

Surname						Other Names					
Centre Number						Candidate Number					
Candidate Signature											

Leave blank

General Certificate of Education
 January 2003
 Advanced Subsidiary Examination



**GEOGRAPHY (SPECIFICATION A)
 Unit 1**

GGA1

Tuesday 14 January 2003 Morning session

In addition to this paper you will require:

- the coloured photograph (enclosed) for use with Question 5.

You may use a calculator.

For Examiner's Use			
Number	Mark	Number	Mark
1		7	
2		8	
3		9	
4		× 2	
5		=	
6			
Total (Column 1)	→		
Total (Column 2)	→		
TOTAL			
Examiner's Initials			

Time allowed: 1 hour 30 minutes

Instructions

- Use blue or black ink or ball-point pen for written answers. You may use pencil for maps, diagrams and graphs.
- Fill in the boxes at the top of this page.
- Answer **four** questions in the spaces provided: **one** from Section A, **one** from Section B, **one** from Section C and **one** from Section D.
- Do all rough work in this book. Cross through any work you do not want marked.

Information

- The maximum mark for this paper is 85.
- Each question in Sections A, B and C is worth 15 marks.
- Each question in Section D will be marked out of 20 and doubled to give a mark out of 40.
- Mark allocations are shown in brackets.
- You will be assessed on your ability to use an appropriate form and style of writing, to organise relevant information clearly and coherently, and to use specialist vocabulary, where appropriate.
- The degree of legibility of your handwriting and the level of accuracy of your spelling, punctuation and grammar will also be taken into account.
- Answers should relate to your own geographical studies. These may relate to fieldwork.

Advice

- You are advised to spend about 50 minutes on **Sections A-C** and about 40 minutes on **Section D**.

SECTION A

Answer **one** question from this Section, either Question 1 or Question 2.
Each question carries 15 marks.

WATER ON THE LAND

- 1 (a) **Figure 1** illustrates the percentage contribution of days with heavy precipitation to each winter's total precipitation between 1960 and 2000. A black trend line to highlight decadal variations has been overlaid.

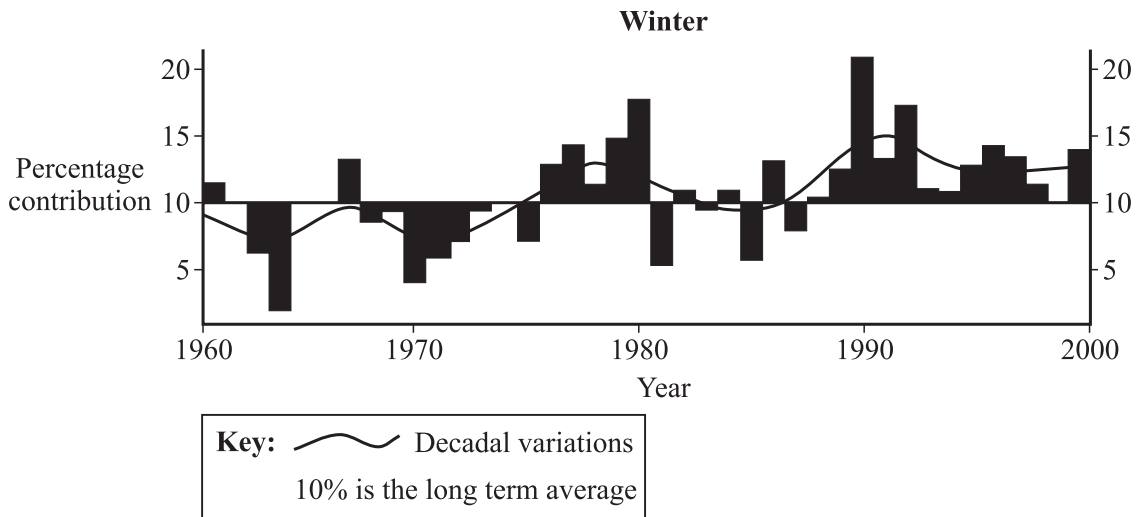


Figure 1

- (i) Describe the trend in the contribution of days with heavy precipitation to total winter precipitation between 1960 and 2000.

.....

.....

.....

.....

(2 marks)

- (ii) Outline the physical processes within the hydrological cycle that lead to rivers flooding after long periods of heavy precipitation.

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

(6 marks)

QUESTION 1 CONTINUES ON THE NEXT PAGE

Turn over ►

- 2 (a) **Figure 2** illustrates part of a river basin. Two cross sections, **A–B** and **C–D**, are marked onto the map.

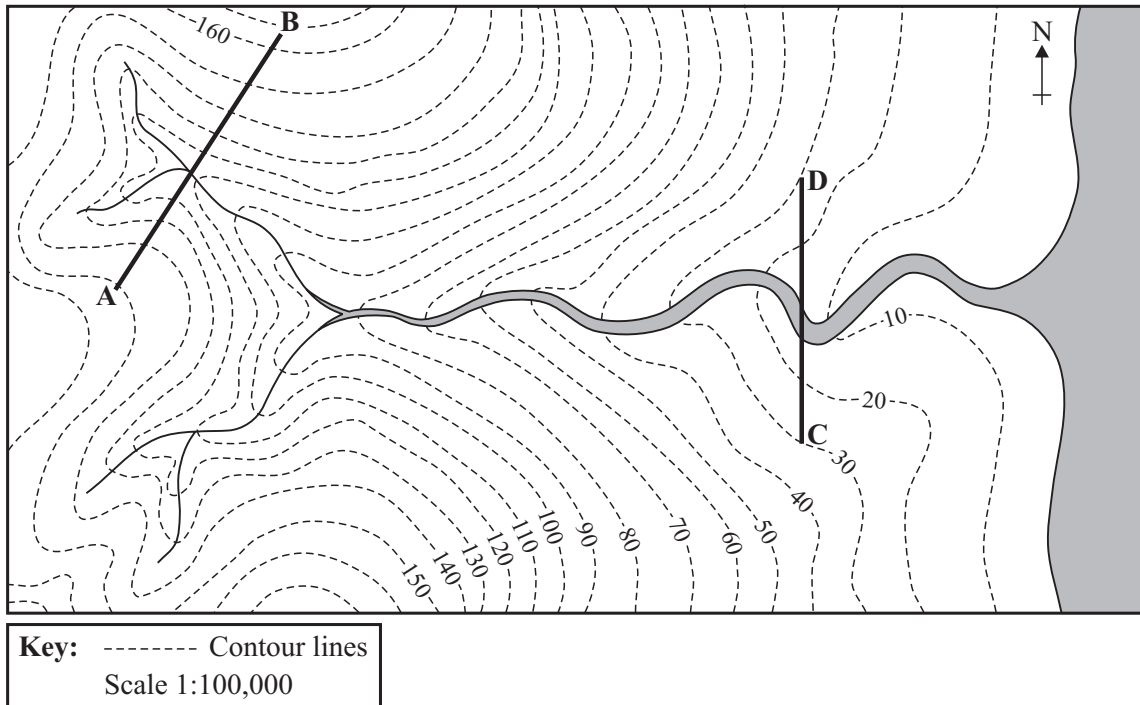


Figure 2

- (i) Complete **Figure 3** in the space below, by sketching the cross profile and labelling the characteristics of the river valley between **A** and **B**.

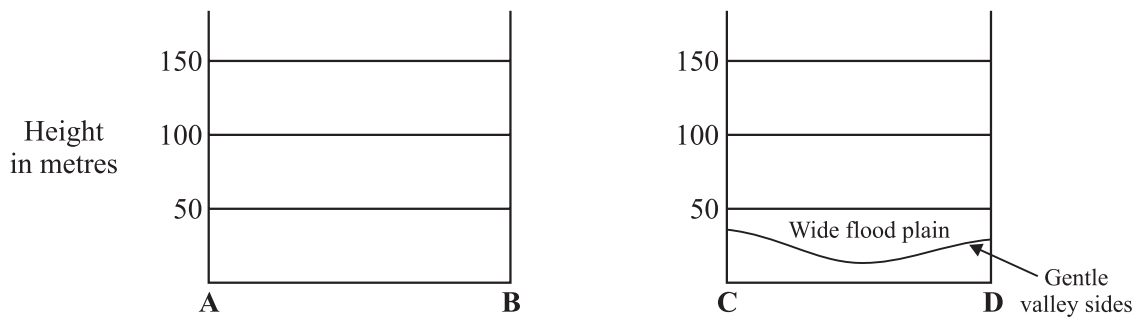


Figure 3

(2 marks)

- (ii) The dominant erosional processes change along the long profile of a river. Outline how the processes at **A–B** and **C–D** lead to different erosional landforms.

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

(6 marks)

QUESTION 2 CONTINUES ON THE NEXT PAGE

Turn over ►

(b) Explain why features of deposition can occur throughout the course of a river.

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

(7 marks)



SECTION B

Answer **one** question from this Section, either Question 3 or Question 4.
Each question carries 15 marks.

CLIMATIC HAZARDS AND CHANGE

- 3 (a) **Figure 4**, an extract from a newspaper, describes a possible link between global warming and some natural disasters.

<p><i>In its annual 'World Disasters Report' the International Federation of Red Cross and Red Crescent Societies says that floods, storms, landslides and droughts, which numbered about 200 a year before 1996, rose sharply and steadily to 392 in 2000.</i></p> <p><i>Blaming the trend on global warming, the head of disaster relief operations, said: 'These are also the most deadly events; it is probable that these kinds of disasters will increase even more spectacularly.'</i></p>	<p><i>Scientists working for the United Nations say that more frequent extreme weather is one of the signs of global warming. Low-lying island states are the first at risk because of the predicted rise in sea levels and their exposure to harsher tropical storms.</i></p> <p><i>Floods accounted for more than two-thirds of the 211 m people a year, on average, affected by natural disasters in the past decades.</i></p> <p><i>Famine caused by drought affected nearly a fifth, and accounted for most deaths: about 42% of all those caused by natural disasters.</i></p>
---	--

Figure 4

- (i) Why can the evidence in support of global warming, quoted in the extract, only be considered partial?

.....

.....

.....

.....

(2 marks)

QUESTION 3 CONTINUES ON THE NEXT PAGE

Turn over ►

(ii) Outline the likely reasons why flooding accounted for fewer deaths than drought between 1996 and 2000.

.....

.....

.....

.....

.....

.....

.....

.....

.....

(4 marks)

(iii) For **one** of the physical hazards named in the extract, suggest why it has been linked to global warming.

.....

.....

.....

.....

(2 marks)

(b) Assess the success of international agreements, which aim to slow down global warming.

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

(7 marks)

15

TURN OVER FOR THE NEXT QUESTION

Turn over ►

- 4 (a) **Figure 5**, an extract adapted from a newspaper, describes the effects of a tornado experienced near the Australian coast.

<p>Volvo round-the-world boats continued to dominate the Sydney-Hobart race on Thursday after a tornado slammed into the fleet, knocking favourite Nicorette on its side and forcing 11 yachts out of the race. The tornado was estimated to measure 500m in diameter at its base.</p> <p>Nicorette, the defending champion and a heavy pre-race favourite, surrendered her lead when she was hit by a tornado late on Wednesday.</p>	<p>Video footage taken on board Nicorette showed a huge, grey funnel-shape moving across the ocean towards skipper Ludde Ingvall's boat.</p> <p>Nicorette's mainsail was extensively damaged but her crew managed to replace it as the white-and-green hulled yacht began slogging her way through south-westerly winds of 25 – 30 knots back towards the front of the fleet.</p>
---	---

Figure 5

- (i) Outline the likely weather conditions experienced by the sailors when struck by this tornado.

.....

.....

.....

.....

(2 marks)

- (ii) How does this extract indicate that this was only a small-scale weather hazard?

.....

.....

.....

.....

(2 marks)

(iii) Under what circumstances do tornadoes usually form?

.....

.....

.....

.....

.....

.....

.....

.....

.....

(4 marks)

(b) Using examples to support your answer, contrast the typical human impacts of tornadoes with those likely from a tropical revolving storm.

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

(7 marks)

Turn over ►

SECTION C

Answer **one** question from this Section, either Question 5 or Question 6.
Each question carries 15 marks.

ENERGY AND LIFE

5 (a) State the difference between an ecosystem and a biome.

.....
.....
.....
.....
.....
.....

(3 marks)

(b) **Figure 6** (*coloured insert*) is a photograph of a small lake in southern England. This was managed until 1950, but since then has been undisturbed by human activity.

Describe and explain how a small-scale ecosystem, such as this, will change over time if it continues to be left undisturbed.

The photograph is not reproduced here due to third-party copyright constraints.
□
The full copy of this paper can be obtained by ordering GGA1□
from AQA Publications□
Tel: 0161 953 1170□

.....
.....
.....
.....
.....

(5 marks)

(c) Referring to **one** global biome, identify the links between the climate and vegetation.

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

(7 marks)

15

TURN OVER FOR THE NEXT QUESTION

Turn over ►

6 (a) **Figure 7** illustrates a simplified soil catena from the North York Moors.

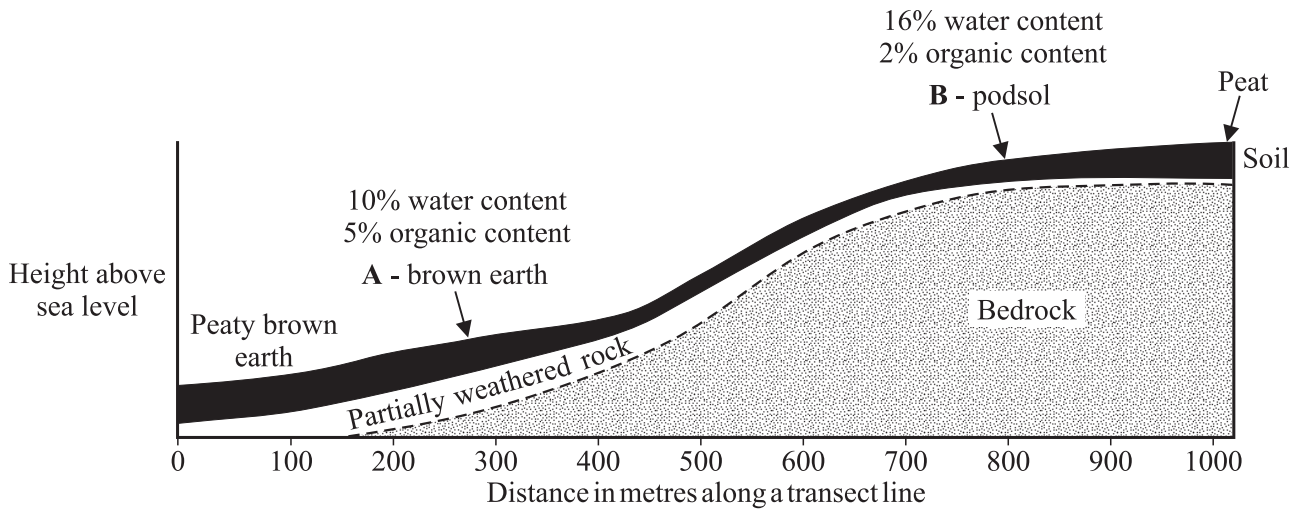


Figure 7

(i) What is the meaning of the term **soil catena**?

.....

.....

.....

.....

.....

.....

(3 marks)

(ii) Explain why the soils at **A** and **B** are different.

.....

.....

.....

.....

.....

.....

.....
.....
.....

(5 marks)

(b) In what ways can modern farming techniques have both positive and negative impacts on soils?

.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....

(7 marks)

15

TURN OVER FOR THE NEXT QUESTION

Turn over ►

SECTION D

Answer **one** question from this Section.

- 7 (a) How may human activity modify the drainage basin hydrological cycle? (10 marks)
- (b) Referring to an example, evaluate the success of any **one** river management scheme. (10 marks)
- 8 (a) In what ways may an **urban landscape** modify local weather conditions? (10 marks)
- (b) With reference to a city or cities you have studied, describe and assess the success of measures taken to improve urban air quality. (10 marks)
- 9 (a) How may human activities modify the climatic climax vegetation of deciduous woodland? (10 marks)
- (b) Referring to an example from the LEDW, identify the issues which arise as a result of deforestation. (10 marks)

END OF QUESTIONS

Acknowledgement of copyright-holders and publishers

Permission to reproduce all copyright material has been applied for. In some cases, efforts to contact copyright owners have been unsuccessful and the AQA will be happy to rectify any omissions of acknowledgement in future if notified.

Figure 1: Courtesy of Tim Osborne, Climate Research Unit, University of East Anglia

Figure 4: Adapted from *The Guardian* 29th June 2001

Figure 5: Adapted from *The Guardian* 27th December 2001