Centre Number						Candidate Number				
Surname										
Other Names										
Candidate Signature										

For Examiner's Use	
Examiner's Initials	
Question	Mark
1	
2	
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8	
TOTAL	

General Certificate of Education
Advanced Subsidiary Examination
June 2013

Geography GEOG1

Unit 1 Physical and Human Geography

Tuesday 14 May 2013 1.30 pm to 3.30 pm

For this paper you must have:
- the Ordnance Survey map extract (enclosed)
- a pencil
- a rubber
- a ruler.

You may use a calculator.

Time allowed
- 2 hours

Instructions
- Use black ink or black ball-point pen. Use pencil only for drawing.
- Fill in the boxes at the top of this page.
- You must answer the questions in the spaces provided. Do not write outside the box around each page or on blank pages.
- Answer Question 1 and **one other question** from **Section A** and Question 5 and **one other question** from **Section B**.
- Do all rough work in this book. Cross through any work you do not want to be marked.

Information
- The maximum mark for this paper is 120.
- Each question is worth 30 marks.
- The marks for questions are shown in brackets.
- You are expected to use a calculator where appropriate.
- You will be marked on your ability to:
  – use good English
  – organise information clearly
  – use specialist vocabulary where appropriate.

Advice
- Where appropriate, sketch maps and diagrams should be used to illustrate answers and reference made to examples and case studies.
- You are advised to spend about 60 minutes on Section A and about 60 minutes on Section B.

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Section A

Answer **Question 1** and **one other question** from this section.

1 **Rivers, Floods and Management**

1 (a) (i) Define the term 'magnitude-frequency analysis' of flood risk.

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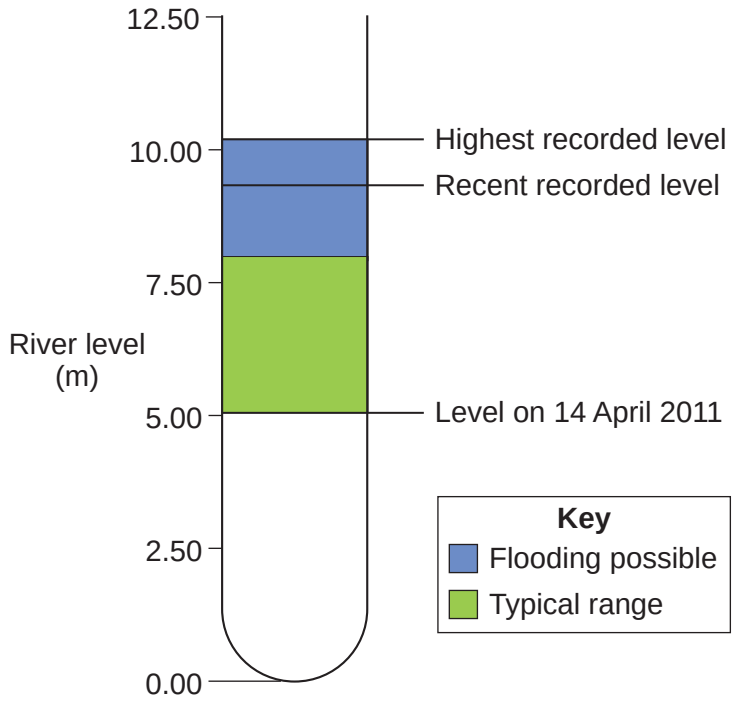
(2 marks)

1 (a) (ii) **Figure 1** shows information on levels of the River Ouse at the Foss Barrier on 14 April 2011.

Figure 1



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Comment on the usefulness of the information in **Figure 1** with reference to magnitude-frequency analysis of flood risk.

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(3 marks)

Question 1 continues on the next page

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1 (b) Study **Figure 2** which shows a flood management strategy.

Figure 2

1 (b) (i) Using **Figure 2** only, describe this flood management strategy.

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1 (b) (ii) Comment on advantages and disadvantages of this flood management strategy.

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Question 1 continues on the next page

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1 (c) Physical factors are more important than human factors in affecting river discharge.

Discuss this view.

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2 Cold Environments

2 (a) (i) Explain what is meant by 'the glacial budget'.

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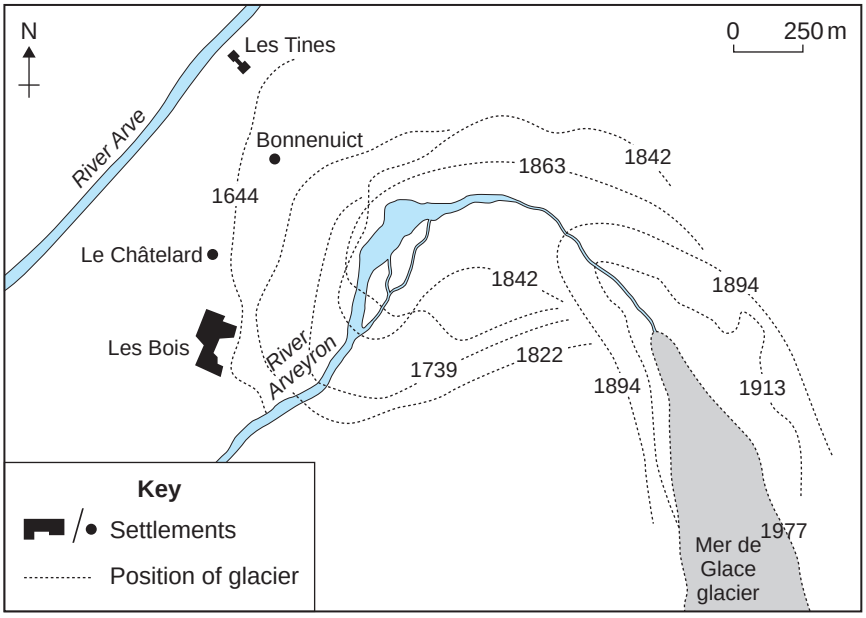
(3 marks)

2 (a) (ii) Study **Figure 3** which shows the position of Mer de Glace glacier, near Chamonix, France between 1644 and 1977.

Figure 3



Describe the changes in the position of the glacier shown in **Figure 3**.

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2 (b) (i) Draw a labelled sketch to show the characteristics of eskers.

(4 marks)

2 (b) (ii) Explain the formation of eskers.

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Question 2 continues on the next page

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2 (c) Describe how and explain **two or more** ways in which ice moves (such as internal deformation, rotational, compressional and extensional flow and basal sliding).

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3 Coastal Environments

3 (a) (i) Distinguish between eustatic and isostatic sea level change.

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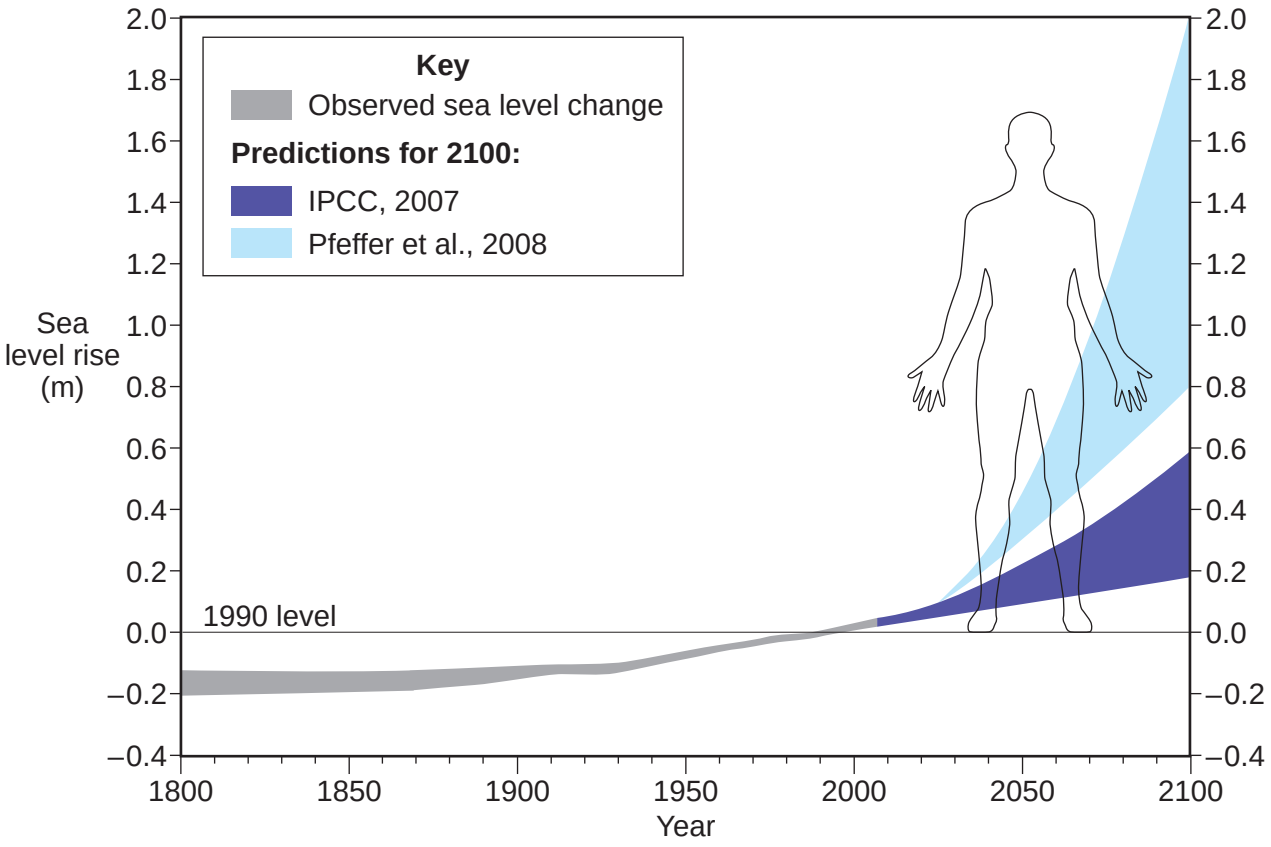
(3 marks)

3 (a) (ii) Study **Figure 4** which shows observed and predicted sea level change between 1800 and 2100.

Figure 4



Describe the trends shown in **Figure 4**.

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(3 marks)

Question 3 continues on the next page

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3 (b) (i) Draw a labelled sketch to show the characteristics of **one** landform associated with a coastline of submergence.

(4 marks)

3 (b) (ii) Explain the formation of this landform.

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3 (c) Discuss the relative importance of **two or more** processes responsible for shaping the coast (such as marine erosion, transportation; deposition and land-based sub-aerial weathering, mass movement and runoff).

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4 Hot Desert Environments and their Margins

4 (a) (i) Outline sources of water in hot desert environments.

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(3 marks)

4 (a) (ii) Study **Figure 5** which shows some effects of flooding in Death Valley, California.

Figure 5

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Use **Figure 5** to suggest how flooding may affect desert landforms.

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(3 marks)

4 (b) (i) Draw a labelled sketch to show the characteristics of yardangs.

(4 marks)

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4 (b) (ii) Explain the formation of yardangs.

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4 (c) Explain **two or more** causes of aridity (such as atmospheric pressure, winds, continentality, relief and cold ocean currents).

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End of Section A

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Section B

Answer **Question 5** and **one other question** from this section.

5 Population Change

5 (a) Study **Figure 6**, on the insert, which is a 1:50 000 Ordnance Survey map extract of Leeds showing four different settlement areas **A**, **B**, **C** and **D**.

Choose **two** of the settlement areas shown in **Figure 6**.

Using **Figure 6 only**, contrast the characteristics of the **two** settlement areas that you have chosen.

Areas chosen .....

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5 (b) (i) For **two** areas of settlement that you have studied, contrast the socio-economic characteristics of the residents.

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5 (b) (ii) Use your settlement case studies to comment on the implications for social welfare.

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Question 5 continues on the next page

Please note that due to copyright restrictions we are unable to electronically publish the OS map extract used for Question 5(a).

Please refer to Landranger Map 104, Leeds & Bradford (eastings 24–33, northings 34–46).

Copies of this question paper can be purchased online from the AQA shop, and each question paper includes an Ordnance Survey map extract.

5 (c) With reference to **two** case studies of countries at different stages of development, assess the success of attempts to manage population change.

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6 Food Supply Issues

6 (a) Define the term 'the geopolitics of food'.

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(2 marks)

6 (b) (i) Study **Figure 7** which shows world grain production from 1960 to 2009.

Figure 7

Due to copyright restrictions we are unable to electronically publish the graph.

Describe the trends shown in **Figure 7**.

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(3 marks)

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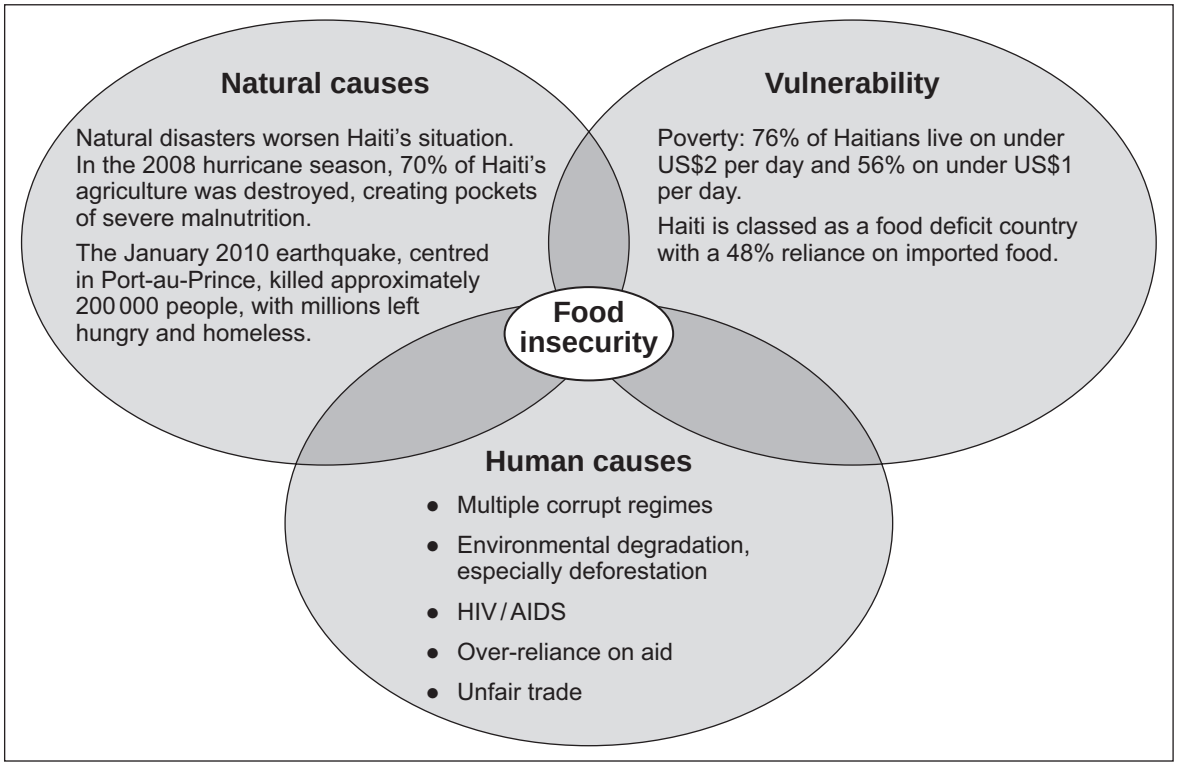
6 (b) (ii) Study **Figure 8** which identifies causes of food insecurity in Haiti.

Figure 8



Comment on the information provided in **Figure 8**.

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6 (c) Explain how agricultural systems may be classified.

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6 (d) Discuss issues resulting from:

- the growing demand from richer countries for high value food exports from poorer countries
- all-year demand for seasonal produce.

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7 Energy Issues

7 (a) Define the term 'renewable energy'.

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(2 marks)

7 (b) (i) Study **Figure 9** which shows the percentages of electricity provided by renewable sources in selected countries in 2009.

Figure 9

Country	% of electricity provided by renewable sources
UK	7.9
Germany	17.0
Spain	25.9
Netherlands	9.4
Denmark	27.4

Describe the information shown in **Figure 9**.

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7 (b) (ii) Study **Figure 10** which describes wave energy and tidal energy in the UK in 2011.

Figure 10

We can harness energy from both waves and tides. Both need a great deal more research if they are to work efficiently and be usable without damaging the coastal environment. Wave energy is one of the least developed types of renewable energy but a number of experimental projects are currently taking place in the UK.

The Limpet device, located off Islay in the Scottish Hebrides, consists of a coastal gully leading into a concrete chamber. Waves entering force air into the chamber under pressure. This is used to drive a turbine to generate electricity.

Tidal power is likely to provide much larger quantities of energy. Several possible sites for such schemes in the UK have already been identified, but huge costs and high environmental risks are slowing down development. The likeliest site today is in the Severn Estuary. The shores of the Severn comprise large and important coastal marshes which are home to thousands of birds.

With the help of **Figure 10**, summarise issues associated with the development of wave energy and tidal energy.

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7 (c) Comment on the effects of acid rain.

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7 (d) For **one or more** type(s) of energy, describe and comment on global patterns of supply, consumption and trade.

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8 Health Issues

8 (a) Define the term 'morbidity'.

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(2 marks)

8 (b) (i) Study **Figure 11** which shows life expectancy of males and females by levels of deprivation in Manchester between 2004 and 2008.

Figure 11

Quintile	Males (Years)	Females (Years)
1 Least deprived	78	82
2	76	80
3	73	78
4	72	78
5 Most deprived	70	76

Describe the information shown in **Figure 11**.

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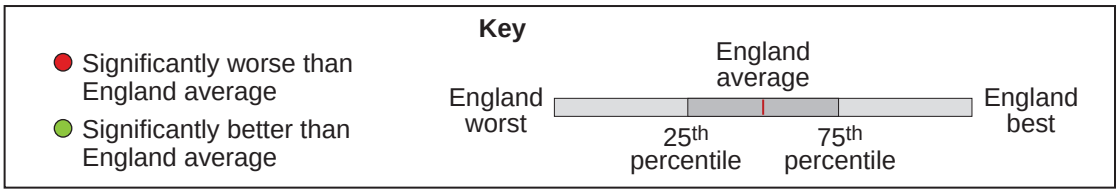
8 (b) (ii) Study **Figure 12** which shows selected information relating to deaths in Manchester from 2006 to 2008.

Figure 12

Indicator	Manchester	England average	England range
Excess winter deaths	10.4	15.6	
Infant deaths	6.26	4.84	
Deaths from smoking	360.3	206.8	
Early deaths: heart disease and stroke	125.0	74.8	
Early deaths: cancer	159.7	114.0	
Road injuries	46.4	51.3	



Comment on the information shown in **Figure 12**.

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8 (c) Use a local case study to describe how health care is provided.

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8 (d) With reference to **one** infectious disease, discuss its impact on health, economic development and lifestyle.

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END OF QUESTIONS

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Figure 4: USEPA: http://www.wunderground.com

Figure 5: www.h-o-m-e.org

Figure 7: US Department of Agriculture Production Supply & Distribution

Figure 8: Reproduced with the permission of Nelson Thornes Ltd Geofile Online Series 29, Unit 634, Feast or Famine: Issues in feeding the World's Population, Kim Adams & Paul Wraight, first published January 2011

Figure 10: Reproduced with the permission of Nelson Thornes Ltd from GeoActive Online Series 22, Unit 447, Recent Developments in Renewable & Clean Energy: UK, Alison Rae, first published January 2011

Figures:
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