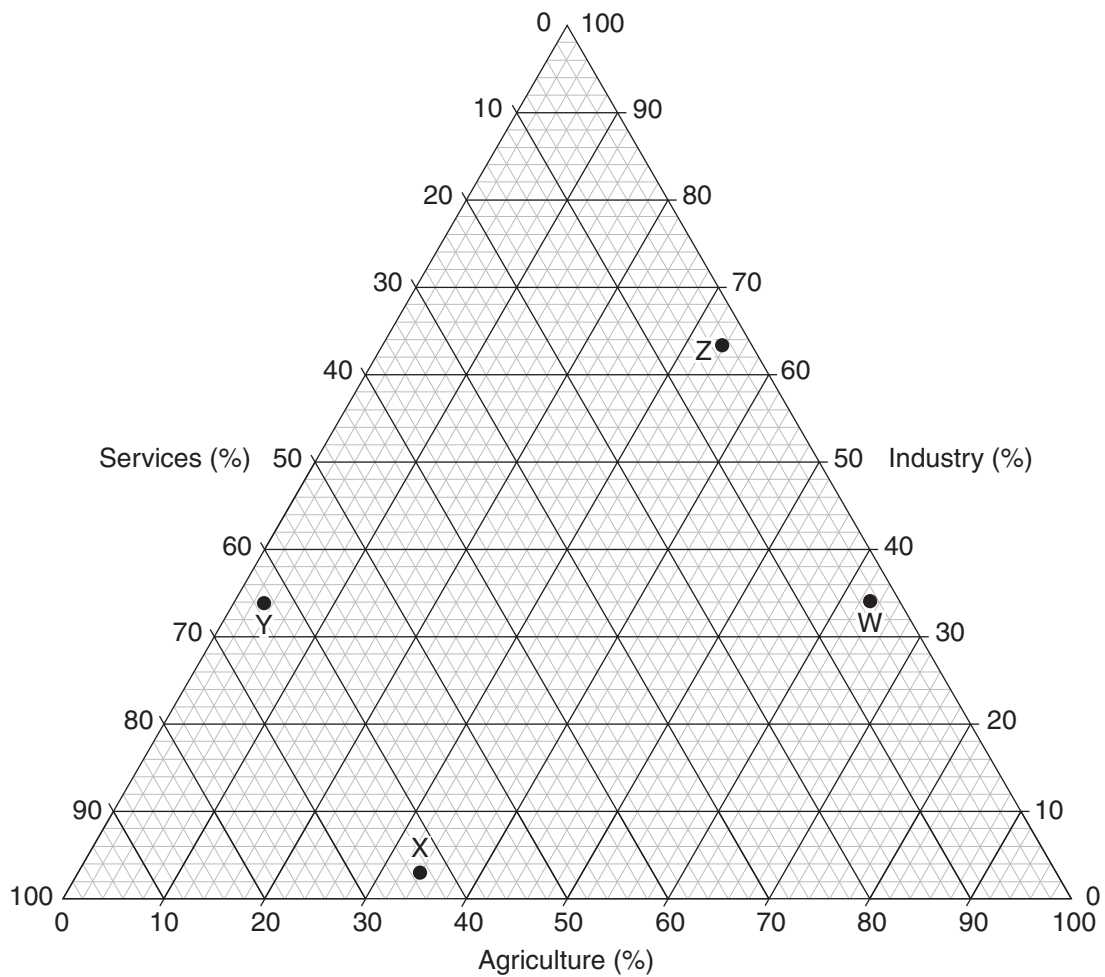
- 15** This table shows the population and housing mix of a suburb in 1990 and 2015.

<i>Year</i>	<i>Apartments</i>	<i>Semi-detached</i>	<i>Single dwelling</i>	<i>Total population</i>
1990	22%	23%	55%	11 200
2015	31%	27%	42%	13 400

Which of the following urban dynamics is most likely to have occurred in this suburb?

- (A) Consolidation
- (B) Urban village
- (C) Decentralisation
- (D) Counterurbanisation

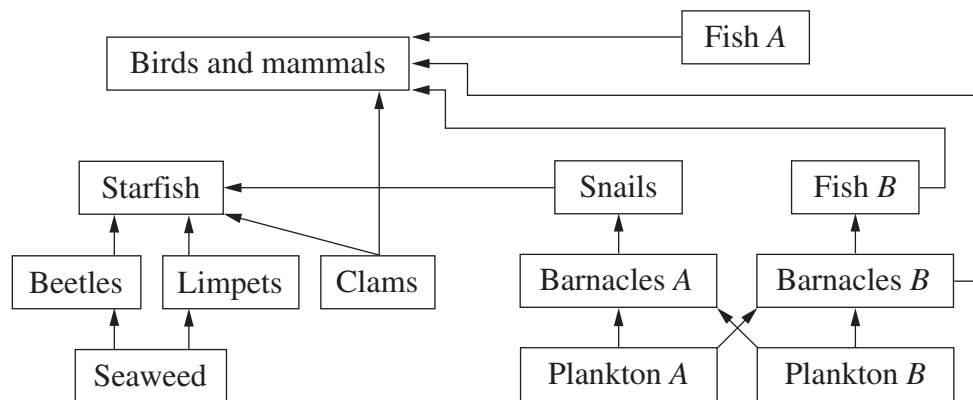
- 16 A ternary graph showing the employment mix by sector for the countries W, X, Y and Z is shown.



Which country has 3% of its people employed in agriculture, 34% in industry and 63% in services?

- (A) Country W
- (B) Country X
- (C) Country Y
- (D) Country Z

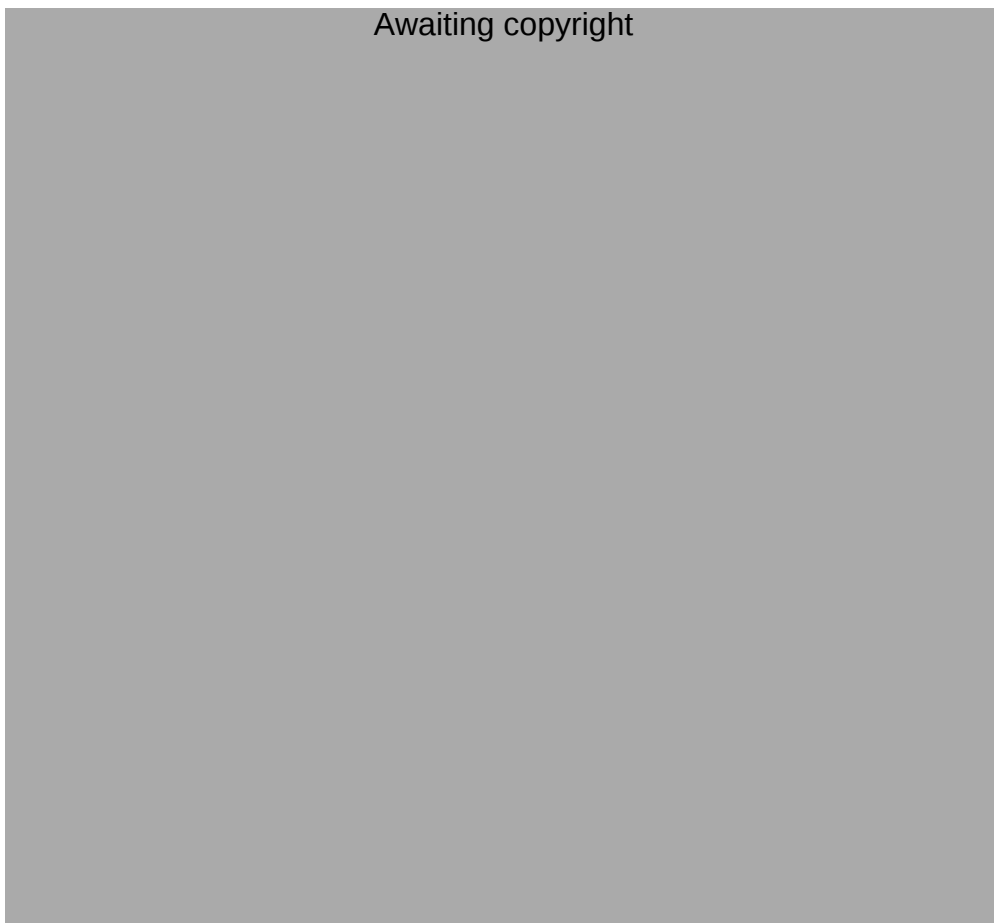
- 17 A food web is shown.



Which of the following is likely to happen if Plankton A is removed from this food web?

- (A) Increases in the populations of beetles, clams, limpets and barnacles
- (B) Reductions in the populations of beetles, clams, starfish and seaweed
- (C) Increases in the populations of barnacles, snails, starfish and plankton *B*
- (D) Reductions in the populations of barnacles, snails, starfish and mammals

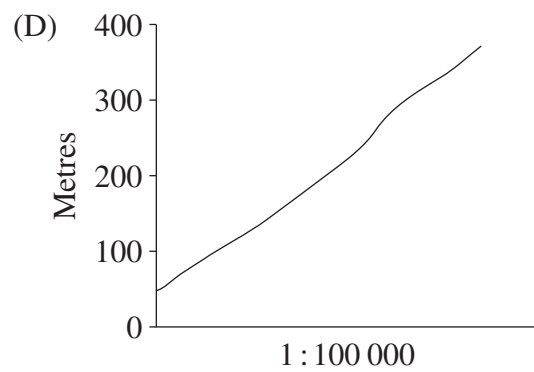
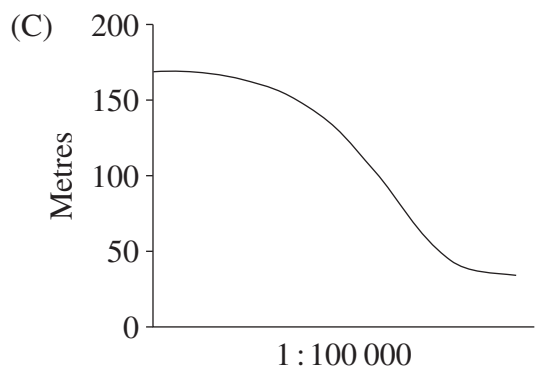
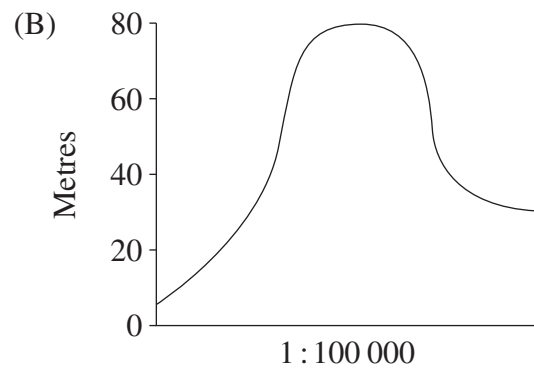
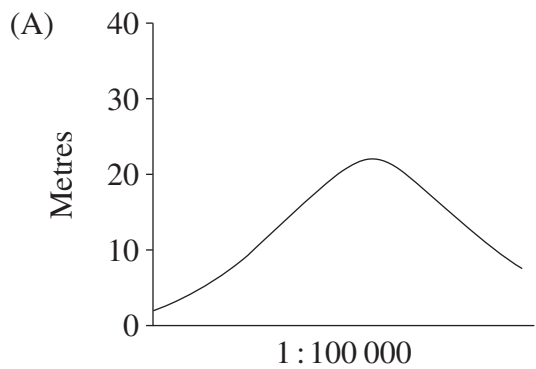
- 18 An extract from a magazine for a climate conference is shown.



Which of the following management strategies would best address the change in the migration pattern of greylag geese?

- (A) Increase greylag geese habitat in southern Scandinavia
- (B) Provide subsidies for the adoption of renewable energy
- (C) Create more nesting sites on the shores of the Mediterranean
- (D) Sign an international agreement that aims to protect greylag geese

19 Which of the following cross-sections has the greatest vertical exaggeration?



Refer to Source *D* and Source *E* on page 2 of the Stimulus Booklet to answer Question 20.

20 What is the scale of Source *E*?

- (A) 1 : 400 000
- (B) 1 : 1 500 000
- (C) 1 : 4 500 000
- (D) 1 : 6 000 000

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Geography

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Centre Number

Section II

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Student Number

40 marks**Attempt Questions 21–24****Allow about 1 hour and 10 minutes
for this section**

Use the Stimulus Booklet and your knowledge of geography to answer Questions 21–24 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 on pages 21–23. If you use this space, clearly indicate which question you are answering.

Write your Centre Number and Student Number at the top of this page.

Do NOT write in this area.

Please turn over

Question 21 (7 marks)

Refer to Source 1 on page 4 of the Stimulus Booklet to answer Question 21.

- (a) Calculate the projected percentage change in City X's population between 2015 and 2020. **1**

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- (b) Describe problems that City X may experience in 2020 in relation to the projected changes in population. **6**

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Question 22 (10 marks)

Answer parts (a) and (b) with reference to an economic activity that you have studied.

Economic activity:

- (a) Describe ONE economic impact and ONE social impact of the economic activity. 4

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- (b) Account for the future direction of the economic activity. 3

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Question 22 continues on page 16

Question 22 (continued)

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

Economic enterprise:

(c) Explain how an environmental constraint has influenced the economic enterprise.

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End of Question 22

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Question 23 (11 marks)

- (a) Outline how ONE urban dynamic of change is operating in a country town or suburb that you have studied. **2**

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- (b) How does the changing role of regional centres affect small towns? **3**

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Question 23 continues on page 18

Question 23 (continued)

- (c) Explain why world cities are important centres of economic and cultural authority.

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End of Question 23

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Question 24 (12 marks)

- (a) Outline how changes in weather or climate can affect an ecosystem. **2**

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- (b) Identify a traditional management strategy used in an ecosystem at risk and outline its purpose. **2**

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- (c) Identify a contemporary management strategy used in an ecosystem at risk and outline its purpose. **2**

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Question 24 continues on page 20

Question 24 (continued)

Refer to Sources *D* and *F* on page 2 of the Stimulus Booklet to answer this part.

- (d) Explain how human activities may affect ONE ecosystem in South Western Namibia.

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End of Question 24

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Section II extra writing space

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Handwriting practice area with horizontal lines.

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Handwriting practice area with horizontal lines.

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Geography

Section III

40 marks

Attempt TWO questions from Questions 25–27

Allow about 1 hour and 15 minutes for this section

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

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 25 (20 marks)

Analyse responses to the challenges of living in mega cities.

Question 26 (20 marks)

Analyse the biophysical interactions that occur in ONE ecosystem at risk.

Question 27 (20 marks)

Explain the factors that have influenced the nature and spatial pattern of ONE economic activity.

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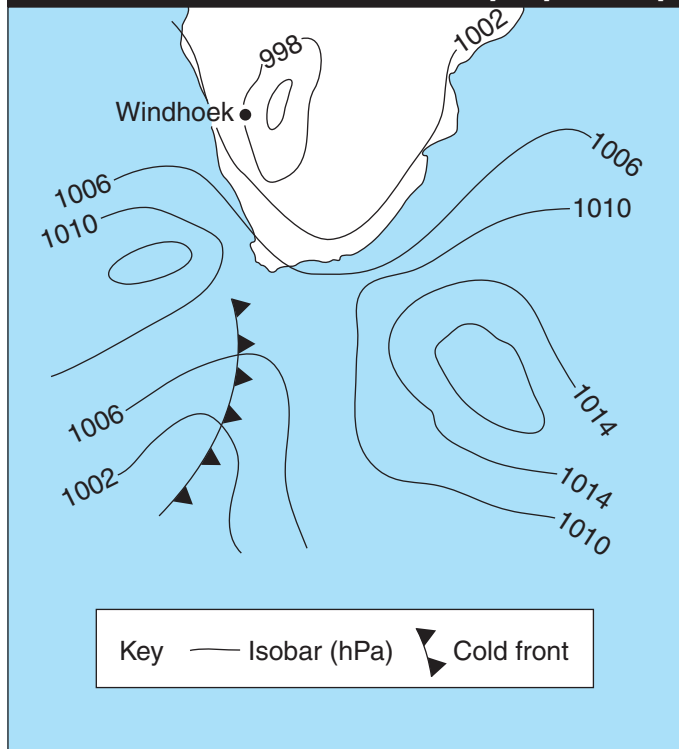
Geography

Stimulus Booklet

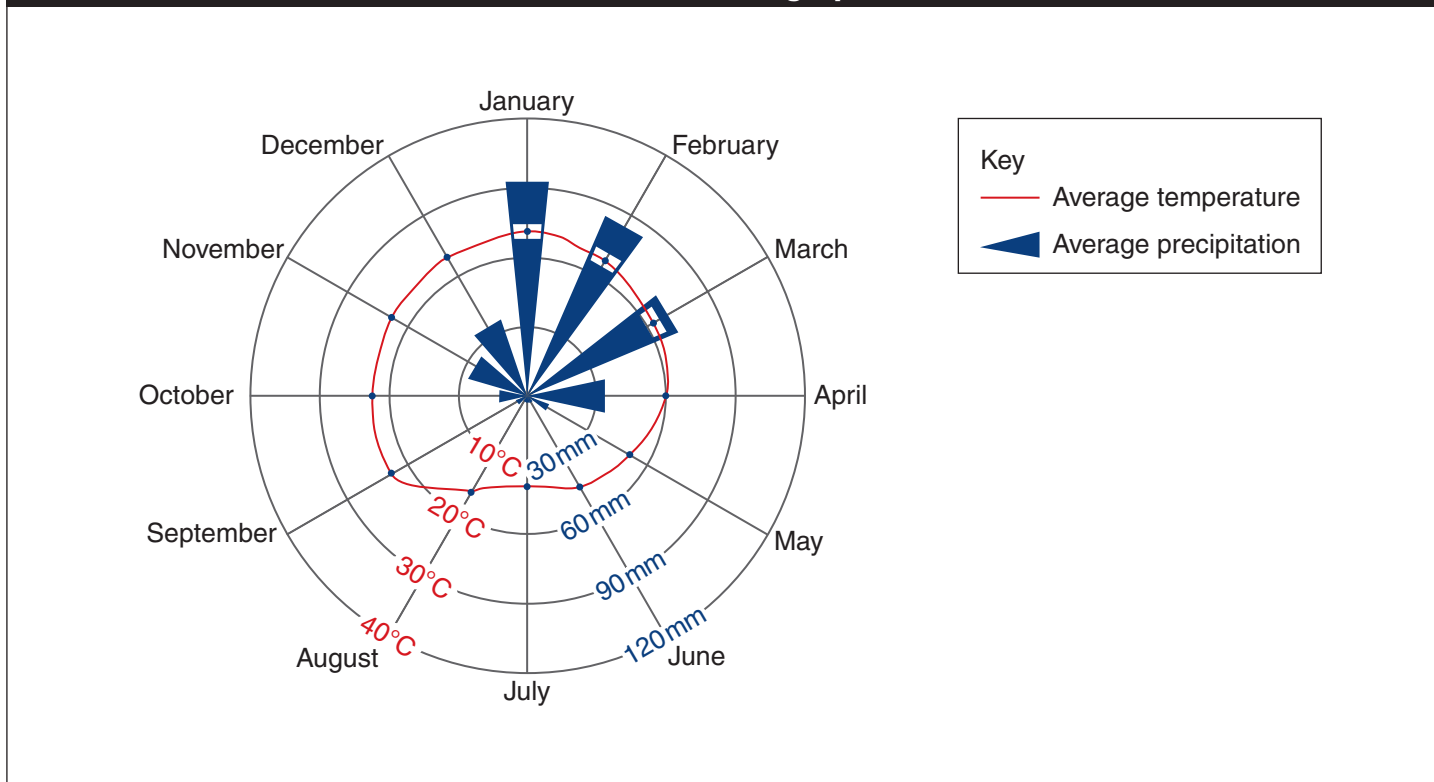
Source A – Windhoek (Namibia) location map



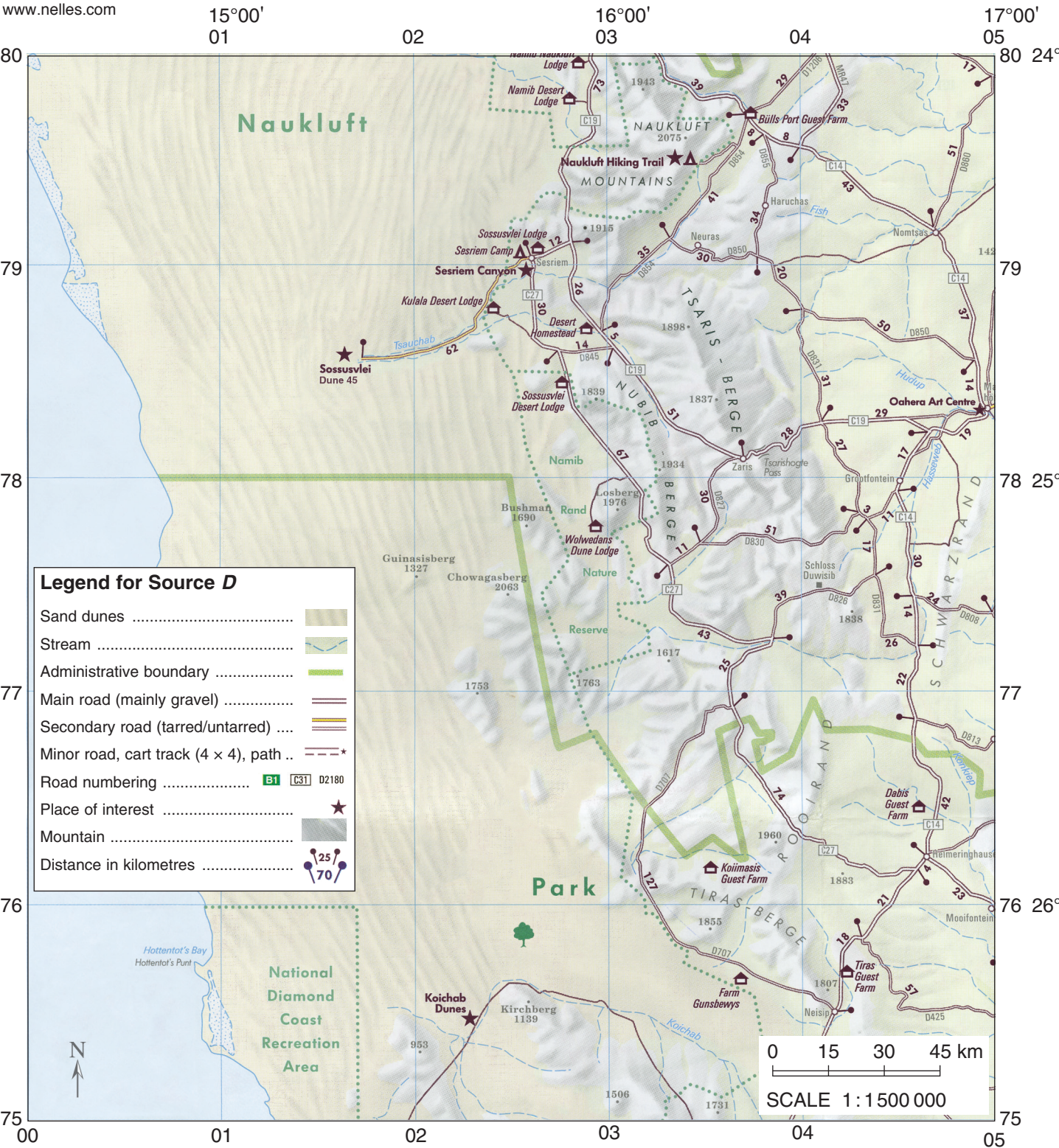
Source B – Southern Africa – Synoptic map



Source C – Windhoek (Namibia) – circular climate graph



Source D – South Western Namibia map

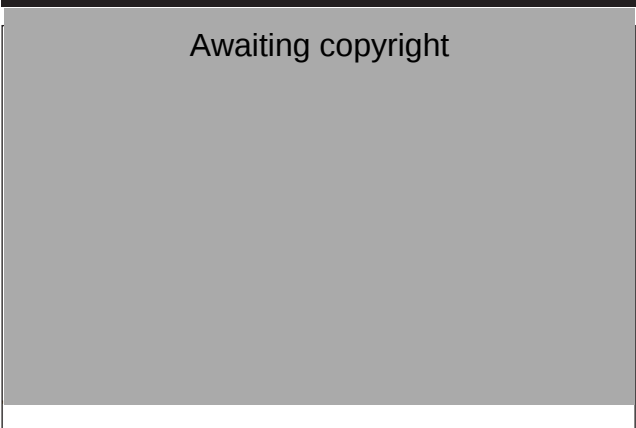


Source E – South Western Namibia



© ESA.

Source F – Dune 45 (AR 0178)



Source G – Flinders Island (Tasmania) topographic map



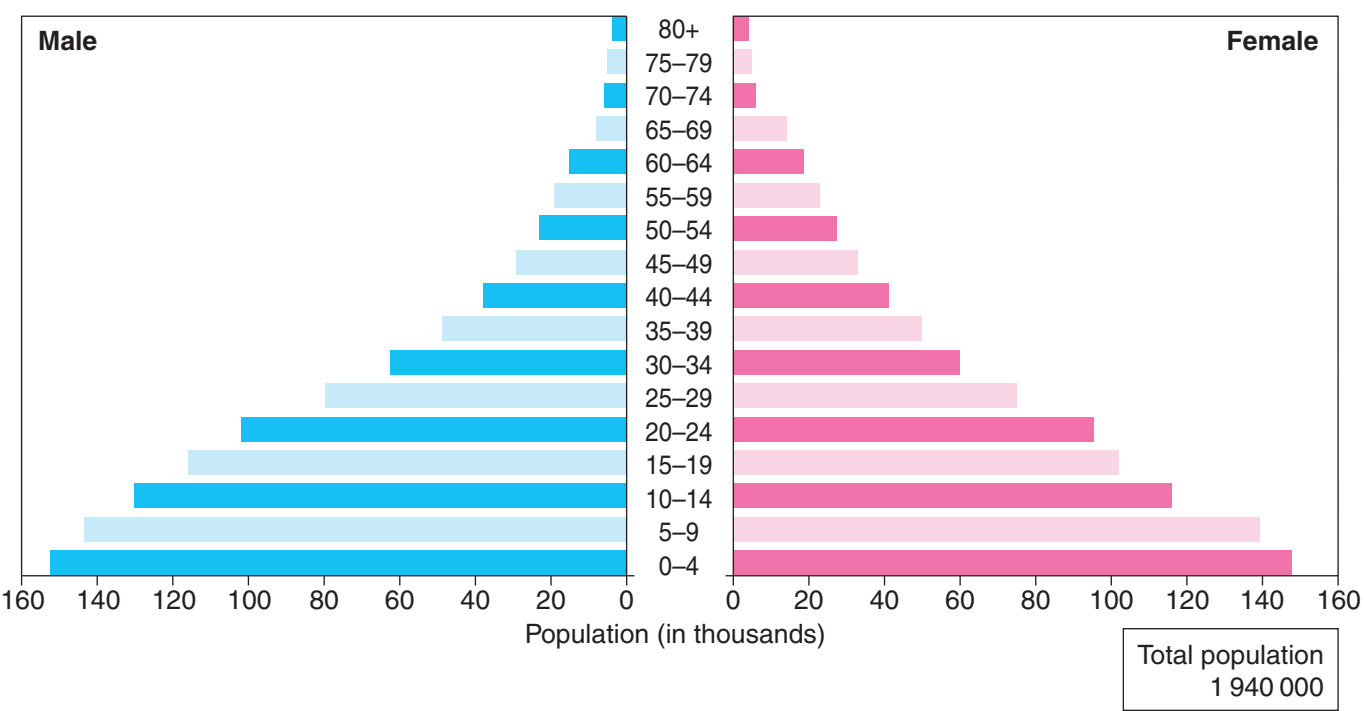
Legend for Source G

Built-up area	
Roads for continuous public use	
Arterial road	
Other road	
Route numbers	
Road of restricted use or access	
Other roads; Bridge	
Vehicular track; Gate	
Road distance in kilometres	
Administrative boundary	
Dam; Levee; Landmark area	
Landmark object; Quarry, mine or gravel pit	
Forest or scrub, dense	
Forest or scrub, medium	
Building/s with number; Church; Ruin	
Trig station; Spot elevation	
Contour with value; Depression contour	
Lake, perennial; Lake, intermittent; Watercourse	
Swamp; Land subject to inundation	

Source H – Image taken from Strzelecki Peaks (AR 9151) on Flinders Island



City X 2015



City X 2020

