Surname		Other Names	
Centre Number			Candidate Number									
Candidate Signature												

Leave blank

General Certificate of Education
June 2004
Advanced Subsidiary Examination

ASSESSMENT and QUALIFICATIONS ALLIANCE

GEOGRAPHY (SPECIFICATION A) GGA3
Unit 3

Monday 7 June 2004 Afternoon Session

In addition to this paper you will require:
- the Ordnance Survey map extract (enclosed);
- a resource booklet (enclosed).

You may use a calculator.

Time allowed: 1 hour

Instructions
- Use blue or black ink or ball-point pen. You may use pencil for maps, diagrams and graphs.
- Fill in the boxes at the top of this page.
- Answer **one** question, **either** Question 1 in Section A, **or** Question 2 in Section B.
- Do all rough work in this book. Cross through any work you do not want marked.

Information
- The maximum mark for this paper is 50.
- Mark allocations are shown in brackets.
- You are expected to use a calculator where appropriate.
- 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.

Advice
- Where appropriate, credit will be given for the use of diagrams and where reference is made to your personal investigative work.

For Examiner's Use			
Number	Mark	Number	Mark
1			
2			
Total (Column 1) →			
Total (Column 2) →			
TOTAL			
Examiner's Initials			

Answer **one** question, **either** Question 1 in Section A, **or** Question 2 in Section B.

SECTION A

Answer **all** parts of the question in the spaces provided.

The Physical Environment

Title: Succession: the impact of arresting factors

1 (a) (i) Outline the meanings of primary succession and climatic climax vegetation and identify a link between them.

.....

.....

.....

.....

.....

.....

.....

.....

(4 marks)

(ii) **Figure 1** (*resource booklet*) is a photograph of vegetation in secondary succession. **Figure 2** is a black and white copy of **Figure 1**.
Label **Figure 2** to show the characteristics of the vegetation and evidence of secondary succession.

Figure 2

(8 marks)

(b) **Figure 3** shows the number of hectares of land destroyed by fire in California between 1984 and 1993 and the amount destroyed specifically by lightning fires.

(i) Complete **Figure 3** by adding the following information.

Year	Hectares of land destroyed by fire	Hectares destroyed by lightning fires
1985	90 362	16 044
1992	77 496	3 825

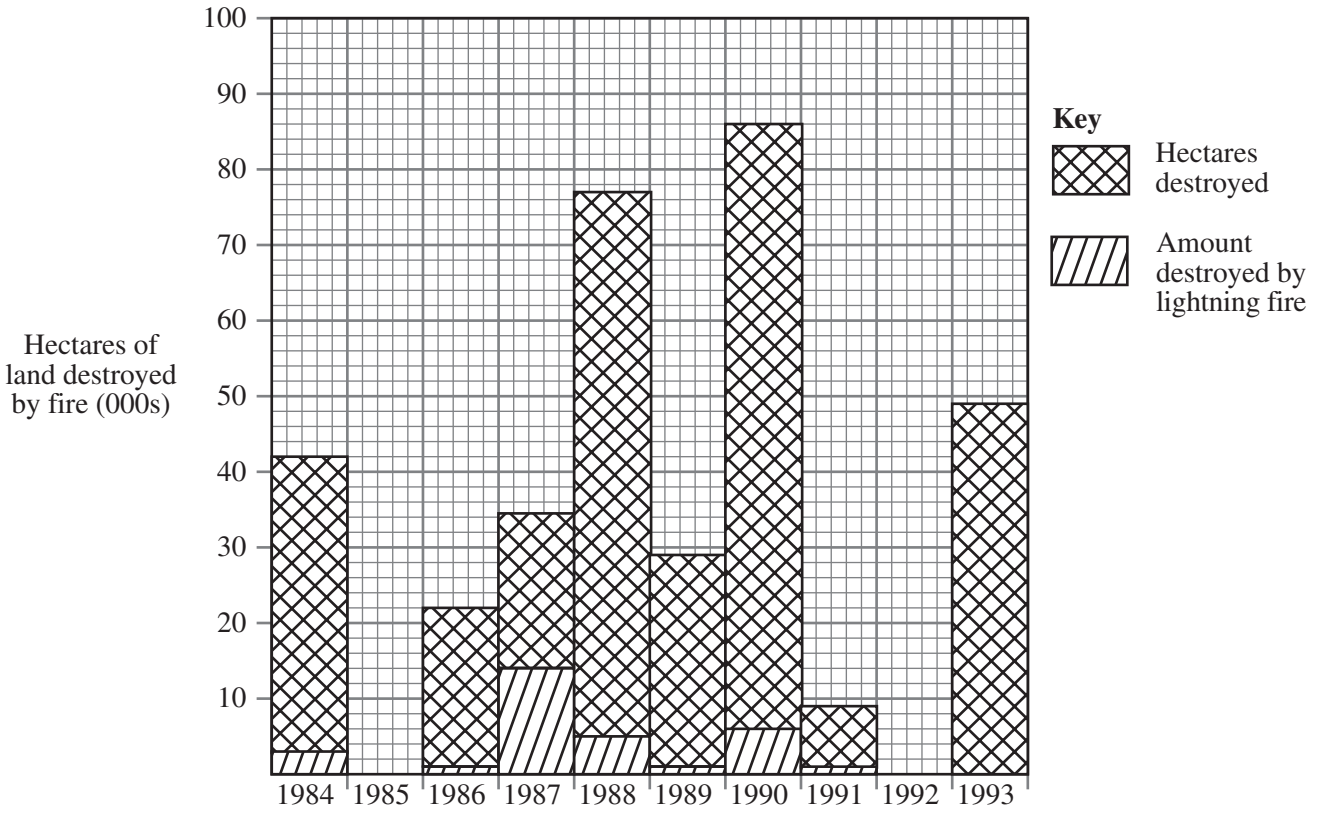


Figure 3

(4 marks)

(ii) Describe and suggest reasons for the variations shown in **Figure 3**.

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

(8 marks)

QUESTION 1 CONTINUES ON THE NEXT PAGE

(c) (i) **Figure 4** (*resource booklet*) shows the percentage of forest damaged by acid rain and the proportion of sulphur from external sources in selected countries in Europe.
Describe and comment on the patterns shown by the map.

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

(8 marks)

(ii) **Figure 5** (*resource booklet*) considers some possible solutions to the problem of acid rain. Using **Figure 5**, outline and comment on the economic and political issues associated with the attempts to solve the problem of acid rain.

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

(10 marks)

QUESTION 1 CONTINUES ON THE NEXT PAGE

(d) (i) You have experienced geography fieldwork as part of the course. With reference to your own experience of fieldwork and fieldwork planning, suggest a question, issue or hypothesis related to any aspect of the topic of 'Succession – the impact of arresting factors'.

.....

.....

.....

.....

(2 marks)

(ii) For **any** geography fieldwork study you have undertaken (**either** physical **or** human):

- state its purpose;
- identify the area studied and give a reason for the selection of the location; and
- outline the method used in the collection of **one** item of primary data.

Purpose of study

.....

.....

.....

Area studied and reason for selection

.....

.....

.....

Item of primary data and method of collection

.....

.....

.....

.....

.....

.....

(6 marks)

50

NO QUESTIONS APPEAR ON THIS PAGE

TURN OVER FOR THE NEXT QUESTION

Do **not** answer this Section if you have answered Question 1 in Section A.

SECTION B

Answer **all** parts of the question in the spaces provided.

The Human Environment

Title: Changing location of economic activity

2 (a) Distinguish between greenfield and brownfield sites.

.....

.....

.....

.....

.....

.....

.....

.....

(4 marks)

(b) (i) Study **Figure 6** (*resource booklet*), the Ordnance Survey map extract of Grimsby. **Figure 7** is a black and white copy of **Figure 6**. Europarc is a business park located in grid square 2311.
Label **Figure 7** to show the advantages of the site and situation of Europarc for the businesses located there.

Ordnance Survey map of Grimsby, Crown Copyright. Has not been reproduced here due to third-party copyright constraints.

(8 marks)

(ii) **Figure 8** (*resource booklet*) shows the layout of the Europarc business park and photographs of some of the individual units located there.
Outline the characteristics of the layout and the units and comment on why prospective business occupiers would find these features attractive.

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

(8 marks)

(c) **Figure 9** (*resource booklet*) shows a retail park developed in Liverpool's inner city. Outline the characteristics of the site and the area surrounding this retail park and comment on the advantages of developing such a site.

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

(8 marks)

QUESTION 2 CONTINUES ON THE NEXT PAGE

(d) (i) **Figure 10** (*resource booklet*) shows aspects of economic development in the Phoenix area of the United States sunbelt whilst **Figure 11** shows the population of Phoenix from 1900 to 1980.
Complete **Figure 11** by adding the figures for 1990 and 2000.

Year	Population of Phoenix
1990	2 120 000
2000	3 250 000

(Figures rounded to nearest 10 000)

(4 marks)

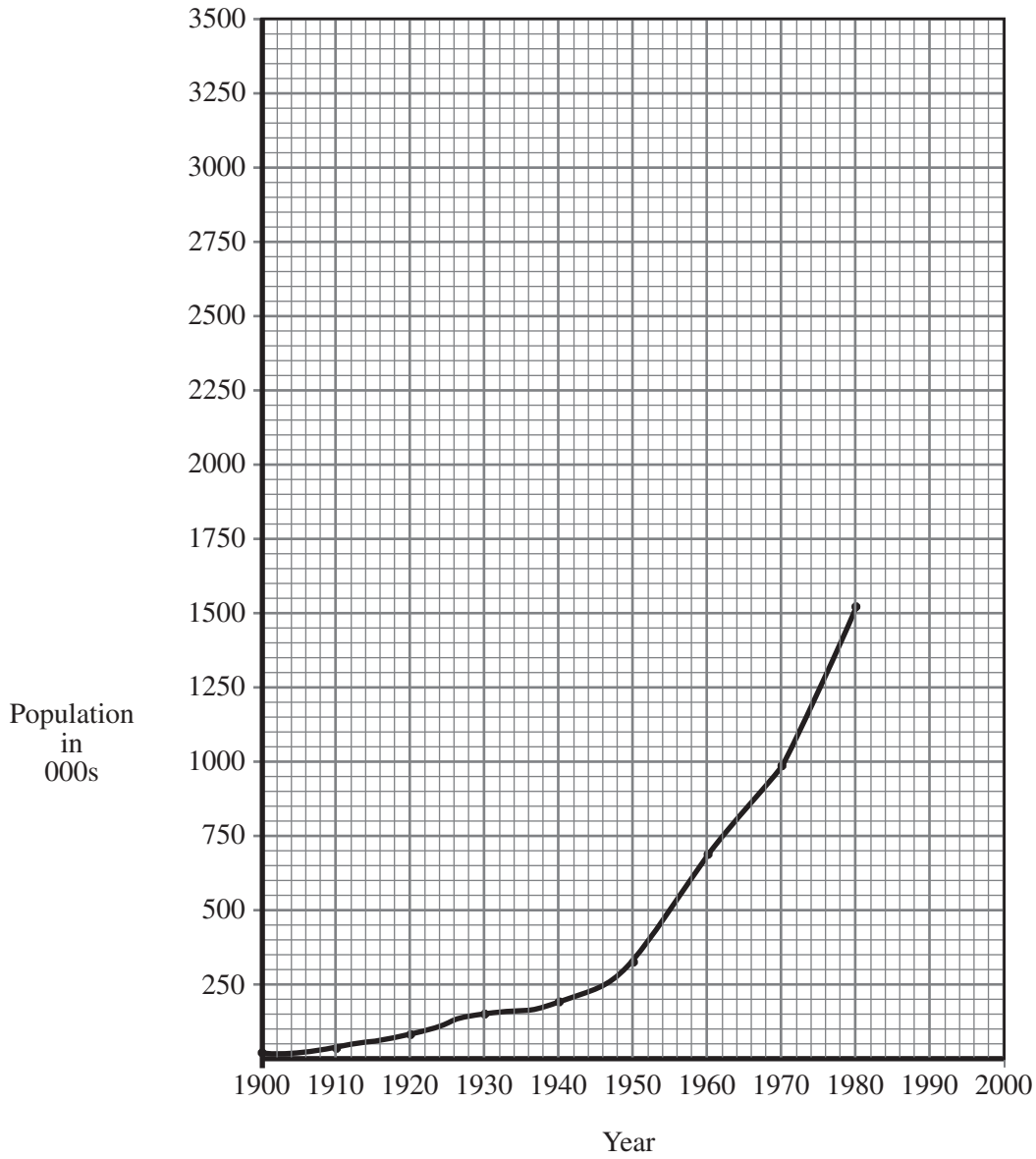


Figure 11

(ii) With the help of **Figures 10** and **11**, comment on the costs and benefits of rapid economic growth in areas such as Phoenix.

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

(10 marks)

(e) (i) You have experienced geography fieldwork as part of the course. With reference to your own experience of fieldwork and fieldwork planning, suggest a question, issue or hypothesis related to any aspect of the topic of 'Changing location of economic activity'.

.....

.....

.....

.....

(2 marks)

(ii) For **any** geography fieldwork study you have undertaken (**either** physical **or** human):

- state its purpose;
- identify the area studied and give a reason for the selection of the location; and
- outline the method used in the collection of **one** item of primary data.

Purpose of study

.....

.....

.....

Area studied and reason for selection

.....

.....

.....

Item of primary data and method of collection

.....

.....

.....

.....

.....

.....

(6 marks)

END OF QUESTIONS

50

NO QUESTIONS APPEAR ON THIS PAGE

THERE ARE NO QUESTIONS PRINTED ON THIS PAGE

THERE ARE NO QUESTIONS PRINTED ON THIS PAGE

THERE ARE NO QUESTIONS PRINTED ON THIS PAGE

General Certificate of Education
June 2004
Advanced Subsidiary Examination

ASSESSMENT and QUALIFICATIONS ALLIANCE

GEOGRAPHY (SPECIFICATION A) GGA3
Unit 3

Resource Booklet

Figure 1

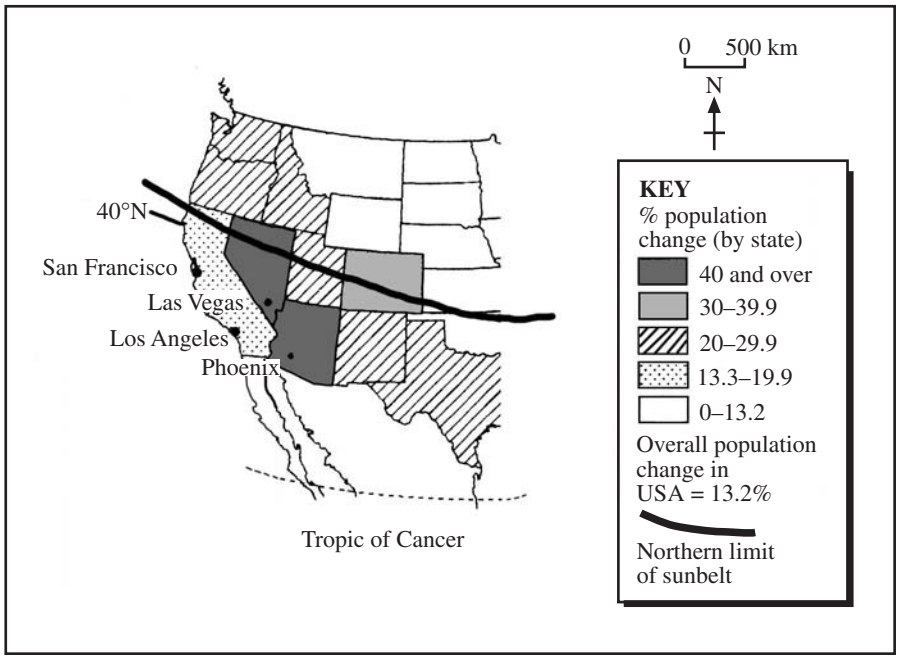
Figure 4:
Diagram showing the percentage of forest damage by acid rain and the proportion of sulphur from external sources in selected countries in Europe. Has not been reproduced here due to third-party copyright constraints.

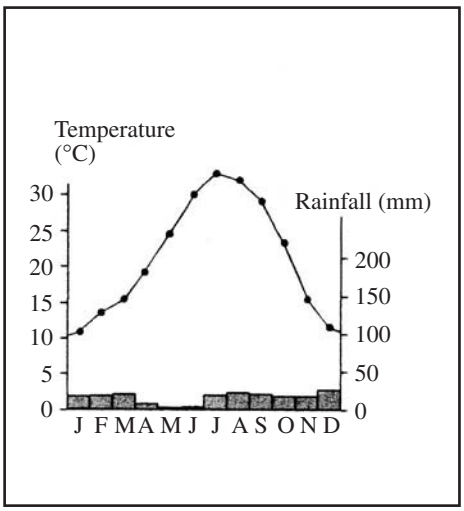
Figure 5:
'Solutions to the Problem', Paul Warburton, Collins Educational. Has not been reproduced here due to third-party copyright constraints.

Figure 6:
Ordnance Survey map of Grimsby, Crown Copyright. Has not been reproduced here due to third-party copyright constraints.

Figure 8:
Layout and individual photographs of the Europarc business park, www.europarc.com. Has not been reproduced here due to third-party copyright constraints.

Figure 9





What is the future of the sunbelt?

The speed of economic development in the sunbelt has led to problems, particularly with water supplies and air pollution from traffic. Some sunbelt states are also at risk from natural hazards including droughts, wildfires, earthquakes and hurricanes. People are starting to ask if the growth of sunbelt cities is sustainable, and whether the costs of water and land will begin to offset the advantages.

CASE STUDY

Phoenix, Arizona

Phoenix has grown rapidly as a centre for secondary and tertiary economic activities. Its growth began in the 1920s and 1930s when air-conditioning was invented, the transcontinental railroad arrived (1926), and the local Salt River was dammed for irrigation. Rapid development has continued, helped by the building of interstate highways 10 and 17, and the Central Arizona Project which transfers water uphill from the Colorado River 500 km away. During the 1980s and 1990s, up to 100,000 people moved to Phoenix every year, making it the fastest-growing city in the USA.

Why did they come? The short answer was and still is jobs and opportunities. Early growth was associated with the nearby primary activities and related industries, particularly 'the four Cs': copper mining, cattle rearing, cotton, and citrus fruits under irrigation. Recently three more Cs have developed as part of the growing agribusiness: carrots, cauliflower and celery.

Phoenix is also a major centre for secondary activities, including aerospace and missile manufacture, electronics, printing and publishing, and computers, while the city's rapid growth has led to huge employment in the construction and services industries. Research and development centres are also located here, linked to universities. The advantages of the 'valley of the sun' include over 300 days of sunshine a year, cheap living costs, and many local opportunities for recreation. A suburb of Phoenix, called Sun City, has been built especially for those over 55 years old, so that they can enjoy life in near perfect weather. Sun City has created many jobs. It has 17 golf courses, its own specialist shops, and a symphony orchestra!

The rapid growth of Phoenix has led to problems of traffic jams (partly because public transport is not fully developed), air pollution (smog), and a constant need to find new sources of water, or conserve existing supplies.

Figure 10