GCE

Geography Specification B

Report on the Units

June 2008

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Advanced GCE Geography B (7833)

Advanced Subsidiary GCE Geography B (3833)

REPORT ON THE UNITS

Chief Examiner's Report

The OCR Advanced Subsidiary GCE Geography B specification provides a coherent course in geography and a solid foundation for further study at A2. The philosophy of the specification is essentially about understanding how physical and human systems operate in order to consider how they might be managed sustainably. As such, the use of contemporary examples is an important part in the consideration of future geographical challenges.

The June 2008 examinations were sat by a significant number of candidates in each of the units.

There were a number of re-sit candidates in a number of the units and it was evident that a significant proportion of these candidates had improved their performance.

Principal Examiners have expressed the view that candidates were generally well prepared in terms of both subject content and assessment technique. Standards appear to be consistent relative to the cohort being examined. In some of the units a marginal improvement was noted in the middle to higher mark ranges. There were very few extremely poor examination scripts and rubric errors were rare.

The following sections give a more detailed breakdown of individual units.

2687 Physical Systems and their Management

General Comments

The examination was considered appropriate for AS level candidates and almost a full range of marks was achieved. There remains an imbalance in the choices in Section A with fewer candidates as usual choosing to answer the question on Atmospheric Systems but still over three quarters answering the Coastal Systems questions. Candidates should be encouraged to look at the whole balance of the Specification, including the headings to each module and study section – it was particularly obvious this examination that few had studied a coastal wetland. Care should be taken by A2 candidates who may be re-sitting their AS module that their more recent studies of topics such as Natural Hazards are not used in place of their AS case studies; they are rarely appropriate. Better candidates can demonstrate a synthesis and overview of the physical systems studied. This ability to see the whole picture of any of the physical systems, to understand how the processes interact, and then to appreciate the impact of management upon the system is the quality that characterises the good candidate. It was of concern how many candidates could not read the question correctly so gave largely irrelevant answers, spell even simple locational terms e.g. Mississippi or geographical terms e.g. 'mienda', or confused geographical terminology e.g. weathering and erosion. A larger than usual number of candidates clearly did not check their answers so producing numerous errors or statements of the obvious e.g. *Lyme Regis on the east coast where the rock is made up of boulder clay......'*

Those candidates that achieved the highest grades:

- Demonstrated consistently good performance throughout the paper
- Showed detailed locational knowledge especially in the extended answers – there was a clear sense of place
- Exemplified, even within shorter section answers
- Used appropriate and accurate geographical vocabulary
- Showed they understood cause-effect relationships

And above all:
- Answered the question set – this was a particular problem this examination with even able candidates missing some aspect of the section c questions.

Many of these points should be remembered for the new specification being taught from September as they remain valid and are crucial in improving achievement.

Section A
The format of each question is the same as in previous examinations and as in the complementary Human Systems module. There is a choice of two from three questions, one on each of the three study units. A resource provides stimulus material and data for parts (a) and (b) to show understanding and skills in different contexts while part (c) requires greater use of knowledge. Section (a) nearly always is descriptive and section (b) explanatory – a fact that all too many candidates fail to understand. Parts (a) and (b) have 9 marks each, while part (c) has 12 marks.

Section B

In this longer essay section there is a choice of one from two questions that seek to combine elements of all three physical units, to show the ability to synthesise knowledge and understanding of all aspects of physical geography. There is space in the answer booklet to plan this more demanding task, worth 30 marks, and once again it was evident that the candidates who planned carefully were able to construct a more logical essay that fulfilled the requirements of the question. In this examination the essay responses were generally good, better than their section c responses, which augurs well for the new specification.

There was no evidence of shortage of time, and few rubric errors, although a few candidates failed to fully complete all sections of some questions. A larger than normal number of candidates wrote under half a page for their Section A responses. It is advised that the following comments are read in conjunction with the mark scheme.

Comments on Individual Questions

Section A
1.   Atmospheric Systems and People.

(a)   Study Fig.1, which shows the main air masses affecting the British Isles. Compare the weather brought by Polar Continental air masses in winter with the weather they bring in summer.   **[9 marks]**

The map was an indicator of the source and direction of the air mass so candidates needed to appreciate that PC comes from the east and so summer is likely to see PC as a warm air mass and winter as a cold one. Too many got confused and saw this air mass as being cold all year:

In summer Pc brings cold conditions to the east coast having warmed up only a little as it crosses the cool north sea.

So much better is:

In summer PC air mass resembles TC as the centre of Europe, its source area, has heated up. As it crosses the cooler north sea its lower layers are cooled and the air mass is made more stable. It reaches the east coast as a warm, dry stable air mass often bringing fog.

Too many candidates confused air masses with pressure systems and see PC as the same as anticyclonic conditions.

Candidates must appreciate the meaning of the command 'Describe' – all too many candidates wasted time and space by explaining. Higher scoring candidates really appreciated the term weather and went beyond the minimal cold v hot:

PC in winter brings biting easterly winds with snow flurries as some moisture has been picked up from the north sea. If the winds take a long sea track across the north sea the NE of England could suffer a heavier fall of snow.

(b) Suggest why Polar Maritime and Tropical Continental air masses may bring different types and amounts of precipitation to the British Isles**. [9 marks]**

This section did require explanation but too many candidates described, often inaccurately, the sources and movement of these two air masses. Most recognised that PM arrived via the Atlantic and TC via dry warm Europe but some confused TC with TM.

Most focused on the 'amount' aspect and were broadly correct:

PM comes from the Atlantic so brings large amounts of rain especially to the west coast whilst TC crosses Europe so is dry.

Higher scoring candidates picked up 'types' either as relief v convectional rain or heavy persistent rain v sudden thunderstorms etc. The best answers explained these in terms of stability of the air masses:

As the cold PM air masses crosses the warm sea in summer its lower layers are warmed and becomes more unstable so bringing heavy downpours and even thunderstorms when it is forced to rise by the Welsh mountains.……

(c) With the aid of named examples, explain how human activities can lead to global warming **[12 marks]**

Few seem to appreciate that this question focused on the role of human activities so a range of such activities was required to be fully effective. Very few tried to quote named examples and those that did were often limited to the very basic e.g.

China is rapidly industrialising so is a major source of greenhouse gases from its coal fired power stations and heavy industry.

Candidates should remember that named examples means located – a place rather than an example of CO_2 emission.

Many seemed to confuse this topic with urban heat islands and the destruction of the ozone layer. These may well contribute to the warming of the atmosphere but not so clearly to global warming. Most gave a brief explanation of what global warming is and then launched off onto a list of causes. There was a lot of focus on cars and traffic and most did link these to the production of greenhouse gases.

Higher scoring candidates went beyond this limited perspective. Some focused on forest clearance:

The destruction of the Amazon rain forest has a twin impact on global warming. By cutting down the trees and burning them CO_2 is released but also there are then fewer trees to absorb the CO_2 from the atmosphere.

Some candidates explored the role of cattle, fertilisers and methane released from rubbish dumps. Unfortunately many candidates wandered off onto the impacts of global warming with long asides on the effects of the rising sea level.

2. **Landform Systems and People**

   (a) Study Fig.2, which shows two channel cross-sections. Describe the differences between the characteristics of the two channels. **[9 marks]**

Most candidates recognised the basic differences and many did quote figures from the diagram but few took them further so stayed as low level responses. A simple calculation would have raised the response level:

Channel A has a wetted perimeter of 16 whilst Channel B is 20 but both have the same cross sectional area. This means the water in channel B has more friction working on it.

Most candidates then offered speculative, but often logical, comparisons between the two channels:

Channel A as it is deep and narrow is more likely to found in the upper stages of a river whilst B is more likely in the lower course where less erosion is taking place.

Some went on to calculate the hydraulic radius for the two channels but often they got confused over this simple calculation and its meaning. Too many saw B as a more efficient stream in which the water would flow faster. This was clearly at odds with their previous statements that B was wider and/or had a greater wetted profile so produced more friction.

Yet again a number of candidates decided to explain why the two channels differed.

(b) With the aid of diagrams explain the formation of **two** different river landforms.

[9 marks]

This was often done quite well with a good range of river landforms but candidates need to appreciate that some features are a lot easier to explain in a limited space than others. Some features are not well understood so are best left alone e.g. riffles and pools. Waterfalls tended to score highly but candidates who chose meanders struggled to explain their formation:

A meander is mainly formed by erosion processes and not weathering or slope processes as the land is fairly flat in the lower section.

Sometimes strange river features emerged:

Land slip scar – as the river undercuts the cliff, the cliff becomes unstable and rotational slip occurs and leaves a land slip scar.

And there was even an alarming number of attempts to explain a marine spit!

There are far more obvious landforms that are specifically river landforms that the candidate could have explained. Some candidates produced such accurate and informative diagrams that they nearly got full marks on those alone. Those that attempted ox-bow lakes were better advised to do a series of diagrams rather than cram all their detail onto one big diagram.

Again candidates wasted space and time by offering irrelevant descriptions or asides:

Meanders form in soft rock such as clay which is easily eroded by the river.

The best answers really did explain their formation. Compare these two contrasting efforts to explain levee formation:

When the river floods it deposits material along its banks to form levees.

When the river floods it loses energy immediately it leaves its channel and spreads out. As it loses energy it can't carry its load so deposits the heaviest material nearest to its channel so building up its banks.

(c) For a named river, explain how the channel has been managed to control flooding. **[12 marks]**

This was often a disappointing section with the Tees and Mississippi (usually spelt wrong) the most common choices. As previously noted in the examiner's report too many candidates spend up to 50% of their answers describing the river – its length, history etc. Some even offered more than one although the instruction in the question is clear. Unfortunately few candidates identified channel features:

Compare:

The upper catchment of the Missippi (sic) has been afforested so heavy rain is delayed running off into the river.

With

The Mississippi river has had levees built alongside it to prevent flooding and wing dykes act to slow the water and so reduce erosion.

This is especially ironic as when upper catchment was asked in a previous examination candidates concentrated on channel management.

The 3 Gorges Dam(s) featured strongly but candidates could not go much further as they didn't know of any other channel management strategies in the area. The choice of examples is crucial in such questions – some rivers have a much greater range of management strategies than others. Often the need to find extra material resulted in irrelevant asides as to how the dam will transform the Chinese economy or how the dam has produced both good and bad impacts on the area below or above the dam:

The dam will provide 10% of China's power and reduce its dependency on burning fossil fuel – chiefly coal, and so reduce the greenhouse effect. It has created 10,000 jobs locally but did flood 34 villages.

This was not the focus of the question and so could gain no credit. It was a rare candidate who recognised that question did mean the river and its channel. Yet another example where the correct reading of the question would have boosted the mark.

3. **Coastal Systems and People**

   (a) Study Fig. 3, a photograph of a coastal landscape. Identify and describe the coastal landforms shown. **[9 marks]**

   Most candidates were competent at identifying the main features of beach, bay and cliffs. Some added spit, sand dunes and a few rare candidates correctly identified the raised beach. Few got beyond half marks as they tended to explain the origin of these features rather than describe them as directed in the question. So:

   There is a spit in the background caused by longshore drift moving material out from the headland.

   did not score as highly as:

   In the distance there is a spit extending out from the headland. It appears to have sand dunes on it which have been colonised by vegetation which has helped stabilise them.

   Candidates seem to struggle to describe and rarely offer any idea of shape, size etc Few offered diagrams, an effective way to identify features. Too much was vague and generalised:

   The cliffs are vegetated suggesting little marine erosion.

   In comparison:

   The 50m high cliffs seem stable as they are vegetated with no signs of recent mass movement. They are fossil cliffs as the sea no longer reaches their base so they only suffer subaerial forces such as weathering.

   It is worrying how many candidates ignored the beach yet identified stacks and caves.

(b)   Suggest why the gradient of beaches may vary   **[9 marks]**

This was often done very well with a good use of annotated diagrams. Others offered explanations no better than those at lower school level. So many seemed to get confused between constructive and destructive waves in terms of impact on beach gradient. Destructive waves do not make beaches gentler! About two thirds of candidates answering this question got it wrong.

Most candidates went beyond wave type to look at beach material, wind action and the impact of human interference:

Visitors trample on beaches and reduce their gradients but beach replenishment schemes such as that at Cley in Norfolk add material often steepening the beach as a coastal defence.

All too often the material was not tightly focused on differences in the nature of the beach gradient:

Storms and severe weather can result in beach gradient.

It was the candidates who explained in detail relating it tightly to beach gradient that scored well:

Storms often steepen beaches as they produce high energy waves with strong backwash. Storms often throw up berms of larger material that give rise to ridges in the beach gradient.

(c) For a named area of coastal wetland ecosystem that you have studied, explain how and why it has been managed. **[12 marks]**

This was another very disappointing question. All too many saw this as a question requiring them to describe how coastlines can be protected from erosion so gave detailed descriptions of hard and soft engineering solutions. This question clearly asked for an area of coastal wetland. So many candidates destroyed their chances by their very first sentence:

The wetland area that I shall talk about is the sand dune area at Formby.

Or

The cliffs at Holderness are being rapidly eroded so need protecting.

Too many candidates took this approach. Clearly 'wetlands' is not a secure term for most candidates. Hopefully this is evidence of misreading the question rather than faulty knowledge as how could sand dunes be considered a wetland unless lagoons or slacks were explored in the answer. Many seemed unaware that wetlands (salt marshes) do exist behind many of the sand dune environments discussed e.g. those behind spurn head.

Having gone off on the wrong area some marks could have been accessed by some generic material on why such an ecosystem needed to be managed such as:

The ecosystem is under threat from a rising sea level and increased tourism with people trampling the delicate plants. Other pressures include the use of the area for recreation such as fishing and the demand for coastal grazing areas for sheep etc.

In theory the marks divided equally between the how and why aspects but few candidates went into detail on the why. The how part was either seen as 'how do we defend coasts from erosion' with lists of features such as groynes, gabions etc or was better focused on the broader management issues:

Most of the management is soft. Notice boards have been put up to inform people how fragile the area is. Some areas are fenced off and others have boardwalks to guide people away from areas at risk. Much of the area is a SSSI.

So again candidates need to read the question carefully and be prepared to go beyond the most obvious to achieve at the highest level.

Section B

It is noticeable that in nearly every examination more candidates answer question 4 than 5. In this case the imbalance was perhaps only 20% attempting Q.5. Did this mean Q.5 was seen as more difficult or do candidates see they can do the first question they come to so read no further? If so this is a poor strategy.

4. 'Rock structure is as important as climate in the formation of river and coastal landscapes.' Discuss this view by referring to **one or more** named areas that you have studied. **[30 marks]**

This proved a very popular question and on the whole was answered well. Candidates are reminded that this has a number of facets – rock structure, climate, river landscapes and coastal landscapes. This makes it a big question and to achieve at the highest level candidates must discuss all of these.

The level of exemplification varied greatly and sadly much was inaccurate or plain wrong.

The river Ouse starts in a bog as it is an impermeable rock such as granite.

This was echoed by some of the inaccurate cause effect statements:

Where the rock is soft like clay it is easily eroded to form caves, arches and stacks.

Many chose to support their discussions with diagrams usually of waterfalls and Lulworth cove. Candidates should appreciate that a careful and appropriate diagram could save a lot of time and words. Try explaining the shape of Lulworth Cove using only words! This did illustrate the role of structure effectively but many stumbled when it came to climate. Most responses were limited to weathering and/or precipitation but some did recognise the crucial role of wind in coastal areas:

Wind speed and direction determines wave form and energy. Coasts open to a long fetch which the winds can drag on will be subject to high energy erosive waves e.g. SW England.

It was a pity that candidates didn't go on to look at the impact on the various elements of the system – stores, flows, inputs and outputs. In fact few candidates rose to the level of systems and instead tended to describe and explain the impact on individual areas or features:

At Hayling Island on the south coast of England the geology is prone to erosion as a layer of gravel overlays soft clay.

Unfortunately the candidate did not amplify this statement or relate it to the actual question.

Very few candidates took the opportunity to talk about past climates e.g. glaciations or the role of climatic change. Many did see climate as providing extreme events such as storms or floods that had major roles in forming or transforming landscapes. There were some thoughtful comments with some higher scoring candidates suggesting structure was more important at the local scale or that climate was dominant in the long run. It was good to see candidates trying to discuss the view.

5.   With reference to **one or more** named areas, explain how prolonged droughts impact on physical systems and human activities.   **[30 marks]**

This was a relatively unpopular question but those that chose it often did very well with many good answers looking at a range of impacts although there was an over concentration on the human aspects. In most cases this was a list of negative impacts often of a very simplistic form:

The drought resulted in hose pipe bans, draining of swimming pools and adverts suggesting you shower with a friend.

Too many of these impacts were left unexemplified or left as e.g. Britain. Some of the more effective answers did distinguish the scale and severity of these impacts varied with the location:

Whilst drought is an inconvenience in developed areas such as the UK it can be an unmitigated disaster in poor countries such as those in the sahel area of Africa.

Some did suggest there was some positive impacts of droughts:

Droughts cause a boom in sales of soft drinks, beer and ice cream.

It was the lack of development of the impact on the physical systems that held back candidates. Some recognised the impact on rivers and lakes and the knock on impact on the ecosystem. Some even developed a discussion on the impact of fires resulting from the drought:

In Australia it is fire that destroys most of the vegetation and wildlife. Few can out run it as it is swept along by hot strong winds.

Some candidates thought drought lowered the sea level. Others used the Aral sea as an illustration of the impact of drought. Some wasted time explaining why droughts form whilst others got side tracked onto deserts.

Candidates should be given practice in this extended writing, as the longer essay gives the examiner the opportunity to assess the quality of written communication to a greater degree than the shorter answers. This examination suggested that candidates performed better in such answers than in the shorter section ones. Crucial in this is the ability to read the question carefully and respond in a focused way to the key concepts or terms used. Fluent use of geographical terminology, the logical structure of the essay, and the ability to draw together elements from all three of the study units of the Specification fulfil the requirement to synthesise knowledge throughout the AS course, and provide a good foundation for the higher level skills required in the synoptic paper at A2. It also provides confirmation of progression beyond GCSE in both knowledge and understanding of the subject. In this examination the essay questions scored more effectively than the structured answers where, all too often, answers were not well focused on the actual question set.

Reading the question carefully and answering it in a relevant and focused way remain the keys to success.

2688 Human Systems and their Management

The paper presented few difficulties for able candidates who had prepared well, and there were a good number of very high scores close to full marks. However, this was a paper that presented challenges to candidates who had prepared poorly. Weaker candidates who had prepared well were able to produce simpler, but competent responses and could be rewarded. As is often the case, very low scores occurred because candidates made no attempt at parts of questions.

It is worth reminding candidates that they should keep their answers within the spaces provided, and within the frame guidelines. If there is insufficient space to complete answers below the question, they should be continued on pages 15 and 16. It is helpful to indicate that an answer is continued on later pages.

The trend of using the space on page 11 to plan the Section B essay has continued. It is noticeable that the quality of Section B essays has steadily increased from session to session, and the better planning has contributed to this.

Support from examples has continued to improve. It is worth emphasising that an example usually requires more than just the name of a country, especially if one with the extent and population size of China is cited. The mark schemes emphasise good credit for place-specific detail. Examiners are prepared to reward well answers that go beyond the general, even if they are located appropriately.

1(a)   There was no one pattern either in the location of the jobs, or the sources of investment that leapt out. Candidates were rewarded well when they tried to identify a pattern, or supported well that no clear patterns emerged. Good answers noted that the number of jobs reflected the distribution of population. Others made useful observations on the size of regions in relation to the number of jobs. Investors were sometimes classified as MEDC, NIC or LEDC in origin. Useful comments were made by reading off numbers from the lower graph. Candidates who just read off figures in no organised way were only able to gain modest credit.

1(b)   A large number of candidates did not have a good understanding of 'markets'. Many of these wrote answers that substituted 'labour costs' for 'markets' and could be given little credit. Better answers often dealt with LEDC/NIC locations, but emphasised the growing markets once many people have secured jobs, and that cheap, efficient transport allowed low cost locations, but still with easy access to richer markets in MEDCs. Although examples were not required, many candidates used these extremely well to illustrate points.

1(c)   This was fairly well answered with only a relatively small number in Level 1. Level 3 was marked out by place-specific detail. Wales was often given as an example, but the top mark answers named places, specific industries, and location of problems, both social and economic.

2(a)   As with 1 (a), weaker answers just repeated information from Fig. 2 without making any point from it. Some good answers made a link between faster car journeys and the declining number of buses. The best answers related the scale of change to distance from Norwich, size of populations affected with some outstanding answers that dealt with directions.

2(b)   Once again marks were lost by some candidates who did not really understand 'gentrification'. Many of these answers took the term to mean people moving to modern

estates of detached houses on the urban fringe, or moving to villages in rural areas. Those who did understand the term were almost certain to include some explanation. As with 1 (b), examples were not required, but some outsanding answers made reference to real examples throughout. Islington and Notting Hill were both used particularly well with plenty of place specific support for explanations.

2(c)   Many answers were weak here because candidates did not know what 'the urban fringe' is. A number of candidates wrote answers on London Docklands. Such answers could gain a little incidental credit if covering equivalent reasons. Most answers did deal with the fringes, but often had only a small amount of specifics of any place. Some very detailed answers, with named areas, roads, firms and housing developments easily gained very high marks. There were some particularly strong answers on developments on the southern fringe of Manchester.

3(a)   A small number of candidates did not appreciate that the maps were showing two different things. These candidates took the upper map to be absolute GDP in 1990, and the lower map to be the same thing for 2003. Of the majority who read them correctly, a small subset just read off figures in no organised way. As soon as any attempt was made at pattern, answers could be credited in Level 2. The most common was to identify some of the fastest growing as NICs. The best answers related the two maps together noting that some of the fastest growing were some of the poorest in absolute terms, and that the richest MEDCs had only modest growth.

3(b)   It was rare to see a really poor answer to this question. As with other Section A part (b) answers, examples were not necessary, but many good candidates picked examples where an improvement in the status of women had produced falling birth rates and a slowing of population growth. The best detailed the chain of events giving a full explanation. In the middle range, candidates noted the effect of the changing status, but never made fully clear the causal links.

3(c)   A very wide range of populations trends could be used here, and all be capable of being credited to full marks. A number of candidates did just that. Most often, some part of the process of urbanisation was taken as the starting point and used to explain how it had an effect on population trends. Many weaker answers either had no population trend mentioned at all, or one was mentioned, but not linked to any urbanisation described. Late stage urbanisation, counter-urbanisation, was legitimate, and often led to good answers relating to age trends.

4   Level 5 answers needed all three elements to be dealt with well, but high marks could still be scored with one element rather neglected. The hallmark of good answers was to present enough evidence to show some element of 'how far'. So some example supporting the assertion needed to be balanced by an example that threw doubt over the statement in some way.

5   Similar considerations to question 4 applied here too. Some candidates took the line that migration sometimes solved problems, e.g. filled gaps in the labour market, supported by examples. Others argued that urban problems could arise from causes other than migration, e.g. deindustrialisation. High marks went to candidates who showed real examples that supported the statement along with examples that brought it into question.

2689 Geographical Investigations 1

General Comments

The overall standard of the responses to this paper was similar to January 2008 and May 2007. Candidates were generally able to address all the assessment objectives of the Report. Where a choice existed (Questions 1 to 3), Questions 1 and 2 were almost equally popular choices and overall they were answered well. Few Candidates answered Question 3, for which nearly all the responses were not answered well. Question 4 presented the usual challenge of a varying format and content of question between sessions. Most Candidates responded moderately well to both parts, which required an understanding of establishing appropriate hypotheses to satisfy aims and the subsequent design of a data collection programme that would test the stated hypotheses.

The Report

Guidance given to Candidates: It is common practice for AS Level for all Reports to be guided by the Centre or a field centre with group collection of data, therefore to some extent the outcomes reflect the expertise of the Centre or field centre. The assessment criteria achieve differentiation by outcome, although there is necessarily commonality in the Reports and subsequent marks at each Centre. There was sufficient differentiation between Candidates at most Centres to suggest that an appropriate level of support had been offered to Candidates. Nearly all Centres stated how Candidates had been assisted, usually by selecting the general topic, study location and sampling points. Candidates contributed to developing the methodology for planning, undertaking data collection and analysing the outcomes.

Length of Report: As in the last few years, there were few rubric infringements of the 1,500 word limit. Candidates that substantially exceeded the word limit were penalised according to the guidelines given.

Supporting figures: A maximum of two pages of relevant figures in support of the text is required in the guidelines. Overall most Centres adhered to the guidelines, without any detrimental impact on the mark awarded since credit is awarded for presenting the most appropriate data in the most appropriate formats, e.g. enabling like for like variables to be compared readily on the same page. Figures should not be photocopied and reduced in size in order to submit excessive quantities of data. The inclusion of raw data such as field notes and completed questionnaires is not required. However, templates for data collection are useful, e.g. a blank environmental quality survey form.

Content: A maximum of three hypotheses gave the most successful outcomes, as this enabled deeper analysis and evaluation than was possible with more than three hypotheses. Data collection and analysis should relate to the aims and hypotheses that the Candidate has proposed at the beginning of the Report: a description of the data collection for variables that are not part of the hypotheses is irrelevant. Average and good Candidates now produce little irrelevant material. As in previous years the majority of Reports covered physical topics, typically rivers, coasts or psammoseres. Human geography Reports were mostly based on the CBD or urban environment.

Benefit from experience: If re-sitting, it is a good opportunity for Candidates to improve the Report submitted or even to submit a new one based on a different topic or improved data collection.

Preparing for the Report: A good set of field notes can provide valuable explanations for the outcomes of the data analysis – particularly any anomalies that are present.

The Written Paper

The answer booklet clearly states that material from the Report is to be extended and not repeated in Questions 1/2/3. Repetition of the Report is generally a characteristic of lower ability Candidates. For May 2008 repetition from the Report was a risk for Question 1.

Question 1 was an equally popular choice with Question 2. Many Candidates reached Level 4 or 5; few stayed in Levels 1 and 2. Well developed answers were likely to consider a variety of time related factors and develop the answers to show how results would change – the latter being a characteristic omission by weaker Candidates, who also deviated into a discussion of how to overcome problems.

Question 2 was an equally popular choice with Question 1. Many Candidates reached Level 4; quite a few entered Level 5; few stayed in Levels 1 and 2. Well developed answers introduced a variety of factors that affect comparability. They also considered all the key terms in the question: compare, similar, someone else and different location, whereas weaker answers omitted at least one term.

Question 3 was by far the least popular choice of question. Few Candidates reached Level 3; nearly all stayed in Levels 1 and 2. More able Candidates specifically referred to additional data analysis techniques, whereas weak Candidates referred to additional data analysis following additional data collection (more of existing variable(s) or new variable(s)).

Question 4a Most Candidates reached Level 2; few entered Level 3 or stayed in Level 1. Good Candidates gave a concise relevant answer that gave a little background theory in the context of the aims and then suggested appropriate hypotheses. Weaker Candidates provided hypotheses that were scarcely appropriate or were vague and the aims frequently added nothing to the question.

Question 4b Many Candidates reached Level 3 and the top of Level 2; few stayed in Level 1; some entered Level 4. More able Candidates designed an appropriate data collection programme which identified the key aspects of the methodology that would test the stated hypotheses in order to answer the aims. Lower ability Candidates offered incomplete, unfocussed and erroneous methodologies.

All Candidates attempted all parts of the paper and followed the rubric. None appeared to mismanage the time available. There remains inconsistent quality between questions, even by intermediate and high ability Candidates.

Detailed Comments
The Report
The following comments regarding the Report have been made for previous examinations. Many Candidates have the potential to benefit substantially by addressing the issues outlined below, most of which are simple to act upon.

1) Coursework Cover Sheet CCS205

(a)   CCS205 was used by nearly all Centres. It is needed to identify the context of the studies, the conduct of group work and special circumstances relating to the conduct of the study.

(b)   Centres should ensure that the following information is provided:

  ☑   The number of words in the Report. Titles and headings are excluded from the word count. Text presented as sentences or detailed notes in tables are included in the word count.

  ☑   The Reports are signed and dated individually, i.e. not photocopied, by a member of staff at the Centre.

2) Authentication Sheet CCS160

The use of CCS160, introduced in November 2003, is compulsory: not all Centres used it – indeed more failed to use it than in recent sessions. Marks will not be ratified without a signed CCS160.

3) Overall performance

(a)   The vast majority of Candidates entered Level 2; very few Candidates remained in Level 1. Stronger Candidates produced well organised Reports that linked their outcomes with their initial expectations when accepting or rejecting their hypotheses and also considered geographical theory. Weak Candidates included little analysis and the structure was poor, with weak hypotheses that were not clearly referred to throughout the Report.

(b)   Nearly all Reports represented a substantial development from GCSE, showing independent thinking when analysing and evaluating outcomes.

4) Presentation

(a)   The *standard* of presentation in the Reports was generally good. Good characteristics were:

  ☑   Easy to read text.

  ☑   Use of the third person rather than the first person.

  ☑   The sheets were in the *order* in which they should be read. *Page numbering* was used.

  ☑   Figures and tables were *cross-referenced* at the appropriate place in the text.

  ☑   If graphs and other *materials were scanned* in, care was taken to maintain quality (legibility/clarity).

(b)   The use of *excessive text* describing data collection and the evaluation of the method in a tabular format can attract a penalty against entering Level 3 if the word count is not adhered to. However, this technique was highly effective when used carefully.

(c)   The recommendation for two pages of *supporting material* was not adhered to by all Candidates. These figures should:

    (i)   Provide evidence of the data collected.

    (ii)   Relate to the stated aims and hypotheses of the investigation.

    (iii) Show an awareness of appropriate methods of representing data, e.g.:

       ☑ One map extract of an appropriate scale (not the UK) should show the location of the investigation and/or sampling sites.

       ☑ Insert figures/tables at the appropriate place within the text so that they complement rather than detract from the text.

       ☒ Do not photocopy and excessively reduce the size of figures in order to add more information in the recommended space: this leads to loss of quality in information.

       ☒ Do not spread graphs over a number of pages, making it difficult to compare like for like variables, e.g. if 10 river cross sections are made, they should be presented on the same page using the same scale.

       ☒ Do not use more than one technique to present the same data.

(d)   ***Word processing skills*** were generally good, but ***proof reading*** was often neglected. In a few cases the standard of English was weak.

5) Length

(a)   At a few Centres some Reports exceeded 1,500 words. The word count must be adhered to and an accurate word count stated, since fairness for all Candidates is paramount. Candidates should think carefully about how to use the word resource effectively.

(b)   As noted in 4)(b), the use of tables to describe and evaluate data collection may be used to "save words" – but such tables with continuous text are part of the word count.

6) Format

Most Candidates used a recognisable format based upon the Specification: introduction, aims and/or hypothesis, data collection, analysis, and evaluation. An essay style approach without headings was seldom used – it often made the structure of the Report more difficult to understand and was symptomatic of lower quality Candidates.

7) Content

(a)   The ***subject matter*** of Reports was nearly always appropriate. At AS level Candidates have not covered a great variety of topics. As in previous sessions physical studies such as rivers, psammoseres and human studies of spheres of influence and definition of the CBD are very popular and suitable topics. Physical geography reports dominated.

(b)   ***Specific topics*** selected within these subject areas need to be chosen with care, e.g. the comparison of two sites along a river, one being on a straight and one on a meander, is unlikely to demonstrate typical downstream river changes.

(c)   Many Reports still have a weak ***introduction***. It should be short and balanced, summarising the context of the study by stating: (i) where the study is based; (ii) something about the study area; and (iii) why it was selected.

(d)   The ***aims*** were given in nearly all Reports, but in some cases the ***hypothesis*** was not given or it was not clearly linked to the aims. Some even had no hypotheses at all, these being replaced with an unachievable or lengthy or inappropriate wish list of expectations. A simple hypothesis demonstrates an understanding of what is expected

to happen, according to theoretical knowledge, e.g. the velocity of a river will increase downstream; larger shopping centres have a greater sphere of influence. Additional justification can be given here. Expectations presented here can be used to explain the results later in the Report. The purpose of the null and alternative hypothesis, when stated, is sometimes misunderstood. *The null hypothesis should state that there is not a relationship expected between two variables, whilst the alternative hypothesis should state that a relationship is expected, and preferably indicate the direction/nature of this expected relationship.*

Candidates should be sure that the **theory presented is correct**. Common errors include the belief the velocity decreases downstream and that a U shaped valley always characterises the later stages of a river whilst a V shaped valley is always found in the early stages.

All relationships to be analysed should be stated clearly in this section.

One or two hypotheses are adequate. Highly diverse and/or numerous hypotheses (up to nine have been presented) do not lend themselves to an easily managed Report, often leading to lengthy methodology and limited data analysis / evaluation sections.

The hypothesis must precede the methodology, otherwise it is not possible for the reader to know whether appropriate variables are being collected.

(e) The **method** was usually presented well (as in previous years). Appropriate methods of enquiry were used. The following are good characteristics:

- ☑ The **choice of variables** must relate to the hypotheses and the rationale for their choice must be clear, e.g. the use of two methods of measuring velocity must be justified.

- ☑ How the sites/transects for measurement were **selected.** *However, many Candidates did not **justify** the site selection.*

- ☑ **Type of sampling** used (random, pragmatic, systematic, stratified – *Candidates often confuse these definitions*).

- ☑ **Sample size** for each sampling site was clearly stated. *However, this was frequently omitted. An **appropriate** sample size is important, e.g. three sites along a river will not yield useful results, nor will 20 questionnaires for a sphere of influence study.*

- ☑ The data collected was **relevant** to the aims/hypotheses, *otherwise the analysis would not be relevant to the aims. When groups collect many variables, individual Candidates should only refer to variables relevant to their chosen hypotheses both in data collection and analysis.*

- ☑ A precise **definition** is given for the variables.

- ☑ Template of **questionnaires** and **survey forms**, e.g. environmental impact.

- ☑ **Field notes** made whilst collecting data, to be referred to in explanations of results.

(f) **Analysis** was of variable quality, as in previous years. Good characteristics included:

- ☑ A clear indication of the hypothesis being discussed.

- ☑ Text describing the results of the investigations was linked to graphs, tables, figures or photographs.

- ☑ The results of **statistical tests** were discussed within the text.

- ☑ Theoretical knowledge was used to explain the outcomes.

- ☑ **Anomalies** were looked for and an attempt made to explain them by referring to **secondary knowledge** and **field notes**. The source of the explanatory material was stated.

- ☑ The outcomes from more than one hypothesis/aim were linked – *this is a Level 3 type response*.

- ☑ **All the data** collected was referred to and was relevant to the hypotheses, e.g. a questionnaire may be a relevant supplementary to the investigation, but if carried out, it should form part of the analysis. Conversely, irrelevant data should not be collected, e.g. pH and soil moisture are not relevant to wind speed across dunes.

- ☑ The source of **supplementary data** (i.e. secondary and anecdotal evidence) was used to support the interpretation of data. *This was often omitted with coastal management schemes and responses to questionnaires.*

- ☑ **Statistical tests** carried out well included:

  - An appropriate test was carried out. *If a mean is taken of 10 readings at each of two locations, the appropriate test is the difference of means not Mann-Whitney.*

  - Numerical evidence to demonstrate that a test has been carried out.

  - Careful use of the term "significant". The **level of statistical significance** of a relationship (if any) was stated when carrying out a suitable test such as Spearman's Rank Correlation.

  - Calculations checked carefully. *A logic check by the Candidate will quickly reveal unrealistic results, e.g. the direction and strength of an appropriate relationship based upon Spearman's Rank Correlation should be checked against scatter graphs. Units should be checked, e.g. discharge is often miscalculated.*

  - Appropriate formulae used to calculate results, e.g. the calculation of velocity based on the number of propeller counts or the time taken for a float to travel over a given distance must be converted to metres per second.

  - Make sure *both* variables are ranked from high to low (or low to high) for Spearman's Rank Correlation.

- ☑ The Conclusion does **not repeat information** verbatim from the analysis.

- ☒ Candidates should be aware of geographical theory, e.g. velocity increases with distance from the source of a river; rain on the day preceding data collection does not make the results inaccurate or incorrect.

(g) Nearly all Candidates *evaluated* the project by considering two main aspects: (i) difficulties in selecting the sample and field data collection, and (ii) possible modifications and extensions to the study. Weaker Candidates stated that the study went well and that the outcomes were as predicted. They also overestimated the potential usefulness of the studies, e.g. it is highly unlikely that one off small studies would be useful to any local authority or government agency. Most studies could be linked to a geographical theory, but this third area of evaluation was usually not mentioned *or* the theory stated early in the Report was not returned to in the outcomes – particularly in the case of land use models.

(h) The presentation of *maps* was reasonable, e.g. title, scale and key. *Few Candidates used the map to show precise locations of sampling sites on, for example, rivers or sand dunes. Furthermore, many did not include any map – yet they are a fundamental part of Geography!*

(i) *Graphs*: Candidates usually selected appropriate ways of presenting data, but most made one or more of the following errors:

- ⊠ More than one technique used to present the same data.
- ⊠ Poor choice of scale for variables with small variations.
- ⊠ Variable scales for the same pairs of variables on different graphs, so that comparisons were difficult and/or misleading.
- ⊠ Axes not labelled or inaccurately labelled.
- ⊠ Two types of graph used to represent the same variables at two different sites, thereby making comparison difficult.
- ⊠ Independent variable placed on y-axis.
- ⊠ Set of related graphs on successive sheets made it difficult to compare like with like, e.g. river cross sections.
- ⊠ Line graphs erroneously purported to show a link between qualitative descriptors such as types of land use or a set of 10 randomly selected pebbles on a river bed.
- ⊠ Titles stating "A graph to show……" The graph obviously shows something!
- ⊠ Graphs and diagrams not relevant to the variables used.

The Written Paper: Comments on Individual Questions

Choice of Question 1 or 2 or 3

Very few Candidates remained in Levels 1 and 2 and many entered at least Level 4. Questions 1/2/3 must be read carefully by the Candidate to ensure that they understand what the question requires – rather than attempt to use an answer that has been rehearsed as part of examination preparation.

Questions 1 and 2 were approximately equally popular choices, with very few attempting Question 3. Most Candidates generally understood the requirements of the questions. The level of attainment for Questions 1 and 2 was good, with most responses entering Level 3 and a good number entering Levels 4 and 5. The level of attainment was lowest for Question 3, as very few Candidates answered the question set.

1) Many Candidates reached Level 4 or 5; few stayed in Levels 1 and 2.

Indicative content: **This question asked Candidates to explain how collecting their data** at different times could change the results of their investigation. The impact of time related factors could be: changing aspects of the investigation that had gone well would weaken results and changing aspects of the investigation that had gone less well would strengthen results. Possible effects on results, including the quality of data collected, were: data was or was not representative of the population and results did or did not match with expectations according to geographic theory/hypotheses; different people and equipment used to carry out data collection; a different sampling regime is use; and comparison between the two sets of results may not be possible. The time related factors suggested the need to tailor data collection according to the objectives of the investigation and the subsequent quality of results may be affected, e.g. the time of day and day of week affect sample size and composition. The time of year has various impacts such as the season in which the weather affects the ability to measure data accurately; climate affects water in rivers. Spring and neap tides affect beach Investigations. Tourist/visitor flows vary throughout the year. The hours of daylight available affect sample size.

Qualities of A grade Candidates: Either the effect on the investigation's results of changing two or more time related factors were discussed quite well or more effects are discussed in less depth. Well developed answers were likely to consider a variety of time related factors and develop the answers to show how results would change. The answer was generally logically ordered and well presented.

Other Comments: Most Candidates discussed seasonal fluctuations. Responses related to human geography projects were usually less prone to error, being able to discuss daily fluctuations, e.g. in shopping patterns, as well as seasonal ones such as those related to tourist fluctuations. Better answers demonstrated an understanding of wider fluctuations, e.g. storms do not only occur in winter. Many middle and lower ability Candidates did not understand basic geographical facts, e.g. they believed that high tide always occurs at midday or that high tides only occur in winter – whereas higher ability Candidates understood the principal of lunar fluctuations including spring and neap tides. Weaker Candidates expressed seasonal variations simply as reversals, copied material from the Report and deviated into a discussion of how to overcome problems and stated that at other times of year data would be difficult to collect but did not say how the results would change. Many river study responses suggested that results taken in low water conditions were wrong or inaccurate and would be improved by high flow conditions data.

2) Many Candidates reached Level 4; quite a few entered Level 5; few stayed in Levels 1 and 2.

Indicative content: Candidates were asked to suggest why it would be difficult to compare your results with those of a similar investigation carried out by someone else in a different location. "Similar" investigation suggests that the investigation is unlikely to – or cannot – be the same/identical due to: different time of year/day/weather conditions; different variables are collected; a different sampling method is used; a different data collection method is used; there is a different method for analysing data; the study has different aims. The impacts of a different location mean that: it is difficult to ensure control, for example, depending on what is being compared, the student may wish to keep all but one or two variables constant at both sites, e.g. vegetation and rock type, aspect, size of settlement, weather conditions, season, time of day. The different location may mean that it may not be practically possible to use the same sampling and data collection techniques, e.g. due to access constraints; or one river may not be deep enough for a meter so a floating object for velocity has to be used. The impact of someone else carrying out the study is that the student may not know what methods the other person used (in terms of the investigation undertaken, as listed above) therefore it is not possible to make a straightforward/valid comparison. The other person may have different standards of accuracy.

Qualities of A grade Candidates: Either two or more factors causing difficulties for comparison when collected in a similar location by someone else in a different location were discussed quite well or more effects are discussed in less depth. Well developed answers were likely to consider a variety of time related factors and develop the answers to show how results would subsequently change. The answer was generally logically ordered and well presented.

Other Comments: Well developed answers introduced a variety of factors that would affect comparability, typically time and weather related factors, the sampling method, the data collection method and the data analysis techniques. Control factors were considered by the highest performing Candidates. They also considered all the key terms in the question: compare, similar, someone else and different location, whereas weaker answers omitted at least one term. In particular, stronger Candidates understood the concept of similarity. Some Candidates specifically mentioned who might be carrying out the other study, e.g. a professional organisation or another school, and used this as a basis for their answer. Most Candidates referred to the lack of knowledge that would exist with regard to another study. Middle and lower quality Candidates deviated into discussions of why the other study would be comparable or different methodologies that would make the studies comparable. Weak

Candidates considered members of their class collecting data at the same study location to be different.

3) Few Candidates reached Level 3; nearly all stayed in Levels 1 and 2.

Indicative content: This question asked the Candidate to suggest and justify additional methods of data analysis that would improve the investigation. A brief statement about the techniques used could say why they were inadequate. Likely techniques included using Spearman's Rank Correlation in addition to a scattergraph in order to find the strength of a relationship by applying a significance level. Mann-Whitney would be used to determine whether two data sets come from the same population or whether they are significantly different. Descriptive statistics (mean, mode, median, standard deviation) show various types of averages and the spread of data – the Candidate may have applied none or some of them. Graphs such as scattergraphs, pie charts, bar graphs, dispersion diagrams, line graphs, cross-sections/profiles all have strong visual interpretation characteristics; each has its own uses, e.g. relationships, relative proportions, anomalies may be identifiable, multiple variables may be comparable, and spatial patterns or the mode may be detected. By placing data on maps or using information from maps it would be possible to improve the understanding of the data collected. This question is not about more data collection unless specifically in terms of: indicating new data that is collected and how it is used for a new type of data analysis; or more of the same variable is collected so that it enables an additional analytical technique to be used.

Qualities of A grade Candidates: Either two or more additional methods of data analysis to improve the investigation were discussed adequately *or* more additional methods were discussed in less depth. The answer was generally logically ordered and well presented.

Other Comments: More able Candidates discussed specific additional methods of data analysis, such as Spearman's Rank Correlation Coefficient in addition to a scattergraph. Middle and weaker ability Candidates did not read the question and erroneously based their answers on how to improve data collection – with little or no reference to possible data analysis techniques that would be enabled. Some did refer to additional data analysis that would be possible following additional data collection and improvement (more of existing variable(s) or new variable(s)) – although these references were not the main thrust of the response.

4) **a)** Most Candidates reached Level 2; few entered Level 3 or stayed in Level 1.

Indicative content: The aims stated what the investigation is seeking to achieve or find out in terms of geographical theory or general understanding. The hypotheses preferably stated null and alternative hypotheses. One or two hypotheses were sufficient for an AS investigation.

Qualities of A grade Candidates: The aims suggested what the investigation was seeking to achieve or find out in terms of geographical theory or general understanding. Hypotheses were appropriate to the aims. The response did not state both aims and hypotheses. The answer was generally logically ordered and well presented.

Other Comments: Good Candidates gave a concise relevant answer that gave a little background theory in the context of the aims and then suggested appropriate hypotheses. Simple hypotheses were usually the most successful, e.g. the further from Witney, the less frequently people travelled to Witney (or the more people spent per visit); or woodlands experience lower wind speeds and higher temperatures than open fields or large areas of water. Weaker Candidates omitted one or more of background information, aims or hypotheses – the hypotheses were scarcely appropriate or were vague and the aims frequently added nothing to the question. In particular, many did not understand what a

microclimate is, basing their answer on pollution, vegetation and soil variations. Whilst some additional variables were acceptable as a means of explaining microclimate, it was necessary for microclimate variables to be specified. With regard to shopping patterns, many erroneously confused shopping with leisure and commuting activities chose inappropriate datasets that were not specifically related to shopping patterns (e.g. location of the CBD, environmental quality surveys) or only considered variations within Witney.

b) Many Candidates reached Level 3 and the top of Level 2; few stayed in Level 1; some entered Level 4.

Indicative content: Candidates were asked to describe and justify how they would plan and carry out the data collection – not how to analyse the data collected. The following aspects could be covered in order to compare contrasting microclimates. Primary field collection data could include finding out about the accessibility and safety of sites; site selection by using a map to select contrasting microclimates, e.g. two or more types of vegetation/land use, different aspects, urban/semi-urban/rural sites. The contrasting microclimates could be separate areas on the map or could be clearly identifiable along one transect or over one area. Appropriate sampling methodology for microclimates includes transects (systematic, random, stratified) and area sampling. The number of data collection points at each site should be stated. The variables selected could be wind speed and direction, temperature, humidity, precipitation, cloud cover, sunshine, together with associated variables such as topography, altitude and land use. Secondary data includes the use of maps to assist with site selection; the Environment Agency, a University or land owners may have data for other times of year or at more transects or locations. Meteorological Office data may assist with the selection of sampling day(s), whilst other data to help to interpret results. Carrying out data collection, including measurement techniques, could include a pilot survey. If using more than one site, field data should be collected at the same time if possible. Markers should be made or a clear note be made of measurement sites ready for return visits. The procedure for measuring microclimate data (wind speed and direction, temperature, humidity, precipitation, cloud cover, sunshine) is described (instruments etc). A website and/or published data could be used to extract relevant information.

Qualities of A grade Candidates: The method of planning and carrying out the data collection was described and justified moderately well. There was good reference to the map. High quality characteristics included consideration of control characteristics such as simultaneous sampling and same height above sea level for microclimate and repetition on different days of the week and stratified sampling of the population for shopping patterns. The answer was generally logically ordered and well presented.

Other Comments: Although fewer Candidates chose to devise a study of contrasting microclimates, these were invariably better answered than shopping patterns studies. Furthermore, those who had carried out microclimate or sphere of influence personal investigations did not have an undue advantage when answering this question – indeed, some tried unsuccessfully to transfer their own study directly to this one, without understanding the different contexts. More able Candidates designed an appropriate data collection programme which identified the key aspects of the methodology that would test the stated hypotheses in order to answer the aims. Middle and lower ability Candidates deviated into the prediction of the outcomes and/or a discussion of how to analyse the collected data. Lower ability Candidates offered incomplete, unfocussed and erroneous methodologies and made little reference to the map. Even Candidates who gained good marks often described Witney as a city (and made ambitious assumptions regarding an urban microclimate), betraying weak map skills. With regard to microclimates, higher quality answers paid particular attention to the problems of simultaneous data collection, controlling for height and aspect, and repetition throughout the day and/or on several days in different weather/seasonal conditions. Superior responses selected two or more contrasting localities and adopted a similar sampling regime at each; alternatively, changes on transects through Witney were suggested. Devising a satisfactory sampling methodology for

shopping patterns proved more problematical. Frequently it was not clear how the chosen method could answer the aims, e.g. a transect across Witney taking samples every x metres; a transect that stretched across open fields or along A roads to adjoining villages. Examples of questionnaires sometimes went into too much detail about the content – and often suggested questions that were irrelevant to the chosen hypotheses. Poor assumptions were made about shoppers, e.g. car park surveys would not identify shoppers; the number of pedestrians would not show shopping patterns – nor would sampling in a limited number of locations rather than going to households to determine shopping patterns; forgetting that only collecting data in Witney would give no information about those who did not shop in Witney; insufficient consideration of when to collect data.

2690 Geographical Investigations 2

General Comments.

General standard this year was very good with many candidates producing well planned, original studies. Centres are to be commended for the provision of sound guidance for topic choices and writing up of reports. Human topics were again very popular with many candidates choosing to survey their local areas and incorporate very good secondary data from local authorities. The usual river and microclimate studies made up the bulk of the physical topics this year. A number of candidates tackled sand dune vegetation succession very successfully. These can be quite difficult reports to write – analysis requires considerable synthesis of information about both biotic factors and the abiotic factors that influence vegetation growth and succession. There were also some extremely good reports examining the changes in local weather with the passage of a depression and microclimates in high and low pressure situations. These are extremely difficult to do successfully and Centres are to be commended on their efforts, particularly with data presentation. Many more Centres have encouraged candidates to base their studies on geographical models or principles – successful this year were – distance decay, a brave application of the principles of Rostow, Bradshaw's river channel variables, passage of depressions, CBD Core Frame models, shopping hierarchies, Mann's urban model, suburbanised villages, mind mapping and some very interesting work on food miles and shopping habits.

IT generated studies were perhaps not quite as successful this year with some candidates collecting data that could not be processed to any great degree. A number of candidates tended to copy graphs and analyse them rather than collecting suitable data to put into their own graphs and tables. Tectonic and climatic hazards seem to yield suitable data for these types of studies as there are numerous data bases from which to extract and compare information. Such topics also allow scope for some cartographic skills.

Comments from this session

1   An increasing number of Centres are collecting group field data. This is quite acceptable providing, of course, that candidates do not produce exactly the same reports. If Centres choose this route it is essential to plan field trips that will yield enough data for individuals to choose a number of different hypotheses. In some cases this session Centres did not encourage enough differentiation between candidates' reports.

2   An increasing number of candidates are posing questions rather than formulating hypotheses which are quite acceptable. Questions such as what is pollution and what is a microclimate are not suitable and do not lead to a line of enquiry that can be tested in any way with primary or secondary data. Such ideas should be addressed in the geographical context section or introduction to a report.

3   As mentioned previously, reports based on speculation about future developments do not yield good results. Primary data is usually quite limited and candidates risk just writing extended essays based on secondary data. Often there is limited scope to present data in these reports.

4   A number of candidates chose to write aims, hypotheses and then key questions. Aims with either hypotheses or questions are quite sufficient.

5   Aims with hypotheses or questions to follow must all follow a relevant line of enquiry. On numerous occasions candidates had posed aims and quite different hypotheses that made it impossible to stay focused on a topic. Please encourage candidates to proof read to

ensure a relevant sequence of aims and questions. Candidates might also be encouraged to pay particular attention to the relevance of the overall title of their report.

6   Data presentation was very good this year. Many candidates chose to present data in a number of original ways. Graphical and cartographical skills were accurate and well presented. Many candidates also showed a good understanding of sampling methods and the use of methodology tables.

7   Candidates also used statistical tests effectively and obviously have a sound understanding of the significance of these tests. These tests are not obligatory and should only be used where appropriate.

8   Candidates should be reminded that marks for analysis, which is by far the most difficult part of the report, are awarded for graphical, cartographical, statistical and descriptive analysis. Description alone merits only level one marks. For higher marks to be awarded there must be evidence of a synthesis of ideas based on and linked to the geographical context of the report.

9   Application of assessment criteria was markedly better this session with many Centres offering qualitative comments rather than just repeating assessment criteria.

10   Some candidates still experience difficulty with evaluation. This section does not have to be very long and the differentiating factor between a good and poor evaluation will be in the discussion about validity and significance of results. Poorer candidates tend only to centre their discussion on strengths and weaknesses of the investigation. The following may serve as a checklist for candidates; validity of results, alternative strategies, extension of the study and usefulness of the study. In addition to mentioning who would find the investigation useful some attempt should be made in linking the study to wider geographical context. It is after all of paramount importance that candidates appreciate why geographers carry out such investigations.

Administrative Considerations.

1   Clerical errors were fewer this session. It is appreciated that Centres are busy at the end of the academic year and that details will be missed. Replying promptly to amendments will speed up the moderation process and ensure that no one is disadvantaged or that results are delayed.

2   Authentication Forms CCS160 are required and should be included either with the MS1 if sent ahead of the sample or enclosed with the coursework sample. The form must be signed by all who teach the candidates. Only one form per Centre is required.

3   The MS1 is the official copy of final marks. Please ensure that it is filled in correctly and clearly with the mark and underscored mark in the right hand column. The moderation process is considerably delayed if verification of underscoring and marks has to be sought.

4   Cover sheets are provided for a breakdown of marks and comments. These are particularly useful in helping moderators understand what the candidate has attempted and how assessment criteria have been applied. Correct use of these is encouraged so as to ensure a positive moderation process.

5   Many candidates like to include newspaper cuttings, oversized maps and fold out data presentation sheets. While this is to be encouraged please ensure that such enclosures are mounted, folded or secured in some way within A4 size limits. Oversized documents risk being damaged or lost in the transfer process.

Successful and challenging topics for this session.

- To what extent is X a suburbanised town?
- Does village X show signs of having been counter- urbanised?
- Exploring average food miles for the family shopping.
- Differences in microclimate, vegetation and soils characteristics in deciduous woodland and coniferous woodland.
- An investigation into sediment size along a coast.
- To what extent does the importance of a settlement (as measured by services) relate to population size?
- What contrasts of weather occur during a depression sequence and why?
- A comparison of mental maps drawn by local residents and tourists to an area.
- To what extent does town X follow Mann's urban structure model?
- A comparison of spheres of influence in an effort to determine settlement hierarchy.

2691 Issues in the Environment

General Comments:

The most popular questions were questions 1 and 7. The remainders of the questions were all attempted, some by very few candidates. There appeared to be no problems in completing the paper and only minor rubric infringements (a small number of candidates used Fig b to answer question 7).

The quality of the responses was variable but in most cases candidates showed some understanding of the questions and used the resources effectively. There were very few extremely poor responses.

At the highest levels candidates showed an impressive level of understanding and brought in a range of well documented case studies. In the middle mark range responses were generally descriptive with limited discussion and development, while at the lower mark level candidates showed a basic understanding and the use of exemplification was vague.

Addressing the actual commands and responding to the key idea of the question often differentiated responses.

1(a) The majority of candidates used the resource effectively to identify general trends in the number of reported hazards. Having done this there were generally two main approaches to the question. The first was to simply base the response on the reported dates and consequently essentially to agree with the statements made. This tended to limit discussion and was often self-limiting. The second approach was to use the data on Figure 1 and either develop the ideas or bring in individual points in order to enter a broader discussion. This approach often led to some thoughtful discussion which produced impressive responses, frequently considering the distinction between number of events and impact of events and the link between type of event and 'reporting value'.

b (i) It was clear that candidates had a good general understanding of the question in terms of reducing the potential impacts of hazards, but frequently confused prediction with preparation and consequently in some cases tended to drift away from the key idea of the question. Those candidates who focused more precisely on prediction often produced excellent responses, frequently selecting appropriate case studies to show how prediction has in some cases reduced impacts while in others the effect has been marginal. A number of candidates developed this theme further by using examples of where inaccurate prediction may have increased the human impact of hazards. This was an excellent avenue of approach which allowed candidates to fully address the idea of 'extent' which was expressed in the question.

b(ii) Candidates used an impressive range of locational examples to address this question, often including considerable locational and factual detail.

There were two main approaches to the question. The first was to basically agree with the statement expressed in the question and use examples to express the relative financial and human impacts of hazards in MEDCS and LEDCS. This approach generally produced sound descriptive responses but did not always lend itself to a great depth of discussion. The second approach was to challenge the statement and consider that every hazard event is individual and consequently has individual impacts.

Many candidates who adopted this position also considered 'relative' financial impacts and made a strong case that the financial impacts (both short and long term) may actually be greater in LEDCS. This showed an impressive level of sophisticated thinking and often produced excellent responses.

General point

It was encouraging to see the use of contemporary events (recent cyclones/earthquakes in Asia) and less reliance on very old textbook based examples which are often rather more descriptive than analytical.

2   Very few candidates attempted this question.

(a)   In most cases it was clear that candidates did not have a very detailed understanding of 'long-term change' as expressed in the resource, and were not always able to use the key points in the resource to reflect on the distinction between short and long term evidence. Those that did produced effective responses which picked up the idea of climatic fluctuations and the use of evidence to support the idea of climatic change. In most cases the response became an analysis of the last two hundred years and evidence to support the idea of recent climate change (global warming). This produced some interesting observations but did not fully address the question.

b(i)   The majority of candidates entered a general discussion about the potential effects of global warming and were able to consider how global warming might affect weather patterns, incidence of storm, agriculture and food supply and disease/health. Although these observations showed a clear understanding of the question they were frequently superficial and lacked any real depth and detail. Very few candidates expressed any locational exemplification by suggesting that particular areas may be affected more than others or may be affected in particular ways.

b(ii)   No candidates attempted this question.

3(a)   Candidates used the resource effectively to illustrate the issues associated with economic development in cold environments. A number of potential conflicts were identified from the resource and these were usually expressed in a thoughtful and logical way. The majority of candidates developed the basic economic/environment conflict theme very effectively while others considered the socio/cultural conflict to be equally significant. A number of candidates developed a broader theme – considering the issues of Americas energy security as a significant part of any debate.

b(i)   This question produced some excellent responses. Candidates showed an impressive understanding of physical processes and generally described a range of upland glaciation features in great detail. In many cases annotated diagrams were used, these were often an excellent way of illustrating both features and processes. Locational examples were used effectively to fully develop the points made. In a limited number of cases candidates drifted in describing features of deposition; this was generally self-limiting.

b(ii)   Very few candidates attempted this question and those that did generally adopted a descriptive approach which compared two areas, one of which was considered to be effectively managed and the other less so. This approach was often quite successful in showing a general understanding of the question but did not always fully develop the idea of 'evaluation' expressed in the question.

4   Very few candidates attempted this question.

(a)   Candidates generally accepted the idea that drought is a significant problem in tropical environments and used the resource to express the way that drought can affect both people and wildlife. This was generally a useful approach but often led to rather descriptive responses which were narrowly based, just considering the locations expressed on the resource and not bringing in the wider tropical context.

b(i)   Responses tended to focus on descriptive observations about specific ecotourism projects. This generally allowed candidates to show an understanding of ecotourism and how it attempts to operate in harmony with both people and environment. As such there was almost 'implied' appreciation of sustainability which was not always fully developed. Discussion of the statement was often quite limited; very few candidates considered that there may be a variety of ecotourism projects, some of which may be more sustainable than others.

b(ii)   Very few candidates attempted this question and those that did frequently adopted a narrow approach, often considering a single idea (deforestation) or location as the basis for their response. This was often rather self-limiting and did not easily allow for the development of a wide range of both short and long term impacts to be considered.

5(a)   Candidates used the resource effectively to identify the ways in which large companies influence food production and distribution. A number of candidates developed this theme further by using particular examples (Tesco was a popular option). Candidates generally showed a good descriptive appreciation of the question without fully addressing the idea of 'extent' which was expressed in the question.

b(i)   A number of candidates appeared to be confused about what constitutes an 'international aid agency', and consequently drifted into discussion about government policy, often using the Common Agricultural Policy as a vehicle with which to address the question. This approach tended to be self-limiting since it did not really address the key focus of the question. Those candidates who used specific examples of aid agencies generally produced sound answers, often picking up detailed ideas about both short and long term responses for food insecurity.

b(ii)   Very few candidates attempted this question and it was generally seen as a discussion about how particular agricultural systems may be damaging to the environment, and consequently unsustainable. This approach allowed candidates to show some understanding of the question but did not fully address the key idea about understanding, and working in harmony with natural environments.

6   Very few candidates attempted this question.

(a)   Responses to this question were often superficial and largely descriptive, quoting from the resource with only limited development. This approach generally failed to enter any real discussion about the issue of urban regeneration and consequently tended to limit the analytical depth of the answer. Additional exemplification was rarely used.

b(i)   Candidates showed a good level of general understanding and used a range of case studies to express the problems found in LEDC cities. The major focus was often housing quality and the problems of poor residential areas, bringing in issues of overcrowding, lack of sanitation and clear water supplies. A number of candidates took a broader approach and brought in observation about traffic congestion, air quality, unemployment and crime. This often created the opportunity for a more sophisticated response which was able to pick up the idea of 'challenge' expressed in the question.

b(ii)   Very few candidates attempted this question and responses were generally quite descriptive, often simply describing public transport systems with only tentative links to the idea of transport management being one part of a more holistic management strategy in urban areas.

7(a)   Candidates used Fig 7 effectively to describe some of the issues associated with large scale tourism developments, often expressing clear economic/environmental and social conflicts. The level of discussion was generally impressive, with many candidates bringing in a range of thoughtful and appropriate examples. At the highest level the idea of 'extent' was clearly considered, often by using examples where tourism development had been implemented in a more sustainable way.

b(i)   Responses to this question were variable. A number of candidates drifted into a more historical dialogue, going back to the development of railways with links to places like Blackpool and Brighton. This approach often led to very limited answers which failed to pick up the more modern global context of the question. Another approach was to ignore the word 'global' and simply consider the 'growth of tourism'. This was largely seen as a question of affluence and technology and provided the basis for a number of reasonable observations. The most successful approach to the question was seen when candidates focused on 'global' and entered a discussion picking up the 'shrinking world' phenomena. This allowed candidates to consider the question in very broad terms and a number of responses made excellent observations about the growth of tourism both being a result of and a stimulus for, economic development.

b(ii)   Responses to this question varied from a simple general discussion about how landscapes attract people to a complex consideration about how a variety of factors attract visitors and in many cases the physical landscape may be a dominate factor. A wide range of examples were used including The Lake District, The European Alps and the mountains in Nepal. The use of these 'extreme' landscapes to develop the theme of the question was very common (and often very successful). However, surprisingly few candidates used detailed examples from coastal areas or other types of physical landscape which are popular tourism areas.

8   Very few candidates attempted this question.

(a)   The focus of the responses were often just based rather narrowly on Fig 8; often simply describing the impacts expressed in the article. The broader global context was generally ignored, consequently the theme of the question was not really fully considered.

b(i)   Most candidates showed a clear awareness of the importance of Transnational Corporations and were able to use examples to express their significance within a regional development context. The two main avenues of approach were to use examples of regeneration (South Wales) and N.I.Cs to show how TNCS have been a fundamental part of the development process in these areas. This approach, when supported by detailed case studies was often very successful.

b(ii)   No candidates attempted this question.

2692 Issues in Sustainable Development

The year of the Polar Regions, 2007-8, seemed an ideal opportunity to explore ideas about sustainable development as they apply to areas of the world that are infrequently studied in current geography curricula. It was also an attempt to draw together various aspects of sustainability to encourage a holistic approach to the topic. The ability to see the whole picture is as important as studying individual facets in detail.

A further aim is to whet the appetite of candidates (and their teachers) in order to encourage them to research for themselves. While all sources are acknowledged in the Resource Booklet, because it is prepared two years in advance of publication it is possible that some of the websites may no longer function, but the power of the Web should enable all centres to find out some extra, up-to-date information. There is always the opportunity to gain marks from the appropriate use of a candidate's own knowledge: indeed the higher levels of the marks scheme require the use of individually researched material.

A wide range of marks was achieved this year, with many candidates scoring over 100 marks from the 120 available, to the lower end of the scale where little notice seemed to have been taken of the material available in the Resource Booklet. Many candidates were able to introduce information from 2691, Issues in the Environment, particularly concerning tourism as a threat to the environment, or their knowledge of cold environments, but some were drawn into lengthy diversions from the question rather than using brief examples to illustrate a point. As it is the synoptic paper, candidates should be encouraged to bring this extra knowledge to bear, but it must be used appropriately.

For the third question, there was evidence that many of the previous booklets had been used. While they should provide a good starting point, candidates should ensure that they acquire some updated knowledge, including (for preference) local studies. This could be combined with work for 2690, Investigations II, on topics such as transport, waste minimisation, forests, landscape, water supplies or energy. They would then be able to write with authority and clear understanding of sustainable issues and show the depth of knowledge needed in answering questions at A2 level.

It is advisable to study the following comments in conjunction with the marks scheme.

Question1

The ability to summarise is a communication skill required in the Specification (see Section 3 on assessment objectives). The command 'compare' requires the use of comparative words or phrases. Compare the following attempts:

The Arctic is an ocean covered in ice. Antarctica is a continent of it's own.

The Arctic is largely an ice covered ocean with lots of islands whereas Antarctica is a continent.

(Note the grammatical error too. Candidates should be aware that correct spelling and grammar are still important to achieve the highest levels.) Three or four points under each heading, using appropriate evidence from the booklet was sufficient to score well in the space provided. It was disappointing that a few candidates did not understand the term 'ecology' when the words ecosystem and ecological both appear in the Resource Booklet. Comparisons of landscape were also weak suggesting that more use might have been made of visual material such as recent TV programmes on exploration of the Polar regions in addition to the information provided on the maps, resources 6 and 7, and the pictures in 12 and 19.

A good answer for the human activity section was written within the confines of the table as follows:

The Arctic region is inhabited (due to milder conditions) by Inuit communities as well as non-indigenous people, totalling 4m. living there permanently. In contrast, there are no permanent residents in Antarctica, but research bases such as Halley which has a population of 65 in summer and 15 in winter. In the Arctic there is industry with the development of coal, oil and gas resources e.g. the Trans-Alaskan pipeline, giving rise to the development of infrastructure, towns and roads. Indigenous people live traditional lifestyles hunting, fishing and whaling, and the Antarctic waters are now seeing whalers too. Ecotourism is being developed in both areas.

Candidates should always be reminded that it is quality of expression that counts, and not the quantity of words written.

Question 2

This was answered better than Question 1 in general, although weaker candidates did not find the concept of different scales an easy one to illustrate. The quote is taken directly from the Specification, and it is most useful to re-visit these introductory sections when planning a programme of study for this paper. The term 'threats' was used clearly as the heading to Section C, divided into direct and indirect threats. The phrase 'to what extent' acted as a further discriminator, with more able candidates recognising that a view should be given with justification rather than a simple description of the threats. The question also reminded candidates to demonstrate their own knowledge, and there were some very good examples of this. Another skill which is to be encouraged is the planning of answers. This is an excellent example:

Intro: sustainability, exploitation of resources.
1. Local: threats - McKenzie pipeline, resources in area, jobs, tourism, whale watching
2. Regional: oil-environment, spills, wells, tourism, over fishing
3. National: claiming Antarctica, treaties, scientific research, Inuits
4. Global: Overfishing, demand for oil, climate change, scientific research
Conc: Yes - support statement, all systems linked to global systems.

In a few minutes the candidate has gathered his or her thoughts, structured them by using key words in the question and using examples from the resource booklet. The essay that followed expanded on these basic ideas, keeping the flow of narrative while addressing all the points required, and introduced some own knowledge from wider research and made clear reference to the resource booklet. A central paragraph read as follows:

Exploitation of resources would also have an effect on a regional level. Whale watching attracts 140,000 watchers a year in areas of the Arctic and Alaska. Whales have been a resource exploited by many cultures in the past for food and products. Traditional methods had less effect on the environment than current more efficient systems have. However, since the "whaling moratorium" (R.27) whales have begun to be exploited in a different way allowing regional gain in areas where whales inhabit. Around 10 million people a year go whale watching, spending more than $1.25 billion. The number of watchers is increasing at 12% per year (R.27). This type of activity regionally exploits a resource providing jobs and economic gain for the regions which may have traditionally relied on a more nomadic lifestyle, and contrasts with the controversial regional, national and global issues arising from countries such as Norway and Japan which have restarted commercial whaling.

The candidate makes good use of the Resource Booklet, extracting relevant information to support the points, addresses the scale element of the question but on this occasion does not use any own knowledge. However, there was sufficient elsewhere in the essay to satisfy the criteria for Level 5.

Question 3

The most popular topic used in answer to this question was the oceans, using both fishing and coral reefs as topics with most candidates successfully steering clear of any reference to the Polar Regions. Good answers could be achieved with reference to one resource as long as there was sound evidence of changes to management that made its use more sustainable. An alternative route preferred by the majority was to describe the exploitation of several resources. The drawback to this approach was that in trying to cover a wide range, candidates tended to use sweeping generalities rather than the preferable specific detail. Where candidates had become really involved with their research the answers came to life, especially (as mentioned in the introduction) with reference to local case studies.

Weaker answers simply described the current (or even historic) exploitation of resources without attempting to suggest changes to management that might improve sustainability. Some place specific detail is needed for Level 3 answers, and the more appropriate detail given, the better the answer will be. While most candidates did manage to correctly identify a location for a resource, positive examples of use of management were less secure. For example on the subject of forests, the Amazon drainage basin is huge and not entirely within Brazil. There are several areas within it where ecotourism is being practised and where selective logging is carried out, with protected areas being preserved. Case studies to illustrate these points are required. Nearer home in the UK there are schemes for tree planting and hedge restoration. Local Agenda 21 activities can be a useful source of information for the local area that would help to provide suitable case study material, not only for forests but for many other issues in sustainability. Councils are putting into practice recycling schemes to reduce waste. Very good use was made of a scheme operating in Sandwell. Nationally steps are being made to make transport use more sustainable. These are all areas that can easily be researched by Year 13 students and should help them to recognize the importance of geography in their daily lives, and reinforce ideas of citizenship with which all candidates should now be familiar. This approach is so much more satisfactory than vague statements such as:

Carbon emissions can be cut by using renewable energy resources that don't release greenhouse gases. These would include wind, wave and sunlight. The sunlight would use solar panels to heat water or create electricity. The most commonly used renewable resource at the moment is wind. Wind farms can create electricity at the same rate as coal, oil or gas but without pollution.

The candidate has some basic knowledge of sustainable energy production, but is vague on facts and could have improved the answer simply by naming a wind farm or saying something about suitable locations, either within the UK or abroad. The answer also needs to be much more closely related to the question by referring to the management of the resource, not just stating that there are alternatives to fossil fuels. The weakest candidates simply outlined the use of one or two resources and stated the problems associated with their use rather than offering suggestions for sustainable management. Such answers were rare, however.

Most scripts showed some evidence of planning, identifying key words in the question and structuring the essays effectively, drawing ideas together in a conclusion. There was little evidence of shortage of time. Many scripts were a joy to read, and again show the high levels of interest achieved by this unit and the excellent work undertaken by many Centres.

Grade Thresholds

Advanced GCE Geography B (3833/7833)
June 2008 Examination Series

Unit Threshold Marks

Unit		Maximum Mark	A	B	C	D	E	U
2687	Raw	90	53	47	41	35	30	0
	UMS	90	72	63	54	45	36	0
2688	Raw	90	68	61	54	47	40	0
	UMS	90	72	63	54	45	36	0
2689	Raw	60	42	37	33	29	25	0
	UMS	120	96	84	72	60	48	0
2690	Raw	90	72	63	54	46	38	0
	UMS	90	72	63	54	45	36	0
2691	Raw	90	69	62	55	49	43	0
	UMS	90	72	63	54	45	36	0
2692	Raw	120	86	78	70	62	55	0
	UMS	120	96	84	72	60	48	0

Specification Aggregation Results

Overall threshold marks in UMS (ie after conversion of raw marks to uniform marks)

	Maximum Mark	A	B	C	D	E	U
3833	300	240	210	180	150	120	0
7833	600	480	420	360	300	240	0

The cumulative percentage of candidates awarded each grade was as follows:

	A	B	C	D	E	U	Total Number of Candidates
3833	15.84	39.24	61.70	80.62	92.20	100.00	423
7833	23.08	49.10	75.57	91.18	98.87	100.00	442

865 candidates aggregated this series

For a description of how UMS marks are calculated see:
http://www.ocr.org.uk/learners/ums_results.html

Statistics are correct at the time of publication.