

Centre Number						Candidate Number				
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For Examiner's Use	
Examiner's Initials	
Question	Mark
1	
2	
TOTAL	



General Certificate of Education
Advanced Subsidiary Examination
June 2009

Geography

GEOG2

Unit 2 Geographical Skills

Tuesday 19 May 2009 1.30 pm to 2.30 pm

You will need no other materials.

You may use a calculator.

Time allowed

- 1 hour

Instructions

- Use black ink or black ball-point pen. Use pencil only for drawing.
- Fill in the boxes at the top of this page.
- Answer **all** questions.
- You must answer the questions in the spaces provided. Answers written in margins or on blank pages will not be marked.
- Do all rough work in this book. Cross through any work you do not want to be marked.

Information

- The marks for questions are shown in brackets.
- The maximum mark for this paper is 50.
- You will be marked on your ability to:
 - use good English
 - organise information clearly
 - use specialist vocabulary where appropriate.

Advice

- Where appropriate, credit will be given for the use of diagrams to illustrate answers and where reference is made to your personal investigative work. You are advised to allocate your time carefully.

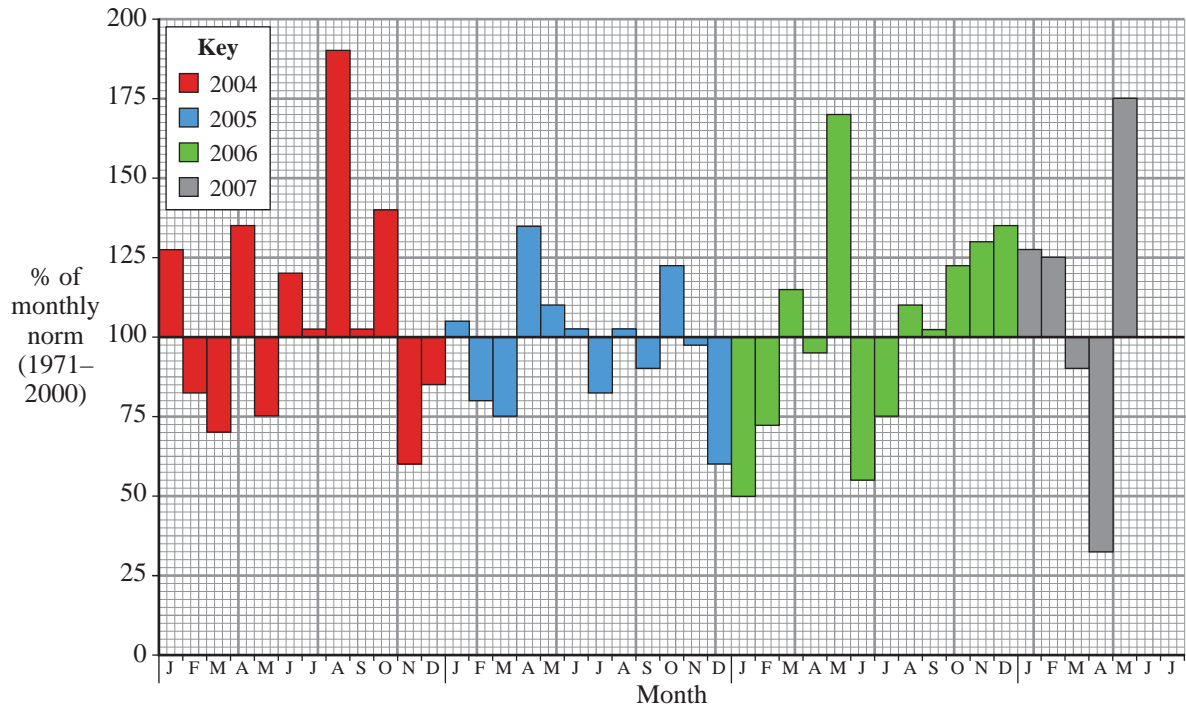


J U N 0 9 G E O G 2 0 1

Answer **all** questions.

- 1 (a) Study **Figure 1** which shows UK rainfall variation in relation to norm between January 2004 and July 2007.

Figure 1



- 1 (a) (i) Plot the figures for June and July 2007 on **Figure 1**.

Month	% of monthly norm
June	180
July	195

(2 marks)



1 (a) (ii) How does the data for 2007 shown in **Figure 1** differ from the data for the previous three years?

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(4 marks)

(Extra space)

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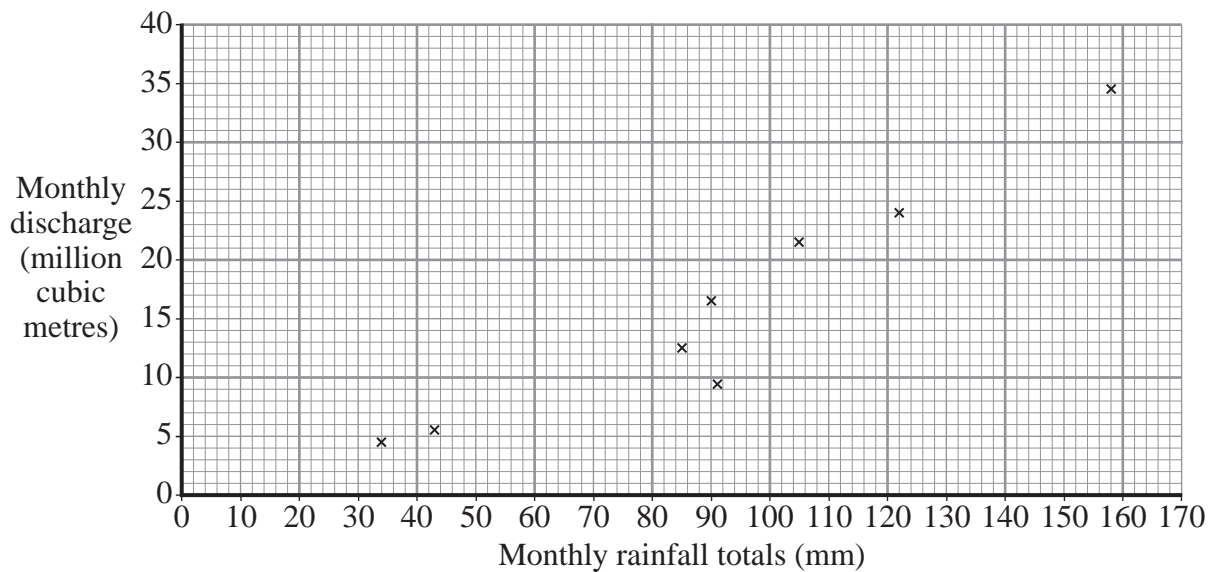
Question 1 continues on the next page

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- 1 (b) Study **Figure 2**, a scatter graph showing the relationship between selected monthly rainfall totals in the River Severn catchment and the corresponding month's discharge at a selected point in the river channel.

Figure 2



- 1 (b) (i) Complete **Figure 2**

- by plotting the data provided in the table below
- by sketching the best fit line.

Monthly rainfall totals (mm)	Monthly discharge (million cubic metres)
90	18.8
63	11.9

(3 marks)



1 (b) (ii) Describe the relationship between monthly rainfall totals and corresponding monthly discharge.

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(2 marks)

1 (b) (iii) Explain your method for locating the best fit line.

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(2 marks)

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1 (c) Study **Figure 3**, a satellite image of Shrewsbury on the River Severn.

Figure 3



1 (c) Using **Figure 3**, suggest possible reasons for the regular flooding of the Shrewsbury area.

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- 1 (d) Study **Figures 4** and **5** which give information and key facts about the Frankwell Flood Alleviation Scheme in Shrewsbury.

Figure 4

Historically, a major flood has caused significant damage on average once every ten years, but time between floods can vary significantly. There has been a recent and dramatic increase in the number and severity of floods in Shrewsbury.

The Frankwell area of Shrewsbury was at risk of flooding through the action of four principal mechanisms: river overtopping; groundwater flow/seepage; breaching of existing riverside walls and buildings; inadequate drainage. It was estimated that many properties in Frankwell had no more than a 1 in 3 year standard of protection.

The Frankwell Flood Alleviation Scheme consists principally of steel sheet pile underground walls up to 16 metres deep, which limit the flow of groundwater under the defences. They also act as a foundation for reinforced concrete walls up to 3 metres high and demountable aluminium barriers.

Shrewsbury is fortunate in that the Environment Agency is usually able to provide at least 6 – 12 hours' warning time, allowing time for demountable defences to be erected.

Considerable attention has been paid to the aesthetics of the scheme in order to minimise its environmental impact and to improve the riverside environment. The walls have been clad with carefully selected brick or stone facings and the site has been re-landscaped.

Figure 5

Number of properties protected from a 100 year flood event	74
Cost of Environment Agency work	£3.5 million
Scheme commenced	January 2002
Scheme completed	November 2003
Length of demountable flood defences	155 metres
Length of permanent flood defences	700 metres



1 (d) Referring specifically to **Figures 4 and 5**, outline and comment on the economic and environmental issues associated with the Frankwell Flood Alleviation Scheme.

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2 You have experienced geography fieldwork as part of the course. Use this experience to answer the following questions.

2 (a) (i) Describe the location of your fieldwork and outline why this was a suitable site for your investigation.

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(4 marks)

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2 (a) (ii) State **one** hypothesis **or** research question **or** issue for evaluation that you have investigated in 2(a)(i). Describe **one** method of primary data collection used in this investigation.

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2 (a) (iii) Discuss the limitations of your chosen method in 2(a)(ii).

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2 (b) Outline and justify the use of **one or more** techniques used to analyse your results.

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2 (c) Drawing upon your findings, explain how your enquiry improved your understanding of the topic.

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END OF QUESTIONS



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Question 1 Figure 3: Getmapping plc
Question 1 Figure 4: Source: www.environment-agency.gov.uk Reproduced under the terms of the Click-Use Licence

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